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中英对照
CHINESE-ENGLISH

临床诊断学教程
CLINICAL DIAGNOSIS TEACHING COURSE

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序 一

临床技能培训对于培养合格的临床医生十分重要。我们三校有幸于1991年得到美国纽约中华医学基金会（CMB）的资助，在借鉴国外经验和结合我国国情的情况下，开展了临床技能培训的教学改革。通过四年来的教学实践和对比研究，发现受过此培训的学生的临床技能较之以前有明显的提高。这一成绩的取得应感谢CMB主席W. Sawyer博士的大力支持、规划、帮助和直接指导；感谢美方顾问P. Stillman博士对此项目不辞辛劳的悉心和具体指导；同时也要感谢三校参与此项目教师的辛勤劳动、通力合作和对教学改革的热情奉献。现在通过中美双方教师的共同努力，根据在实践过程中所取得的经验，已编写出中英对照的临床诊断学教程一书，并即将出版。我们希望此书能得到国内同行的批评、帮助和指正。使其能得到不断的修改、补充和完善，逐渐成为一本成熟，并具有参考和指导意义的教材。

华西医科大学校长 杨光华

浙江医科大学校长 郑 树

九江医学专科学校校长 涂明华

PREFACE

Excellent clinical skills are essential for every medical practitioner. Our three schools were fortunate to receive support from the China Medical Board in 1991 to begin a teaching reform. We drew upon the experience from foreign countries and combined this with our own practice and situation in China. Throughout the initial years of this new program, we have found that the students' participating in the new program have much improved clinical skills compared to their predecessors. We should like to express our gratitude to the President of the China Medical Board, Dr. William D. Sawyer, for his support in planning this project and his help in its implementation. We would also like to thank our American consultant, Dr. Paula L. Stillman, for her hard work, attentiveness to detail, and meticulous direction. We are also indebted to the participants from the three schools for their hard work, cooperation, and enthusiastic dedication to the educational reform.

Now, through a cooperative effort, the *English-Chinese Clinical Diagnosis Teaching Course* is available for dissemination. We hope that this book will be useful and promote a reform of clinical diagnosis teaching in our country. We appreciate all comments and corrections from our colleagues who read this book. This will allow us to improve the next edition.

President Yang Guanghua, West China University of Medical Sciences

President Zheng Shu, Zhejiang Medical University

President Tu Minhua, Jiujiang Medical College

序 二

本书所包含的训练教材、纲要及评分条目代表我们五年工作的结晶。她是根据中国每个医学院校毕业生基本临床技能的需要而编辑成册，以保证技能培养的一致性。

美国纽约中华医学基金会主席，W. Sawyer 博士根据中国几所医学院校校长们的需要，倡导了这一工作，并为我们的工作提供了道义上、经济上的支持，旨在改进临床技能的教学与评估。

华西医科大学、浙江医科大学、九江医学专科学校的校长和教师们为本书撰写作了长期而艰苦的努力。在此期间，我们互相学习、共同提高、彼此尊重，达成了不少协议与共识。美方教师亦值得高度赞扬。通过中、美双方教师不断互访，我们尽力找到了明确的教学重点及表达方法，去传授给学生。我们对本书崭新图示亦甚满意。我们还应感谢秘书们的大力支持。

很多教师曾参加本书的撰写与编辑，部分教师为每一章节主要作者，对其贡献应予认可。

最后，我要感谢所有为本书工作的同道，您们作了长期的艰苦努力与热情奉献，感谢您们容许我与您们共同完成了这一工作。

顾问 波拉·史蒂曼 博士

PREFACE

This book with its training materials and checklists represents five years of work and the outstanding effort of many individuals. This book arose from a need to reach consensus on clinical skills essential for every medical graduate trained in the People's Republic of China and to codify them to ensure some uniformity and level of competence.

Dr. William D. Sawyer, President of the China Medical Board of New York, Inc., was instrumental in implementing this effort. He responded to a request from the Presidents of several Chinese medical schools to provide help in improving the moral and financial support for this project.

The Presidents and faculty from WCUMS, ZMU, and JMC worked long and hard on the writing of this book. Over time, we all learned from each other and acquired additional skills such as negotiation, reaching consensus, and valuing uniqueness.

The faculty from the United States also deserves a great deal of credit. During frequent visits to the People's Republic of China and visits from our Chinese colleagues back to the United States we struggled to find the right words that would clearly express what we wanted to convey to students. We are indebted to the excellent secretarial and editing support we received. We are also delighted with the new illustrations created for this book.

Although many individuals participated in the writing and editing of this material, certain faculty assumed the primary authorship for each section and should be recognized for their contributions.

Finally, I would like to express my gratitude to all those involved in this effort. Your hard work, commitment, and dedication were steadfast. Thank you for the privilege of allowing me to work with you.

Paula L. Stillman, M. D.
Consultant, China Medical Board of New York, Inc.
Editor

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第一章 问诊内容和技巧

恰当而正确的问诊对病人的诊治极端重要。资料收集的完整性和准确性对疾病的诊断和处理有很大影响。询问者与病人间的和谐关系，将保证病人乐意提供病史及服从检查与治疗。

本章旨在使医学生掌握问诊的内容和技巧，并帮助标准化病人根据下列内容对整个问诊作出评价，包括（1）问诊的内容；（2）问诊技巧和评分方法；（3）询问者的作用。本章所包含的主要内容在成人、儿童、老年、精神科问诊是一致的。这些内容对加强医学生及住院医师的临床技能亦颇有帮助。

对问诊的评定包括内容和技巧两个主要部分。

内容是指询问者能从交谈中获得有关疾病的全部资料，包括下列互相关连的几个项目：A. 引言；B. 主诉；C. 现病史；D. 过去史；E. 系统回顾；F. 个人史；G. 家族史；H. 结束。

标准化病人根据问诊内容的评分条目，对询问者获得的信息量进行评定。评分条目包括询问病史应获得的全部内容。询问者问出一条即可得一分。

技巧是指询问者获得病史资料所用的方式、方法。提问和交谈的方式对获取资料的多少、问诊的效果以及良好的医患关系均有很大的影响。

技巧部分用“亚利桑那临床问诊评分标准”（ACIR）进行评定。它将问诊技能分为：组织安排、时间顺序、过渡语言、问题类型、资料核实和态度举止等共20条。问诊评分定为5级：5分为优秀，给最优秀的询问者；3分为一般，大多数询问者可得；1分为最差；介于其间则为4分和2分。每一条问诊技巧具有特定的优秀、一般和最差的评分标准。

问诊开始时，询问者应完成的任务包括以下几项：

1. 自我介绍，说明身份。如：“您好，我叫金军。是二年级医学生，和苏医生一起工作，我想了解您的整个病史并向苏医生汇报。”

2. 询问病人姓名，除非病人要求你叫他名字，一般应称他为××先生，××女士，××同志……。

3. 注意让坐，座位的安排应使病人舒适、隐私不致泄漏，以确保病人的信任。

4. 着手建立和谐的医患关系。如：“我打算问你一些问题，有些似乎不很合适，但对你的治疗却很重要。”“交谈中，若你有疑问或是我误解了你的意思，请打断我。因为这对我们获得尽可能准确的病史非常重要。”“现在请告诉我：你今天来，哪里不舒服？”。

介绍完后，询问者应继续发展和保持与病人的良好关系，从而有条不紊地获得尽可能多的有关资料。后面的成人问诊大纲即为问诊进程之一例。

Chapter 1

INTERVIEW TRAINING MANUAL

A properly conducted interview is extremely important for patient care. The completeness and accuracy of the information collected will contribute to the proper diagnosis, management, and treatment of the patient's problem. The rapport established between a patient and the interviewer allows the patient to feel comfortable about sharing information and is important in promoting a patient's compliance with the prescribed therapy.

This manual has been designed to teach students contents and skills of interview and aid the standardized patient in evaluating a medical interview by providing information about (1) the content of an interview, (2) techniques for evaluating interviewing skills, and (3) the roles of the interviewer. This manual covers the core material which is common to the adult, pediatric, geriatric and psychiatric interview. The material contained in this manual should also prove helpful for enhancing the skills of medical students and residents.

There are two major components of medical interviews which can be evaluated: content and technique:

Content is the pertinent information obtained by the interviewer about a patient's medical problem. This pertinent information is contained within several interrelated subsections of the interview: (A) introduction, (B) chief complaint, (C) history of the present illness, (D) past medical history, (E) review of systems, (F) personal history, (G) family history, (H) closure.

Standardized patients can evaluate the amount of information obtained by the interviewer by using a content checklist. The checklist contains all relevant aspects of the patient's case history that should be elicited. The interviewer receives credit for each piece of relevant information he is able to obtain during the course of the interview.

The second major component of the interview is the technique. The technique refers to the skill that the interviewer uses in obtaining the history from the patient. The manner in which the interviewer asks questions and interacts with the patient will greatly influence the amount of information obtained, the efficiency of the interview, and the rapport between the interviewer and the patient.

The technique component is evaluated by using the Arizona Clinical Interview Rating (ACIR) Scale. The scale lists twenty process skills which are grouped into categories. These categories include such things as organization, timeline, transitional statements, questioning skills, documentation of data, attitude, and behavior. The Rating Scale of the interview contains five levels of competency for each of the skills. A score of five points can only be given to the most superb interviewer; three points is average and is the score that will be obtained

by most interviewers; one point is poor. Intermediate scores of four points and two points are also available. Specific performance criteria have been defined for excellent, average, and poor performance for each skill.

The initial task of the interviewer is to provide an introduction that fulfills several important criteria. In opening an interview, it is the interviewer's responsibility to:

1. Introduce himself and define his position, e. g. , "Hello, my name is Jin Jun. I'm a second year medical student and I'm working with Dr. Su. I will obtain a complete history from you and discuss my findings with Dr. Su."
2. Obtain the patient's name. Unless the patient invites you to call him by his first name, you should always refer to him as Mr. _____ or Mrs. _____.
3. Attend to the seating and physical setting of the interview to ensure privacy and comfort with no interruptions, and assure the patient that confidentiality will be maintained.
4. Begin the establishment of rapport with the patient, e. g. , "I'm going to ask you a lot of questions. Some of them may not seem applicable, but they're all important if we are to give you the best treatment possible. If you have any questions during the interview, or if I misunderstand any information that you give me, please interrupt me. It's very important that we get as accurate a history as possible. I'd like to begin by asking you what brings you to the doctor today?"

After the introduction, the interviewer continues to develop and maintain a positive relationship with the patient and obtain as much pertinent information as possible, in a logical and orderly manner. The following outline is an example of the progression of a medical interview.

标准化病人的作用

标准化病人具有多种作用,包括充当病人、教师和评估者。虽然询问者主持问诊,但他明白自己处于一种模拟的条件,面对的病人会对其言行作出评定,对其错误也了如指掌,因此会显得有些焦虑,这样会干扰对其技能的正确评估。为此,开始时应设法尽量消除其紧张情绪,而一旦进入问诊则应由询问者负责维持这种和谐关系,而你的反应和态度将由你的病史和询问者的技能来支配。

标准化病人提供病史资料的一致性非常重要,只有对每一个询问者提供相同的资料,保持同样的性格特征,才能对所有询问者问诊的内容和技能作出公正的评价。

标准化病人必须扮得逼真可信,这有助于询问者进入其真实的角色。以下方针有利于标准化病人模仿真实的病人,亦为询问者提供最理想的学习条件。

1) 在整个问诊过程中,应假扮成病人,而非评估者,避免言语的暗示(如:"你为什么开始不这样问——你今天来,有什么不舒服?")或非言语的暗示(如:当询问者忘了问你的家族史,而流露出好奇的眼光)。

2) 具有适当的个性。例如,一个有精神压力的病人,就必然有行为和言语的表露。穿着打扮也应由你的病史决定(如学生可带着背包,有精神压力的人可以化妆成眼睛周围有黑圈)。

3) 采取病人首次被提问时应呈现的典型反应,如:用回答前的停顿表示矛盾的心态;切勿预期下一个或一系列问题。

4) 答其所问,一般不作详细的说明,除非询问者使用高明熟练的语言或非语言的提问技巧,(即对一个蹩脚的提问,不要“泄漏”太多的信息)。这种策略有助于改进其提问技巧。一个真正的病人并不知道医生想要什么样的资料,关键是询问者应从病人那里问出特别重要的资料。(详问诊技巧 ACIR 评分标准)

标准化病人的第二个作用是充当评估者。必须牢记每一项的评分标准,并保持一致性,以便尽可能公正而客观地评估每一位学生;同时也要对询问者的资料收集和问诊技巧提供反馈信息:包括仔细重温问诊内容条目,指出哪些资料收集到了,哪些遗忘了,然后按问诊技巧评分标准进行评分。

以下策略有助于提高反馈效果:

1) 解释运用问诊评分条目和临床技能评分标准的目的,在反馈过程中鼓励询问者进行评论和提问。

2) 以第三人称称呼病人,把病史说成“病人的病史”,而不要说成“我的病史”,将有助于明确你评估者的新角色。

3) 与询问者建立同事关系。在反馈时,相互交流与评论对建立良好的学习环境具有同等重要的作用,忽视询问者的评论或以恩赐态度对待询问者,都会干扰有效的交流。

4) 批评前先给予充分的肯定,如“总的来说,你做得很好,和你在一起感到很愉快,你组织安排还好,但在时间顺序上我提几点建议”。或者说“开始,你能系统地询问病情演变,但没能坚持到底,故其余的信息到系统回顾时才收集到”。这种反馈方式既阐明了询问者的长处又指出了他的短处,可防止抵触情绪。

5) 解释得分的理由,并运用问诊时的特殊例子说明。如,“你在病史引证一项中得了4分,因为大部分时间你能注意核实病史,但不是自始至终这样做,有关主诉、现病史、家族史和婚姻史方面很好,但过去史中遗漏了对肝炎的核实”,或者“这一项你得了3分,因为你的提问多数是简明易懂的,但用了三次难懂的术语,以致病人不得不要求你讲明定义。一次是你问病人是否有心悸,另一次问是否有吞咽困难等等。”由此可避免在评分上争论,表明你评分的客观性,也向询问者提供了特定的信息。

6) 如果询问者某一项得分较差,应说明问诊技巧薄弱可能导致的后果,以及正确掌握这种技巧的重要性。如“你应该象引证其它病史一样很好地引证家族史,病人曾诉说他母亲肠道有问题,但你没有追问这一信息,或许他母亲患的是遗传性疾病。”你的亲身经历,将有助于展示评分标准的用处,如“有时,我希望多给他些资料信息才离开办公室,但他却匆忙问完病史,从不给我机会述说他还未问到的病情”。

7) 对如何深化某一特殊问题,可提供一些信息以规范询问者的提问。如“在收集这方面资料时,你最好用开门见山的提问,‘你疼痛象什么样?’或,‘请你将疼痛说详细些’。”然后重新扮演病人的角色让询问者重复这一技巧也是极有益的。

8) 小结反馈时,概括询问者的长处及短处,询问是否还有其他问题或评论,使之有机会澄清任何附带的问题。

9) 请询问者填一份评估表,交给教学办公室,你将会得到评估表的副本,这对你作为一个指导者,非常有价值。

ROLES OF THE STANDARDIZED PATIENT

The standardized patient can serve the multiple roles of patient, evaluator, and teacher. Because the interviewer knows that this is a simulated situation in which he is being evaluated by someone who will be clearly aware of his mistakes, he might demonstrate test anxiety which may prevent a valid assessment of his skills. So try to minimize his nervousness at the onset. Once the interview is underway it should be the interviewer's responsibility to maintain the rapport; your responses and attitudes will be dictated by your history and the skill of the interviewer.

It is also important that the standardized patient be consistent in delivering the pertinent information about his history. This involves giving the same information to each interviewer and having a constant personality in order that all interviewers be fairly evaluated as to the content obtained and the technique utilized.

You must also be realistic and believable in your role as a patient. This will help the interviewer to assume a more realistic role. The following guidelines have been found to be useful for simulating a realistic role while also promoting an optimal learning situation for the interviewer.

- 1) Assume the role of patient, as opposed to evaluator, throughout the entire interview. Avoid verbal (e. g. "why don't you start out with what brings you here today") or nonverbal (e. g. a quizzical look when the interviewer finishes without having inquired about your family history) cues which indicate that you are also evaluating the interviewer.

- 2) Adopt an appropriate personality. For example, a patient whose illness is greatly influenced by stress, should make this evident in his behavior and statements. Dress in a manner dictated by your history, (e. g. , A student might bring a backpack. A person under stress might wear makeup to simulate shadows under the eyes).

- 3) Use responses that would typically emerge from a patient being asked a question for the first time. For example, use pauses before statements to indicate reflective thinking. Be sure not to anticipate the next question or questions in a series.

- 4) Answer only what is asked without further elaboration unless the interviewer uses excellent verbal and non-verbal facilitation skills (i. e. don't "give away" pertinent information to a poor question). This strategy will aid the interviewer in refining his questioning skills. A true patient does not typically know what information a physician is trying to obtain, so it is important that the interviewer asks questions to elicit specific desired information from the patient (see questioning skills in ACIR Scale).

The second role of the standardized patient is that of evaluator. Here the evaluator must be consistent in scoring. Criteria for each score should be kept clearly in mind in order that each student be evaluated as fairly and as objectively as possible. The evaluator may provide feedback to the interviewer about his data gathering and interviewing skills. This procedure in-

volves going over the content checklist, indicating to the interviewer information that was obtained and omitted, then rating the technique or process skills of the interviewer on the ACIR Scale.

The following guidelines are strategies that have been useful in providing an effective feedback session:

- 1) Explain the purpose of the checklist and Rating Scale, and encourage the interviewer to comment or ask questions throughout the feedback session.
- 2) Refer to the case history as "the patient's history" rather than "my history". Referring to the patient in the third person will help to clarify your new role as evaluator.
- 3) Establish the relationship of a colleague with the interviewer. The interaction during the feedback session is one in which comments from the evaluator and the interviewer are equally important for providing an effective learning situation. Neglecting the interviewer's comments or approaching the interviewer in a condescending manner may interfere with productive communication.
- 4) Provide positive comments before negative or critical ones. For example, "In general you did a good job and I felt very comfortable with you. Your organization was good; I can suggest some ways for you to improve your timeline." or "You began collecting timeline information in a very systematic way, however, you didn't follow through, and the remaining information was collected in the Review of Systems." This type of feedback will illuminate strong points as well as weak areas, and prevent the interviewer from behaving defensively.
- 5) Include a rationale for your score, and cite specific examples from the interview. For example, "You scored four points on documentation because you specified and verified information most of the time, but not always. You did a good job in documenting information pertaining to the chief complaint, history of present illness, and family and social history; however, you did not document the patient's past history of hepatitis," or "You scored a three on this item because most of your questions were concise and easy to understand, but you used jargon three times making it necessary for the patient to request a definition. In one instance you asked the patient if he had palpitations, another time you asked if he had experienced dysphagia, etc." This type of explanation will avoid debates over the score and will demonstrate your objectivity as well as provide specific feedback to the interviewer.
- 6) If the interviewer scores poorly on an item, provide some information about the possible consequences of doing it correctly. For example: "You should document the family history as well as you documented other areas of the interview. The patient stated that her mother had a problem with her bowels, but you did not document this information. Perhaps that patient's mother has a condition which is genetic." Your own personal experiences will help illustrate the usefulness of the ACIR Scale, e. g. , "At times, I've left the doctor's office wishing I had given him some more information, but he rushed through the interview and never gave me an opportunity to tell him other things that he hadn't specifically asked about."
- 7) Provide information on how to improve a particular area. In providing this information, it

may be helpful to model the behavior for the interviewer. For example, "You might try collecting the information by using an open-ended question such as "What does the pain feel like?" or "Tell me more about the pain." It is also useful to go back into the role of patient and allow the interviewer to try this technique.

8) Summarize the results of the feedback by delineating both the strong points and the areas that need improvement and ask if there are any more questions or comments the interviewer would like to make. This will allow the interviewer an opportunity to clarify any additional concerns.

9) Ask the interviewer to complete an evaluation form and return it to _____. This information is very valuable to you as an teacher/evaluator. You will be provided with copies of these evaluations.

成人问诊大纲 (问诊的基本内容)

A、引言

- 询问者作自我介绍（姓名）
- 说明自己的身份和任务，如：我是3年级的医学生，今天来了解你的病史
- 正确称呼病人为“某先生”或“某小姐”或其它合适的称呼
- 询问病人的全名、年龄、民族、住址（或工作单位）等
- 先和病人作简单交谈，再开始问诊，使病人轻松自在，以取得病人的信任

B、主诉

- 用病人自己的语言概括其主要症状或体征及其时间。先提一些通俗易懂的一般性问题，如“你今天来，有哪里不舒服？”

C、现病史

详细记述病人目前的主要问题：

- 起病情况（缓急）和患病的时间（生病多久了？）
- 主要症状的特点，包括所在的部位、放射区域、性质、发作频度、持续时间、强度、加重或缓解的因素
- 发作原因和诱因
- 病情的发展和演变（按时间顺序记录，包括主要症状的发展和其它有关症状的情况）
- 伴随症状
- 有临床意义的阴性症状
- 诊治经过（药物、剂量、疗效等）
- 患病以来的一般情况（精神状态、食欲、体重改变、睡眠及大小便等情况）
- 归纳、小结，再度核实
- 用过渡语言转入过去史的问诊

D、过去史

- 既往的健康状况
- 过去曾患过的疾病（主要指感染性疾病和传染病，以及与现病有关的疾病）
- 手术、外伤、意外事故和预防接种史（记录）
- 过敏史（对药物、食物及环境因素）
- 归纳、小结，核实
- 用过渡语言转入系统回顾

E、系统回顾（允许学生使用系统回顾提纲提问）如某一系统有两项阳性，应详细询问该系统。现病史或过去史中已提及的项目，应避免重复。应记录阳性和有临床意义的阴性项目。

- 一般情况
- 皮肤
- 造血系统
- 头部
- 眼
- 耳
- 鼻
- 口腔
- 咽和喉
- 乳房
- 呼吸系统
- 心血管系统
- 消化系统
- 泌尿系统
- 生殖系统
- 内分泌系统
- 骨骼、肌肉、关节
- 神经系统
- 精神状态
- 归纳、小结，核实（阳性者）
- 用过渡语言转入个人史的问诊

F、个人史

- 社会经历（包括出生地、曾到过地区及居留时间、受教育情况、经济状况、居住条件）
- 职业和工作条件包括工种、劳动环境、化学药品、放射性物质、工业毒物的接触情况
和时间（如疑为病因因素）
- 习惯和嗜好：如睡眠、饮食、烟、酒、茶嗜好（量和时间）、娱乐、其他药物（镇静剂
或麻醉毒品）、异嗜物（泥土、头发等）
- 婚姻史：婚否、结婚年龄、性生活情况、夫妻关系等
- 月经和生育史（女性病人）：月经初潮的年龄，月经周期和经期天数，经血量、色和性
状、经期症状，末次月经日期或绝经年龄。月经史记录格式如下：

初潮年龄 $\frac{\text{行经期 (天)}}{\text{月经周期 (天)}}$ 末次月经日期 (或绝经年龄)

妊娠与生育次数和年龄；人工和自然流产次数，有无死产、手术产、产褥热；计划生育状况：避孕措施（安全期、避孕药、避孕环、子宫帽、阴茎套）

—归纳、小结，核实

—用过渡语言转入家族史的问诊

G、家族史

—双亲的年龄及健康情况（儿科应包括祖父母、外祖父母）（引证）

—配偶的年龄和健康情况（引证）

—兄弟、姐妹的年龄及健康情况（引证）

—子女的年龄及健康情况（引证）

—家族中有否与病人同样的疾病

注意询问：1) 家族中有否传染性疾病（如结核、肝炎）、过敏性疾病、癌症、糖尿病等

2) 家族中患过的任何遗传性疾病

3) 直系亲属死亡者，询问死因和死亡年龄

—归纳、小结，核实

H、结束

—讨论促进健康的措施，（如减少不良嗜好、牙齿保健、饮食卫生等，骑车、驾车安全等）

—让病人提出并讨论任何附带问题，病人对疾病的看法，就诊的期望等。

—讲明医生和病人下一步该作的工作及各项目时间安排（进一步的诊断和治疗计划）

对具体病例，问诊的完整性与正确性将根据设定的问诊条目由标准化病人予以评估。

以下示范病例即为将收集的资料以书面形式总结出来的一个例子；紧接的评分条目为 SP 评估学生收集资料能力的一个例子。

OUTLINE FOR MEDICAL INTERVIEW

(Basic Contents of an Interview)

A. Introduction

_____ Introduce yourself

_____ Define role and position

_____ Address patient as “Mr. ”, “Miss” or “Mrs. ” or other suitable name

_____ Ask patient's full name, age, race, address (or place of work), etc.

_____ Converse briefly with patient to make patient comfortable and then start the interview

B. Chief Complaint

_____ Briefly state symptoms or signs and duration in the patient's own words.

Use open-ended question to begin interview: e. g. , “What brings you here today?”

C. History of the Present Illness

Detailed documentation of patient's current problem

- _____ Onset (sudden or insidious) and duration "how long have you been ill?"
- _____ Features of chief symptom, including location, radiation, quality, frequency, duration, intensity, alleviating and aggravating factors
- _____ Causes of illness and inducements/precipitating factors
- _____ Progression (chronology of the illness, including the development of main symptom and appearance of other symptoms)
- _____ Associated symptoms
- _____ Significant negative symptoms
- _____ Previous studies and treatment (medication, dosage, effects, etc.)
- _____ General condition after illness (mental state, appetite, body weight, sleeping, urine, bowel movement, etc.)
- _____ Summarize, clarify and verify
- _____ Transitional statement into past medical history

D. Past Medical History

- _____ Past health status
- _____ Past illness (mainly indicate infections, contagious diseases, and any illnesses which may be relevant to present illness)
- _____ Operations, injuries, accidents and vaccinations (document)
- _____ Allergies (medications, foods, environmental agents)
- _____ Summarize, clarify and verify
- _____ Transitional statement into review of systems

E. Review of Systems

(Student is permitted to use a copy of the review of systems for this section)

If two general items for a system are positive, the interviewer should inquire about the system in detail

If any item has been previously mentioned in the history of the present illness or the past medical history, repetition should be avoided or explained to the patient. Record significant positives and negatives.

- _____ General
- _____ Skin
- _____ Hematopoietic
- _____ Head
- _____ Eyes
- _____ Ears
- _____ Nose
- _____ Mouth
- _____ Pharynx and larynx
- _____ Breast
- _____ Respiratory system

- _____ Cardiovascular system
- _____ Gastrointestinal system
- _____ Urinary system
- _____ Reproductive system
- _____ Endocrine system
- _____ Bones, muscles, joints
- _____ Neurological system
- _____ Psychiatric
- _____ Summarize, clarify and verify (only positives)
- _____ Transitional statement to personal history

F. Personal History

- _____ Place of birth, current residence and duration at current residence, educational background, economic status, living conditions
- _____ Professional and working conditions; includes types of work, work environment, exposure to chemical, radioactive materials or industrial poison and exposure time (if suspected as causative)
- _____ Habits and hobbies; such as sleeping, eating, recreation, tea or coffee drinking, smoking and alcohol consumption (amount, duration), other drugs (including sedatives or narcotics) or ingestion of unusual substances (dirt, hair, etc.)
- _____ Marital history
 - Married or unmarried, marriage age
 - Sexual life, relations of couple, etc.
- _____ Menstrual and reproductive history (for female patients)
 - Age of onset, interval between periods, duration, amount and character of flow, concomitant symptoms, date of last menstruation, age of menopause
 - Record menstrual history as follows:

age of onset	$\frac{\text{menstrual duration}}{\text{interval between periods}}$	date of last menstruation or age of menopause

- Age and date of pregnancy (ies) and childbirth (s). Date of artificial or natural abortions, stillbirths, operative delivery, puerperal fever. Method of family planning (safety period, contraceptive pills, intrauterine device, Dutch cap, condom)
- _____ Summarize, clarify and verify
- _____ Transitional statement to family history

G. Family History

- _____ Ages and health status of parents---document
- _____ Age and health status of spouse---document
- _____ Ages and health status of siblings---document

_____ Ages and health status of children---document

_____ Family history of illness similar to patient's

_____ Catch-all questions

1) family incidence of infectious diseases (tuberculosis, hepatitis), allergy, cancer, diabetes, etc.

2) any other (genetic) illness that runs in the family

3) if any immediate family members are dead, ask cause of death, age at death

_____ Summarize, clarify and verify

H. Closure

_____ Discuss health promotion (e. g., decrease excessive habits, dental care, bicycle and automobile safety)

_____ Close the interview--allow the patient to discuss any additional questions concerns, perspective on the illness, or expectations for the visit, etc..

_____ State what the physician will do next, what the patient will do next and the time frame in which these will occur (further diagnostic and therapeutic plans)

The thoroughness and accuracy of the medical content obtained will be evaluated according to the checklist designed by the medical staff and completed by the SP.

The following written cases is an example of how to organize the data you collect in a written format. The checklist is an example of how the SP would evaluate the adequacy of your data collection skills.

示 范 病 例

患者，张宏，男、38岁，浙江杭州籍、副研究员，因反复上腹疼痛4年，加重3月于1995年3月8日来院门诊。

4年前因饮食不节，工作劳累而觉上腹疼痛，为剑突下烧灼样疼痛或钝痛，不伴反酸、呃气，疼痛牵扯至背心，多于餐后或夜间发生，尚可忍受，每次进食或热饮后减轻，发作持续半月左右好转，未治。此后每年有类似的发作4~5次，诱因相同，经休息、饮食节制（如软食及清淡饮食）后好转。

2年前曾在本院就诊后嘱作胃镜检查未从，服用胃舒平3片/次，6~7次/日后好转，1月后自行停药。

1年前疼痛复发，发现黑便每日一次，每次量约250g，在市一人民医院诊断为“上消化道出血”，经休息、输液、胃舒平等治疗1周后出院，继续服用胃舒平3片/次，6~7次/日，治疗约2~3月，未再复发。

3月前因科研任务繁重，经常熬夜，生活不规律，上腹疼痛再发，以胀痛为主，伴恶心及黑便3天，曾呕吐食糜2次，住市一院治疗1周好转。2月来仍有呕吐，每周1~2次，多于晚上发生，带宿食味，量大，经市一院门诊用得乐冲剂1包/次，4次/日，后略有好转，但症状仍存，虑及病变恶化，有否肿瘤及应否作检查及手术等而来诊。

病后4年来体重下降5kg，3月来食纳减退，从原每日400g减至200g，人软乏力，但尚能坚

持工作。

过去体健，22年前患黄疸型肝炎，住杭州传染病院治疗1月而愈，此后每年复查肝功一次，共3年均正常。4年前因阑尾炎住市三院手术治疗，1周后出院。对磺胺过敏，用后左手尺侧出现固定药疹，搔痒。6年前单位集体进行乙肝疫苗接种，无不良反应。患者因近视、散光于20年前始带眼镜至今。平时偶饮食不节腹泻、黄水样便、未治。8年前因便血检查为痔疮，经中医“枯痔”治疗而愈。余无特殊罹患。

出生杭州，自幼当地念书，12年前浙江大学研究生毕业后来川。在省科分院生物所工作，科研任务重，常熬夜、出差。在实验室工作，无毒物接触史，嗜烟10年，10支/天，偶饮酒，50ml/次，3年前因胃疾而停止。结婚10年。爱人36岁体健，偶尔失眠，在同一单位工作，住单位宿舍，生活条件尚好。有一女9岁，体健，无特殊罹患。父亲66岁，患低血压已2年，浙医大门诊治疗；母亲60岁，患冠心病，亦在浙医大门诊治疗。

病历记录的内容与前面所列成人问诊大纲略有不同，它是以书面形式记录病人的病史，不能记录引言、小结、过渡语言及结束语等。而 SP 评估时则应包括这些内容。

问诊内容评分条目

(每条1分，满分40，及格30)

引言

1. 自我介绍
2. 讲明身份及作用
3. 问清患者姓名，称谓
4. 问清年龄、住址

主诉现病史

5. 上腹痛
6. 时间：4年，加重3月
7. 性质：烧灼痛，钝痛一胀痛
8. 部位：上腹部，剑突下
9. 放射部位：背心
10. 频率：每年4~5次，每次半月左右。
11. 节律：多于餐后或夜间，3月来胀痛于餐后明显。
12. 缓解因素：休息、饮食控制及热饮
13. 加重因素：劳累，饮食失节等
14. 病情进展情况：近3月来熬夜及劳累而加重
15. 伴随症状：黑便，1年前、3月前各一次经市一院住院而愈。呕吐，3月前量大为食糜；2月来多为朝食暮吐，带宿食味。
16. 诊治经过：疑为上消化道出血，用过胃舒平和得乐冲剂。
17. 病后一般情况：消瘦5kg，纳差400g/日降至200g/日；人软乏力，但坚持上班。

过去史

18. 一般健康情况尚好
19. 22年前患黄疸型肝炎，杭州市传染病院住院1月而愈。

20. 4年前阑尾炎，市三院手术后1周而愈。

21. 对磺胺药过敏，左手尺侧固定药疹。

22. 6年前作乙肝疫苗接种。

系统回顾

23. 18岁时始因近视散光配戴眼镜。

24. 20年来偶有饮食不节致腹泻，黄稀便，未治。

25. 8年前便血，诊断为“痔”，中医用枯痔法治愈。

个人史

26. 生于杭州，自幼原籍念书。

27. 文化程度：12年前研究生毕业

28. 职业：省科分院工作，科研工作任务重、常出差，熬夜。

29. 无毒物接触史

30. 嗜烟：10支/天×10年

31. 偶饮酒50ml/次，3年前因胃疾戒除。

32. 结婚10年，爱人36岁，同单位工作

33. 夫妻生活正常。

34. 居住条件及生活条件好

家庭史

35. 父亲：66岁，杭州人，患低血压，浙医大治疗

36. 母亲：60岁，杭州人，患冠心病，浙医大治疗

37. 爱人：36岁，偶尔失眠、余正常

38. 女：9岁，体健

其他关心的问题

39. 疾病对工作，前途的影响

40. 是否应做胃镜检查，是否应做手术？

Written Record

The patient is a 38 year old male researcher coming to the clinic from Hongzhou. He complains about having abdominal pain for four years. He says that it has been getting worse over the past three months.

For four years, the patient has noticed a dull, burning pain in the upper abdominal region. It is usually caused by fatigue, irregular mealtimes, and occurs mostly after a meal or at midnight. The patient can relieve the pain by eating or drinking hot liquids. The pain radiates to the patient's back. There is no regurgitation or belching and the pain usually lasts about 15 days each time and occurs four to five times per year. The pain also seems to decrease if he rests or takes regular, mild meals.

Two years ago, the patient visited the outpatient clinic and antacid tablets were prescribed, 3 tablets, 6-7 times per day. After about one month, the patient felt well enough

to discontinue the medication.

One year ago, the pain recurred and was accompanied by black stools once a day for one week. The stool was about 250g each time. He was admitted to the 1st Municipal Hospital. A diagnosis of upper GI bleeding was made. The therapy with antacid complex and infusion fluid was initiated. Afterwards he followed the physician's orders to take the medication for another two months with good response.

Three months ago, he experienced a recurrence of the upper abdominal pain associated with fullness. He attributed this to a heavy load of research work. He felt he stayed up too late and ate irregular meals. He also experienced nausea and black stools for three days and vomited twice. The vomit contained residual food. He was admitted to the 1st Municipal Hospital again and recovered after one week.

Since then, he has continued to have intermittent vomiting, which occurs mostly in the evenings one to two times a week. It contains a large amount of food and has an offending odor. He has used bismuth powder four times a day without any effect on the symptoms. He visits us because he is worried about a possible malignancy or the need for surgery.

He has lost approximately 5 kilos over the past four years and feels a little tired. He can only eat half the amount of food he used to consume. He is able to work.

Prior to this problem the patient was in good health. Twenty-two years ago he suffered from an acute hepatitis with jaundice and was admitted to the Hongzhou Infectious Hospital. He recovered in one month and his liver function was checked for three years with normal results. Four years ago, he had acute appendicitis and underwent surgery. He is allergic to sulfa which is manifested by a fixed rash and itching on his left hand. He was vaccinated with type-B hepatitis six years ago. The patient wears glasses because of near-sightedness with astigmatism for 20 years. He has occasional diarrhea because of reactions to food. A diagnosis of hemorrhoids was made eight years ago and was treated with traditional Chinese binding methods. The patient fully recovered.

The patient was born and studied in Hongzhou. After he graduated from Zhejiang University with a master's degree 12 years ago, he came to work in the biology department of the Provincial Science Institute. There is no toxicity in the lab but the work is stressful. He has smoked 10 cigarettes a day for the past 10 years. The patient used to drink a little alcohol but stopped three years ago. He has been married for 10 years and has a 9-year old daughter who is in good health. His father suffers from hypotension and his mother has CHD and was treated at ZMU. Otherwise she is in good health.

The content of a written record is a little different from the outline of the adult interview mentioned above. It is a readable format of the written history of the patient, and should not include introduction, summary, transitional statement and closure. These will be evaluated by the SP during the actual interview.

CHECKLIST Of Content

(every item scores 1, full scores 40, pass 30)

Introduction

- _____ 1. Introduce yourself
- _____ 2. Define your role and position
- _____ 3. Ask the patient's name and address him correctly
- _____ 4. Ask the patient's age and address

Chief Complaints and HPI

- _____ 5. Upper abdominal pain
- _____ 6. Onset and duration-4 years and increasing over the past three months
- _____ 7. Features: burning like, dullness and fullness
- _____ 8. Location: upper part of abdomen
- _____ 9. Radiation: to back
- _____ 10. Frequency: half a month each time-4-5 times per year
- _____ 11. Rhythmicity: after meals or midnight
- _____ 12. Alleviating factors: rest, diet or hot drinks.
- _____ 13. Aggravating factors: tiredness, irregular meals
- _____ 14. Progression of the illness: has become more serious over the previous three months.
- _____ 15. Associated symptoms: black stools, 1 year ago and 3 months ago, vomiting in past three months
- _____ 16. Previous diagnostic studies and medications: presumptive diagnosis of upper GI bleeding, antacid and bismuth were used
- _____ 17. General condition after illness: loss of weight and appetite

Past History

- _____ 18. General condition: good
- _____ 19. Acute hepatitis with jaundice 22 years ago, recovered one month later
- _____ 20. Acute appendicitis 4 years ago, operated on in 3rd municipal Hospital
- _____ 21. Allergic to sulfa, fixed drug rash on left hand
- _____ 22. Vaccinated with type B-hepatitis 6 years ago

Review of Systems

- _____ 23. Wears glasses for nearsightedness and astigmatism for past 10 years
- _____ 24. Diarrhea occasionally because of irregular meals for 20 years
- _____ 25. Hemorrhoids 8 years before and treated with traditional Chinese method

Personal History

- _____ 26. Born and studied in Hongzhou
- _____ 27. Cultured background. Postgraduate degree 12 years ago.
- _____ 28. Occupation: Scientific researcher in Provincial Science Institute.
- _____ 29. No toxic exposure

- _____ 30. Smokes 10 cigarettes per day for 10 years
- _____ 31. Stopped drinking alcohol three years ago
- _____ 32. Married for 10 years. Wife is 36 years old and works at the same Institute.
- _____ 33. Normal family life
- _____ 34. Good living conditions

Family History

- _____ 35. Father -66 years old, hypotensive, treated at ZMU
- _____ 36. Mother -60 years old CHD-treated at ZMU
- _____ 37. Wife -36 years old, occasional insomnia, otherwise normal.
- _____ 38. Daughter -9 years old in good health.

Other problems and concerns

- _____ 39. That the illness may influence his work and his future.
- _____ 40. Does he need gastroscopy and surgery?

问诊技巧及评分标准

问诊技巧与获取信息的数量及质量息息相关,因而直接影响诊断治疗及病人的依从性。下列20条问诊方法是较为全面而广泛运用的问诊技巧的总结,对初学者特别有用。每项技能的理论基础和详细说明如下,内附评分标准以利评估。每条5分,满分100,及格75。

第一项: 组织安排

组织安排指整个问诊的结构与组织,包括:引言(询问者介绍自己的姓名和说明职责)、问诊主体(主诉、现病史、过去史、系统回顾、个人史、家族史)和结束(结束语的质量在第20条评价)。

询问者最好按项目的顺序系统地询问病史,对交谈的目的、进程及预期结果应心中有数,负责全局。

评分标准:

- 5分 问诊的开始、中间和结束清楚明了。开始先自我介绍,讲明自己的作用,确定问诊的进程,能系统地询问一系列问诊内容(包括主诉、现病史等),最后系统地获得全部必要的资料。有明确的结束语。
- 3分 大部分问诊是有秩序的,但有些还应组织得更好些;或者主体部分组织较好,但开始和结束不很明确。
- 1分 问诊缺乏连贯性和组织性。

第二项: 时间顺序

是指主诉和现病史中症状或体征出现的先后次序。询问者应问清症状开始的确切时间,跟踪自首发至目前的演变过程。根据时间顺序追溯症状的演变可避免遗漏重要的资料。例如:有时环境的变化或药物的使用可能就是病情减轻或加重的因素。仔细按时间线索询问病情可使询问者更有效地获得这些资料。建议询问者可用以下方式提问,例如:“……以后怎么样?”、“然后又……”,这样在核实所得资料的同时,可以了解事件发展的先后顺序。如有几个症状同时出现,有必要确定其先后顺序。

例如：一56岁男性病人，胸骨后疼痛逐渐加重2小时就诊。二年前，病人首次活动后发生胸痛，于几分钟后消失。一年前，发作更频繁，诊断为心绞痛，口服心痛定（10mg）qid 治疗一月后疼痛消失。病人继续服用心痛定（10mg）Bid 至今。2小时前病人胸骨后疼痛再发，1小时前病人伴出汗、头晕、心悸，胸痛放射至左肩部。

评分标准：

5分 虽然收集资料时，不必严格地按症状出现先后提问，但能获得足够资料以致能按时间顺序口述或写出主诉、现病史及伴随的有关症状。

3分 仅获得部分必要的资料及时间线索，无法编写出有关症状的先后顺序。

1分 未获得编写症状先后顺序所必要的资料。

第三项：过渡语言

是指问诊时用于两个项目之间转换的语言，是向病人说明即将讨论的新话题及其理由。例如：“我们一直在谈论你今天来看病的目的，现在我想问问你过去的病情，以便了解它与你目前的疾病有何关系。从最早的儿童时期回忆起，追溯到现在。”（停顿）“你小时候健康情况如何？”，用了这种过渡性语言，病人就不会困惑你为什么改变话题以及为什么要询问这些情况。

过渡性语言对促进交流也很重要。不用或使用不当，都会妨碍医患之间和谐关系的发展，甚至使病人产生敌意或不合作。良好的过渡性语言例子有：（1）过渡到家族史：“现在我想和你谈谈你的家族史（新话题）；你也知道，有些疾病在有血缘关系的亲属中有遗传倾向，为了获得一个尽可能完整的家谱，预测和治疗未来的疾病，我们需要了解这些情况（理由）。让我们先从你的父母开始吧，他们都健在吗？”（或：你父母亲的健康情况怎样？）（2）过渡到系统回顾，“我已经问了你许多问题，你非常合作，现在我想问问全身各个系统的情况（新话题），以免遗漏，这对我了解你的整个健康状况非常重要”（理由）。

评分标准：

5分 询问者由一部分转入另一个部分时，会用过渡性语言，提问恰当、解释清楚，能确保病人提供有关的和必要的信息。如“现在我要问几个有关你家庭的问题，因为我们发现有些疾病可以出现在有血缘关系的亲属中，这有助于我们了解你们家族中危害健康的因素。”

3分 有时能用有效的过渡性语言，有时却不能，有时使用的过渡性语言质量不高，如“现在我要问你几个有关你家庭的问题。”

1分 不会使用过渡性语言，因而问诊过程中病人不明白提出问题的目的和用意。（根本没有过渡性语言）

第四项：问诊进度

为了使问诊进展顺利，询问者应注意聆听，不要轻易打断病人讲话，让他有足够的时间回答问题。有时允许有必要的停顿（如在回顾思索时），有意的沉默也许令人不安，但也可鼓励病人提供其他的有关信息，或者可使病人道出敏感的问题，如果没有这种沉默，病人会省略不谈。如果病人的言行表示需要冷静深思某些问题，则短暂的停顿或许有益。沉默尤如一把利剑，其利弊全仗如何使用。你的直觉有助于判断这种交谈中的停顿，如果感到难堪，很可能是询问者正思维短路，如果你觉得询问者可因此获得更多的信息，那么这种停顿正好是一种有效的问诊技巧。

询问者欲从难堪的停顿中掌握好进度可总结归纳已获得的病史，也可以提出些现成的问题，如“你能告诉我通常你的一天怎样度过吗？”

好的询问者不会急促地提出一连串问题，使病人几乎没有时间去考虑答案。

如果病人不停地谈论许多与病史无关的问题，则可客气地把病人引导到病史线索上来，如“你的那些问题我都理解，现在请再谈谈你当时腹痛的情况吧？”

评分标准：

5分 关心病人的反应，聆听病人的全部叙述和回答问题，不轻易打断，不出现难堪的停顿。必要时故意保持沉默，让病人思索，作出系统的回答。

3分 问诊顺利，偶尔打断病人的叙述，和/或有难堪的停顿，使流畅的交谈中断。

1分 经常打断病人，使病人无法圆满地叙述和回答问题，和/或常有难堪的停顿，使流畅的交谈中断。

第五项：问题类型

一般性问题。常用于问诊开始，用一般的问题去获得某一方面的大量资料，让病人象讲故事一样叙述他的病情。这种提问应该在现病史、过去史、个人史等每一部分开始时使用。

如：“你今天来，有哪里不舒服？”或者“请告诉我你的一般健康情况吧。”待获得一些信息后，再着重追问一些重点问题。

特殊性问题（直接提问）。用于收集一些特定的有关细节。如“扁桃体切除时你几岁？”，“你何时开始腹痛的呢？”，“你腹痛有多久了？”提出特殊的问题要求获得的信息更有针对性。另一种特殊提问是直接选择提问，要求病人回答“是”或“不是”，或者对提供的选择作出回答，如“你曾有过严重的头痛吗？”“你的疼痛是锐痛还是钝痛？”（但开始最好是一般性提问：“谈谈你头痛的情况吧”）。

为了系统有效地获得准确的资料，询问者应遵循从一般到特殊的提问进程，例如：开始提问用“请你告诉我，什么事使你忧虑。”而不是“你的工作使你焦虑不安吗？”

以下是一系列从一般到特殊提问的各种例子。

询问者：“请告诉我你哪里不舒服。”（一般提问）

病人：“近两周，我的胃一直在痛，就在这儿（指着痛的地方），在肚脐上方。”

询问者：“请告诉我，你痛的情况。”（一般提问）

病人：“哦，太糟了。”

询问者：“疼痛象什么样？”（直接提问）

病人：“烧灼样。”

询问者：“痛在深处还是在表面？”（直接选择提问）

病人：“相当深。”

询问者：“痛的部位有变动吗？”（直接选择提问）

病人：“没有。”

询问者：“哪些情况使疼痛更厉害？”（直接提问）

在现病史、过去史等每一部分开始提问时，应避免用直接或直接选择性提问，因为这会限制病人提供信息的范围，使获取必要的资料变得困难费时。如开始时，不用一般性提问，而用不恰当的一系列直接提问，就使获取资料的效率较差。如：疼痛象什么样？接着再问一系列的强迫选择性提问：

询问者：“是持续痛吗？”病人：“不是。”

询问者：“是刺痛吗？”病人：“不是。”

询问者：“是钝痛吗？”病人：“不是。”

再者，不正确的提问可能得到错误的信息或遗漏有关的资料。以下各种提问应予避免：

诱导性提问 是一种能为病人提供带倾向性特定答案的提问方式，问题的措词已暗示了期望的答案。这种提问应避免，因为病人易于默认医生的诱问，而不会轻易否定如：“你的胸痛放射至左手，对吗？”

诘难性提问 常使病人产生防御心理，不宜使用。如：“你为什么吃那样脏的食物呢？”

连续提问 是提出一系列问题不容许病人分别回答每一个问题，可能会使病人对要回答的问题混淆不清。如：“饭后痛得怎么样？和饭前不同吗？是锐痛，还是钝痛？”，连续提问也可以是不同问题多个选择答案，如“你家族中有哪个患过癌症、糖尿病、心脏病或高血压吗？”这也常称为分别连续性提问。

评分标准：

5分 一开始和每一部分开始都用通俗易懂的一般性问题提问，紧接着用更具体直接的问题深入细问，以便病人集中详细说明之，并作出肯定或否定的确切回答。

无连续提问、诘难性提问或诱导性提问。

3分 不能用通俗易懂的一般提问开头，而用具体直接的问题提问，或用了诱导性、诘难性、连续性提问。

1分 常用诘难性、连续性、分别连续性或诱导性提问，例如：“你的孩子一直在腹泻，不是吗？”“你是在下午发热，对吗？”。

第六项：重复提问

有时为了核实资料，同样的问题需多问几次，重申要点。例如：“你已告诉我，你大便全是血，这是很重要的资料，为了把这弄清楚，请再给我讲一下你大便的情况。”但无计划的重复提问可能会挫伤和谐的医患关系和失去病人的信任。例如：在收集现病史时已获悉一个姐姐和两个兄弟也有类似的头痛，如再问病人有否兄弟姐妹，则表明询问者未注意倾听。

结合其他问诊技巧，如：归纳总结（第七项），将有助于减少重复提问。有时用反问及解释等技巧，以避免不必要的重复提问。

评分标准：

5分 为了阐明或总结偶尔重复提问或追问先前已提供的情况。

3分 很少重复提问，但重复提问并非为了阐明或总结，而是由于遗忘了某些资料。

1分 因无法记住已收集到的资料，而频繁重复提问。

第七项：归纳小结

每一部分结束时进行小结具有以下目的：

1) 唤起询问者的记忆以免忘记要问的问题；2) 让病人知道询问者如何理解他的病史；3) 提供机会印证病人所述病情；（如：刚才你说你的下背痛深在而持续，而大腿外侧痛则比较表浅，对吗？）病史的印证通常在小结时进行，但亦可用于难以插话的病人，使其专心倾听。

对主诉和现病史，向病人作一尽可能详细的小结是很重要的。

小结家族史时，只需要简短的概括，特别是阴性或不复杂的阳性家族史。

小结系统回顾时，最好只小结阳性发现，（如：除了每个月有几次头痛，还有便秘，所以自行增加粗糙食物；此外，你似乎相当健康，我们的主要任务是弄清你背部的问题，你觉得是这样的吗？）

评分标准：

5分 各部分都有小结，每一部分问诊结束都力求印证，阐明所得资料并确保未遗漏重要内容。小结了主诉、现病史及其他1~2部分，可得4分。

例：你告诉我，你发烧已经一周，伴有右胸痛，近2天来咳嗽时痰中带血，其他没什么大问题了，对吗？

3分 主诉、现病史有小结；有时有些部分结束时有小结，但不完全，可得3分。尽管其他各部分有小结而主诉现病史缺乏小结仅能得2分。

1分 完全未作小结。

第八项：避免医学术语

术语即外行难懂的专业性用语或隐语。作为与病人交谈的一种技巧，必须用常人易懂的词语代替难懂的医学术语。询问者常常因病人能用1~2个医学术语就误以为他有较高的知识水平。例如：有的病人因耳疾而熟悉“中耳炎”这个词，但他并不懂“心悸”的含义；询问者可能因病人用了“中耳炎”这个术语，而认为用医学术语提问不成问题。由于病人不愿承认他不懂这一提问，使用术语就可能引起误解。因此，询问者应对难懂的术语作适当的解释。（如“湿性咳嗽—有痰的咳嗽”）

评分标准：

5分 不用医学或难懂的术语提问，语言简单易懂，适合于病人的文化程度。如果使用术语必须立即向病人解释。例：“你是否有过血尿，换句话说有没有尿色变红的情况？或者，小便颜色有没有改变？”

3分 偶尔使用医学术语，除非病人特别要求，否则未作解释。

1分 整个问诊常用难懂的医学术语又未作解释及限定。

第九项：引证核实

为了收集到尽可能准确的病史，询问者应引证核实病人提供的信息。如果病人提供了特定的诊断和用药，就应问明诊断是如何作出的及用药剂量。还要核实其它一些信息，包括饮酒史、吸烟史、兴奋药品和咖啡因服用史，以及过敏史。有关习惯和嗜好方面的情况应包括名称、用量和时间。例如：饮酒史，应问清喝什么酒、喝多少、多长时间、以及喝酒的方式。提供机会澄清所获信息。（如：我还不清楚你的疾病对你上学有多大妨碍，能否告诉我发病后你缺课多少天？）

问诊时，如病人用了术语或特殊的诊断，询问者应核实诊断是否正确。

例1，病人：“我父母都有消化性溃疡。”

询问者：“他们是否经过医生的治疗？”或“做了什么检查才发现有消化性溃疡？”或“他们怎样知道得了溃疡病？”

例2，病人：“5年前我患了结核病。”

询问者：“谁做的诊断呢？”

病人：“我的保健医生，杨医生。”

询问者：“曾做过胸部X光检查吗？”

病人：“做过。”

询问者：“你经过抗结核治疗吗？”

病人：“是，服药治疗。”

询问者：“什么药物？”

病人：“一种白色药片。”

询问者：“知道药名吗？”

评分标准：

- 5分 全部项目都核实了，可以得5分。总是从病人的回答中去核实特殊的、有价值的信息，包括在需要时了解药物治疗、嗜好的细节（如用药的数量、频度及时间等）。如病人说：“我对青霉素过敏。”则应追问“你怎么知道你过敏？”“过去你用青霉素时有哪些反应？”。如询问者引证了每一条，但并非每一条都很完整，可给4分。
- 3分 按标准如核实了一半项目可以得3分。有时从病人的回答中寻找特殊的、有价值的证据，但不是始终如一。
- 1分 未能从病人的回答中寻找特殊的有价值的证据，只满足表面信息，也不作记录。

第十项：仪表和礼节

外表整洁有助于发展与病人的和谐关系，谦虚礼貌能获得病人的信任以致谈出原想隐瞒的敏感事情，也能鼓励病人提供其他有关的资料。相反，粗鲁傲慢会丧失病人对询问者的信任感。

评分标准：

- 5分 衣冠整洁，文明礼貌，病人感到温暖亲切（包括头发的梳理、手和指甲的清洁）
- 3分 有时忽略了个人仪表和礼貌
- 1分 不注意个人仪表和礼貌

第十一项：友善的举止

增进和谐关系的行为就是询问者如何使病人感到舒服的举止。视线的接触即为其一，也是问诊技能好坏的关键。如同其他许多习俗一样，注视病人要恰当，过多过少都不好。换句话说，询问者既要注视病人，又要避免凝视或直视病人，如同一种审讯。其他非语言交流或体语也一样，适当的时候应微笑或赞许地点头示意。与病人之间不要设置任何障碍，认真交谈时应采取前倾姿势注意倾听。另外，当病人谈及他的性生活史时，询问者可用两臂、两腿交叉的姿势，表示能接受和理解他的问题。同样，询问者有时也可拍拍病人的肩臂，但过分又不恰当了。其他重要的友好举止还包括语音、面部表情和不偏不倚的语言暗示（不要与肯定的鼓励语混淆）以及一些鼓励病人继续谈话的短语，如“我明白”、“接着讲”、“哦，嗯”、“说得更详细些”。也包括病人讲完时附和几句。

评分标准：

- 5分 友善的眼神，轻松大方的体语，适当的面部表情、语调和移除障碍物，使病人感到轻松自在，易于交流。同时还可利用尾白或附和语，适当时拍拍病人肩膀以促进交流。
- 3分 用了一些有助于交流的举止，但不能自始至终，有少数举止不太恰当，如注视病人不够或障碍物未消除。
- 1分 未创造条件使病人能安然自在，缺乏体语，或间插一些令人讨厌的举止（如脚不停地拍击地板或用铅笔敲纸），而且与病人没有视线接触。

第十二项：赞扬与鼓励

该项是用以评价询问者如何妥善地运用一些赞扬语言，促使病人与自己合作，间断地给予肯定和鼓励，使病人受到鼓舞而积极提供信息。如像以下评论：“那你一定很困难”或“那是可以理解的。”一些通俗的赞扬语，如“你已经戒烟了？太好了，那一定用了很大毅力”或者“我很高兴，你能每月做一次乳房的自我检查，这对妇女能在家中自己发现乳房包块非常重要”。这对增进与病人的关系大有帮助。

评分标准：

- 5分 交流中间断地给一些赞扬性肯定或反馈，如赞扬病人采取有益于身体健康的措施（“你已经戒烟了，真是太好了”）。赞扬语应该有特殊的内容，对病人的悲伤、痛苦能表示同情和理解。如“那你一定很困难”，“碰到这样的问题任何人都会生气的”等等。
- 3分 既没过分的赞扬或批评，也没有过多表示同情的言语举止，泰然处之，即使有也是不偏不倚的态度，未能有效赞扬鼓励。
- 1分 没有赞扬语，而持否定的态度或公开批评病人（如：“我不相信你戒烟前竟然抽了20年的烟。”）

第十三项：病人的看法

询问病人对自己所患疾病的看法，对有效的诊断和治疗非常重要，病人对病因的信念和关注直接影响他叙述症状和对诊断的理解。例如，病人可能认为他因喜吃甜食、食糖过多而导致糖尿病。询问者还应了解病人所知的有关疾病治疗的知识以便进行教育。上述病人很可能认为停止食糖或甜点就能治愈糖尿病。病人对其预后的看法也会影响治疗。如果某人的叔父死于胃癌，那他可能将消化性溃疡视为一种致命性疾病。

例如：病人：“我有胃痛。”

询问者：“对此你有什么看法呢？”

病人：“我怕是得了癌症。”

询问者：“你为什么认为得了癌？”

病人：“因为我叔父一年前死于癌症。”

询问者还应问明主诉以外病人关心的其它问题，许多病人可能隐藏了他关心的问题，如未发现，未被解决，则对治疗不利。例如：一个性传染病的病人可以说出他的症状及治疗要求，但很可能隐瞒对引起阳痿的忧虑。

评分标准：

- 5分 能引出病人对疾病的看法，包括对病因的担心和对诊断治疗以及预后的理解，特别要启发诱导出隐藏的忧虑。
- 3分 仅引出部分看法，并表示有点关心。
- 1分 不问也不关心病人的看法。

第十四项：关切疾病的影响

一个诊断对病人、病人家庭和家庭生活方式均有巨大影响。癌症病人即为一明证。由于长期的治疗、药物的副作用以及可能降低的家庭收入，必然影响到病人、家庭成员和家庭生活方式。询问者应提及某些疾病会影响自我形象。如：一个乳腺切除的病人，自我形象会大不相同；一个病人心脏病发作后，可能应立即改变他的性生活和体力活动。这些肯定会改变病人对

自己的看法，询问者应深入探讨这些问题，宽慰病人。

评分标准：

5分 能询问家庭情况，也谈到疾病和治疗对病人本身及其家庭成员的生活方式和自我形象的影响，并适当探讨这些问题。

3分 意识到疾病和治疗对病人本身及其家庭成员的生活方式的影响，但不能深入探讨这些问题或只能部分解释对自我形象的影响。

1分 未顾及疾病和治疗对病人本身及其家庭成员的生活方式和自我形象的影响。

第十五项：关心支持和帮助的来源

鼓励病人设法寻找经济和精神上的支持和帮助，包括家庭其他成员、朋友、工作单位等，以及有无即刻能帮助病人的个人或团体。此外，询问者还可建议一些病人不知道的慈善机构及自助组织等的帮助。

评分标准：

5分 关心病人现有的经济和精神上的支持和帮助，包括个人、家庭和工作单位。

3分 仅了解部分可得到的资助，或只了解了资助，忽略了其可靠性。

1分 不关心有否资助。

第十六项：关心病人的期望

询问者应明白病人的期望，了解病人就诊的确切目的和要求（一张处方、一张恢复工作的证明），如以药物治疗和改变生活方式等为目的，就需要保持长期连续的医患关系，这需要询问者与病人共同协商决定。

在很多情况下，教育病人是治疗成功的关键，甚至本身就是治疗的最终目标。询问者应判断病人最感兴趣的、想知道的及每一次可理解的信息量，从而为他提供适当的信息或指导和提供教育材料（可能的话）。

评分标准：

5分 能启发病人讲出对医生的确切期望，正确判断其最感兴趣和最需要解决的问题，包括协商近期和远期的目标（如“这次看病，你有什么要求？”）。若教育是关键，应根据其兴趣给予适当的教育。

3分 仅启发病人讲出了部分期望，企图了解病人的兴趣，予以教育，但不彻底。

1分 未能启发病人讲出他的愿望，也分不清对病人教育的关键。

第十七项：检查病人的理解程度

许多情况下，被认为不依从的病人其实是因为不理解询问者的意思。可用巧妙而仔细的各种方法检查病人的理解程度。询问者可要求病人重复所讲的内容，示范检查方法，或提出一种假设的情况，看病人能否作出适当的反应。当病人没有医生直接指导而必须继续治疗时，正确的理解是成功的关键。如药物治疗时，让病人知道用药的目的、服法以及对机体的作用是很重要的。询问者如须与病人讨论某些检查结果时亦应如此。

如病人没有完全理解或理解有误，应予以及时纠正。

评分标准：

5分 应用仔细而巧妙的方法有意识地检查病人是否理解问诊中所谈的内容，包括诊断、治疗或者会诊。检查方式包括：让病人重复所谈的内容，提出附加问题，给予设定的情景让病人示范。

3分 只泛泛地直接询问病人是否理解所谈的内容，而未用审慎的方式去验证。

1分 未评定病人的理解程度，也没有及时纠正病人的误解。

第十八项：承认经验不足

询问者应明白自己的经验是否能够为病人提供足够的信息，当自己不能提供足够的信息及建议，应承认自己这方面经验不足。如：一个内科医生将病人转给心脏专家就因为它自己缺乏心血管特殊检查方面的知识。一旦病人问及，应承认经验不足并立即设法为病人寻找答案。

评分标准：

5分 当无法回答病人的问题时，能承认自己经验不足，并立即设法查找答案。

3分 当无法回答病人的问题时，能承认自己经验不足，但只是偶尔为病人查找答案。

1分 当无法回答病人的问题时，为满足病人而捏造答案，从不查找答案。

第十九项：鼓励病人提问

问诊时，让病人有机会提问是非常重要的，因为病人可能经常想起一些询问者未曾获得的相关信息，或者还有一些问题需要询问者回答。

询问者应明确地给病人机会，鼓励他提问和讨论问题。例如：询问者应对病人说明，如有疑问或者还能提供与现在正在讨论的问题有关的更多信息，就请大胆提出。通常这是在每个主要部分交谈结束时进行，问诊末了再重复。

评分标准：

5分 鼓励病人对正在讨论的内容提问，并给予病人提出其他问题甚至与本次谈话无关问题的机会，如：“我们已谈了许多有关你的情况，你还有什么问题？”或者“任何其他问题你都可以随便谈谈”。这些常在问诊结束时进行。

3分 给病人提问的机会，但既不鼓励也不阻止，如“你有什么问题？”常在问诊结束时进行。如询问者虽未给机会让病人提问，但病人表示满意，可给2分。

1分 根本不给病人提问的机会，可能甚至阻止病人提问，如：“我们没有时间了。”

第二十项：结束语

问诊结束时，以结束语表明问诊结束，并说明下一步计划，询问者的作用、义务，对病人的要求、希望和下次就诊或随访计划。

评分标准：

5分 问诊结束时能明确地讲明今后的计划，包括询问者今后要做的（如会诊检查措施）和病人要做的工作（如改变饮食、理疗等），以及预约下次就诊时间（如预约2周后复诊）等。

3分 在谈话结束时，仅向病人讲了一部分计划，如“以后请告诉我你所服用的药名”。

1分 在谈话结束时，未告诉病人今后的打算，病人离开时感到无所适从。

问诊方法小结：

组织安排，时间顺序，巧妙过渡，进度适宜；
正确提问，耐心倾听，重复关键，小结要领；
语言通俗，核实引证，文明礼貌，仪表端正；
赞扬鼓励，同情关心，灵活启发，重点探询；
注意反馈，诚恳谦虚，鼓励提问，结束得体；

不应责备，不可诱问，不用术语，不要连问；
要点二十，必须牢记，驾轻就熟，自有捷径。

问诊小结：

问诊的主要任务是采集正确而客观的病史资料，再根据此资料归纳书写，形成病史。即使每个病史各不相同，一个优质的问诊必须具备五个基本要素，即静听 (Audition)、评价 (Evaluation)、询问 (Inquiry)、观察 (Observation) 及理解 (Understanding)。可分别由英语元音字母 AEIOU 代表，意指诚恳而细致地听取病人的叙述；判断各种资料的相关关系及其重要性；询问出完整的史料，抓住重点，深入追询，尽量引证核实；观察病人的面容表情、姿势，注意体语；领会病人关注的问题，对疾病的看法及对诊断、治疗的期望等。

欲达此目的，询问者应有坚实的医学基础知识，掌握问诊的内容和各种技巧，以及语言交流的艺术。初学者问诊时常觉思维短路、语塞词穷、难以提出问题，问诊进展不够顺利，也不能获得完整而恰当的病史。此时，你尽可反问自己：是否病人此时特别难受？是否病人不能表达？有无语言障碍？是否病人被病魔吓倒？是否病人对自己不信任？是否你的言行影响了医患关系？等等。尽量发现妨碍问诊的原因，一一予以解决。抓住每次问诊实践的机会，争取每次都有进益。一旦你熟悉了问诊的内容和技巧，又有一定的临床经验，问诊亦将更加熟练，而卓有成效。只有在这时，你才会发现某种“捷径”，提高问诊的效率。

INTERVIEW SKILLS AND SCORE CRITERIA

Interview skills are closely related to the quality and quantity of information the interviewer obtains from the patient. The interview will directly influence the medical care the patient receives and his compliance with treatment.

The following 20 items are comprehensive, widely accepted, and especially helpful for beginners. The presentation will provide a more in-depth explanation and rationale for each of the interviewing techniques, including some criteria for the scores in order to facilitate evaluation. every item scores 5, full scores 100, pass 75.

Item 1 Organization

The organization category refers to the structure and organization of the entire interview. This encompasses the information gathered in the introduction (during which the student introduces himself and explains his role), the body of the interview, (chief complaint and history of present illness, past medical history, review of systems, personal history, family history), and the closure (or the end of the interview) (It does not include the quality of the closure which is evaluated in item 20)

The interviewer imposes structure by systematically following a series of topics. The purpose, agenda, and expectation for today's meeting is made clear as the interview progresses. The structure and flow of the interview should be the responsibility of the interviewer.

Criteria statements:

5. The interviewer structures the interview with a clear beginning, a middle, and an end. In the opening, the interviewer identifies himself and his role and determines the agenda for

the interview. The body of the interview consists of a series of topics (chief complaint, history of present illness, etc.) pursued systematically to obtain all necessary information. The interview ends with a clear closure.

3. The interviewer seems to follow systematically a series of topics or agenda items most of the time. However, parts of the interview might be better organized. OR . . . The body of the interview is organized but there is no clear opening or closure.
1. The interview seems disjointed and unorganized.

Item 2 Timeline

The timeline pertains to the information contained in the chief complaint and history of the patient's current illness. To obtain a timeline, the interviewer should inquire when the patient was last free of this problem, and then follow the progression of the first signs and symptoms to the present. By carefully following the chronological progression of the complaint, the interviewer will avoid missing important information. For example, there may have been environmental changes or the use of drugs which may have alleviated or aggravated the patient's problem. By following a careful timeline the interviewer will obtain this information most efficiently. It may be suggested to the interviewer that a line of questioning might include statements such as, "... then what happened?" and "... and then what?... " This will allow a careful sequencing of events while simultaneously documenting the information obtained. If several symptoms are reported, it is important that their chronological relationship to each other be determined.

Example: a 56 year old male presents with progressive substernal chest pain for the past two hours. The patient's chest pain first occurred two years ago but only upon exertion and disappeared after a few minutes. One year ago the pain increased and was diagnosed as angina pectoris. Nifedipin (10 mg) qid was taken and the pain disappeared one month later. The patient continued to take Nifedipin (10 mg) bid and is currently doing so. Two hours ago the patient experienced substernal chest pain and one hour ago the patient experienced sweating, faintness, palpitations and the pain radiated to the left shoulder.

Criteria Statements:

5. The interviewer obtains sufficient information so that a chronology of the chief complaint and history of the present illness can be established during written or oral presentation. The interviewer need not ask questions in a strictly chronological manner during data gathering. The chronology of any associated symptoms are also established.
3. The interviewer obtains only some of the information necessary to establish a chronology. He may fail to establish a chronology for any associated symptoms.
1. The interviewer fails to obtain information necessary to establish a chronology.

Item 3 Transitional Statements

Transitional statements are two part statements used between subsections of the interview to inform the patient that a new topic is going to be discussed and why. For example, "We've been talking about why you came to see me today. Now I'd like to get some information

about your own past medical history to see if it has any bearing on your present problem. We will begin with your earliest recollections of what you have been told about your childhood health and progress to the present time. " (Pause) "How was your health as a child?" With this type of transition, the patient is not confused about why you are changing the subject and why you are seeking this information.

Transitional statements are also important for good communication skills. Poor quality or complete lack of transitional statements can hinder the development of rapport between patient and interviewer, and can even result in the creation of a hostile or uncooperative patient. Examples of transitional statements that would meet a standard of excellence are: (1) transition to family history: (what) "Now I'd like to talk to you about your family's history. (why) As you know, there are some diseases that tend to run among blood relatives, and in order to have as complete a picture of your medical history as possible and be able to anticipate and treat future problems, it is important that we have this information. Let's begin with your parents. Are they both living? (or "How is the health of your parents?")" (2) Transition to review of systems: "I've already asked you a lot of questions, and you have been very cooperative. (what) Now, I'm going to ask questions about the parts of your body that we haven't talked about yet, (why) just to be sure we haven't missed anything. This will be very important information to give me a complete picture of your health. "

Criteria Statements:

5. The interviewer utilizes transitional statements when progressing from one subsection to another, which assures the patient that the information being sought is necessary and relevant, e. g. , (what) "Now I'm going to ask you some questions about your family, (why) because we find that there are certain diseases that occur among blood relatives, and it will help us to know what health risks are in your family. "
3. The interviewer sometimes introduces subsections with effective transitional statements, but fails to do so at other times. Some of the transitional statements used are lacking in quality, e. g. , "Now I'm going to ask you some questions about your family. "
1. The interviewer progresses from one subsection to another in such a manner that the patient is left with the feeling of uncertainty as to the purpose of the questions. (No transitional statements are made).

Item 4 Pacing of Interview

The progression of the interview should flow in a smooth and comfortable manner. The interviewer should be attentive to the patient and allow him ample time to complete his answers without interruption. Some delays, however, are necessary (such as in reflective thinking) and are an indication of good interviewing skills. A well-placed period of silence may encourage the patient to provide additional relevant data or to talk about sensitive issues that he might otherwise omit. For example, if the patient exhibits behavior indicating a need to gather his composure or to ponder certain points, a delay can be beneficial to an interview. Silence is a double-edged sword. It can be detrimental or a powerful interviewing technique, depend-

ing on how it is used. A helpful way to assess pauses in the interview is to judge your feeling for that pause. If you feel embarrassed for the interviewer, he probably has lost his train of thought. If you feel that you should be giving more information, the pause should be considered an effective interviewing technique.

A good technique to help the interviewer recover from an awkward pause is to summarize the information previously obtained from the patient, or have some stock questions available, i. e., "Can you tell me about a typical day for you?"

It is also important to note that a good interviewer does not fire questions at the patient so rapidly that the patient has little or no time to consider his answers.

Criteria Statements:

5. The interviewer is attentive to the patient's responses. The interviewer listens without interruption; he allows the patient to complete responses and answer questions. The interview progresses smoothly with no awkward pauses. Silence may be used deliberately, if appropriate, to allow the patient to gather his thoughts or to consider and/or formulate an answer.
3. The pace of the interview is comfortable some of the time, but the interviewer occasionally interrupts the patient **and/or** allows awkward pauses to break the flow of the interview.
1. The interviewer frequently interrupts the patient, not allowing him to complete statements or answer questions; **and/or** there are awkward pauses which break the flow of the interview.

Item 5 Questioning Skills-Type of Question

An open-ended question is a general question that allows the interviewer to obtain a large amount of information about a particular area. It allows the patient to tell the interviewer "his story". This type of question should be used to begin a line of inquiry. (For example, "What brings you here today?" or "Tell me about your general health".) After the interviewer has obtained information, he should follow up with more focused questions.

Focused, direct, specific or forced choice questions are used to gather specific pertinent information. For example, "How old were you when you had your tonsils removed?" "When did your abdominal pain begin?" "How long have you had abdominal pain?" These questions are used to focus in on specific pertinent information. Other types of direct questions typically elicit a "yes" or "no" answer from the patient, or a response to a choice that the interviewer has provided. Example: "Have you ever had severe headaches?" "Is your pain sharp or dull?" (A better question to start this line of inquiry would be the open ended question, "Tell me about your headaches").

To gain accurate information in an organized and efficient manner, the interviewer should follow a line of inquiry that progresses from the general to the specific (e. g., starting with, "Tell me about the things that are stressful to you," rather than, "Does your job make you anxious")

Here is an example of a line of inquiry utilizing the various types of questions which begins

with general questions and then focuses on more specific questions.

Interviewer (I): "Tell me about your problem" (open-ended)

Patient (P): "For two weeks, I've been having a constant pain in my stomach, right here (patient points), above my navel."

I: "Tell me about the pain." (focused)

P: "Well, it's really bad."

I: "What does the pain feel like?" (focused)

P: "It's a burning sensation."

I: "Is it a deep pain or does it feel like it's on the surface?" (focused)

P: "It's a very deep one."

I: "Does the pain seem to travel around?" (focused)

P: "No"

I: "What makes the pain feel worse?" (focused)

The interviewer should avoid using direct or (particularly) forced choice questions in beginning a line of inquiry because it restricts the possible flow of information and makes obtaining the necessary information a tedious task. For example, rather than beginning with an open-ended question: "What does the pain feel like", the interviewer might inefficiently have asked several focused questions.

I: "Does the pain feel like an ache?"

P: "No"

I: "Is it a stabbing pain?"

P: "No"

I: "Is it a dull pain?"

P: "No"

Furthermore, poor questioning skills may result in erroneous information or omission of pertinent data.

The following kinds of questions should be avoided by the interviewer.

Leading questions are questions that tend to imply a particular answer for the patient. The desired answer is implied by the way the question is phrased. They should also be avoided because acquiescent respondents may tend to agree with the leading questions rather than contradicting the interviewer. (e. g., "Your chest pains have radiated to left arm, correct?")

"Why" questions often put the patient on the defensive and should be avoided.

(e. g., "Why did you eat unclean food?")

Multiple questions are a series of short questions asked in succession without allowing the patient to answer each individually. The patient can then become confused about which questions to answer. (e. g., "What does the pain feel like after dinner? Is it different than before dinner? Is it sharp? Is it dull?") Multiple questions can also be one question listing many options (e. g., "Has anyone in your family ever had cancer, diabetes, heart disease, or high blood pressure?"). This is often referred to as a multiple part question.

Criteria Statements :

5. The interviewer begins information gathering with an open-ended question. This is followed up by more specific or direct questions which allow him to focus in on the pertinent positive and negative points that need further elaboration. Each major line of questioning is begun with an open-ended question. But no multiple, why or leading questions are used.
3. The interviewer often fails to begin a line of inquiry with open-ended questions but rather employs specific or direct questions to obtain information. OR The interviewer uses a few leading, why or multiple questions.
1. The interviewer asks many why questions, multiple questions, multiple part questions, or leading questions.

Item 6 Questioning Skills-Duplication

Sometimes it is necessary to ask the patient the same question several times, often rephrasing the main point to clarify data.

Example: "You told me your stool was full of blood. This is very important information for your health. I want to make sure that this information is correct. Please describe your stool again for me".

However, unplanned duplication of questions may result in a loss of rapport and loss of faith in the interviewer's competency. For example, if the interviewer asks the patient if she has any brothers and sisters after having discovered in the HPI that one sister and two brothers also suffer from similar headaches, this suggests that the interviewer has not been listening attentively.

Incorporation of other interviewing skills such as summarization (see item 7) aid in reducing the amount of duplication of information. Skills such as reflective listening and interpretation also need to be developed and utilized by the interviewer in an effort to avoid unnecessarily repeated questions.

Criteria Statements :

5. The interviewer occasionally repeats questions or seeks duplication of information that has previously been provided only for clarification or summarization.
3. The interviewer only rarely repeats questions. Questions are repeated as a result of the interviewer's failure to remember the data, rather than for purposes of summarization.
1. The interviewer frequently repeats questions seeking information previously provided because he fails to remember data already obtained.

Item 7 Questioning Skills-Summarizing

Summarizing data at the end of each subsection of the interview serves several communication purposes. 1) It can be a way for the interviewer to "Jog" his memory in case he has forgotten to ask a question. 2) It allows the patient to hear how the interviewer understands the information. 3) It provides an opportunity to verify what the patient has told the interviewer (e. g. , "You've also stated the pain in your lower back is a deep, nagging pain, while the

pain on the outside of your leg seems more superficial--is that correct?"

When summarizing the Chief Complaint and History of Present Illness it is important to provide a detailed summarization to the patient, it is important to provide as much detail as possible.

When summarizing the Family History, a brief general statement may be sufficient, especially for a negative or non-complex positive family history.

When summarizing the Review of Systems, it is appropriate to summarize only the positives (e. g. , "Other than a few headaches each month and the constipation that you treat by increasing the roughage in your diet, you appear to be fairly healthy. So it seems that our main task is to clear up the problem you're having with your back. Is this correct?").

Criteria Statements:

5. The interviewer summarizes the data obtained at the end of each major line of inquiry or subsection (i. e. , Chief Complaint, History of Present Illness, Past Medical History, and all other subsections), in an effort to verify and/or clarify the information or as a precaution to assure that no important data is omitted. A summarization of the Chief Complaint and History of Present Illness, plus 1 or 2 other sections moves the grade to a 4.

Example of summarization of Chief Complaint and History of Present Illness: "You have told me that you had a fever for one week with chest pain on the right side and had a cough for two days with bloody sputum. Otherwise you have no major problems. Is this correct?"

3. The interviewer provides a detailed summarization only of the Chief Complaint and History of Present Illness. Lack of summarization of the Chief Complaint and History of Present Illness, although summarization may have been done at other times, would constitute a score of 2.

1. The interviewer fails to summarize any of the data obtained.

Item 8 Questioning Skills-Lack of Medical Terms and Jargon

Jargon is defined as "the technical or secret vocabulary of a profession." Since one of the skills of an interviewer is the ability to communicate with the patient, it is necessary to substitute jargon or difficult medical terms with terms known to lay persons. The interviewer often makes erroneous assumptions about the patient's level of sophistication on the basis of one or two medical terms that the patient uses during the interview. For example, a patient may be familiar with "otitis media" if he has had problems with his ears, but may know nothing about what the term "palpitations" means. However, because the patient used the term "otitis media", the interviewer may assume that it is safe to use medical terminology in questioning the patient. Jargon may also be misleading to a patient who does not want to admit to the doctor that he doesn't understand the question, (i. e. , "productive cough"). Therefore, the interviewer should define questionable terms.

Criteria Statements:

5. The interviewer does not use medical terms and jargon, and asks questions and provides

information in language which is easily understood and is appropriate to the patient's level of education. If jargon is used, the words are immediately defined for the patient.

Example: "Has the color of your urine changed?" or "Have you ever had any hematuria, in other words, has the color of your urine changed to a reddish color?"

3. The interviewer occasionally uses medical jargon during the interview, failing to define the medical terms for the patient unless specifically requested to do so by the patient.
1. The interviewer uses difficult medical terms and jargon throughout the interview without defining or explaining the terms.

Item 9 Questioning Skills-Documentation

In the interest of gaining as accurate a case history as possible, the interviewer must document the information given to him by the patient. If responses from the patient include specific diagnoses or medications, it is the task of the interviewer to ascertain if the patient knows how the diagnosis was made or to determine the quantity of medication. It is also important to document other information which the patient gives. This includes, but is not limited to, alcohol consumption, smoking history, recreational drugs, caffeine consumption, and allergies. Information about habits should include: what, how much, and how long. For example, pertaining to alcohol consumption, the interviewer should find out what the patient drinks, how much the patient drinks, and how long he has been drinking. The interviewer might also inquire about the pattern of drinking. Documentation also provides an opportunity to clarify information

Example: "I'm not sure I understand how much your problem has been interfering with your attendance at school. Could you tell me how many days of school you've missed since your problem began?")

Also, if, in the course of the interview, the patient utilizes jargon or a specific diagnosis, it is important for the interviewer to verify that the diagnosis is accurate.

Example 1

Patient: "Both my parents have peptic ulcers."

Interviewer: "Are they under a doctor's care for peptic ulcers?" or "Did they have any tests to find out if they had peptic ulcers?" or "How did they know that they had ulcers?"

Example 2

Patient: "I had tuberculosis five years ago."

Interviewer: "Who made the diagnosis?"

Patient: "My regular doctor, Dr. Yang."

Interviewer: "Did you have a chest x-ray?"

Patient: "Yes."

Interviewer: "were you treated for tuberculosis?"

Patient: "Yes, I was given medication"

Interviewer: "What kind of medication?"

Patient: "A white tablet"

Interviewer: "Do you know the name of the medication?"

Criteria Statements:

5. The interviewer always seeks specificity, documentation, and verification of the patient's responses, including quantity, frequency, and duration of medications, habits, etc., when appropriate.

Patient: "I am allergic to penicillin."

Interviewer: "How do you know you are allergic? What kind of reaction have you had when you have had penicillin in the past?"

3. The interviewer at times will seek specificity, documentation, and verification of the patient's responses, but not always. Documentation of 50% of the items that can be documented occurs.

1. The interviewer fails to seek documentation or verification of the patient's responses, accepting information at face value. No attempt at documentation is made during the interview.

Item 10 Appearance and Courtesy

Good appearance may be helpful to develop rapport with the patient. Approaching the patient in a courteous manner may enhance the patient's confidence to talk about sensitive issues that he might otherwise hide. Courtesy may encourage the patient to provide additional relevant data. On the contrary, rudeness and arrogance may result in loss of faith in the interviewer's competency.

Criteria Statements:

5. The interviewer is neatly dressed and courteous and makes sure the patient is comfortable.

3. The interviewer sometimes neglects appearance and courtesy.

1. The interviewer pays no attention to appearance and courtesy.

Item 11 Rapport-Facilitative Behavior

Facilitative behavior can be defined as how comfortable the interviewer makes the patient feel. Eye contact is one element of facilitative behavior. This is a key issue to good interviewing skills. As with any other mannerisms or traits, there is a fine balance between too much and too little eye contact. "Good" eye contact should mean that amount of eye contact that is comfortable for the patient. In other words, the interviewer should be paying attention to the patient, while avoiding staring or conducting the interview as if it were an interrogation. The same is true for non-verbal facilitative behavior and body language. The interviewer should smile and shake his head approvingly when it is appropriate. The interviewer should not place a physical barrier between himself and the patient. He should lean forward in a listening posture when the conversation becomes intense. On the other hand, if the interviewer crosses his arms and legs while the patient relates his sexual history, this suggests something about the interviewer's receptivity to the patient and his problem. Likewise, it is sometimes appropriate for the interviewer to pat the patient on the arm. However, if this is done consistently, it be-

comes inappropriate. Other important elements that constitute good facilitative behavior include tone of voice, facial expression, and neutral verbal cueing (not to be confused with positive verbal reinforcement). This includes short statements that encourage the patient to continue speaking. For example, "I see", "Go on", "Uh-huh", "Tell me more". This may also include echoing a few words of the patient's last sentence.

Criteria Statements:

5. The interviewer puts the patient at ease and facilitates communication by using primarily non-verbal techniques including good eye contact, relaxed, open body language, an appropriate facial expression and tone of voice, and elimination of physical barriers (such as sitting behind the desk or standing over a patient's bed). Verbal cueing (uh-huh, yes, go on. . .) or echoing a few words of the patient's last sentence is also used. When appropriate, physical contact is made with the patient.
3. The interviewer makes some use of facilitative techniques but could be more consistent. One or two techniques are not used effectively, e. g. , frequency of eye contact could be increased or some physical barrier may be present.
1. The interviewer makes no attempt at putting the patient at ease. Body language is negative and closed or an annoying mannerism such as foot or pencil tapping intrudes on the interview. Eye contact is not attempted.

Item 12 Rapport-Positive Verbal Reinforcement

This item is designed to evaluate how well the interviewer is able to use certain verbal reinforcement behaviors to motivate the patient toward a cooperative relationship throughout the interview. By providing intermittent positive verbal reinforcement, the interviewer is responding to the patient's statements in such a way that the patient feels encouraged to provide information to the interviewer. Some examples of such responses might include comments such as "That must have been very difficult for you", or "That's understandable". Occasional social praise such as: "You've quit smoking?, that's excellent, I bet it certainly took will power on your part!" or "I'm glad you're doing a breast self-exam every month-it's very important as most women detect lumps themselves at home. . . ." go a long way towards increasing rapport with the patient.

Criteria Statements:

5. The interviewer provides the patient with intermittent positive verbal reinforcement and feedback, such as verbally praising the patient for proper health care technique, ("It's wonderful that you've stopped smoking. ") Positive verbal reinforcement should be content-specific. The interviewer also displays empathetic behavior and acknowledges the patient's stress or distress. ("That must have been very difficult for you. ") The interviewer validates the patient's feelings. ("Anyone dealing with this problem would feel angry. ")
3. The interviewer is neutral, neither overly positive or negative in dispensing feedback. He doesn't display much empathetic behavior or does so in a detached fashion. Verbal reinforcement could be used more effectively.

1. The interviewer provides no support. He uses a negative emphasis or openly criticizes the patient (e. g. , "I can't believe you smoked for twenty years before you stopped.")

Item 13 Patient's Perspective

It is very important for the interviewer to elicit the patient's perspective on his illness in order for it to be effectively diagnosed and treated. The patient's beliefs and concerns about the etiology of his illness may affect his ability to talk about his symptoms or to understand the diagnosis. For example, the patient may think that his sweet tooth and eating too much sugar has caused his diabetes. The interviewer also needs to discover what the patient knows about the treatment of his disease in order to effectively educate the patient. The patient might feel that cutting out all desserts and candies will cure his diabetes. The patient's understanding about his prognosis also plays a role in treatment, someone whose uncle died from gastric cancer may well see a diagnosis of peptic ulcer as far more life threatening than the interviewer.

Example: Patient: "I have stomach pain."

Interviewer: "What do you think is going on?"

Patient: "I think I may have cancer."

Interviewer: "What makes you think it may be cancer?"

Patient: "My uncle died of gastric cancer one year ago."

The interviewer should also question the patient about concerns other than those expressed about the chief complaint. Many patients may have hidden concerns which can also be barriers to effective treatment if they are not exposed and understood. For example, a patient with a sexually transmitted disease may be open about his symptoms and anxious for treatment, but may be secretly concerned that the disease will cause impotence.

Criteria Statements:

5. The interviewer elicits the patient's perspective on his illness, including his beliefs and concerns about its etiology and his understanding about its treatment and prognosis. The interviewer specifically questions for hidden concerns.
3. The interviewer elicits only some of the patient's perspective on his illness. He may respond to some concerns.
1. The interviewer fails to elicit the patient's perspective, OR to address any concerns.

Item 14 Impact on Patient and Family and Self Image

Depending on the diagnosis, as well as the information obtained during the personal history, there could be a tremendous impact of the patient's illness on the patient, his family and the family's lifestyle. An example of this would be a patient with a diagnosis of cancer. This would certainly impact on the patient and effect family members and family lifestyle because of the need for frequent treatment, side effects of drugs, potentially decreased family income, etc.

The interviewer must address the impact on self-image that certain illnesses may have. For example, a patient who has had a mastectomy may have a different self-image after this surgi-

cal procedure. Immediately after a heart attack, a patient may need to change his sexual and physical activity. This could certainly affect the way he views himself. The interviewer must explore these issues in depth to the satisfaction of the patient.

Criteria Statements:

5. The interviewer inquires about the structure of the patient's family. He addresses the impact of the patient's illness and/or treatment on the patient, and on family members and family lifestyle and on the patient's self-image. He then explores these issues adequately.
3. The interviewer recognizes the impact of the illness or treatment on the patient, on family members, and on family lifestyle but fails to explore issues adequately OR only partially addresses the impact of the illness on the patient's self-image.
1. The interviewer fails to address the impact of the illness or treatment on the patient, family members, family lifestyle, and the patient's self-image.

Item 15 Support systems

This item is designed to encourage the patient to explore means of financial and emotional support. These support systems might include other family members, friends, and the organization in which he works. These are current resources which could be used immediately. The interviewer may suggest other community resources including charitable organizations, self-help groups, etc., not yet thought of or known to the patient.

Criteria Statements:

5. The interviewer determines what financial and emotional support the patient feels he has now including individuals, family and the organization in which he works.
3. The interviewer may determine only some of the available support OR may assume support without determining if it is actually available.
1. The interviewer fails to determine what support is currently available to the patient.

Item 16 Patient's Expectations

The patient's expectations must be elicited and addressed by the interviewer. It is important to discover what the patient hopes to get from the visit (a prescription, a back to work form). Where there is a need for a continuing or long-term relationship, goals may also need to be established over issues such as medications and life style changes. These may require negotiation between the patient and the interviewer.

In many instances, patient education may be necessary for a successful therapeutic relationship, or education may be an end in itself. The interviewer should determine how much information the patient would like, how much he needs, and, perhaps, how much the patient can comprehend at each visit. The interviewer then needs to provide appropriate information or instruction and educational materials (when available).

Criteria Statements:

5. The interviewer elicits the patient's expectations of the Dr. /Pt. relationship including negotiation regarding short term goals, e. g. "How can I satisfy your needs?" Expectations and negotiations for long-term goals may also be elicited. When patient-education is a

goal, the interviewer determines the patient's level of interest and provides appropriate education.

3. The interviewer elicits only some of the patient's expectations. He may make some attempt to determine the interest in patient education but could be more thorough.
1. The interviewer fails to elicit the patient's expectations, and fails to address the issue of patient education.

Item 17 Patient's Understanding

Many times, patients who are labeled non-compliant may in fact not understand the information that is given to them. There are several ways to check the patient's understanding. The interviewer can ask the patient to repeat the information directly back to him, demonstrate techniques, or the interviewer may pose hypothetical situations to see if the patient will react appropriately. It is vital when the patient must continue therapy on his own without direct supervision that he understand how to successfully carry out that task. For example, when prescribing medications, it is important that the patient understand what the medication is for, the schedule that should be followed, and what effect it will have on his body. This is also true if the interviewer must communicate certain findings to the patient.

If the patient does not fully understand, or understands the information incorrectly, this must be clarified immediately.

Criteria Statements:

5. The interviewer uses deliberate techniques to check the patient's understanding of information given during the interview including diagnosis, treatment, or referrals. These techniques include: asking the patient to repeat information, asking for additional questions, posing hypothetical situations, or asking the patient to demonstrate techniques.
3. The interviewer asks the patient if he understands the information but does not use a deliberate technique to check.
1. The interviewer fails to assess patient's level of understanding and does not effectively correct misunderstandings when they are evident.

Item 18 Admitting Lack of Experience

The interviewer must be aware of his own level of experience as related to the information he is able to give to the patient. When asked for information or advice that he is not equipped to provide, he admits his lack of experience in that area. For example, a physician referring a patient to a cardiologist may lack knowledge about specialized cardiovascular testing. When questioned by the patient, he must admit lack of experience and immediately offer to seek a resource to answer the patient's questions.

Criteria Statements:

5. The interviewer, when asked for information or advice that he is not equipped to provide, admits to his lack of experience in that area but immediately offers to seek resources to answer the question (s).
3. The interviewer, when asked for information or advice that he is not equipped to provide,

admits lack of knowledge, but only occasionally seeks other resources for answers.

1. The interviewer, when asked for information which he is not equipped to provide, makes up answers in an attempt to satisfy the patient's questions, but never refers to other resources.

Item 19 Rapport-Encouragement of Questions

It is important that the interviewer allow the patient an adequate opportunity to express questions during the interview. Oftentimes during an interview, a patient may think of pertinent information that was not obtained by the interviewer during a specific line of inquiry, or the patient may have questions that still need to be addressed by the interviewer.

The interviewer should encourage the patient to discuss these additional points and ask questions by clearly providing an opportunity to do this. For example, the interviewer should state that if the patient has a question or is able to offer additional information that may be pertinent to the topic being discussed, he should do so. This is usually done at the end of a major subsection of the interview, and repeated at the end of the interview.

Criteria Statements:

5. The interviewer encourages the patient to ask questions about the topics discussed. He also gives the patient the opportunity to bring up additional topics or points not covered in the interview, e. g. , "We've discussed many things. Are there any questions you might like to ask concerning your problem? Is there anything else at all that you would like to bring up?" This is usually done at the end of the interview.
3. The interviewer provides the patient the opportunity to discuss any additional points or ask any additional questions but neither encourages nor discourages him, e. g. , "Do you have any questions?" This is usually done at the end of the interview, even if the interviewer didn't provide the patient the opportunity to ask questions but the patient felt satisfactory, it would grade to a 2.
1. The interviewer fails to provide the patient the opportunity to discuss any additional points OR ask any additional questions.

The interviewer may discourage the patient's questions, e. g. , "We're out of time."

Item 20 Closure of the Interview

It is important that the patient feel that there is some closure at the end of the interview. This closure should include describing future plans, making clear the interviewer's and patient's role and obligations, explaining what the interviewer expects the patient to do, or planning for the next interview or follow-up communication.

Criteria Statements:

5. At the end of the interview the interviewer clearly specifies the future plans; what the interviewer will do (make referrals, order tests), what the patient will do (make diet changes, go to Physical Therapy) and the time of the next communication (an appointment in 2 weeks.)
3. At the end of the interview, the interviewer only partially details the plans for the future

e. g. , "Some time you should bring in the name of the medicine you took in the past. "

1. At the end of the interview, the interviewer fails to specify the plans for the future and the patient leaves the interview without a sense of what to expect.

Summary

The main functions of the interview are to obtain accurate and objective information which can then be summarized into a written format that is readable and easily understood. Even though each history is unique, a good interview must always contain five basic elements: Audition (listening), Evaluation, Inquiry, Observation and Understanding (AEIOU). This means, listen to your patient cordially and carefully, judge the relevance of data you obtain and its importance to the patient's problem, obtain complete information from the patient and clarify and document this information whenever possible, watch the patient's expression, gestures, and non-verbal communication, understand the patient's major concerns, elicit the patient's perspective on his illness, and explore the patient's expectation of this interview regarding diagnosis and treatment.

To conduct a good interview, it is necessary to master basic medical knowledge, the content of the interview, various interviewing skills, and the art of verbal communication. The beginner may often feel frustrated or embarrassed because of difficulty in framing questions, loss of his train of thought, or failure to obtain complete and appropriate information. If this should occur, ask yourself reflectively: "Is the patient particularly uncomfortable now?" "Is there a language barrier?" "Is the patient unable to express his feelings?" "Is the patient intimidated?" "Is the patient concerned about confidentiality?" "Did I say or do anything to interfere with the rapport?" Try to discover the causes of any obstacles that interfere with the interview and solve these by your self. As you become more familiar with the content and skills of the interview and have additional clinical experience, your interview will become more efficient and proficient.

第二章 全身体格检查

本检查方法与“全身体格检查纲要”相对应，强调全身检查的顺序及各个检查项目的方法。要求检查者能逐条掌握与连贯应用，以确保从头到脚的全身体格检查的完整性和系统性。方法的细节及各种体征的临床意义，还将在后面的器官系统体格检查中详述。有关更深的理论性、知识性问题，请参阅教科书或其他参考书。

全身体格检查的顺序和方法

A 一般检查/生命体征

1. 向受检者介绍自己的姓名（通常介绍姓氏即可）和职责。通过简短交谈，以消除受检者紧张情绪，并了解受检者精神状态。
2. 当受检者之面洗手。
3. 让受检者取坐位。
4. 检查桡动脉脉搏至少 30 秒，并记录 检查者将一手示指、中指、环指的指尖互相并拢，平放于桡动脉近手腕处，仔细触诊（图 2-1）。手指施于桡动脉上压力适当，可感到受检者桡动脉搏动。至少计数 30 秒钟，以 30 秒脉搏数乘以 2 即为脉率。同时注意脉搏节律。不能用拇指检查。

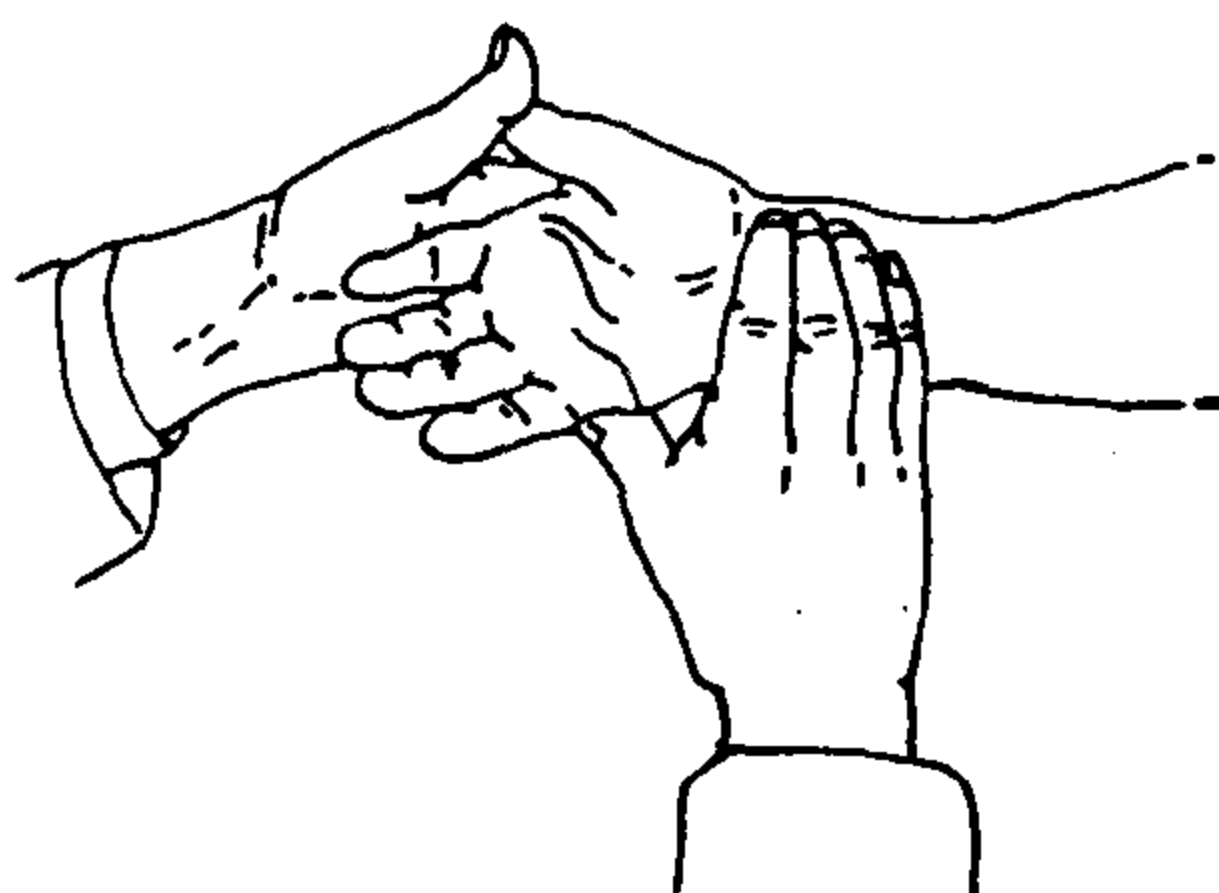


图 2-1 桡动脉触诊手法

5. 检查脉搏对称性 检查者双手分别置于受检者左右桡动脉上（技术要求同上），仔细触诊至少 30 秒，比较其对称性。
6. 计数呼吸频率至少 30 秒，并记录 通过观察受检者胸廓的起伏变化计数呼吸 30 秒钟，乘以 2 为呼吸频率。同时注意呼吸的节律与深度。因呼吸受主观因素影响，检查者勿告诉受检者正在计数呼吸。技巧之一是在触诊脉搏后继续置手指于桡动脉处，计数呼吸频率，也可留在背部检查时进行。
7. 测量右上臂血压 测血压可在坐（或卧）位进行。被检者右上臂应放在与右心房同

高（即坐位时平第四肋软骨水平，卧位时平腋中线水平，并外展 45°），置于平台上或由检查者托起肘部，并使肘部微微屈曲。

8. 将袖带缚于上臂正确位置 将袖带展平，气袖中部对准肱动脉，缚于上臂，袖带下缘要距肘窝线 2~3cm，袖带松紧以恰能放进一手指为宜。

9. 触诊肱动脉 检查者左手指于肘窝上、肱二头肌腱内侧触及肱动脉，注气前，要明确血压计读数为 0（即气袖内空气全部排出），置听诊器膜式胸件于肱动脉上，右手以适当速度均匀节奏向气袖内注气，待肱动脉搏动消失，再将汞柱升高 2.6~4.0kPa (20~30mmHg)，通常达 21.3kPa (160mmHg)。

10. 测量血压两次，记录最低值 缓慢放出气袖中空气，汞柱缓慢下降（以 0.26kPa/秒为宜），听到的第一个声音所示的压力值是收缩压，继续放气，汞柱降至声音突然变弱、低沉或消失，消失所示压力值为舒张压，如变音和消失值之差大于 2.6kPa (20mmHg)，则需记录二个压力值。同样方法再测定一次。注意测定前必须使血压计读数为 0。取二次中的较低值为血压值。

测完血压，排空并卷好气袖，稍微倾斜血压计，待汞柱消失后，关闭开关和血压计。

B 头部和颈部

头颅

11. 检查头颅（分开头发观察） 用双手同时对称地检查整个头颅。分开头发，观察头皮，注意有无鳞屑、畸形、红斑、压痛、损伤或疤痕，同时观察头发密度、颜色、光泽及分布。

眼

12. 检查视力 测近视力，用近视力表测试，对中、老年人尤为适用

近视力表由一系列不同大小的字母“E”组成，检查的标准距离为 33cm，照明可采用窗口处的自然弥散光，亦可采用人工照明。分别检查两眼，正常能看清第十行的“E”，记录能看清的最小一行视力读数即为其近视力。平时戴眼镜者，可让其戴上眼镜，病人可调节视力表的远近至看清为止（若无视力表，可用书刊等印刷材料让其阅读），以粗略估计其视力。

13. 检查角膜、巩膜、结膜和泪囊。

角膜检查：可取斜照光检查透明度和异物等。

检查下睑结膜、穹窿结膜、球结膜及巩膜：用双手拇指置于下睑中份，请受检者向上看，同时向下按下睑边缘，暴露下睑结膜、穹窿结膜、球结膜及巩膜。检查结膜及巩膜的颜色，并注意白色巩膜背景上的血管形态（图 2-2）。

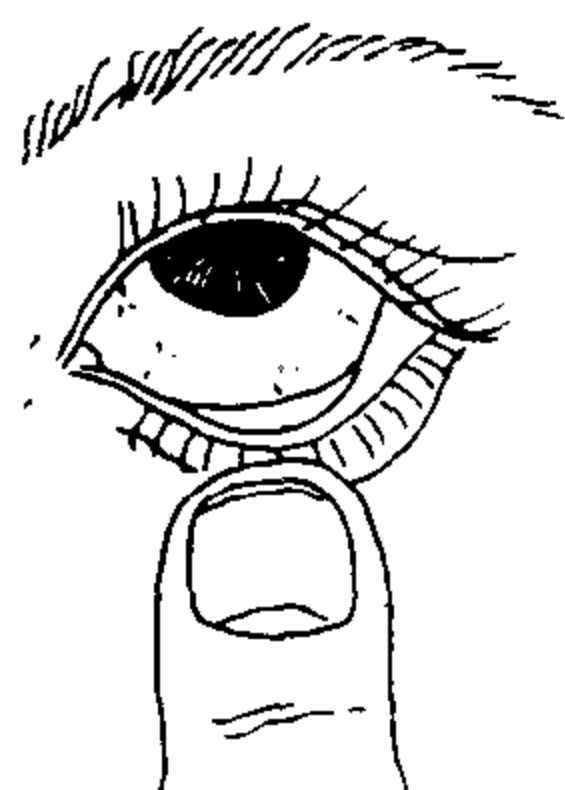


图 2-2 检查下份巩膜及结膜

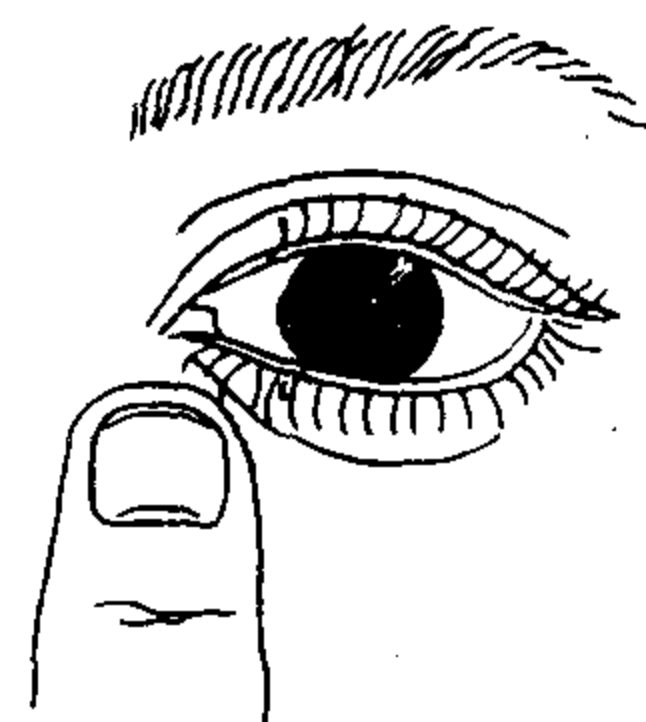


图 2-3 检查泪囊

检查泪囊：请病人向上看，双手拇指轻压下睑内眦处、骨性眶缘下内侧，挤压泪囊区，同时观察有无分泌物或泪液自上下泪点溢出。有急性炎症时应避免作此检查（图 2-3）。

14. 检查上份巩膜及球结膜：置拇指于上睑中份，轻轻向上牵拉上睑，请受检者向下看，观察上份球结膜和巩膜。注意手法轻柔，勿使受检者流泪（图 2-4）。

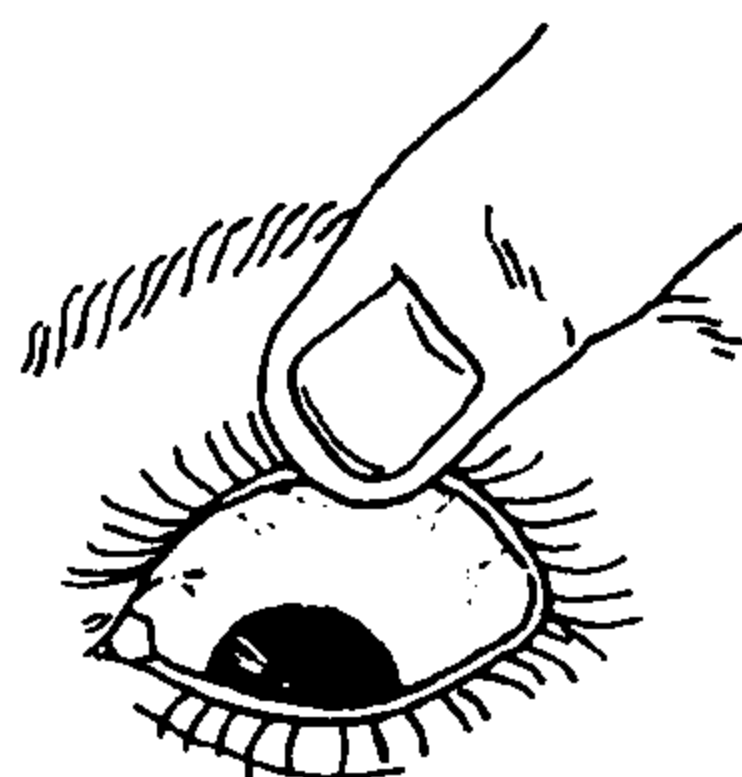


图 2-4 检查上份巩膜及结膜

15. 面神经（第Ⅵ对颅神经）上支运动功能的检查 首先观察受检者前额有无皱纹，然后请受检者皱眉、皱额和闭眼，观察能否完成及对称性。请受检者闭目，检查者用手指置于上下睑中份试图分开眼睑，根据其抗力判断面神经上支的功能。

如面神经核或核下神经损害，则病侧皱额能力下降，不能闭眼。一侧核以上中枢神经损害，则病人闭眼和皱额不受影响，因为上部面肌受双侧皮层支配。

16. 检查双眼眼外肌六个方向运动功能 检查者置一手指或铅笔于受检者眼前 30~40cm，请受检者头部固定，双眼注视指尖或笔尖，随手指或笔尖运动眼球，一般以左、左上、左下、右、右上、右下顺序检查 6 个方向的眼球运动（图 2-5）。

17. 瞳孔直接对光反射 请受检者双眼平视前方，检查者手持电筒或检眼镜光源，从眼外侧迅速将光线移向一侧瞳孔部位。注意勿使光线同时照射双眼；请受检者不要注视光线，同时观察该侧瞳孔的缩小，移开光线，瞳孔立即扩大，此为瞳孔直接对光反射（用同样方法检查另一眼）。

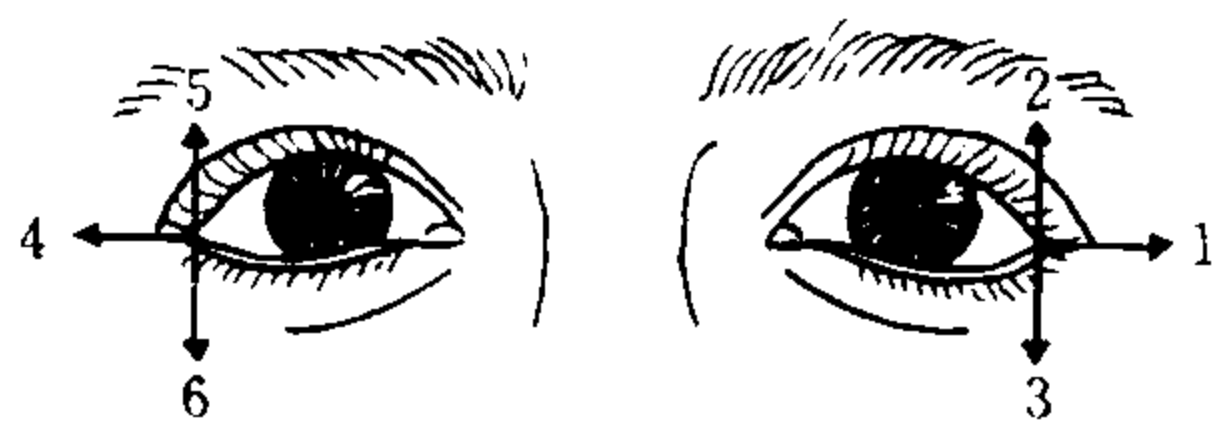


图 2-5 检查眼外肌运动功能

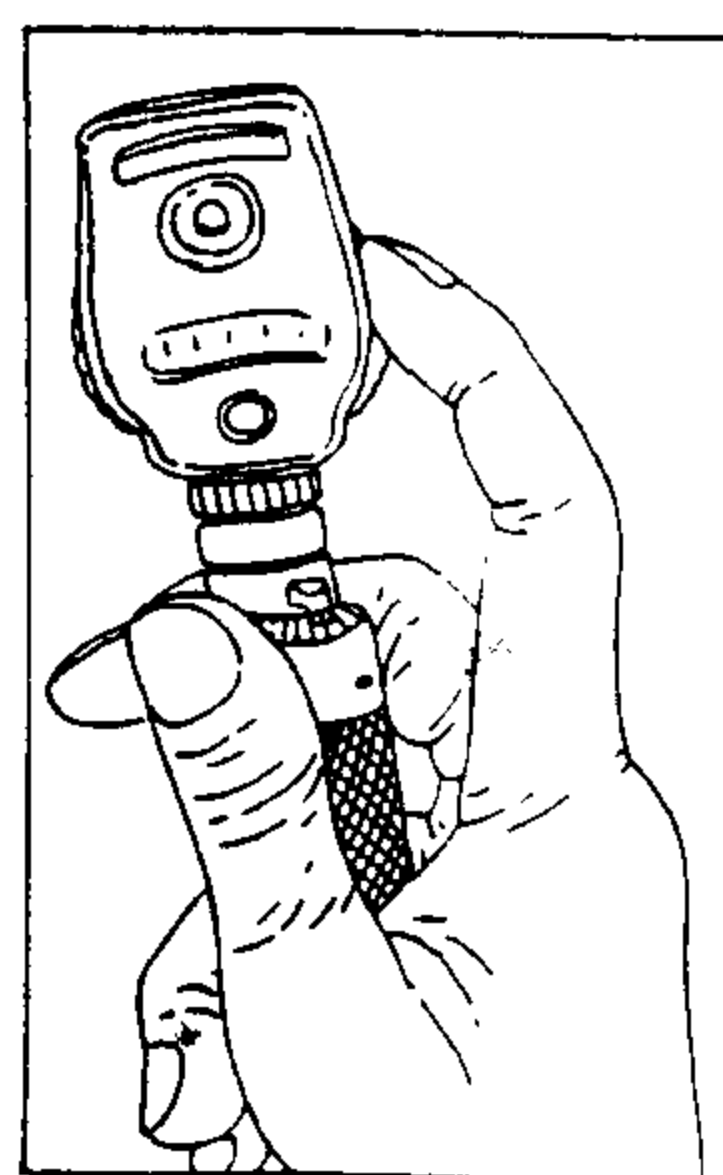


图 2-6 正确持检眼镜

18. 瞳孔间接对光反射 将光线照射一眼，检查者观察另一眼的瞳孔缩小，移开光线，瞳孔扩大，即瞳孔的间接对光反射。（用同样方法检查另一眼）

19. 检查调节反射 检查者置一手指于受检者眼前约 1 米处（指尖向上，与双眼同一高度），请受检者注视指尖，然后迅速移近手指至近点，鼻梁前约 5cm，观察：a) 双侧瞳孔收缩；b) 辐辏（当检查者手指移近时双眼内聚情况）。调节反射包括受检者注视近物时的辐辏和瞳孔缩小，动眼神经（第Ⅲ对颅神经）损害时，调节反射消失。

检眼镜检查

20. 调整受检者坐位于适当高度，以检查者感觉舒适为宜。

21. 关暗室内光线，以利观察眼内情况。打开检眼镜光源，通常调节光线为大圆白色光束（小圆白色光束更有利于检查小瞳孔时眼底）。

22. 正确握持检眼镜，透镜盘先置于+8~+10 处（“+”为远视调节或凸透镜，“-”为近视调节或凹透镜）。检查中，示指始终置于透镜转盘上以便于调节焦距（图 2-7）。

23. 检查右眼时，检查者站于受检者右侧，右手持镜，保持检眼镜顶端紧靠眉弓内侧，并与头部运动一致，用右眼经小孔观察。嘱受检者视线越过检查者肩，注视前上方远处不动，检查者与受检者均不能戴眼镜（图 2-7）。

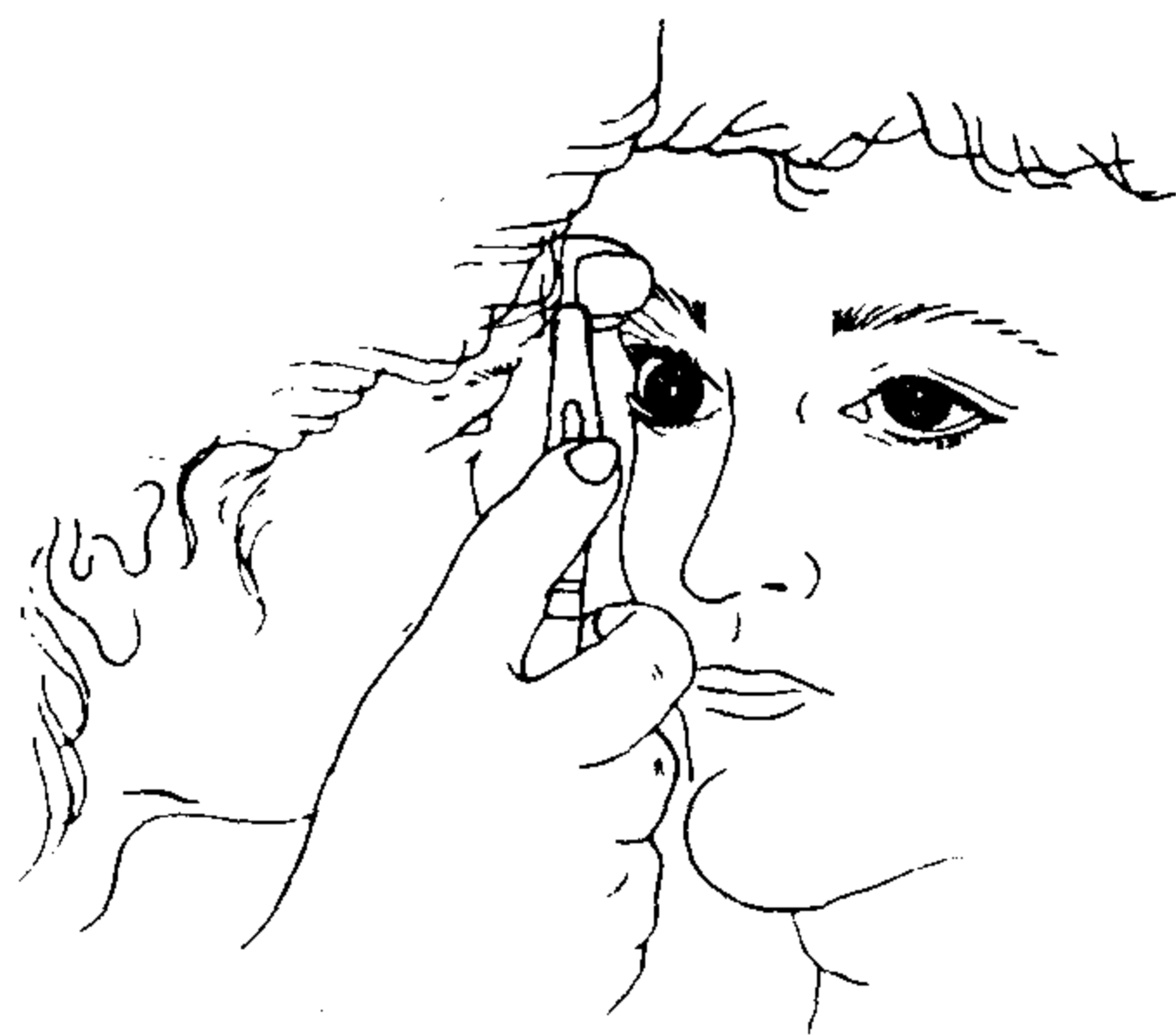


图 2-7 检眼镜检查

24. 检查左眼时，则站于受检者左侧，左手持镜，用左眼观察，方法同上。

25. 开始检查时将另一手固定受检者头部，拇指置于其眉弓附近。镜检从距受检者 10~20cm 远处开始，与其视线呈 15° 角度移近瞳孔，用示指逆时针拨动转盘，将光束照在瞳孔上。

26. 用检眼镜检查角膜、晶状体和玻璃体有无混浊：边靠近受检眼，边从+8~+10 屈光度逆时针拨动转盘，按彻照法检查眼的角膜、晶状体、玻璃体透明度，（若有混浊，在红色反光中可见到黑影）。继续调节屈光度及检查距离检查眼底，至看清视网膜血管。

27. 观察眼底时，可见到视乳头及其周围视网膜。视乳头为桔黄色至淡红色圆形或椭圆结构，边界清晰，鼻侧稍模糊，可充满甚至超过检眼镜视野。如未见到视乳头应沿网膜血管分支由细到粗方向追踪，可以找到视乳头（图 2-8）。准确调节焦距至看清视乳头。其中央偏颞侧可见到黄白色的生理凹陷（图 2-9）。

当受检者与检查者均无屈光不正时，“0”即能看清视网膜。当受检者或检查者为近视时，则需逆时针旋转转盘为负数（即凹透镜，通常用红色数字显示）才能调节焦点于视网膜上；当

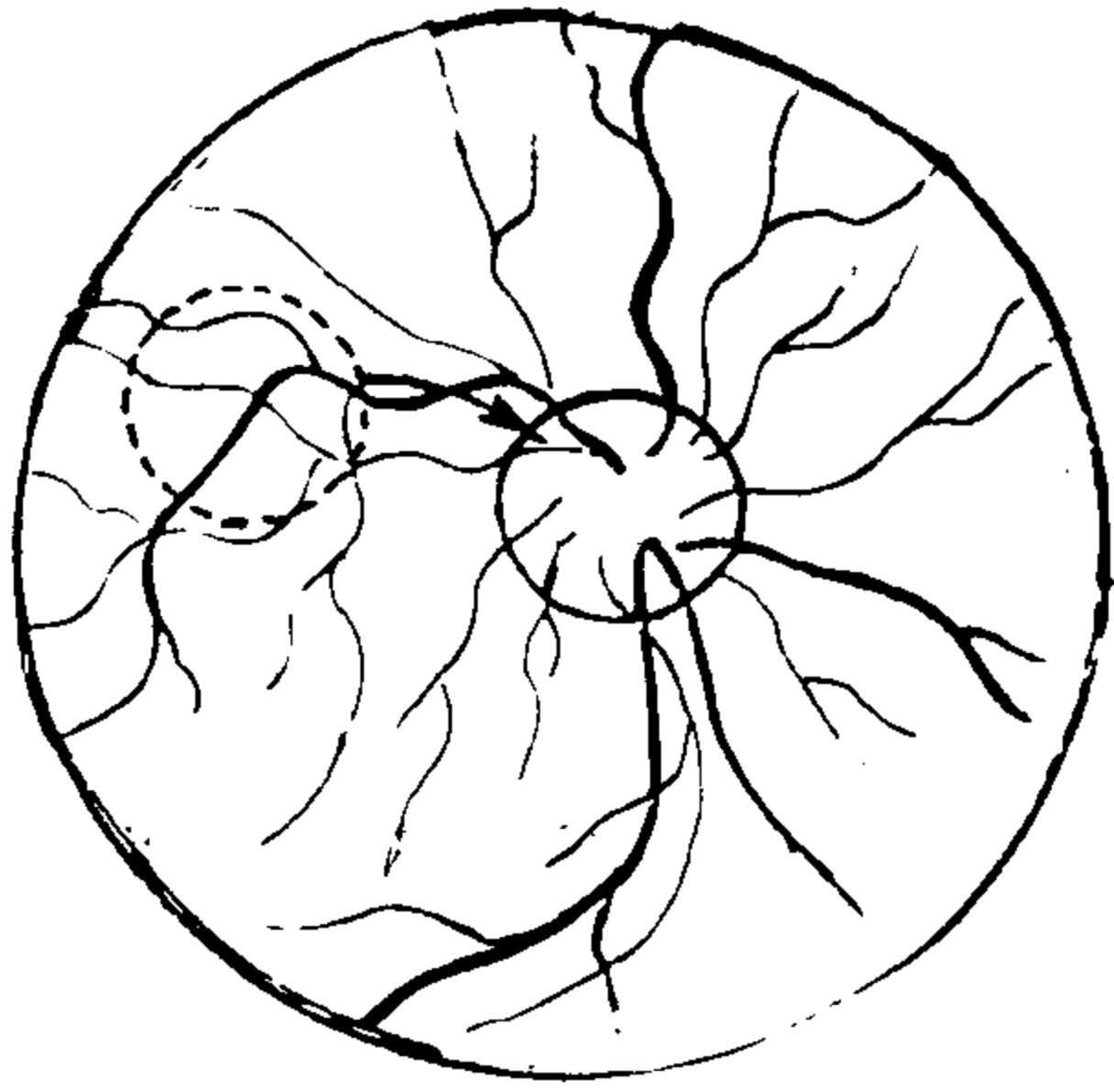


图 2-8 寻找视乳头的示意图

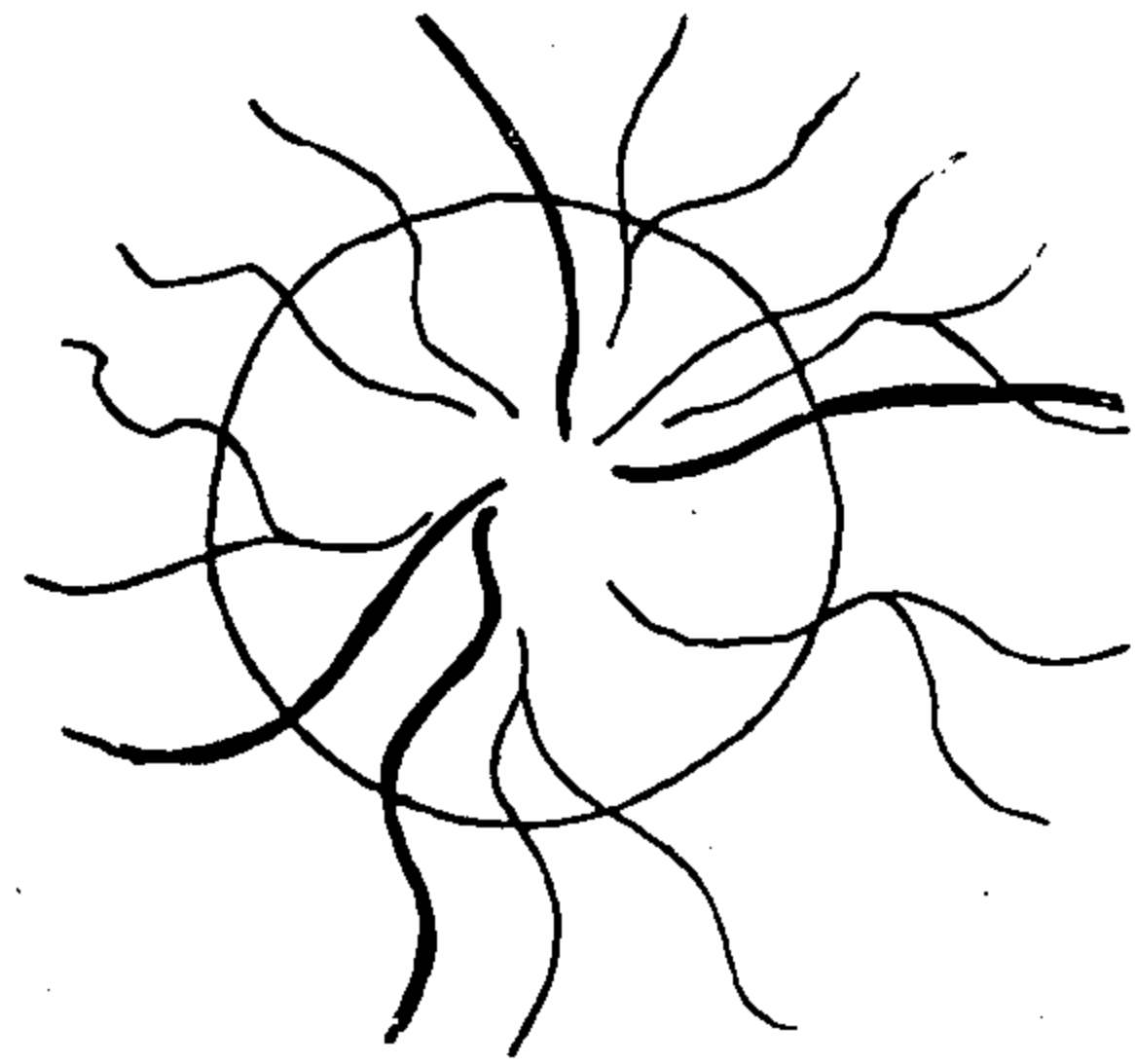


图 2-9 眼底视乳头及周围视网膜

受检者或检查者为远视或晶状体摘除时，则需顺时针旋转转盘至正数（即凸透镜，通常用黑色数字显示）。

28. 检查视网膜血管时，注意区分动、静脉。动脉色鲜红而细反光强，静脉色暗红，动静脉直径之比为 $2:3 \sim 3:4$ 。在四个方向沿血管向外追踪，检查动静脉直径之比例，动静脉交叉压迹情况。

正常人视网膜透明，呈均匀深桔红色，检查时注意周围视网膜有无异常，如水肿、渗出、出血、色素斑，并注意其大小、形态、颜色与分布。检查中，头部与检眼镜始终作为一个整体移动，使视野保持在视网膜上。

29. 检查黄斑非常重要，因黄斑主要负责中心视力。嘱受检者短暂注视检眼镜光线，或直接向外移动光束，约 2 个视乳头直径，此时可见到黄斑。黄斑为一无血管区，直径稍大于乳头，但边界不清。未扩瞳时，检查黄斑有一定困难，角膜反光常干扰黄斑检查，向两侧稍作移动有助于黄斑检查。

耳及颞下颌关节

30. 视诊与触诊双侧外耳、耳前、耳后区 牵拉、触摸双侧外耳、耳前及耳后区，注意有无皮损、结节、畸形和疼痛。通常疼痛提示有炎症。

31. 触诊颞下颌关节 颞下颌关节位于外耳道前面，于耳前触诊有无压痛，肿胀等。

32. 检查颞下颌关节的运动 用一个或二个手指指尖同时压住两侧耳屏前区域，嘱受检者张口及闭口，可触到该关节的运动。也可用示指轻轻插入耳道内（不可太深），指腹稍向前用力触及前壁，同时请受检者张口和闭口，可触到颞下颌关节的运动。

耳镜检查

33. 选择适当耳镜镜头并装好，检查光源 适当解释该器械检查为无创性以取得合作。请受检者把头偏向对侧，检查者用一手将耳廓向后、向上牵拉，使耳廓稍稍远离头颅，另一手持镜轻轻向前下方向插入外耳道，仔细观察外耳道和鼓膜。

34. 持镜手的小指或小指和环指固定于受检者头部作为支点以便操作更加稳当，这在儿童尤为重要；镜柄可朝上也可朝下。

35. 插入耳镜, 配合头位的调整作上、下、左、右移动, 以观察耳道和鼓膜全貌, 但切不可将耳镜镜头尖端为支点移动耳镜, 以防引起疼痛或损伤耳道。观察双侧耳道有无红肿、出血、耵聍、新生物、狭窄及鼓膜有无穿孔等 (图 2-10)。

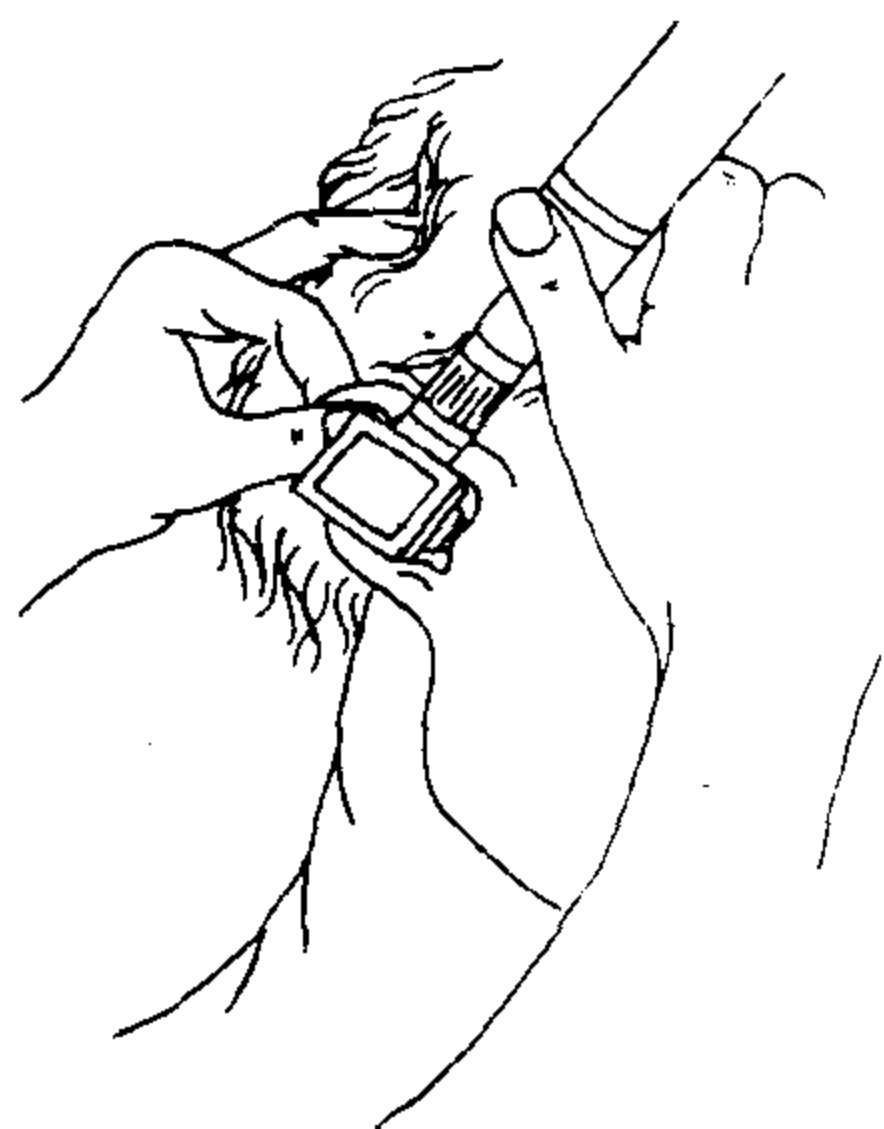


图 2-10 耳镜检查

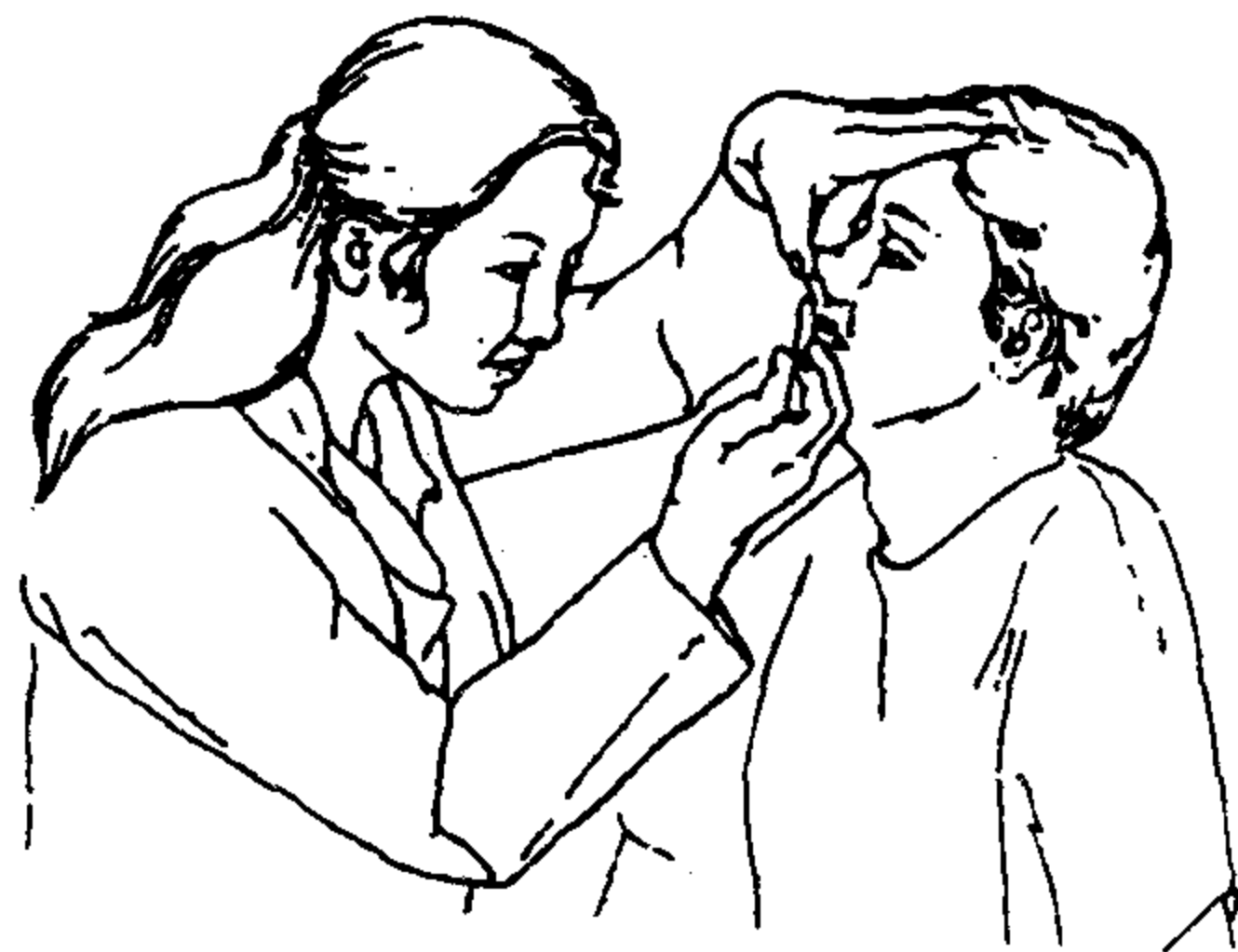


图 2-11 检查鼻前庭

36. 检查听力, 尽量保证环境安静。

37. 分别检查双耳听力 请受检者一手掩耳、闭目, 检查者用两手指摩擦, 从离受检耳外约 1 米处逐渐移近, 直到受检者作出听见声音的反应。同样方法检查对侧。两侧手指摩擦的声音应尽量相等。检查者可比较其两耳听力或比较检查者自己的听力而粗略判断有无听力障碍。亦可用跑表检查。

鼻

38. 观察与触诊外鼻 面对受检者, 注意鼻部皮肤颜色与外形。外鼻触诊应从鼻根部 (两眼内眦之间) 逐渐向下至鼻尖、鼻翼, 检查有无压痛、畸形。

39. 观察鼻前庭 (不用鼻镜, 可用电筒) 请受检者头稍后仰, 检查者用拇指将鼻尖轻轻上推, 用电筒观察鼻前庭皮肤、鼻毛分布, 有无毛囊炎、疖子及鼻中隔偏曲 (图 2-11)。

40. 鼻镜检查 选择适当鼻镜镜头 (比耳镜镜头短而粗), 装好鼻镜, 检查光源。适当解释该器械检查为无创性。右手持镜, 先后检查双侧鼻孔。左手置于受检者头顶, 协助受检者头部随着检查逐渐后仰时稳定头部, 此为检查顺利进行的关键之一。右手持镜轻轻经鼻孔放进鼻前庭约 1cm, 先视诊鼻下部和下鼻甲, 随头部逐渐后仰而得以观察上部, 正常鼻粘膜为红色、光滑、湿润, 鼻腔无明显分泌物 (注意有无肿胀、增厚、干燥、萎缩、分泌物、息肉或穿孔存在)。因鼻中隔极敏感、易损伤, 切勿让鼻镜尖触及。如需进行器械操作, 也可左手持镜, 右手持器械。

41. 检查鼻道通气状态 检查者用手指压闭一侧鼻翼, 请受检者吸气, 以判断通气状态。用同样方法检查另一侧。正常者通气良好。

42. 检查上颌窦 鼻窦的检查是一种间接的检查, 检查者无法看清窦腔。检查者双手固定于受检者的两侧耳后, 将拇指分别置于左右颧部, 同时按压检查有无压痛, 并请受检者判断两侧压痛有无差别。也可用手指叩击颧部以判断上颌窦有无叩击痛 (图 2-12)。

43. 检查额窦 一手扶持受检者头部, 以另一手拇指、示指置于眼眶上缘内侧用力向后、向上朝窦底按压; 或以两手固定于头部, 双拇指置于眼眶上缘内侧同时向后、向上朝窦底按

压（图 2-13），因肿瘤或分泌物储留引起的肿胀，易使额窦底部受累。检查有无压痛，两侧压痛有无差别。也可用手指叩击该区，检查有无叩击痛。

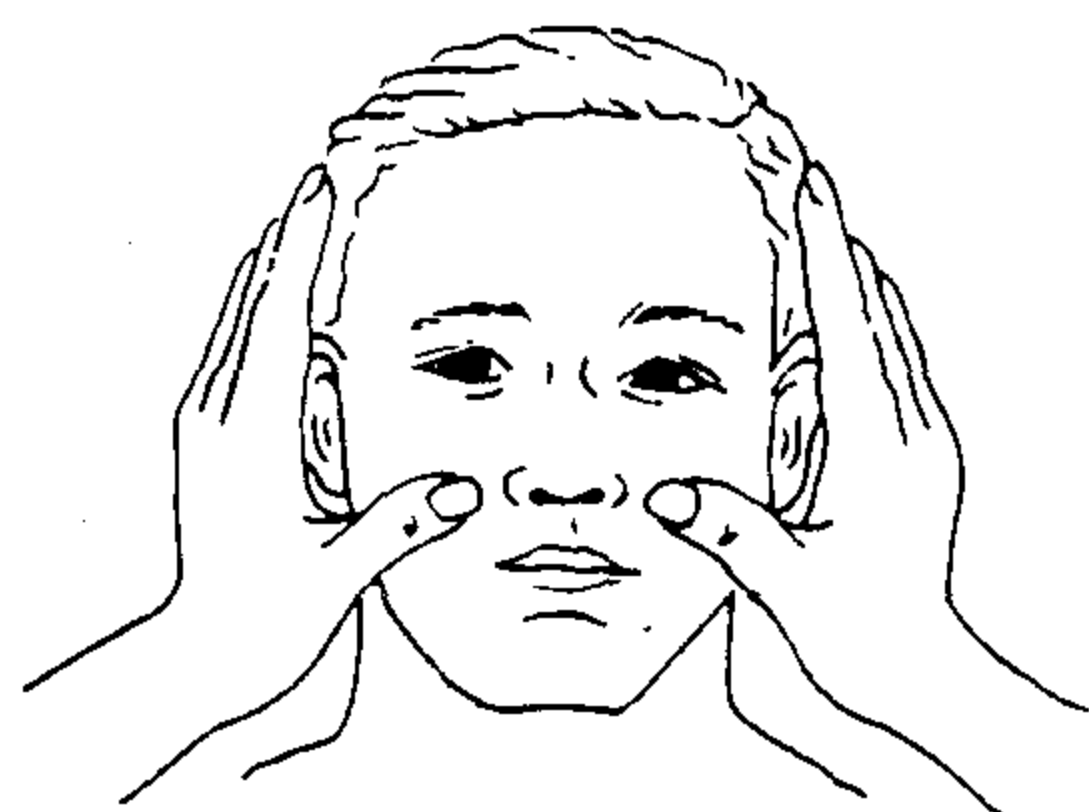


图 2-12 检查上颌窦

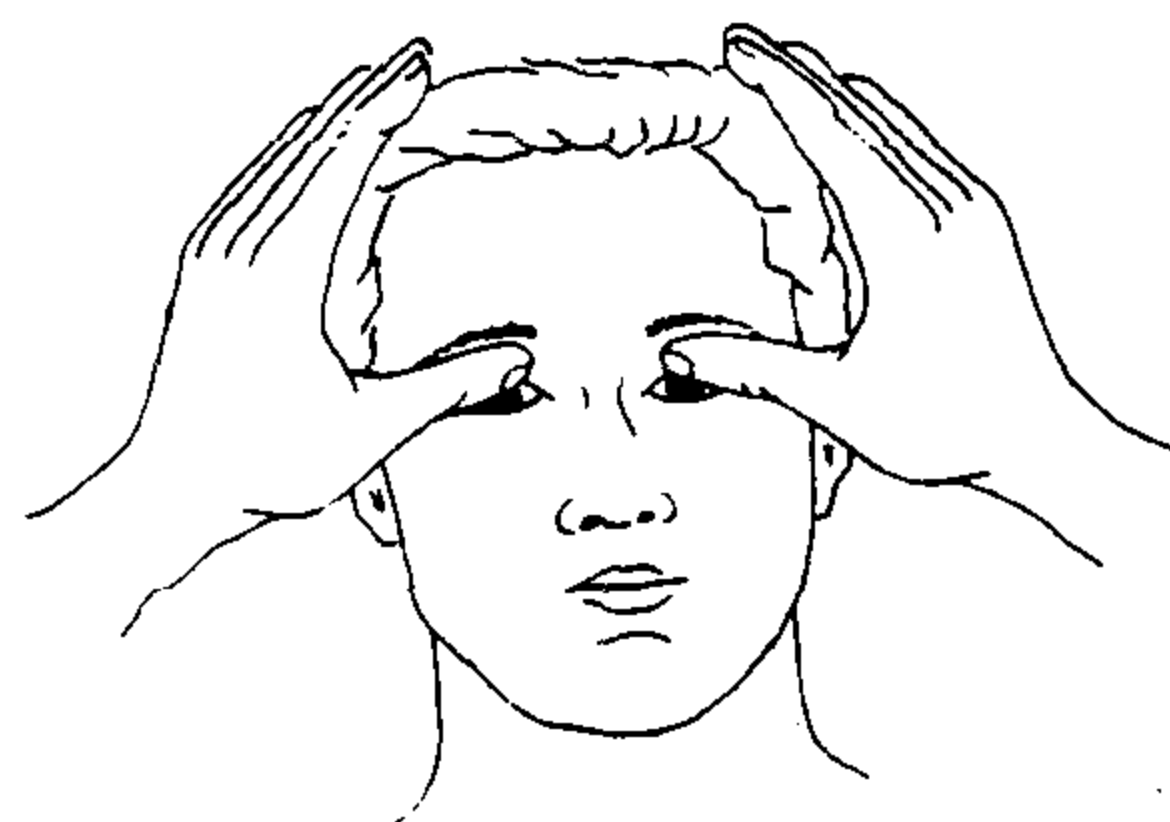


图 2-13 检查额窦

口腔、唇、咽

44. 检查唇、颊粘膜、牙、牙龈、舌 请受检者张口，检查者左手持电筒以适当角度照明口腔（或用自然光线照明），依次检查口唇、两侧颊粘膜、牙、牙龈和舌，也可借助压舌板进行。

唇：注意唇色及湿度改变，正常人因毛细血管丰富而呈湿润红色。颊粘膜：正常颊粘膜光滑、粉红色，注意检查有无糜烂、溃疡与出血。腮腺导管开口于正对上颌第二磨牙的颊粘膜。牙：成人有 32 颗牙，注意有无缺齿、龋齿、残根等。牙龈：正常牙龈呈粉红色，注意有无肿胀、出血、色素沉着等。舌：注意舌的形状、运动，有无溃疡，舌质的色泽及舌苔的颜色与分布。

45. 检查口底 请受检者张口，舌尖上抬至硬腭，观察口底，有无色素沉着、出血或肿块（一般不作触诊，如发现肿块，最好同时触诊。有时只有触诊法才能触及新生物的存在。颌下腺导管结石最好也用触诊法检查。双手触诊法：用戴指套的手指置于口腔内触诊，另一手在口外配合）。

46. 检查口咽部 请受检者头略后仰，张口，检查者右手持压舌板于舌中后 1/3 交界处迅速下压，此时软腭上抬，在照明的配合下，即可见软腭、悬雍垂、舌腭弓、咽腭弓、扁桃体及咽后壁，有无充血、水肿、化脓。当受检者发“啊”音时，可观察软腭上抬并注意有无声嘶，注意勿使清醒者作呕。

47. 检查舌下神经（第 XI 对脑神经） 请受检者张口、伸舌，观察伸舌有无偏斜，检查有无舌萎缩、舌震颤。

48. 检查面神经（第 VII 对脑神经）下支的运动功能 观察两侧面部是否对称，有无鼻唇沟变浅及口角偏向一侧。请受检者露齿、鼓腮、吹口哨，正常应两侧对称。当一侧有周围性（核下）面神经下支损害时，病侧鼻唇沟变浅，鼓腮时该侧漏气，张口时口角偏向健侧。中枢性（核上）面神经下支损害时，面肌无力发生在病损的对侧。

49. 检查三叉神经（第 V 对脑神经）运动支 双手分别置于受检者左右下颌角咬肌隆起处，或颞侧颞肌处，请受检者咬紧牙齿，此时可检查双侧咬肌收缩力。也可在受检者张口时，用一手置于受检者颌下并向上用力，请受检者抵抗此力保持张口状态，以判断其肌力。

50. 检查三叉神经感觉支（至少 2/3 部位） 三叉神经分为三支：上支分布于前额和角

膜（神志清醒者不必检查角膜反射）；中支分布于面中部及鼻部；下支分布于下颌区。请受检者闭眼，自内向外对称地用针尖轻刺（检查痛觉）或棉签轻触两侧（检查触觉）并对感觉做出反应。检查者的用力应均匀，注意两侧及上下比较。

51. 暴露和观察颈部 受检者端坐，充分暴露颈部，衣服可移至腋前线，以便看清颈胸关系，并能进行锁骨上窝的视诊和触诊。观察颈部外形和皮肤，注意其对称性，有无异常肿块（如甲状腺、淋巴结）和搏动。甲状软骨在男性较女性突出。检查皮肤有无红肿、溃疡与疤痕。

面颈部淋巴结

检查者立于受检者前面或后面，用示指、中指的腹侧慢慢地、仔细地、由浅入深进行滑动触诊，检查面部和颈部淋巴结，确定有无异常。滑动触诊要点：滑动是指皮肤与其皮下结构之间滑动，而不是手指与皮肤之间滑动。淋巴结触诊的原则是使该处皮肤和肌肉尽量松弛以便检查。如当检查锁骨上淋巴结时，请受检者稍耸肩再放松，可用双手进行触诊，左手触诊右侧，右手触诊左侧，由浅部逐渐触摸至锁骨后深部。应检查双侧浅表淋巴结，如发现淋巴结肿大，注意其部位、大小、数量、质地、活动度、有无压痛、粘连、肿胀或疤痕（图 2-14）。

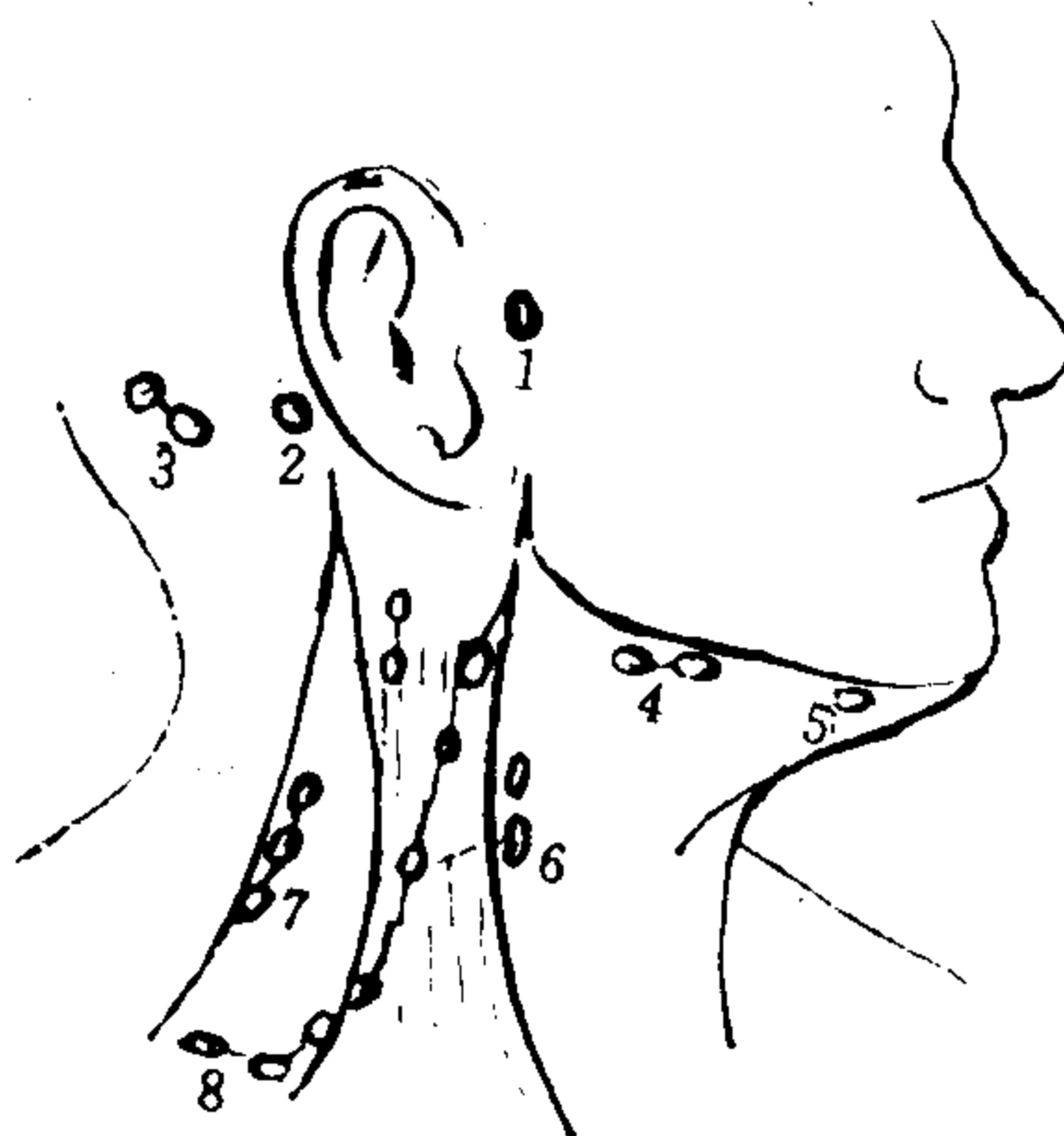


图 2-14 面颈部淋巴结

1. 耳前淋巴结	2. 耳后淋巴结
3. 枕后淋巴结	4. 下颌下淋巴结
5. 颏下淋巴结	6. 颈前淋巴结浅组
7. 颈后淋巴结	8. 锁骨上淋巴结

- 52. 触诊耳前淋巴结：双侧耳前区。
- 53. 触诊耳后淋巴结：双侧耳后区。
- 54. 触诊枕后淋巴结：枕外隆凸下方。
- 55. 触诊下颌下淋巴结：屈曲手指于下颌骨内侧触诊。
- 56. 触诊颏下淋巴结：屈曲手指于颏下中线处触诊。
- 57. 触诊颈前淋巴结浅组：位于乳突下，胸锁乳突肌前缘浅表处。
- 58. 触诊颈后淋巴结：位于胸锁乳突肌后缘浅表处。

59. 触诊锁骨上淋巴结：屈曲手指在锁骨与胸锁乳突肌之间的交角处触诊。

甲状腺

60. 触诊甲状软骨 用拇指、示指触诊甲状软骨有无压痛，并检查其移动度。正常有一定程度移动且无疼痛。

61. 在正确部位触诊甲状腺 甲状腺位于甲状软骨下方，紧贴气管两侧。甲状腺的侧叶向后绕于气管和食管旁，有部分被胸锁乳突肌复盖。(图 2-15) 触摸甲状腺时，检查者可以站于受检者前面或后面。触诊时，可请受检者头稍前屈，在检查侧叶时，颈部偏向检查侧以松弛皮肤和肌肉。

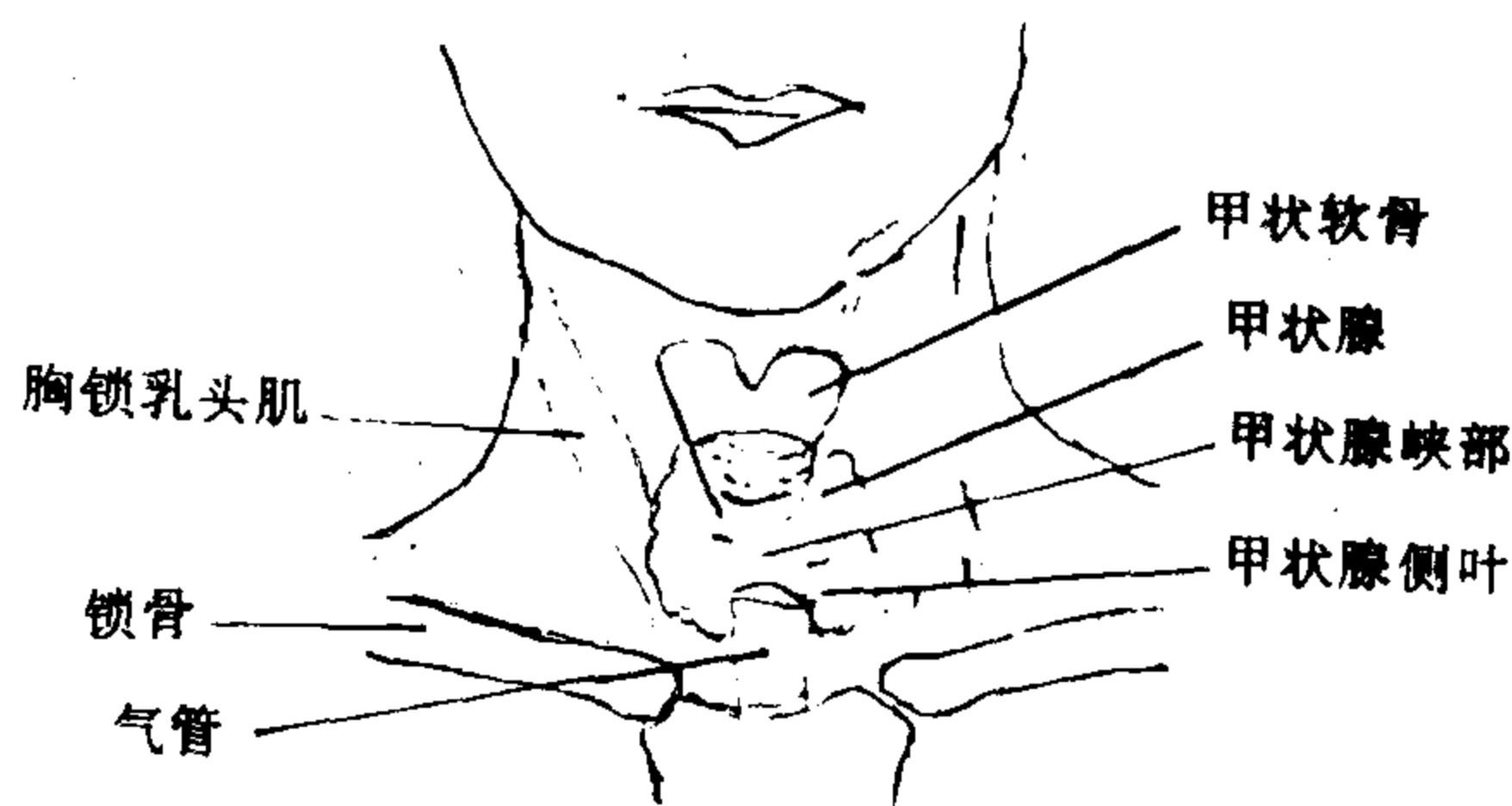


图 2-15 甲状腺解剖位置

62. 触诊甲状腺峡部 甲状腺峡部位于环状软骨下方第二至四气管环前面。站于受检者前面用拇指或站于受检者后面用示指从胸骨上切迹往上触摸，可感到气管前软组织，判断有无增厚，请受检者吞咽，可感此软组织在手指下滑动，判断有无长大、肿块。

63. 触诊甲状腺侧叶

前面触诊：一手拇指施压于一侧甲状软骨，推移对侧甲状腺。另一手拇指在对侧胸锁乳突肌前缘，示、中指在对侧胸锁乳突肌后缘之间可触及被推挤的甲状腺。再配合吞咽动作，重复检查。用同样方法检查另一侧甲状腺（图 2-16）。

后面触诊：类似前面触诊。一手示、中指施压于一侧甲状软骨；另一手拇指在对侧胸锁乳突肌后缘，示、中指在其前缘触诊甲状腺。再配合吞咽动作，重复检查。用同样方法检查另一侧甲状腺（图 2-17）。

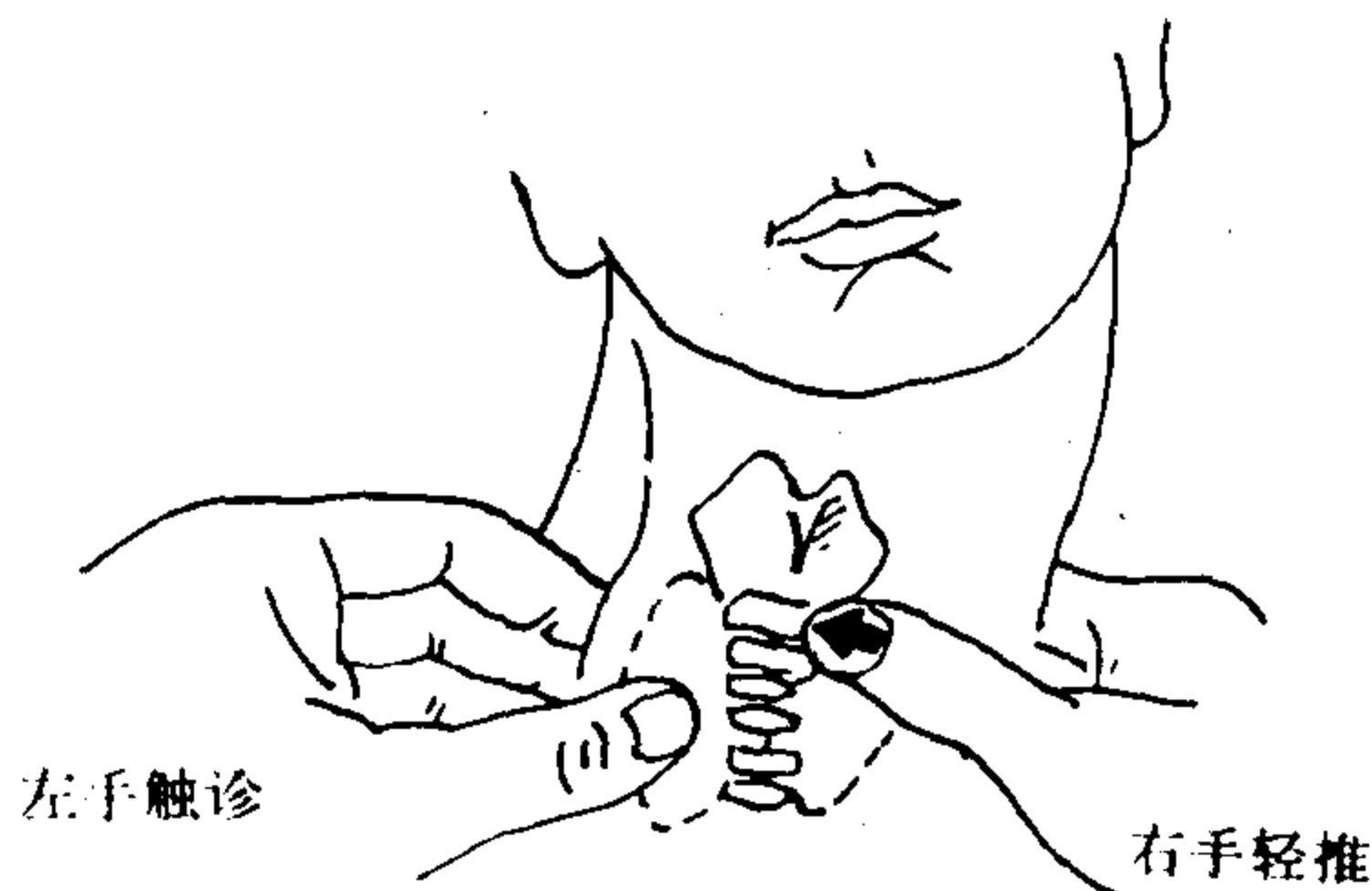


图 2-16 从前方触诊甲状腺侧叶

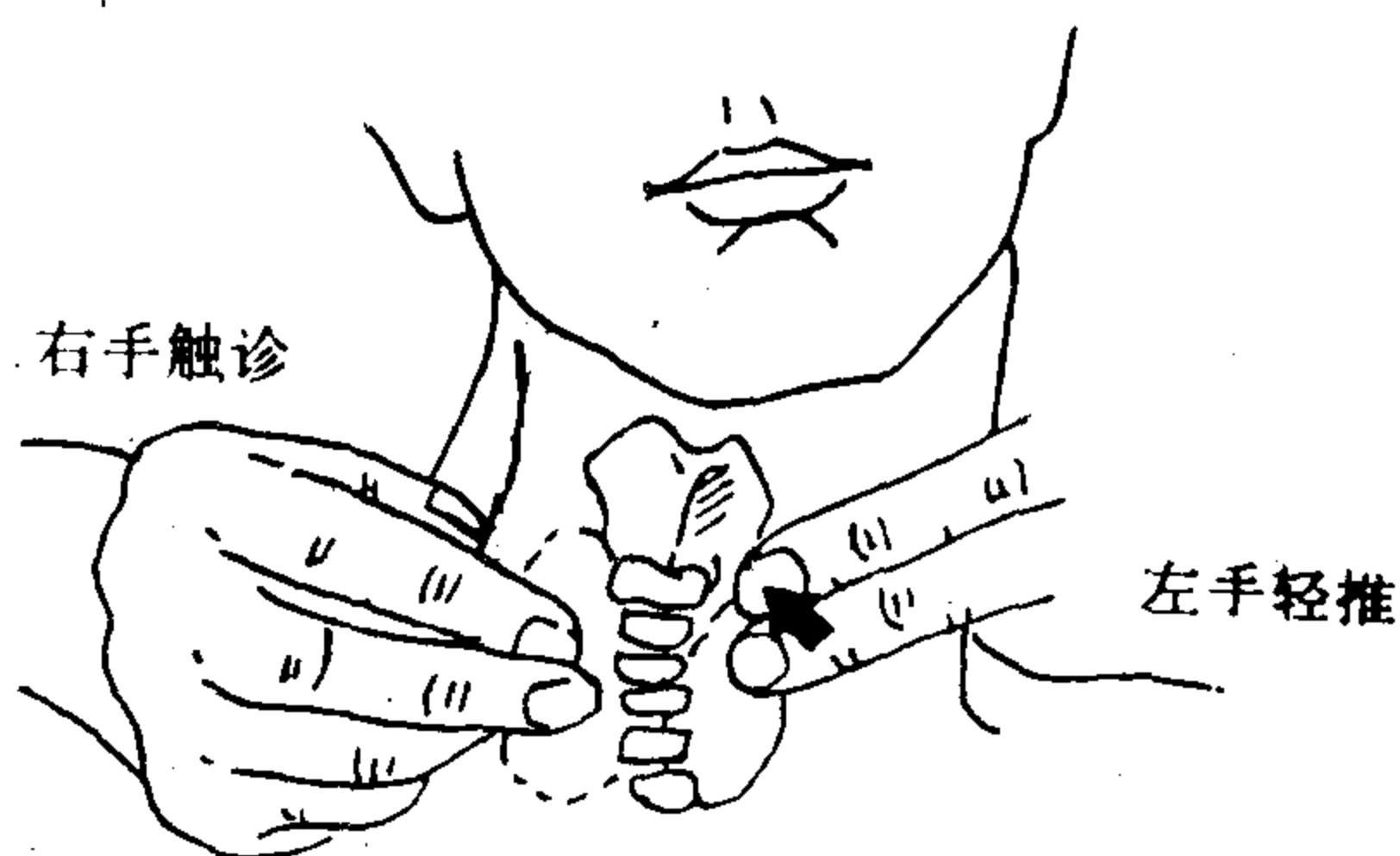


图 2-17 从后方检查甲状腺侧叶

如果发现甲状腺肿大，应注意其大小、对称性、质地、表面情况、有无压痛、结节、震颤，并用听诊器听诊有无杂音。

颈动脉

64. 触诊颈动脉（双侧） 用手指腹侧，在受检者颈的下半部分胸锁乳突肌内侧轻轻触摸颈动脉搏动。不可两侧同时触摸，以免引起昏厥。（此检查也可延至心血管检查时进行）

气管

65. 检查气管位置 请受检者头部摆正、两眼平视前方，两肩等高。检查者示指和无名指置于胸锁关节上，中指触摸气管或气管与两侧胸锁乳突肌之间的间隙，如此判断气管有无偏移。

颈椎的运动

嘱受检者主动进行以下动作，如不能完成，则协助其进行被动运动以判断颈椎的活动度。（其它四肢关节、腰椎的运动检查均如此）。

66. 屈曲 嘱受检者头向前屈曲，尽量使颈部接近胸骨，估计其从直立位到屈曲的度数。正常大约 75° 。

67. 后伸 嘱受检者头部尽量后仰或朝上看天花板。正常能后伸 40° 。

68. 侧屈 嘱受检者头部向一侧偏屈，即尽量使右耳接近右肩、左耳接近左肩。正常可侧屈约 40° 。

69. 旋转 嘱受检者水平方向旋转头部，即使下颌分别尽量接近左、右肩部，注意受检者固定肩部，不可上抬。正常每侧约能旋转 $60\sim 80^{\circ}$ 。

70. 检查副神经（第Ⅺ对颅神经）的运动功能 检查斜方肌和胸锁乳突肌肌力时，可用双手置于受检者双肩并向下用力，嘱其抵抗此阻力向上耸肩，以检查斜方肌肌力。也可一手置于受检者一侧面颊部，嘱其抵抗阻力向该侧旋转头部，以检查胸锁乳突肌肌力。同样方法检查另一侧，注意对比两侧肌力。

C 上肢

71. 正确暴露双上肢 暴露应从肩至指尖，检查两侧是否对称，有无畸形、皮损、肌萎缩、水肿、红斑及瘀斑等。

手

手关节包括腕掌、掌指、近指骨间和远指骨间关节。手指关节均为单轴关节，只有两个方向的运动，即掌屈和背伸。拇指只由一个指骨间关节组成。

72. 观察和触诊双手掌面和背面 检查掌指关节时，掌心向下，用拇指按压该关节的背面，示指和中指按压其掌面，适当用力，检查有无疼痛、肿胀等。

检查指间关节时，应用拇指和示指逐个按捏各关节侧面、掌面和背面。

73. 检查双手及指甲，有无紫绀和杵状指（图 2-18）。

手关节运动

拇指腕掌关节和其余各掌指关节除有掌屈和背伸之外尚有内收外展运动，这些手关节的运动范围可通过以下简单的过筛手法得到，若发现有异常就应逐个检查这些关节，注意双侧对比。

74. 伸展手指

75. 弯曲近指骨间和远指骨间关节呈爪状

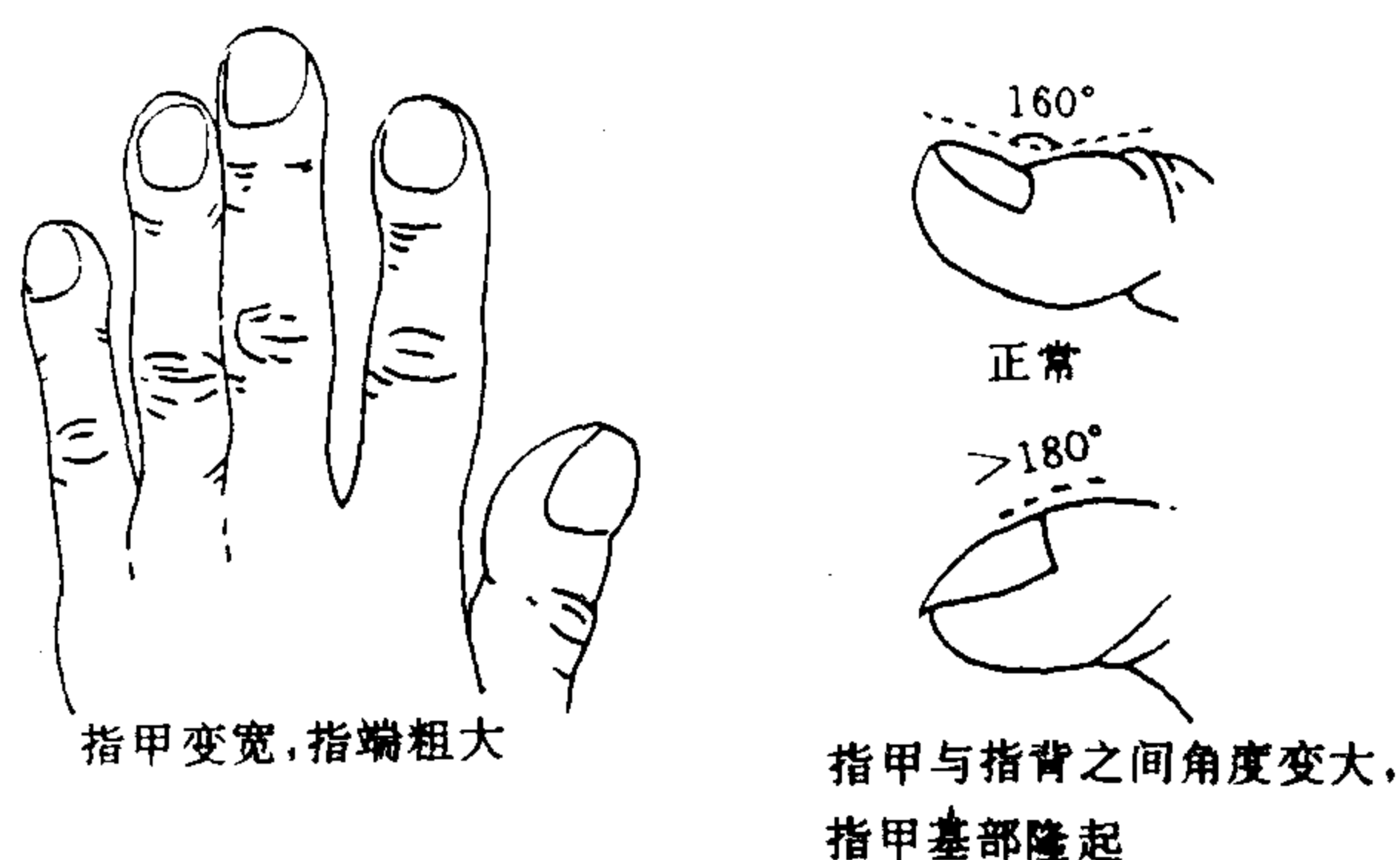


图 2-18 杵状指

76. 握拳

77. 拇指对掌运动 嘱受检者拇指靠向手掌尺侧缘（小指侧），其余四指平伸。

78. 检查远端肌力 肌力是指肌肉收缩力。肌力的分级：0级：完全瘫痪；Ⅰ级：肌肉可收缩，但不能产生关节运动；Ⅱ级：肢体能在床面上移动，但不能对抗地心引力；Ⅲ级：肢体能抗地心引力抬高而离开床面，但不能抵抗阻力；Ⅳ级：肢体能作抗阻力动作，但较正常人为差；Ⅴ级：正常肌力。嘱受检者克服检查者所给予的阻力作各种运动，必须作双侧对比。检查手指屈曲肌力（远端肌力）时，嘱受检者双手尽力紧握检查者示指和中指，检查者用力对抗力图回抽。

腕

79. 触诊双手腕、有无水肿、畸形、肿块和压痛 检查者站在前方，用双手检查每一侧手腕，受检侧手腕放松，掌心向下，检查者双拇指按住手腕背面，示指和中指按住手腕掌面，拇指及示、中指以适当压力在腕部逐点移动，注意有无水肿、压痛、发热和结节。

腕关节运动

80. 背伸 受检者伸出双手，掌心向下，呈中立位，即第三掌骨与前臂纵轴成一直线，无背伸和掌屈（0°），让受检者手腕尽量主动背伸。正常者可背伸约 70°，如受检者不能完成主动运动，检查者可用一手固定受检者前臂，另一手轻轻地使受检者手腕背伸，作被动背伸检查。

81. 掌屈 受检者伸出双手，掌心向下，呈中立位，让其手腕尽量主动向下弯屈，应观察屈曲程度，正常约 80°。检查者也可一手固定受检者前臂，另一手轻轻地将受检者手腕向下弯屈，作被动掌屈检查。

肘

82. 触诊鹰嘴和肱骨髁状突 检查者一手握住前臂，请受检者屈肘，另一手拇指和其余四指按压肱骨内上、外上髁（位于肘部肱骨上两个圆形骨性隆起）和尺骨鹰嘴及周围区域。

正常肘关节伸直时，肱骨内、外上髁与尺骨鹰嘴在一条直线上。屈肘 90°时，此三点组成一个以内、外上髁连线为底边的等腰三角形，称为肘后三角。

83. 触诊滑车上淋巴结 检查者右手扶托受检者右前臂，并嘱受检者屈肘约 90°，看清肱二、三头肌之间的肌沟，然后放松，用左手示、中、无名指从上臂后方伸至肌沟内触摸，滑车上淋巴结约位于肱骨内上髁上 2~3cm 处。检查左侧时则用右手触摸。也可用其他方法检查

(图 2-19)。

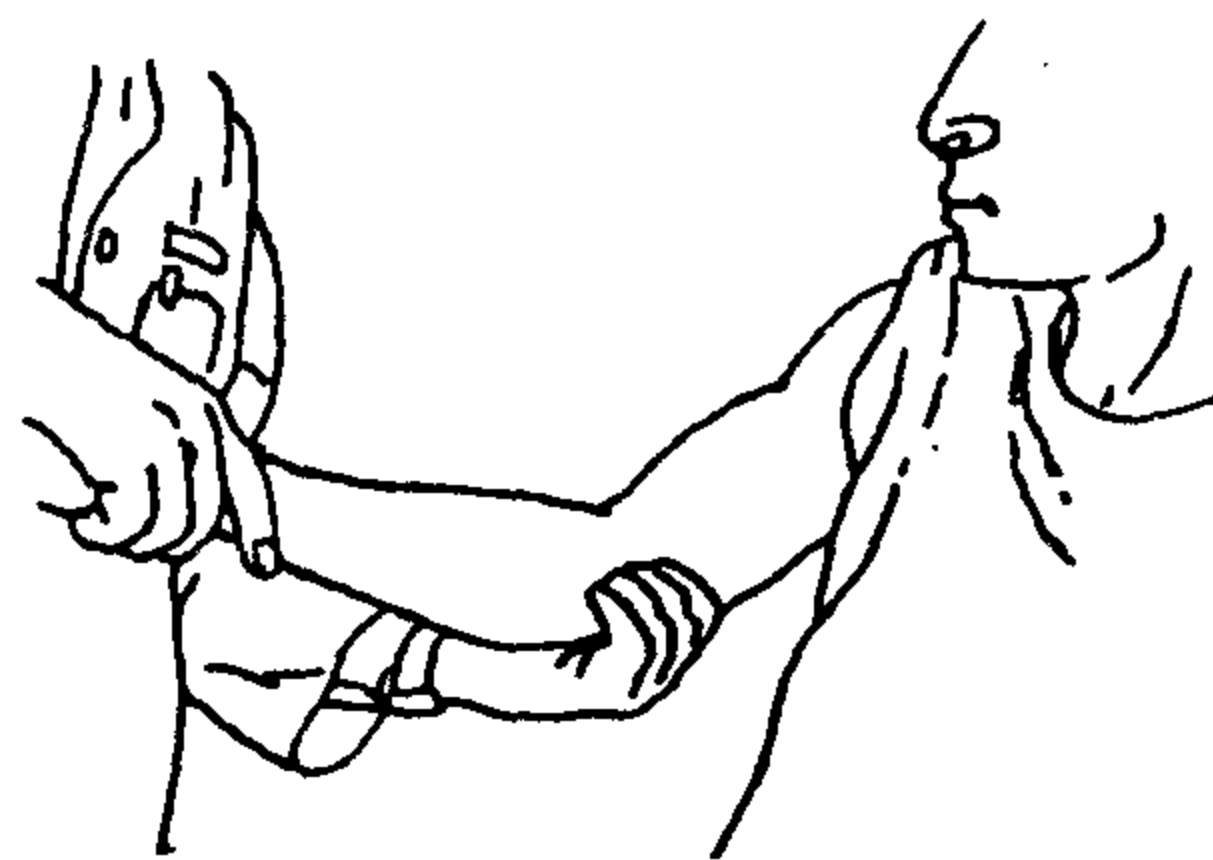


图 2-19 触诊滑车上淋巴结

肘关节运动

84. 屈肘 嘱受检者尽量主动屈曲肘关节，使前臂紧靠上臂。检查者也可用手心托住受检者肘部，另一手抓住其手腕，然后将其前臂尽可能地屈向上臂，正常可达 150° 。如运动受限，应注意其程度，并将前臂返回到伸直状态再重复一次。

85. 检查上臂肌力 嘱受检者抵抗检查者的阻力作屈肘运动，以检查屈肘肌力。再令其抵抗阻力作伸肘运动，以检查伸肘肌力。

86. 伸肘 嘱受检者尽量主动伸直双臂，当前臂伸直时，肘部则完全伸展 ($0\sim 15^\circ$)。不能完全伸展的为屈曲挛缩，并应测量其挛缩程度 (如伸肘差 5° 或挛缩 5°)。

87. 旋前和旋后 嘱受检者屈肘呈 90° ，双上臂紧靠胸侧，拇指向上，也可手握短棒以示标志，双前臂尽量主动向内旋转 (旋前)、向外旋转 (旋后)，正常情况下，分别为 80° 、 100° 。(如有疼痛或运动受限，检查者也可一手托住受检者屈曲呈 90° 的肘部，另一手握住其手，使其手掌朝下 (旋前)、朝上 (旋后)。此外，应注意骨摩擦音和手感，如旋转时出现疼痛，应比较其主动和被动运动的范围)。

肩

88. 触诊双肩及周围 充分暴露肩部，观察和触摸双肩及周围，注意双侧是否对称，有无肿胀、萎缩、畸形。系统检查包括三角肌下滑膜囊和肱二头肌腱触诊。检查者站在前方，用三、四个手指适当按压三角肌下囊和肱二头肌腱处有无肿胀、压痛和发热。

滑膜囊为机体易磨擦部位的封闭囊腔 (即在关节旁或肌肉和肌腱穿行的骨上)，内含少量液体起润滑作用，除非因发炎或积液肿胀，一般不易察觉。三角肌下滑膜囊位于复盖在肩外侧、上臂上段的三角肌下面。肱二头肌腱位于肱骨上端前面结节间沟处，检查者可用二个手指轻轻按压此处，若用手指摆动肌腱疼痛可加剧。检查者适当按压双侧肌腱和肌沟，并注意双侧对比。

肩关节运动

89. 检查者可通过受检者日常生活 (如梳头、穿衣) 的能力来估计受检者肩关节的功能，以下三个简单的动作可作为过筛检查。

- 1) 让受检者一手上举，越过头顶触及对侧耳朵。
- 2) 让受检者双手上举，置于枕后。
- 3) 让受检者一手沿后背尽量伸至最高点，正常能触及对侧肩胛骨。

90. 检查上肢近端肌力 嘱受检者双臂向两侧或向前平举，检查者用力下压受检者上臂，测试其对抗力。

91. 检查触觉或痛觉 嘱受检者闭眼，用棉签轻划或针尖轻刺双上臂、前臂、手背、令受检者作出反应，注意双侧及上下对比，至少 2/3 部位。

92. 贝勒氏 (Barre's) 上肢轻瘫试验 嘱受检者双上肢前伸，掌心向上，闭目，维持该姿势 20~30 秒，观察比较双上肢，如一侧肌力低下，手臂将向下坠落和内旋，也可以在作罗姆伯格征时进行。

腱反射 (腱反射应检查双侧并注意对比)

93. 肱二头肌反射 左手托住受检者前臂，掌心向上，屈肘约 90°，拇指置于受检者肘横纹上方肱二头肌肌腱上，用叩诊锤敲击拇指，观察其前臂屈曲，并可感到肱二头肌肌肉收缩。反射中枢在颈 5-6 (图 2-20)。

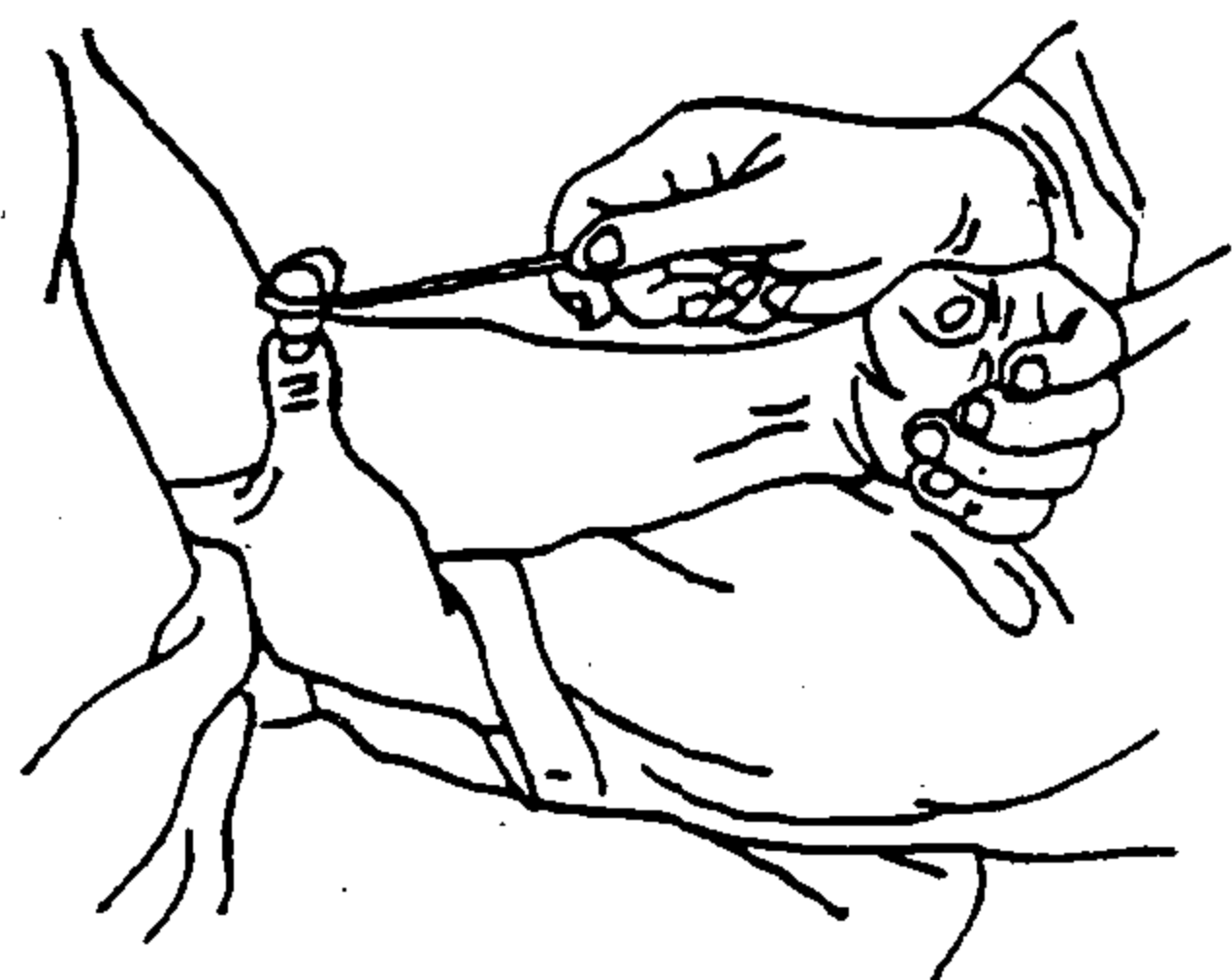


图 2-20 肱二头肌反射

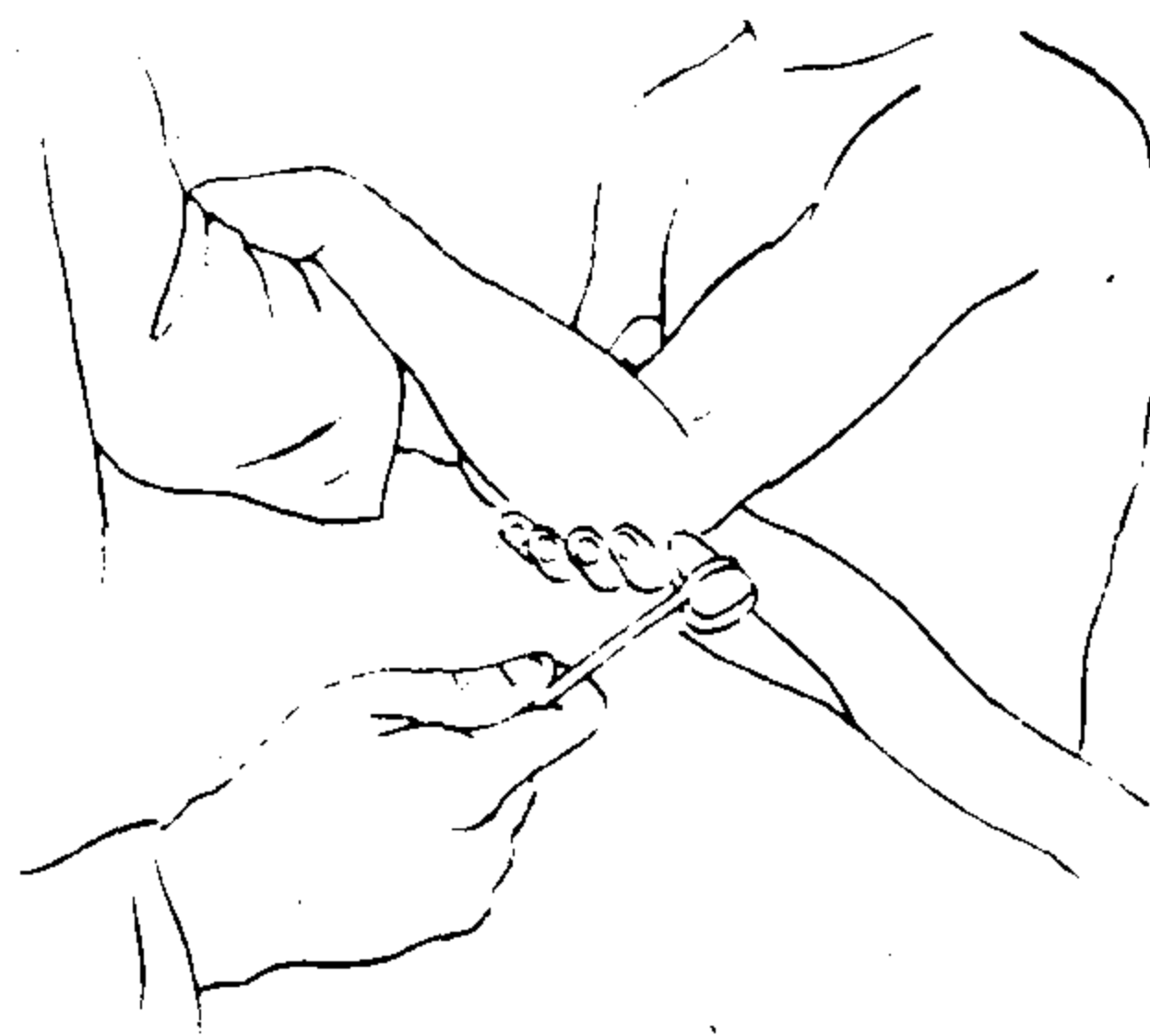


图 2-21 肱三头肌反射

94. 肱三头肌反射 用手托住受检者前臂，或者托住其上臂，使其肘关节屈曲前臂自然下垂，用叩诊锤敲击鹰嘴上方的三头肌肌腱，可见前臂伸展运动。反射中枢在颈 7-8 (图 2-21)。

95. 桡骨骨膜反射 用手托住受检者前臂，或嘱受检者前臂置于大腿上，掌心向下，用叩诊锤敲击桡骨茎突上方 4~5 厘米处，可见屈肘和前臂旋前运动。反射中枢在颈 5-6 (图 2-22)。

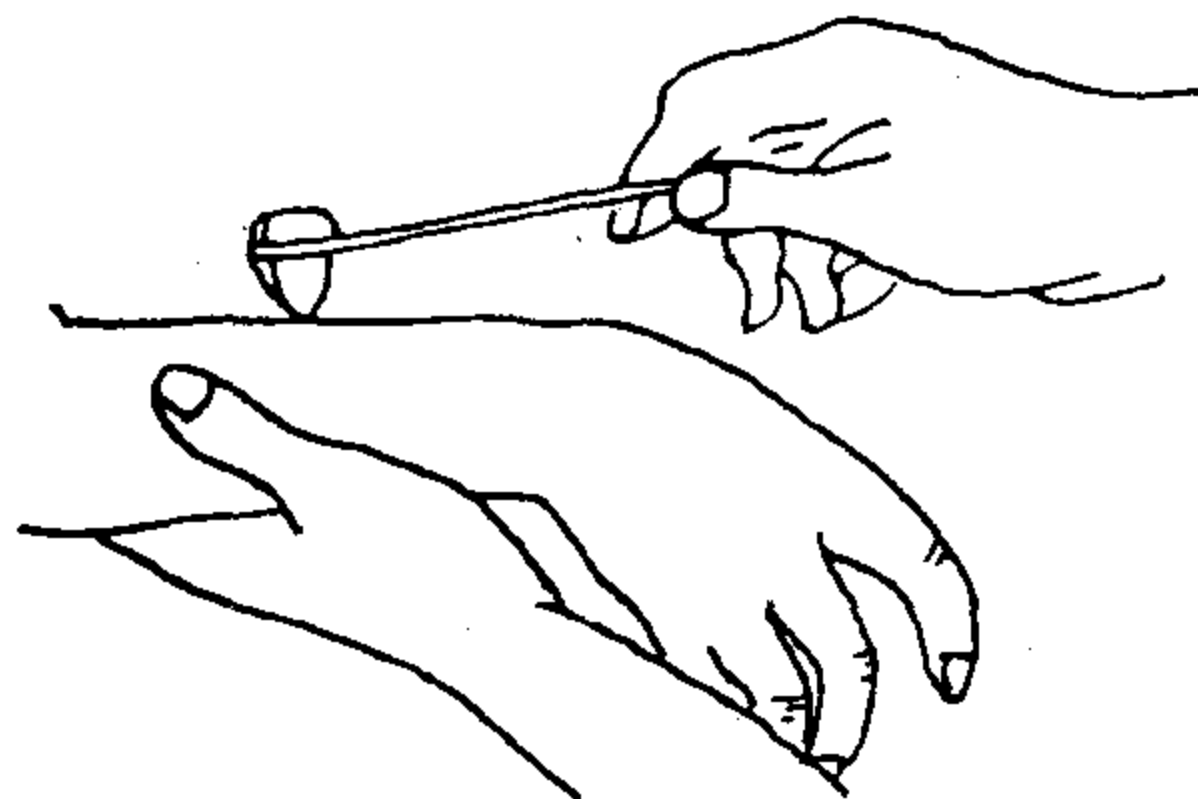


图 2-22 桡骨骨膜反射

共济运动

96. 快速轮替动作 嘱受检者放松上肢，双手逐渐增速做快速旋前、旋后动作，也可做其他动作，观察拮抗肌群的协调情况。

97. 指鼻试验（睁眼） 嘱受检者上肢伸直平举，从不同方向用示指反复指鼻，先慢后快，注意动作是否协调和双侧对比。

98. 指鼻试验（闭眼） 闭眼后重复上述动作。

D 背部

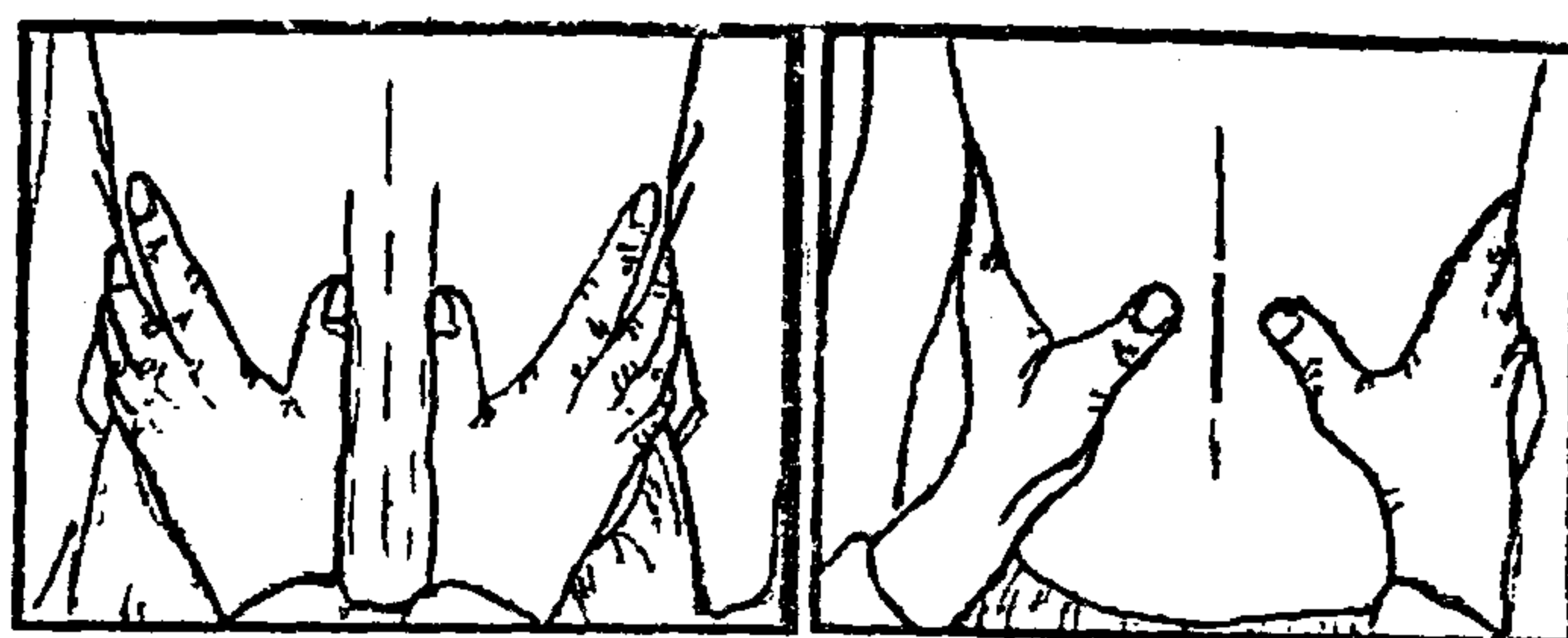
99. 正确暴露背部 检查者立于受检者背后，暴露颈部至骶部，观察脊柱有无畸形，胸廓的外形和呼吸运动（熟悉后正中线、肩胛下角线和肋脊角的部位）。

100. 逐个触诊脊柱棘突，检查有无畸形、压痛 用示指和中指沿脊柱棘突，自上而下逐一划过，在皮肤上清楚地留下一条红线，观察脊柱有无侧凸畸形，并注意有无压痛。正常为一条直线，无压痛。

101. 逐个叩击脊椎棘突（或用间接叩击法） 自上而下叩击，用手指、或叩诊锤直接逐个叩击脊椎，检查有无叩击痛（直接叩击法）。主要用于检查胸、腰椎，正常无叩痛。也可用左手掌置于受检者颅顶，右手握拳叩击左手背，检查有无叩击痛（间接叩击法）。

102. 检查肾区压痛和叩击痛 双拇指置于受检者左、右肋脊角（CVA，第十二肋与脊柱间夹角处），先后用力按压，检查有无压痛，如无压痛，直接叩击左、右肋脊角，或将左手掌先后置于左、右肋脊角，右手握拳，叩击左手背，先轻后重，注意有无肾区叩击痛和受检者反应。

103. 检查胸廓活动度和对称性 双拇指在第十肋水平，平行、对称地放于受检者的脊柱两侧数厘米处，向脊柱方向推挤皮肤起皱，其余手指对称地置于胸廓两侧的肋间，嘱受检者用力深呼吸，注意观察双拇指间距的变化和前臂活动度的感觉来判断两侧活动度是否对称（图 2-23）。



呼气末双手位置

吸气末双手位置

图 2-23 检查胸廓活动度和对称性

104. 嘱受检者稍前倾，双上肢交叉双手分别置于对侧肩部，尽量扩大肩胛间区。

105. 叩诊背部 叩诊时左手中指第二指节紧贴肋间隙，其它手指稍微抬起，勿与体表接触，右手指自然弯曲，以中指指端叩击左中指第二指骨的前端，叩击方向应与叩诊部位的体表垂直，以腕关节和掌指关节的活动为主，动作要灵活、短促、富有弹性。每一个叩诊部位，

每次只需连续叩击 2~3 次，如未获得明确印象，可再连续叩击 2~3 次。

106. 自上而下，由外向内，左右对称地叩诊背部，肩胛间区叩诊时板指（通常为左手中指）与脊柱平行，肩胛下区叩诊时板指与肋间平行。注意双侧对比叩诊音的改变和板指的震动感。

107. 叩诊肺下界移动范围 在受检者平静呼吸时先叩出由清变浊的肺下界，嘱受检者在深吸气后屏住呼吸，迅速向下重新叩出肺下界，用笔标记；再嘱深呼气后屏住呼吸，重新自上而下叩出肺下界，再以笔作标记。两个标记间的距离为肺下界的移动范围。正常人肺下界移动范围为 6~8cm。

108. 嘱受检者轻微张口稍作深呼吸

109. 听诊背部

110. 双侧对比听诊背部 置膜型胸件于胸壁肋间隙处，适当加压，贴紧胸壁，以取开胸件皮肤上留下印痕为宜。听诊顺序同叩诊，对比双侧呼吸音的改变增强、减弱或消失，有无异常呼吸音，包括在正常肺泡呼吸音的部位听到支气管或支气管肺泡呼吸音、罗音和胸膜摩擦音。注意每一点至少听诊一、二个呼吸周期。

111. 听觉语音（耳语音） 用听诊器听取发音后声音传导到胸壁的强度和性质，称为听觉语音。检查时嘱受检者用耳语的声调重复发“一、二、三”音，检查者将听诊器胸件放在胸壁上，此时可听到柔和而含糊的字音，需进行两侧对称部位的对比，并比较其强弱与性质的改变。

E 女姓乳房检查

112. 充分暴露双侧乳房 检查前要告诉受检者该检查的意义，能发现早期无症状的癌肿和内分泌紊乱。同时暴露双侧乳房、前胸、颈部和双上臂。注意双肩要在同一水平上。

113. 坐位（或站立位）观察乳房 受检者取坐位（或站立位），双臂自然下垂。检查者应站在受检者对面，眼睛高于乳头水平约 10 厘米。视诊时应注意双乳的位置、大小、形态及对称性，还应注意有否溃疡、疤痕、色素沉着和过度角化等。乳头位置虽个体差异很大，但一般在第四肋间锁骨中线处。注意双乳头的对称性、有无移位和回缩。妊娠期乳头颜色变深，乳晕上可有小结节。正常女性乳房大小、形状、质地差异较大，如乳房较大并下垂，可用手将乳房托起便于观察乳房下部。为检查和记录方便，通常用通过乳头的水平线和垂直线将乳房划为内上、外上、内下、外下象限四部分，从外上象限有部分乳腺组织伸向腋窝称为尾部（图 2-24）。

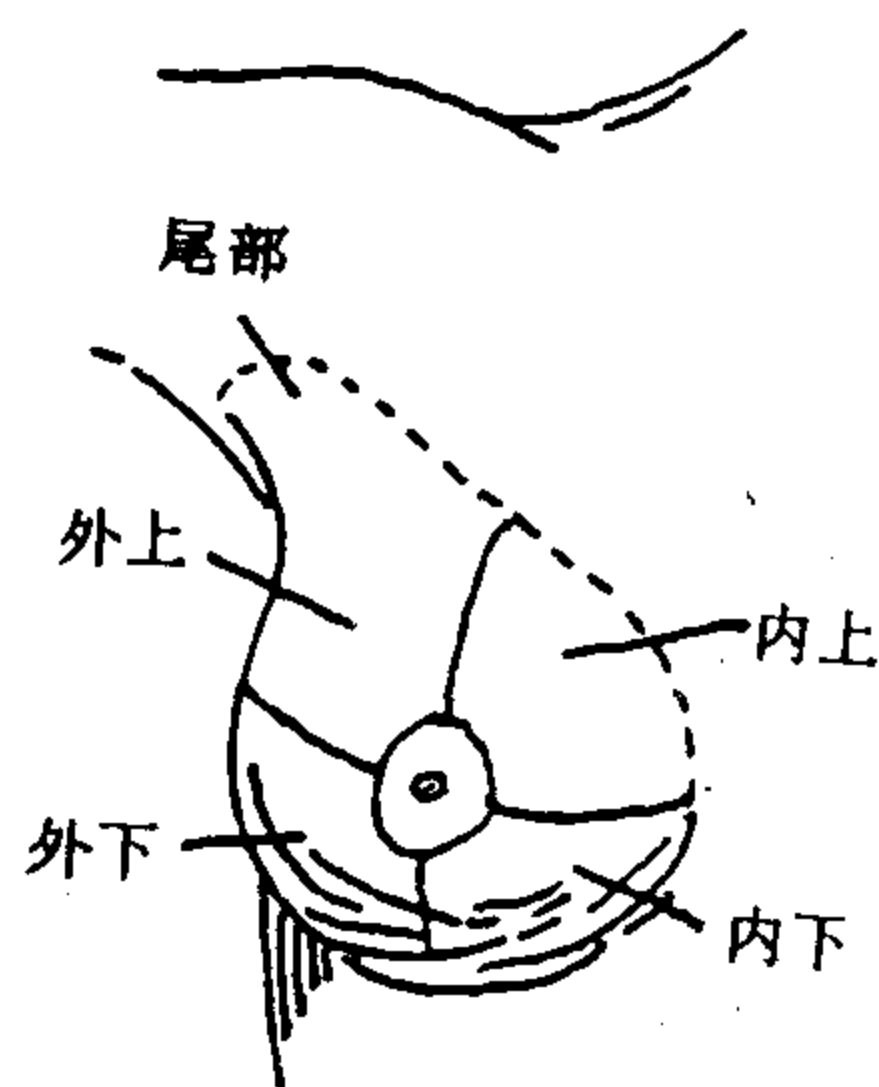


图 2-24 乳房分区

114. 前倾位观察乳房 嘱受检者身体稍向前倾斜,此时乳房下垂,如有乳房病变并与胸肌粘连,则可出现局部凹陷。

115. 双臂高举过头观察乳房 此时,双乳房应均匀地向上移动,双乳头的移动也应对称。

116. 双手叉腰并用力向内挤压观察乳房 如乳房内有病变则可能因胸肌紧张而突向表面。注意双乳移动有无不对称及表面有无异常突起。

触诊右乳房

117. 用右手检查受检者右乳房 触诊乳房可取坐位或卧位,但卧位时小的肿块会陷入肋间隙而漏诊。

118. 按内上、外上、尾部、内下、外下顺序触诊右乳房,至少 4/5 部位。

触诊的手指平置,压力适当,一般以能触及肋骨而不引起疼痛为宜,柔和的触诊更易发现病变。用手指掌面以圆周运动或来回触诊方式进行。不要捏挤乳房,如乳房较大,也可用双手合诊检查。为防止漏查,检查乳房上部时可逐厘米移动,在象限交界区需重叠触诊。注意有无压痛、包块、质地和弹性的改变。

119. 触诊右乳晕及乳头,注意乳头溢液 检查者用拇指和示指触诊乳晕和乳头,然后用两手指同时轻压乳头两侧对应部位,注意有无乳头溢液。(如有溢液,注意其性质,并用单指逐点挤压。确定导管开口、溢液来源,并做涂片送细胞学检查)。不能用力捏挤压乳头。

触诊左乳房

120. 用左手检查受检者左乳房,方法同右乳房。

121. 检查者用左手手指的掌面触诊左乳房,顺序同右乳房,至少 4/5 部位。

122. 触诊左乳晕及乳头,注意乳头溢液。

123. 教授受检者作乳房自我检查 乳房检查结束前应教会受检者如何作乳房自我检查。通常在月经后一周进行,因此时乳房充血最轻。视诊可站立于一镜子前如上述四步进行,然后触诊乳房和腋窝。

腋窝检查:

腋窝淋巴结分为 5 群:尖群位于腋窝顶部并引流其它四组的淋巴结,因位置较深,通常不易触及;前群位于腋窝前壁,胸大肌后面;后群位于腋窝后壁,背阔肌外上份前面;内侧群位于腋窝中间,最易被触及;外侧群沿肱骨上段内侧分布。

124. 检查受检者右腋窝 用右手握住受检者右手腕并抬高,观察并用左手触诊右腋窝。

125. 触诊右腋窝 5 群淋巴结 检查者用左手置入受检者右腋窝顶部,再将受检者右手放下,嘱其放松肌肉,首先触诊尖群,然后手指掌面转向腋前壁,触诊前群,再转向胸壁轻轻向下滑动,触诊内侧群。再次将受检者右上肢举起,左手重新置于腋窝顶部,然后手指掌面转向后方,触诊后群;最后转向肱骨,沿肱骨内侧面向下滑动触诊外侧群(图 2-25)。

126. 检查受检者左腋窝,方法同上述。

127. 触诊左腋窝 5 群淋巴结 方法同上,用左手提起受检者左手,右手检查受检者左腋窝淋巴结。

F 前胸和肺

128. 视触胸廓 熟悉胸部的体表标志,如胸骨角,胸骨上窝,锁骨上、下窝,剑突,胸骨下角(腹上角)等骨骼标志。人工划线有胸骨中线即前正中线,锁骨中线,后正中线、肩胛线,腋前、中、后线等(图 2-26)。

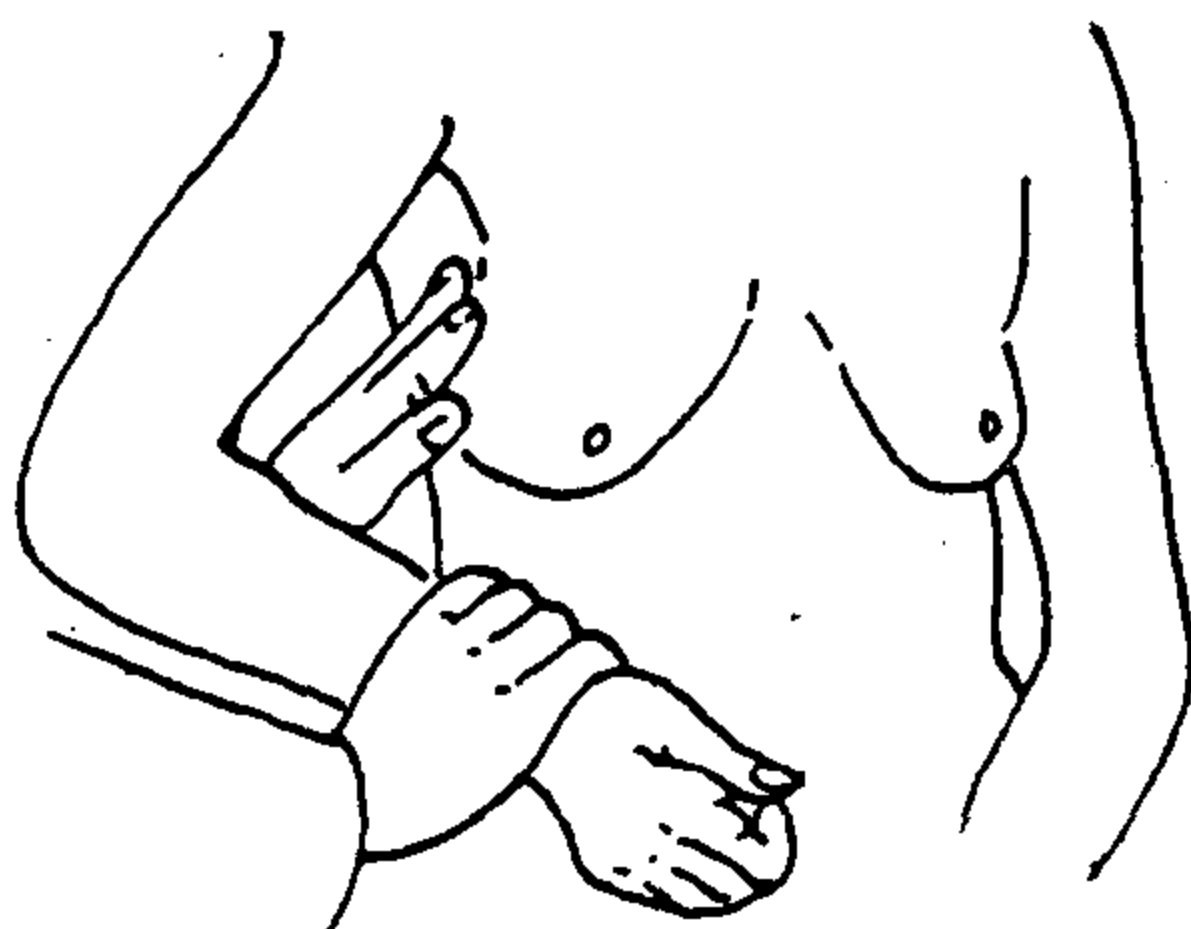


图 2-25 触诊右腋窝淋巴结

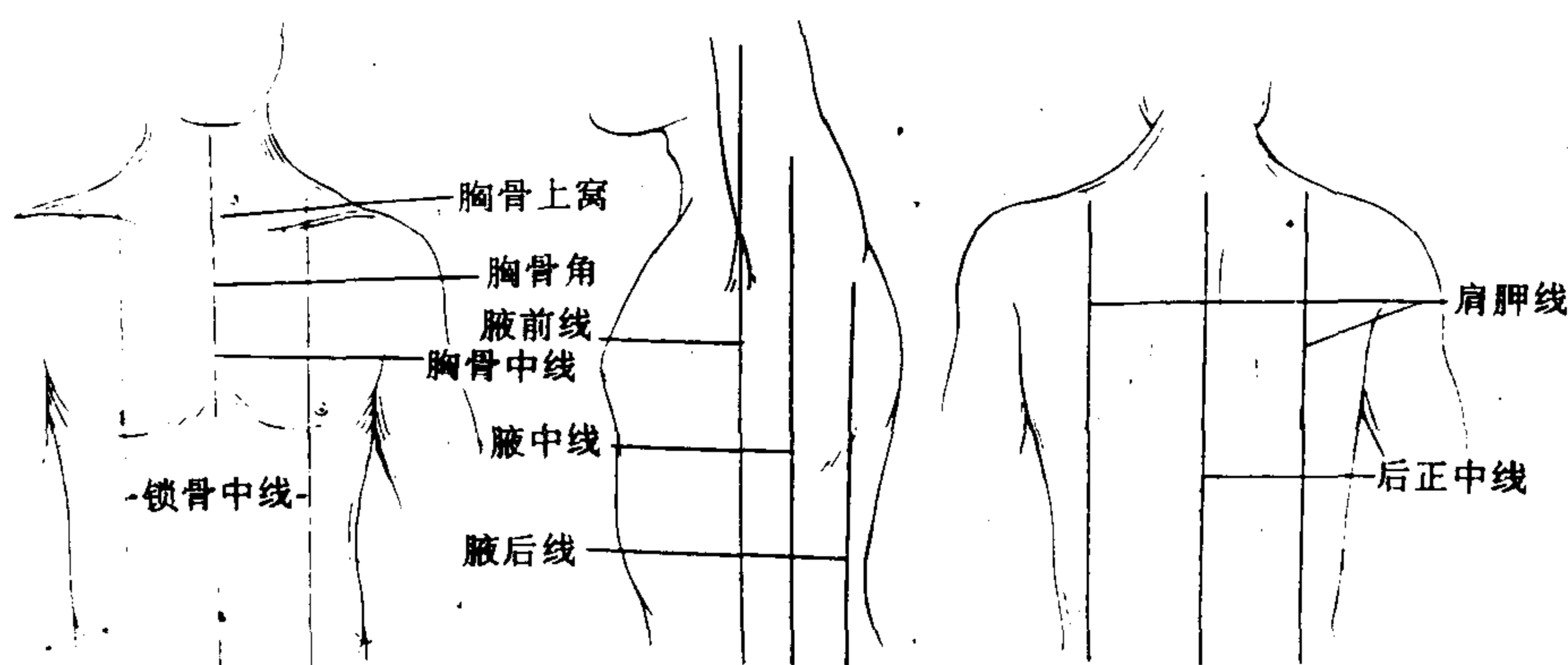


图 2-26 胸部的体表标志

视诊：胸廓形态、对称性、肋骨走行方向，肋间隙宽度、腹上角大小，呼吸时有无锁骨上窝、肋间隙、腹上角膨隆或凹陷等。同时观察呼吸运动、注意呼吸类型、频率、节律、深度、呼吸辅助肌运动情况。

触诊胸壁弹性时，双手置于胸廓前、外、下方对称部位，手指位于肋间隙，向后内挤压后放开。注意胸壁弹性，有无压痛。

129. 双侧对称地叩诊肺尖 嘱受检者放松肌肉、双上肢自然下垂，双手置于大腿外侧，双侧对称地叩诊肺尖。

130. 叩诊前胸和侧胸 自上而下，由外向内，先右后左叩诊。检查侧胸时，双手上抬，置于枕后，从腋窝开始，由上而下，沿每一肋间隙，按对称部位进行双侧对比叩诊，注意叩诊音的改变及板指的震动感（在单独进行胸部叩诊时常按前胸、侧胸、后背的顺序进行）。

131. 双侧对称地听诊肺尖 如锁骨上窝较窄或是女性受检者可用钟型胸件适当加压进行听诊。

132. 听诊前、侧胸部 受检者微张口，稍深呼吸，用膜式胸件听诊前、侧胸部，其体位与顺序同叩诊，注意双侧对比，呼吸音的改变、有无呼吸附加音，如罗音、胸膜摩擦音等。

G 心脏

133. 检查颈静脉 嘱受检者仰卧、头部抬高 15~30 度，观察颈外静脉充盈情况。正常人平卧时充盈水平仅限于锁骨上缘至下颌角距离的 2/3 处，坐位或立位时常不显露，如卧位时充盈度超过正常水平，坐位或立位时明显充盈提示静脉压升高。

134. 观察心前区 检查者应观察受检者卧位时心前区有无隆起、异常搏动，在呼气末取切线方向观察心尖搏动为最好。正常人心尖搏动的中央，位于左侧第 5 肋间隙锁骨中线内侧 0.5~1.0cm 处，搏动范围的直径 2.0~2.5cm。在相当一部分正常人，可见不到心尖搏动。

135. 用两步法（手掌、手指）触诊心尖搏动 心脏触诊检查，除可验证视诊检查的结果外，还可发现视诊未能察觉的搏动、震颤或摩擦感等体征。检查者可先用手掌触诊心尖搏动，然后再用一个或二个手指指腹触诊心尖搏动，以便确定心尖搏动的准确位置和范围。手掌易发现震颤，手指易触及和分析搏动情况，由于心脏搏动的凸起冲动标志着收缩期的开始，故可利用心尖搏动的触诊来判断震颤、心音及杂音出现的时期。必要时请受检者左侧卧位，使心尖靠近胸壁易于触及，但也使心尖左移 2~3 厘米，故在估计心尖搏动的位置和时限时应仍以仰卧位为准。

136. 用手掌触诊心前区 包括胸骨下份、胸骨左缘 3、4、5 肋间隙。胸骨右缘第 2 肋间隙、胸骨左缘第 2 肋间隙和胸骨下份稍偏右。注意有无异常搏动、震颤、震荡和心包摩擦感。

137. 叩诊心脏相对浊音界 在左胸第 5 肋间叩诊并记录心脏相对浊音界，用指指叩诊法，从心尖搏动外 2~3 厘米（正常人如未扪及心尖搏动，可从左第 5 或第 4 肋间隙锁骨中线外 1~2 厘米）处由外向内进行叩诊，用力要均匀、轻叩，发现叩诊音由清音变为相对浊音时，即为心脏边界。正常位于左锁骨中线上或内侧，若超过锁骨中线，常提示心脏增大；若心脏浊音界明显缩小或消失，常提示肺气肿。（心脏浊音界的大小、形态、位置，可受多种因素影响，由于积累了许多详细的有关心前区正常与异常搏动的知识，心脏触诊已代替了大部分心脏叩诊。当心尖搏动扪不清时，偶尔只能用叩诊法叩出心脏浊音界，如大量心包积液时扪不清心尖搏动、心浊音界增大，主张依次按肋间叩诊心脏浊音界，并应比较坐、卧时浊音界的变化。）

用膜型胸件听诊心脏

听诊时，需将胸件贴紧胸壁，适当加压。频率较高的杂音用膜型听诊器听诊较清楚。听诊顺序：肺动脉瓣区、主动脉瓣区、主动脉瓣第二听诊区、二尖瓣区、三尖瓣区（图 2-27）。

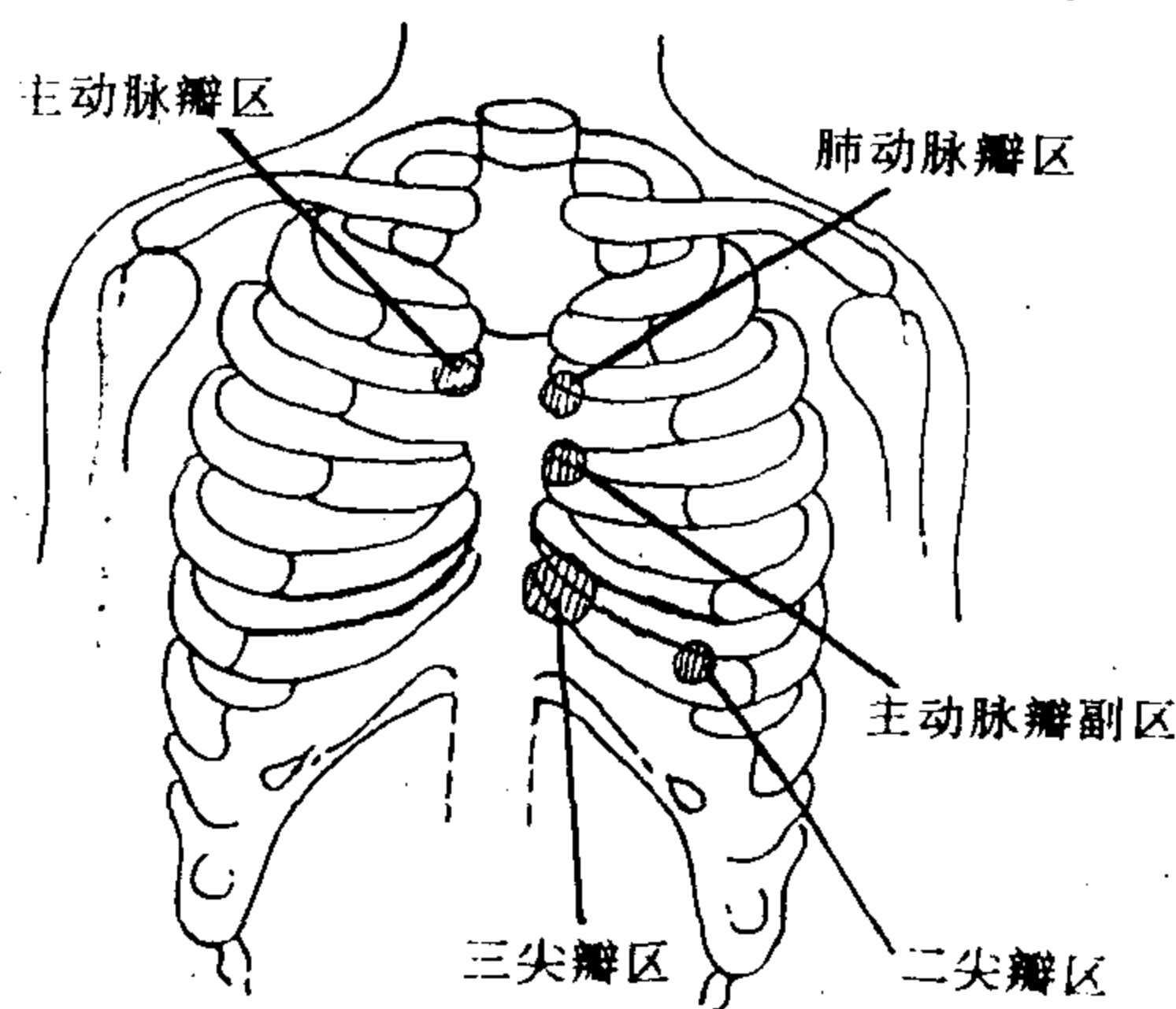


图 2-27 心脏瓣膜听诊区

听诊内容包括心率、心律、心音、杂音和心包摩擦音。各瓣膜区听诊 15 秒钟至 1 分钟，注意第一、二心音的区别，心音强度和性质的改变，心音分裂和额外心音，心脏杂音最响部位、出现时期、性质、传导方向、强度及音调，杂音与体位、呼吸及运动的关系。鉴别一、二心音有困难时，应根据其本身特点（正常情况下，第一心音音调较低、柔和，时间较第二心音长，在正常节律第一心音与第二心音的间隔比第二心音与下一心动周期第一心音的间隔短）、配合心尖搏动或颈动脉搏动触诊及寸移法等三种手法（详见器官系统体格检查方法）。

138. 肺动脉瓣区（胸骨左缘第 2 肋间隙）

139. 主动脉瓣区（胸骨右缘第 2 肋间隙）

140. 主动脉瓣第二听诊区（胸骨左缘第 3、4 肋间隙）

141. 二尖瓣区（心尖部）

142. 三尖瓣区（胸骨左缘第 4、5 肋间隙或胸骨体下端稍偏右）

143~147. 用钟型胸件听诊，顺序同上。

频率较低的杂音，用钟型胸件听诊较清楚。应轻贴胸壁、不要重压，勿使胸壁上留下印痕，否则低频的杂音可能被滤去。

H 腹部

148. 正确暴露腹部 正确而充分地暴露腹部，上至乳头，下至耻骨联合上缘。女性盖住乳房。

149. 头下置一小枕，嘱受检者屈膝、尽量放松腹肌、双上肢置于躯干两侧，平静呼吸。

150. 视诊腹部 腹部分区多用四分法：经脐分别画一假想的，互相垂直的水平线与垂直线，如此将腹部划分为四区：右上腹、左上腹、右下腹、左下腹。

观察腹部外形、对称性，腹壁皮肤色素沉着、紫纹（可能由于腹壁的扩张、收缩，如妊娠引起）、疤痕及阴毛分布，腹壁静脉，脐的位置和形态，腹式呼吸的情况。对腹部外形及蠕动波，应从切线方向进行观察。勿忘记观察腹股沟区，有无疝。

151. 听诊肠鸣 用听诊器膜型胸件置于脐附近，听诊至少 1 分钟，注意肠鸣次数、强度、音调，如未听到则应延长至听到肠鸣或 5 分钟。

152. 腹部叩诊 用间接叩诊方法。一般自左下开始，逆时针方向，用指指叩诊法叩诊四个象限，获得叩诊一般印象，正常多为鼓音。应注意叩诊音的改变。

153. 叩诊肝浊音界 平静呼吸时，在右锁骨中线上，从肺部清音区（一般为第二、三肋间）开始向下叩诊至出现浊音时，即为肝上界；从右锁骨中线脐平面开始向上叩诊至浊音时，即为肝下界。估计或测量肝上、下界间距离，即右锁骨中线上肝浊音界，正常为 9~11cm。

154. 触诊腹部时应注意受检者面部表情及退缩反应 触诊时不断注意患者的表情及退缩反应，因其可能提示不适或疼痛。

155. 浅部触诊 右手四指并拢，平置于腹壁，前臂松弛，手指压下腹壁约 1cm 深度。一般从左下腹开始逆时针方向检查全腹，以了解压痛、腹肌紧张度、抵抗感、肿块和脏器肿大（图 2-28）。

156. 深部触诊 右手手指及掌面的前半部分深压腹壁，同时前后或弧形滑动。与浅触诊同样顺序检查全腹。本法用于检查腹内深部病变及脏器情况。更深的触诊或对手指力量较弱的检查者，常需用双手重叠触诊法，（左手指尖加压于右手远端指骨间关节处），注意压痛、包块等（图 2-29）。

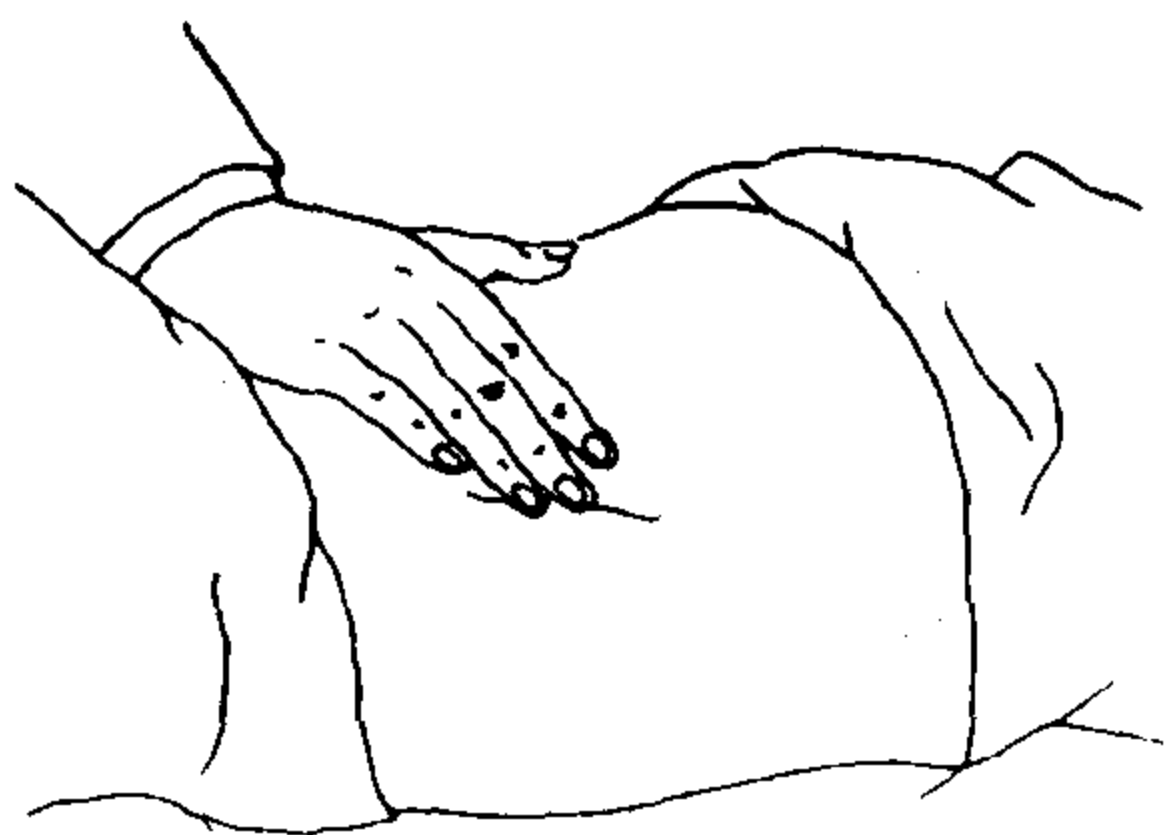


图 2-28 腹部浅触诊

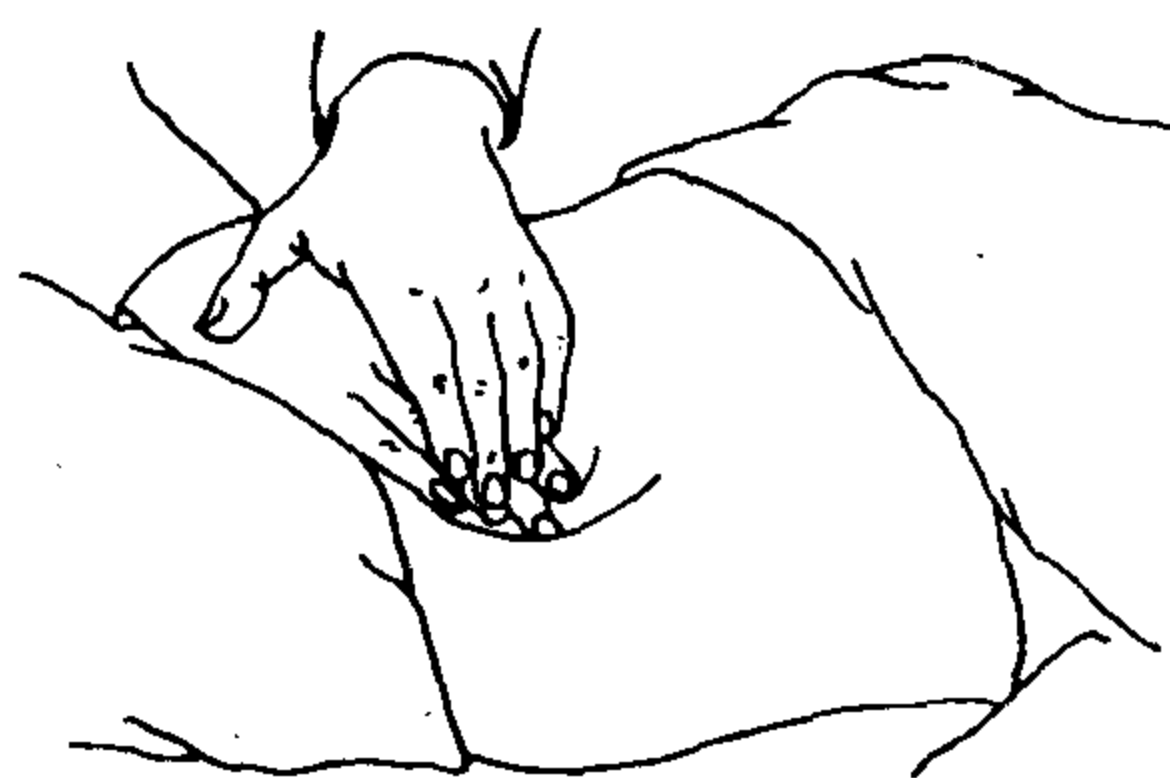


图 2-29 腹部深触诊

157. 单手法触诊肝脏 在右锁骨中线上，右手掌平放于受检者右侧腹壁，腕关节自然伸直，手指并拢，使示指和中指的指端指向肋缘，也可使示指的挠侧缘对着肋缘，自右髂前上棘水平开始，逐渐向上移动触诊。请受检者张口作腹式深呼吸，注意触诊与呼吸的配合；吸气时腹部隆起，右手加压向右季肋部，并延后上抬，如有肝脏肿大可能撞击手指尖；呼气时则右手提前下压，以便再次触到肝脏边缘。故在一个呼吸周期有二个机会触及肝脏。如未触及，向肋缘方向上移 1~2cm，重复触诊。如触及肝脏，应注意其大小、硬度、形态、压痛、边缘（锐或钝）和表面情况等。并向两侧触诊以确定肝脏轮廓。如有肝脏包块，除描述上述特征外，并应听诊该区杂音。正常人深吸气时肝脏肋下不超过 1cm，未触及肝脏并不表明肝脏正常。

158. 双手法触诊肝脏 左手置于前胸下份或托住受检者右后胸部，相当于第十一、十二肋骨与其稍下的部位，大拇指张开，置于季肋区上以限制胸部扩张，使腹式呼吸加强膈肌下降有利于触诊肝脏下缘。右手的触诊方法同上，自肝浊音界下缘数厘米向上触诊肝脏（图 2-30）。

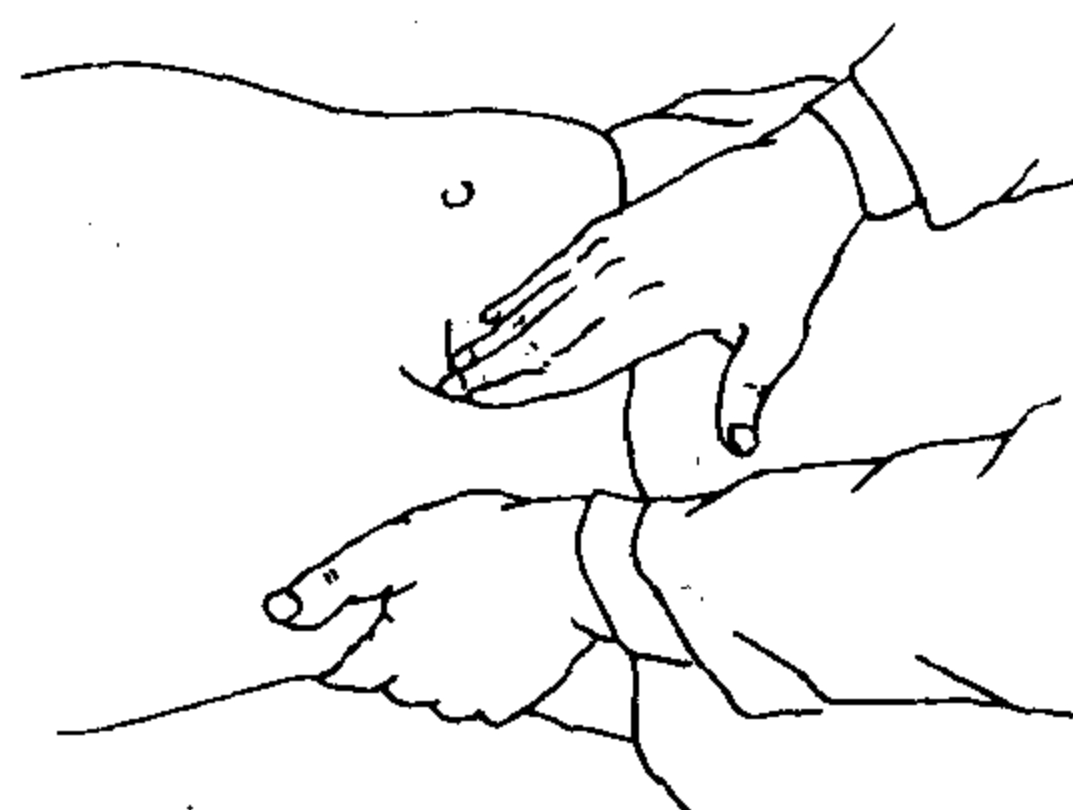


图 2-30 双手触诊肝脏

159. 在前正中中线触诊肝脏 用单手法在前正中线上，自脐平面开始逐渐向上，触诊肝脏左叶下缘。

160. 双手法触诊脾脏 左手绕过受检者腹部，置于腋后第 7 至第 10 肋处，并向脐的方向加压。右手平放于腹部，自脐平面或叩浊区下开始触诊脾脏。触诊要领与肝脏触诊相同。因脾脏活动度较大，位置较深，触诊应更仔细。

161. 右侧卧位触诊脾脏 上法未能触及脾脏，应嘱受检者右侧卧，再如法检查。

162. 双手触诊法检查双侧肾脏 左手在左、右后腰部托起肋脊角处，右手随着受检者呼吸运动在左、右锁骨中线上从脐平面逐步向上作深部触诊，双手配合分别触诊左、右肾脏。

163. 检查腹部的触觉和痛觉 请受检者闭目，用棉纤轻触或大头针轻刺腹壁上、中、下各部皮肤，令受检者做出反应，注意双侧、上下对比。

I 下肢

(检查下肢关节运动时，如受检者不能主动运动，可作被动运动检查其关节活动度)

164. 遮盖腹部和会阴部，充分暴露双下肢。观察其腹股沟区及下肢长度、周径、对称性、足和趾的形状、趾甲床，皮肤颜色和性状、毛发分布、有无色素沉着、皮疹、溃疡、疤痕、静脉曲张和水肿。

165. 触诊双侧腹股沟浅表淋巴结(横组) 检查者应触摸腹股沟区软组织及淋巴结。腹股沟淋巴结位于腹股沟区及大腿上部，分浅、深两群。浅群在触诊时易于触及，分上、下两组，上组(横组)沿腹股沟韧带排列，包括腹股沟上内侧和上外侧淋巴结。检查者应用滑动触诊法进行触诊。

166. 触摸双侧腹股沟浅表淋巴结(纵组) 腹股沟浅表淋巴结纵组位于大腿前内侧沿大隐静脉排列。检查者可沿大隐静脉走行方向进行滑动触诊。

对称触摸双下肢动脉搏动

167. 触诊双侧股动脉 股动脉通过髂前上棘至耻骨联合连线中点处，检查者可在此处触诊股动脉搏动，注意双侧对比。

168. 触诊双侧足背动脉 足背动脉经过踝关节前方，行走于足背第1、2跖骨之间，在跖骨基底部易于扪及其搏动。

169. 检查双下肢水肿 在内踝后方、足背或胫前、踝关节前或内侧、用大拇指深压皮肤至少5秒钟、移去拇指后，观察有无凹陷性水肿。

170. 检查下肢触觉或痛觉 手法同上肢检查。在双下肢上、中、下各部，用棉签轻触或大头针轻刺，令受检者做出反应，至少2/3部位。

髌

171. 屈髌 嘱受检者尽可能向胸部屈膝以检查髌关节屈曲运动。正常约为120°(图2-31)。

172. 内旋和外旋运动 嘱受检者屈膝屈髌(约各90°)或检查者将受检者膝髌各屈大约90°，然后向内旋转其足与小腿表现为髌关节外旋运动，向外旋转其足与小腿即表现为髌关节内旋运动。正常情况下，髌关节内、外旋分别为40°、60°(图2-32)。

173. 检查下肢近端肌力 检查者双手掌向下按压受检者两大腿中份，嘱受检者对抗阻力屈髌，检查下肢近端(屈肌)肌力，注意双侧对比。

膝

174. 检查髌骨运动 嘱受检者平卧、放松膝关节，检查者用手触摸髌骨并上下来回推动，观察髌骨滑动，注意有无疼痛、触痛和擦响。

175. 屈膝 嘱受检者主动屈曲膝关节。正常情况下，可屈曲130°。

176. 检查膝周肌力 受检者屈膝后，检查者双手分别置于受检者胫前下方，并施加压力，请受检者对抗阻力主动伸膝，检查伸肌肌力。

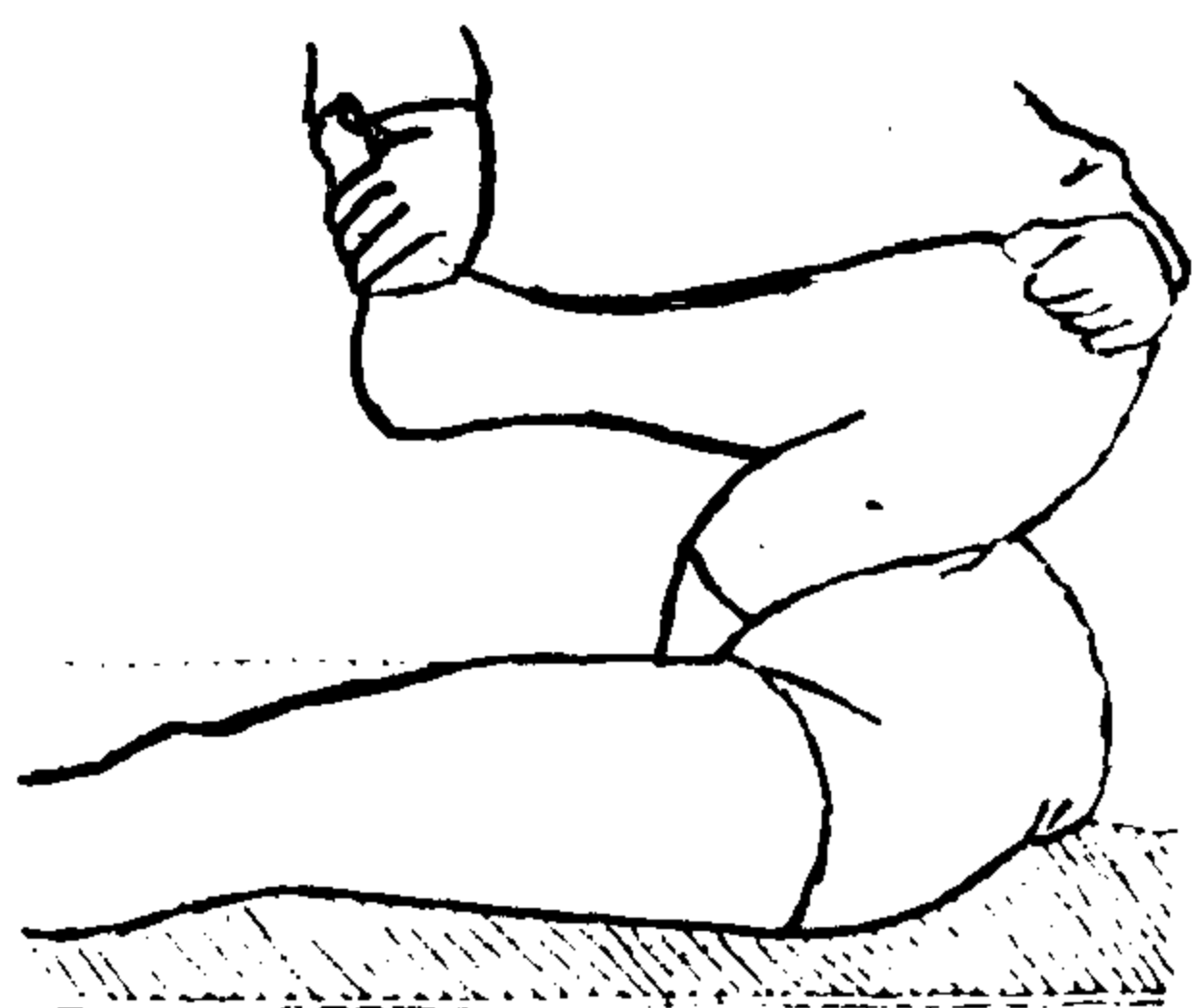


图 2-31 屈髋

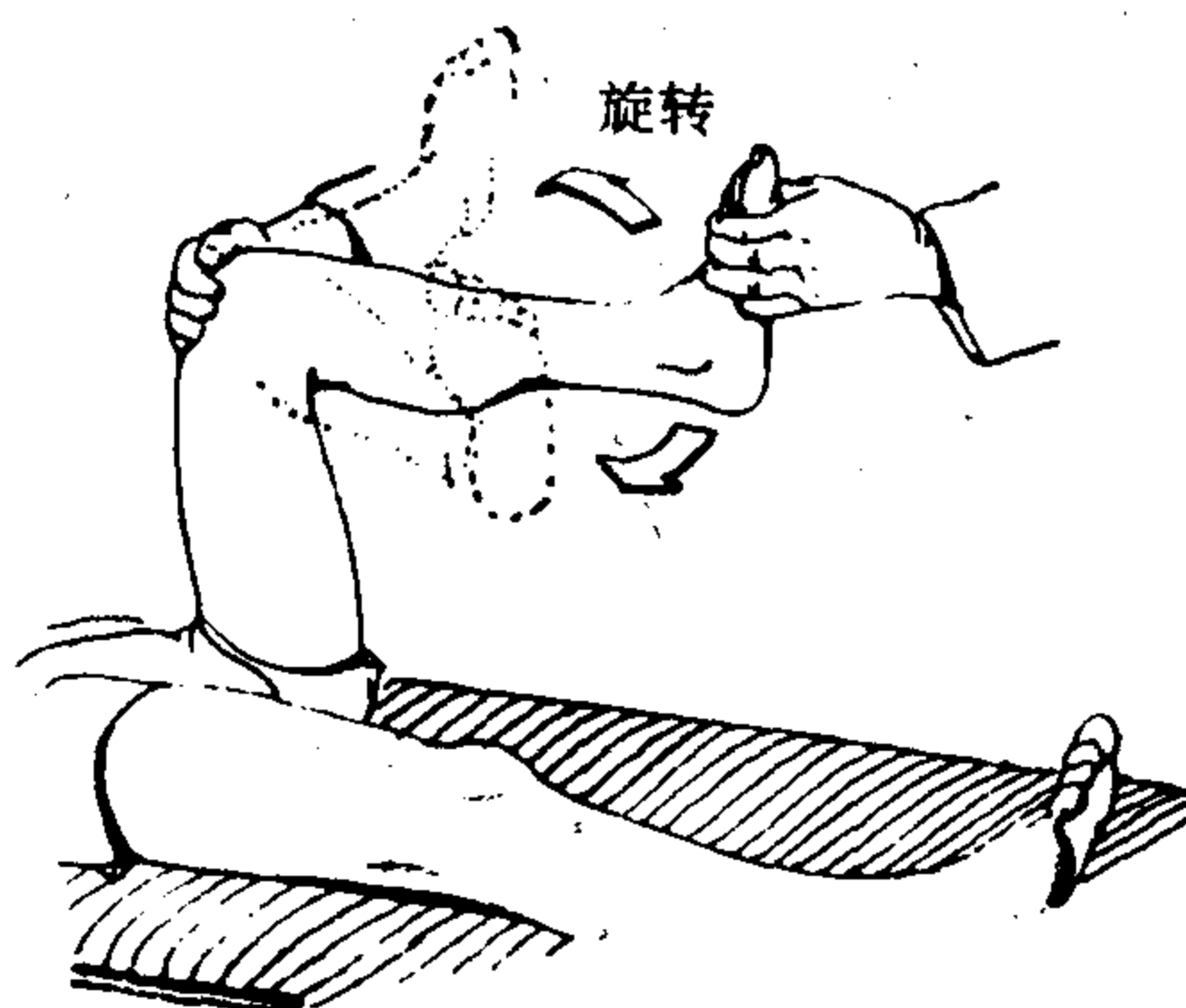


图 2-32 髋关节内旋与外旋

177. 触诊膝关节 嘱受检者稍屈膝，检查者用双手触摸，拇指置于“膝眼”即膝部腓韧带两侧之凹陷，其余手指放于腘窝，触诊膝关节前、后方和两侧、包括前正中髌韧带、两侧胫骨坪（胫骨上端关节面边缘）和后面的腘窝及其周围的软组织。注意有无触痛和不规则突起。

178. 检查膝腱反射 检查者用手托住受检者双膝后方，请患者放松双下肢，另一手用叩诊锤敲击髌骨下方股四头肌肌腱，注意伸膝运动及强度。如未见伸膝运动，可请受检者坐起，检查者左手平放在大腿前面，右手叩击股四头肌肌腱，通过左手感觉有无肌肉收缩来判断腱反射是否存在。反射中枢在腰 2~4（图 2-33）。

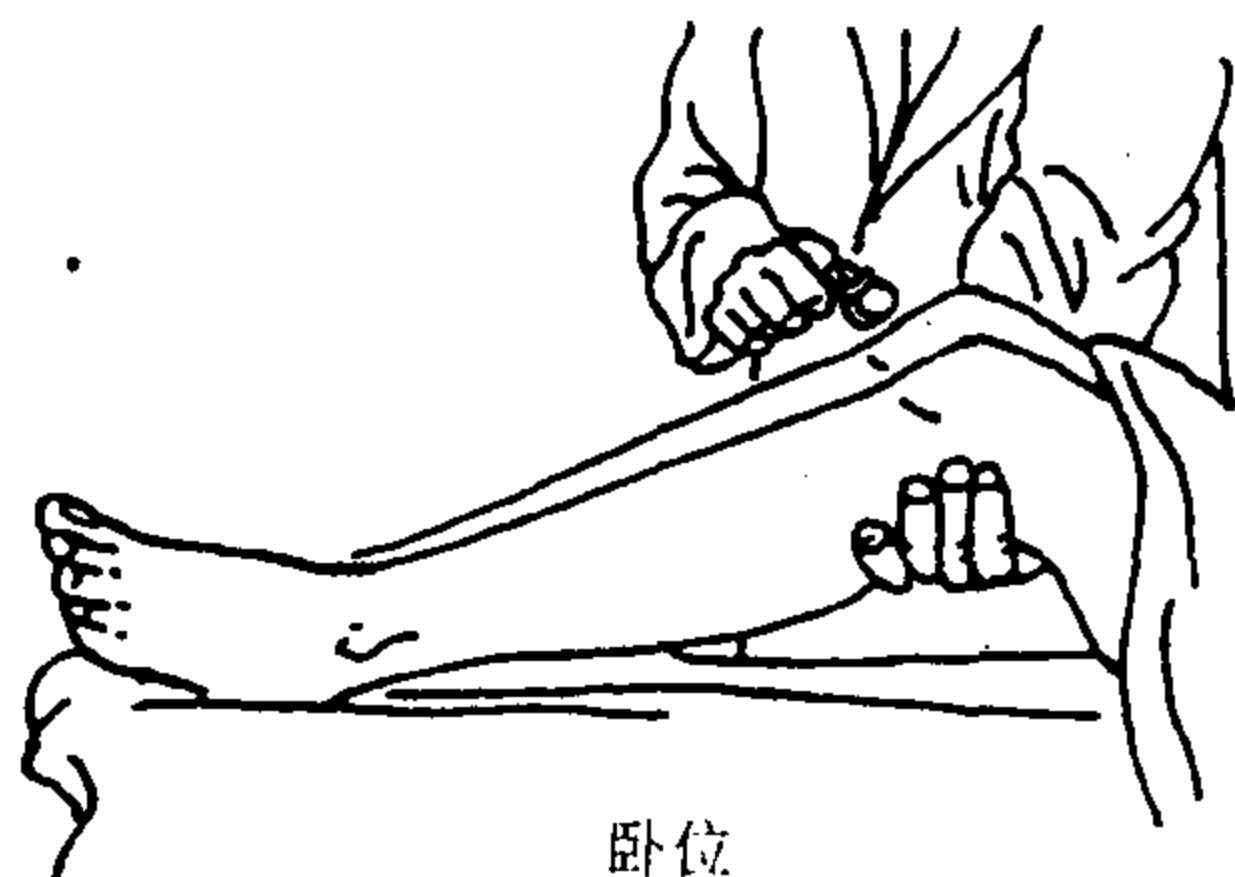


图 2-33 检查膝腱反射

踝

179. 触诊踝关节（包括跟腱） 触摸踝关节前、后、两侧以及跟腱，注意有无触痛。

180. 检查双下肢远端肌力 检查者双手置于患者足背施加压力，嘱受检者对抗阻力主动背屈，检查肌力；检查者双手置于患者足底施加压力，嘱受检者对抗阻力主动跖屈，检查肌力。

踝关节运动

181. 背屈和跖屈 嘱受检者作主动背屈和跖屈运动。检查者也可一手握住患者足跟，另一手将足上、下移动，即表现为足背屈和跖屈，正常时，背屈大约 20° ，跖屈约 45° 。

182. 内翻和外翻 嘱受检者作主动内翻和外翻运动。内翻是足底翻向人体中线的运动，

外翻是离开人体中线的运动。检查者也可一手握住受检者踝部，另一手握住足底，将踝关节向内、外作内翻、外翻运动。

足

183. 屈趾和伸趾 请受检者主动屈趾、伸趾，注意活动范围。

184. 检查双足位置觉 检查者首先给受检者示范什么是足趾向上（伸趾）向下（屈趾），然后嘱受检者闭目，检查者用拇指和示指夹住足趾两侧，向上或向下运动足趾，请受检者说出足趾位置。

185. 检查跟腱反射 嘱受检者稍屈膝、大腿外旋、足背屈，检查者一手扶住受检者足前部，另一手用叩诊锤敲击跟腱，反射引出表现为踝关节跖屈。如未见踝关节跖屈，检查者将手置于小腿后方，通过感觉腓肠肌收缩来判断。反射中枢在腰5～骶2（图2-34）。

186. 检查跖反射 髌和膝关节伸直，检查者用竹签或叩诊锤柄沿受检者足底外侧缘由后向前划（由足跟至小趾），然后转向拇趾侧。正常反应为足趾跖屈。拇趾缓缓背伸，其它四趾呈扇形展开，则为巴彬斯基征阳性（图2-35）。

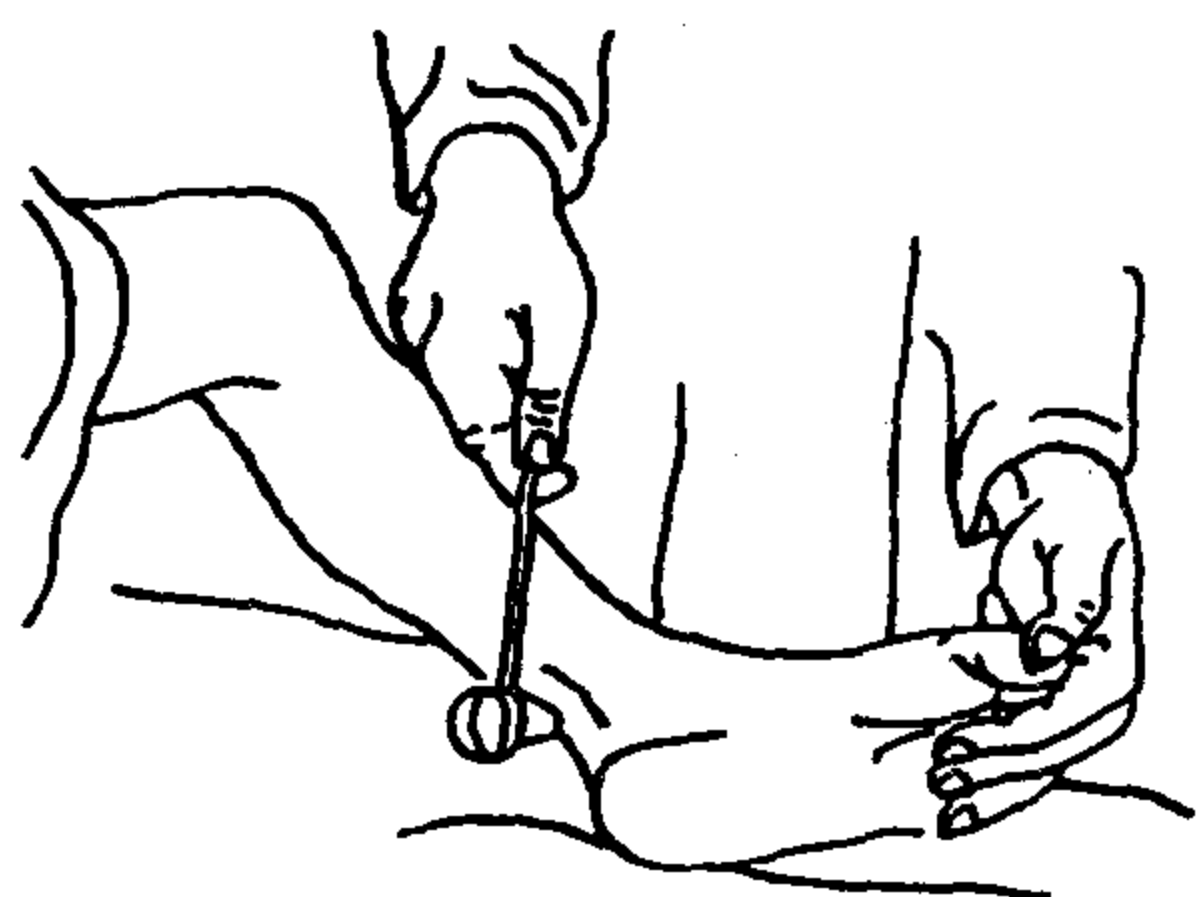


图 2-34 检查跟腱反射

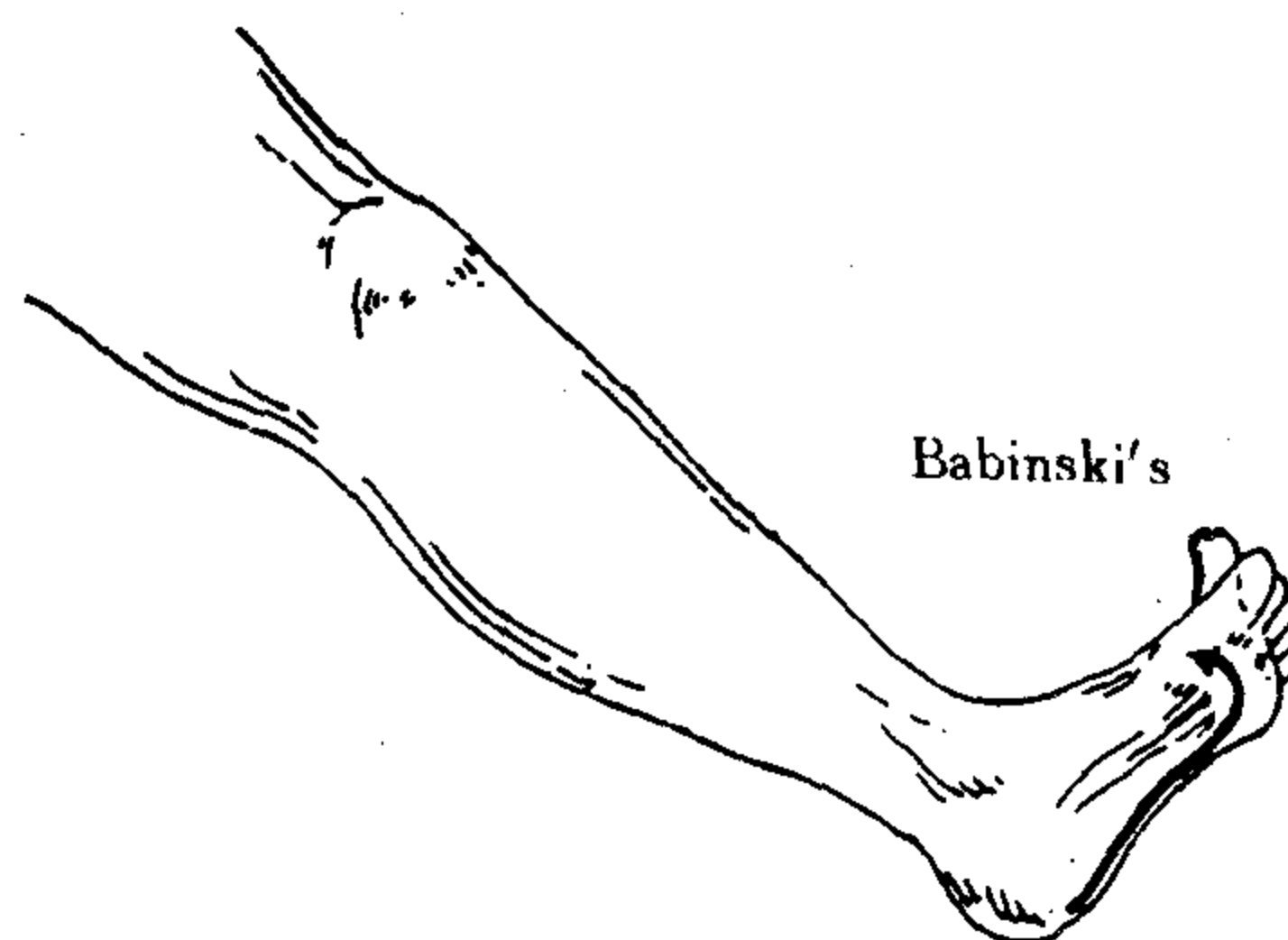


图 2-35 检查跖反射

受检者站立

187. 罗姆伯格征（Romberg 征即闭目难立征）检查 嘱受检者站立，双足并拢，两臂向前伸平，先睁眼站立数秒后闭眼。检查者站在受检者身旁，注意保护，观察其身体有否左右摇晃或倾斜。

188. 步态观察 嘱受检者在室内走动，双臂自然摆动，观察其行走姿态，上、下肢的运动是否协调。不允许其双臂交叉或紧贴身体两侧。

腰椎运动

189. 俯屈 嘱受检者主动弯腰，双膝伸直，双手尽量触及足趾，观察弯腰程度。正常可弯曲 75° ~ 90° ，注意脊柱有无异常弯曲。

190. 仰伸 嘱受检者主动伸腰，尽量后仰，如果需要，检查者站在其背后、固定受检者两侧髋部和骨盆，观察后伸程度，正常约为 30° 。

191. 侧弯 按上述方法固定受检者的髋部让其主动向左、右两侧弯腰，观察其侧弯程度，正常腰椎可向左右各侧弯 30° 。

192. 旋转 检查者站在受检者身后，按上述方法固定其两侧髋部和骨盆，嘱受检者双肩转向左右两侧，观察胸、腰椎旋转程度，正常情况下，可向两侧旋转各 30° 。

Chapter 2

COMPLETE PHYSICAL EXAMINATION TRAINING MANUAL

COMPLETE PHYSICAL EXAMINATION TRAINING MANUAL

This manual with its companion checklist for the complete physical examination emphasizes the sequence of the complete physical examination and the relevant techniques for each item. The student should master the examination item by item including appropriate sequence. This will enable him to perform the complete physical examination smoothly and efficiently from head to toe. Some additional details of techniques and the clinical significance of various findings will be described in the appropriate organ system examinations. For more in-depth learning and theoretical explanations, please refer to textbooks and reference books.

TRAINING MANUAL FOR THE COMPLETE PHYSICAL EXAMINATION

A. GENERAL EXAMINATION/VITAL SIGNS

1. Introduce yourself to patient, usually last name and title and have a little conversation to relax the patient and to judge mental state.

2. Wash hands before starting examination

Preferably, this should be done in view of the patient.

3. Patient is seated in a chair

4. Palpate radial (wrist) Pulses for at least 30 seconds and record

The examiner places the pad of his index, middle and ring fingers over the radial artery. If properly done, the examiner should be able to feel the artery pulsating under the examiner's fingertips. The radial pulse may be measured for 30 seconds, then the pulse per minute can be found by multiplying by two. Attention should also be paid to the rhythm. The examiner should not use his thumb to palpate any pulse (Figure 2-1).

5. Palpate both radial (wrist) pulses simultaneously for symmetry for at least 30 seconds

6. Measure respiratory rate for 30 seconds and record

The examiner unobtrusively measures patient's respiratory rate. This may be accomplished by the examiner leaving his hands on the patient's wrists for another 30 seconds after measuring the radial pulses so the patient does not realize that the examiner is watching him breathe. The depth and rhythm should also be noticed. The respiratory rate

can also be measured during the back exam.

7. Measure blood pressure on right arm

Blood pressure may be measured with the patient in a sitting or lying position. In each position, the artery in which the blood pressure is to be measured should be at the level of the heart (at the level of the fourth intercostal space in the sitting position; at the level of the middle axillary line in the lying position). The patient's arm should be resting on a smooth table or supported by the examiner, and slightly flexed at the elbow.

8. Place cuff in correct location 2-3 cm above the antecubital crease

The examiner secures the blood pressure cuff snugly over the upper arm so that one finger can be admitted under the cuff. The cuff should be positioned 2~3 cm above the antecubital crease or elbow joint. Put the middle of the cuff over the brachial artery.

9. Palpate brachial artery

The examiner can locate the brachial artery which lies slightly medial to the tendon of the biceps muscle in the antecubital fossae. The mercury column on the manometer dial should be properly calibrated with the pointer at "0" before the cuff is inflated (i. e. , all the air should be pressed out of the cuff before it is inflated).

The stethoscope is placed firmly over the brachial artery. The examiner inflates the cuff slowly but steadily until the brachial artery pulse disappears. Then he continues to inflate cuff 2.6~4.0kPa (20~30 mmHg higher, generally to about 21.3kPa (160mmHg)).

10. Measure blood pressure over brachial artery twice and record the lower reading

Deflate the cuff slowly at the rate of about 0.26kPa (2mmHg) Per second. The number where the examiner hears the first pulse sound is the systolic pressure. The pulse sound will waken and then disappear. The number where the pulse sound disappears is the diastolic pressure. If the difference between weakening of the sound and its disappearance is 2.6kPa (20mmHg) or greater, the examiner should record these two numbers. The cuff must be completely emptied with the pointer at "0" before it is reinflated. The same procedure may be followed for a second measurement of B. P. in the same or opposite arm. The lower pressure is recorded as the patient's blood pressure. After finishing the measurement, the examiner deflates and rolls up the cuff, leans the manometer over a little so the mercury column disappears, closes the mercury column switch, puts the balloon in order, and closes the manometer.

B. HEAD AND NECK

Skull

11. Palpate and observe scalp (parting hair, and observing hair density, color, lustre and distribution)

The examiner palpates the entire skull using both hands and simultaneously examines symmetrical areas. The examiner parts the hair to observe the scalp, noting any scaliness, deformities, lumps, tenderness, lesions or scars. The examiner also observes the density, color, lustre and distribution of the hair.

Eyes

12. Visual screening:

Test for near vision

Testing near vision with a hand held card is especially useful with middle-aged and older people.

The near eye chart composed of "E" letters of various sizes and positions is calibrated for a distance of 33 cm. Either natural or artificial light can be used and the two eyes should be checked separately. Normal eyes can see the "E" as low as line ten; record the number. Patient should wear eyeglasses if they are normally used. Patient can hold chart far or near until he can read it. We are only concerned that he can see clearly. This a rough estimate of visual acuity.

13. Observe cornea, sclera, conjunctiva and lacrimal puncta by gently moving lower eyelids down.

Cornea Examination-With oblique lighting inspect the cornea for opacities, foreign bodies etc. Inspect lower palpebral, fornical, bulbar conjunctiva and sclera. Ask the patient to look up as you depress lower eyelid with your thumb exposing lower palpebral, fornical, bulbar conjunctiva and sclera. Inspect the conjunctiva and sclera for color, and note the vascular pattern against the white scleral background (Figure 2-2).

Lacrimal sac examination by digital compression for nasolacrimal duct obstruction-Ask the patient to look up. Press on the lower lid close to the medial canthus, just inside the rim of the bony orbit. You are thus compressing the lacrimal sac. Look for fluid regurgitation out of the puncta into the eye. Avoid this test if the area is inflamed and/or tender (Figure 2-3).

14. Observe sclera and bulbar conjunctiva by gently elevating upper eyelid while patient looks down

Instruct the patient to look down.

Raise the upper eyelid slightly so that the eyelashes protrude, and then inspect sclera and bulbar conjunctiva. Be gentle so patient doesn't tear (Figure 2-4).

15. Check crn VII upper division; raised eyebrows, wrinkle forehead or forced eyelid closing Nerve VII is the facial nerve.

Upper facial nerve-To test the upper division, the examiner observes the patient's forehead and palpebral fissure, then asks patient to raise his eyebrows, wrinkle his forehead and close his eyes. when the patient closes his eyes tightly, the examiner attempts to pry them open to determine the strength. If one side of peripheral upper facial nerve is impaired (nuclear or below nuclear) the patient's ability to wrinkle forehead decreases and the patient can't close his eye on the affected side. If one side of central nerve is impaired, the patient's ability to close his eyes and wrinkle forehead will not be influenced because the upper facial muscles are controlled by both sides of the corticocerebral motor area.

16. Evaluate extraocular muscle function in both eyes in 6 directions (left, upper left, and lower left, right, upper right, lower right)

The examiner positions himself in front of the patient and requests that, without moving the patient's head, the patient's eyes follow examiner's finger or a pencil in six directions. Finger or pencil should be 30~40 cm away from patient's head. The usual format is from mid left, to upper left and then down and then to the right (Figure 2-5).

17. Observe pupillary direct response to light

The examiner asks the patient to look forward and shines a penlight or the light of the ophthalmoscope into each pupil in turn. He should avoid shining the light into both pupils simultaneously and should ask the patient not to focus on the light source.

When observing the direct pupillary response to light, the examiner will shine the light into one eye and inspect for pupillary constriction in the same eye. The pupillary constriction is reversed as soon as the light moves away. Use the same method to check the other eye.

18. Observe pupillary consensual response to light

With the same method as above, the examiner shines the light into one eye and inspects for pupillary constriction in the opposite eye OR observes pupillary dilation in opposite eye as light is extinguished.

19. Check for convergence and accommodation

The examiner, positioned in front of the patient, asks the patient to look into the distance and then at his finger. The examiner's finger starts from 1 meter away, the examiner will immediately move 5 cm away from the bridge of the patient's nose. The examiner is observing the patient's eyes for: a) pupillary constriction, and b) convergence (the coordinated movement of both eyes toward fixation at the same near point as the patient focuses on a near object). Accommodation includes convergence and pupillary constriction as the patient focuses on the near object. The accommodation will vanish when cranial nerve II is damaged.

Ophthalmoscopic examination

20. Position patient at height comfortable for examiner

It is best to have the patient positioned at a height comfortable for the examiner.

21. Dim lights of room

Dim lights before ophthalmoscopic examination. The examiner should darken the room to facilitate observation of the intraocular structures.

Switch on the ophthalmoscope light and adjust it to the large round beam of white light. Some clinicians like to use the large round beam for large pupils and the small round beam for small pupils.

22. Hold ophthalmoscope properly and use index finger to switch lenses

Hold the ophthalmoscope properly. Turn the lens disc grid to positive 8 to 10 diopters (positive is for short focus and negative is for long focus). Keep your index finger on the

lens disc so that you can refocus the ophthalmoscope during examination (Figure 2-6).

23. To examine patient's right eye, examiner holds ophthalmoscope with right hand and uses right eye

Standing on the patient's right side, hold ophthalmoscope with right hand and use your right eye for inspecting patient's right eye.

Hold your ophthalmoscope firmly braced up under the medial aspect of your bony orbit with its handle. You should be able to see clearly through its aperture. Ask the patient to look slightly up and over your shoulder and gaze at a specific point on the wall. Both patient and doctor should remove their glasses (Figure 2-7).

24. To examine patient's left eye, examiner holds ophthalmoscope with left hand and uses left eye

Standing on the patient's left side, hold ophthalmoscope with left hand and use your left eye for inspecting patient's left eye. (Note: When inspecting the patient's left eye, you should use your left index finger to turn the dial counterclockwise.)

25. Position to start ophthalmoscopic examination

Place your hand on patient's head. By placing the thumb of your hand on the patient's eyebrow, you gain guidance as you come closer to the patient. Hold the ophthalmoscope in your other hand and use index finger to rotate the dial up (counterclockwise).

From a position about 10~20cm away from the patient and at the angle of 15 degrees lateral to the patient's line of vision, move close to the patient and shine the light beam on the pupil.

26. Inspect cornea, lens, and vitreous body for opacity with ophthalmoscope

While moving toward the patient's eye, you should turn the dial (counterclockwise) to change the diopters from positive number 8 until you focus on the cornea. Next, inspect the lens for opacity. You should continue to turn the dial progressively until you focus on a blood vessel in the retina.

27. Inspect optic disc (color, margin, etc.)

You should now be seeing the retina in the vicinity of the optic disc—a yellowish orange to creamy pink oval or round structure, the disc outline. The nasal outline may normally be somewhat blurred. The disc will probably fill your field of vision or even exceed it. If you do not see it, follow a blood vessel centrally by noting the angles at which the vessel branches and the progressive enlargement of vessel size at each junction as you approach the disc. Now bring the optic disc into sharp focus by adjusting the lens disc. In the temporal lateral quadrant of the optic disc, you should see the normally yellowish-white central physiologic cup (Figure 2-8 and 2-9).

When the patient's eye, as well as your own, is neither nearsighted nor farsighted you can usually focus clearly on the retina with lens of 0 diopters (clear glass). When the patient or the examiner is nearsighted, you will need to use a lens with a longer focus. To do this, rotate the lens disc progressively counterclockwise to the lenses identified by the

red numbers, indicating minus diopters. When examining a farsighted patient or one whose lens has been surgically removed, you may be able to focus on the disc with a positive diopter indicated by a black number.

28. Trace retinal vessels in four quadrants

Identify the arterioles and veins. They may be distinguished by the following features: The arterioles are light red, small, and bright. The veins are dark red, large, and their reflection is inconspicuous or absent. Diameter ratios of arterioles to veins is 2 : 3 to 3 : 4. Follow the vessels peripherally in each of four directions, noting their relative sizes and the character of the arteriovenous crossings. The normal retina is a deep orange-red. Identify any lesions of the surrounding retina. You should notice edema, bleeding, pigment, or exudation, and note the size, shape, color and distribution. As you search the retina, move your head and instrument as a unit, to keep your view of the retina.

29. Observe macula (patient asked to look directly at light of the ophthalmoscope)

The macula area is especially important because it is responsible for central vision. Inspect the macula area by directing your light beam two disc diameters laterally or by asking the patient to look directly into the light. This is an avascular area, somewhat larger than the disc but has no distinct margins. Visualizing the macula is unfortunately difficult. Unless you use a mydriatic, the patient's pupil constricts maximally. Light reflections off the cornea may further obscure your view. Moving the ophthalmoscope slightly from side to side may help you get around the reflections.

Ears and Temporomandibular joint

30. Observe and palpate the auricles and observe postauricular regions bilaterally

The examiner pulls and palpates the auricles (outer ears), palpates the preauricular (in front of) and posterior auricular regions (behind the ears) bilaterally. Tenderness usually indicates inflammation.

31. Palpate temporomandibular joint for tenderness and swelling

The temporomandibular joint (TMJ) is anterior to the external auditory canal of the ear. Examine for swelling and tenderness.

32. Feel the movement of the TMJ with index fingers inside patient's ears or over joint

To palpate the TMJ joint, the examiner presses both sides simultaneously with one or two fingers and asks the patient to open and close his mouth, or the examiner places his index finger in the patient's ear and gently pulls forward (anteriorly), asking the patient to open and close his mouth.

Otoscopic examination

33. Gently pull auricle upward and backward to ease insertion of otoscope

The speculum of the otoscope looks like a funnel and is a basic examining instrument. The examiner inserts the speculum of the otoscope without causing the patient pain or discomfort. To facilitate insertion, the examiner might ask the patient to tilt his head to the side opposite to that which he is examining. By gently pulling the auricle upward,

backward and slightly away from the skull, the examiner can insert the speculum in a downward and forward position and examine the eardrum and canal.

34. Insert otoscope into external auditory meatus to observe tympanic membrane

The otoscope might be stabilized against the patient's head. This is especially important for children and uncooperative patients. This can be done by holding the handle pointing upwards and placing the 4th and 5th fingers on the patient's head. It can also be performed with the handle pointing downwards (Figure 2-10).

35. Insert otoscope without causing pain to the patient

The examiner inspects the external auditory canal and the tympanic membrane bilaterally with otoscope. The presence of swelling, hematoma, wax, mass, fistula or narrowness in the canal should be observed. When examining the eardrum the examiner should inspect for the presence of swelling, retraction, thickness, perforation, scars or hydrops.

36. Evaluate auditory acuity

During this examination the room should be quiet.

37. Use proper technique to check auditory acuity separately in each ear

The examiner should ask the patient to close his eyes and occlude (block) one ear with his finger while he checks the auditory acuity in the opposite ear. He will then ask the patient to respond when he hears the two fingers rubbing together. The examiner should move his fingers from a distance of about 1 meter from the unobstructed ear towards the ear until the patient can distinguish the sound made. The same procedure should be repeated on the opposite ear. Some examiners will prefer to use a ticking watch. The result is compared with the patient's other ear or the ear of the examiner.

Nose

38. Inspect and palpate external nose for malformation and inflammation

Begin by examining the external nose. The examiner faces the patient. Observe skin color and shape of nose any palpate for and loss of structure or tenderness from bridge, to tip, to wings of nose.

39. Observe nasal vestibule without otoscope

A view of the nasal cavities is obtained by tilting the patient's head back and elevating the tip of the nose with the thumb. The examiner should use a light. The nasal vestibule contains the nasal hairs, or vibrissae. Pay attention to any folliculitis, fornices, or deviated nasal septum (Figure 2-11).

40. Turn the tip of the nose upwards and insert the tip of the speculum to inspect nasal vestibule and anterior part of nasal cavity for ulcer, crust, swelling, discharge, atrophy or perforation

First check the otoscope and explain the examination to the patient. The examiner positions himself in front of the patient. The otoscope with a short wide nasal speculum is held in the right hand whether the examiner is examining the left or right side of the nose. The speculum is inserted gently through the nostril about 1 cm into the vestibule.

Avoid pressure against the nasal septum which is the most sensitive area. The examiner's left hand is the real key to intranasal inspection because it controls the position of the patient's head. Except when used for instrumentation, the left hand is placed firmly on the top of the patient's head and is used to change the head position from time to time. If instrumentation is necessary, the examiner may prefer to hold the otoscope handle with his left hand. Ideally, the examiner will examine the lower portions of the nose and then ask the patient to tilt his head slightly backward, stabilizing it with his hand to examine the upper portions of the patient's nose. This presents a different view and is a good teaching point. For example, with the patient's head erect, the examiner can see the floor of the nose and the inferior turbinate.

The nasal mucosa is red, smooth and wet. There should be no accumulation of secretions on any meatus. The examiner should inspect for the presence of swelling, thickness, dryness, atrophy, secretions, polyps or perforation while examining the nasal chamber.

41. Test patency by inhaling through each nostril separately while the opposite nostril is held occluded

To test for patency, the examiner must ask the patient to breathe in through each nostril separately while the opposite nostril is held occluded. Normally there is free and equal passage of air through each nostril.

42. Palpate and/or percuss maxillary sinus for swelling and tenderness

Examination of the paranasal sinuses is done more indirectly than other otolaryngeal procedures. The examiner cannot see into any of the sinuses. Palpation and percussion may be used over the maxillary sinuses. Simultaneous finger pressure over both maxillae will demonstrate differences in tenderness (Figure 2-12).

43. Palpate and/or percuss frontal sinus for swelling and tenderness

The frontal sinuses are palpated at the inner part of the upper border of the bony orbit by finger pressure directed upward toward the floor of the sinus where the sinus wall is thin. Tenderness may be elicited in this way. Swelling caused by tumors or retained secretions may cause a downward bulge in the floor of the frontal sinus. The frontal sinuses may also be percussed (Figure 2-13).

Mouth, Lips, Pharynx

44. Observe lips, buccal mucosa, teeth, gums and tongue

The examiner inspects the lips, all surfaces of the tongue, gums, roof of mouth, and the buccal mucosa (the tissue lining the cheeks) by asking the patient to open his mouth and by shining a light into the area to be examined. The examiner may use a tongue depressor to aid inspection.

Lips-The healthy lips are wet and red in color. This is caused by a rich capillary network.

Buccal mucosa-To examine the buccal mucosa it is necessary to shine a light into the patient's mouth. The healthy buccal mucosa is pink and smooth. The duct of the parotid

gland opens onto the buccal mucosa opposite the upper second molar.

Teeth-There are 32 teeth in the full adult dentition. The teeth are inspected for evidence of cavities and malocclusion.

Gums-The gums should be inspected for the presence of swelling, bleeding or pigmentation.

Tongue-The tongue is inspected for its shape, motion and ulceration.

45. Observe the floor of mouth

Inspect the mouth for pigmentation, hemorrhage or masses (ask patient to touch tip of tongue to roof of mouth).

Generally, palpation is not done in a normal exam. However, if a mass is found on the floor of the mouth, palpation is important. If neoplasms are suspected, they are detectable only by palpation. Also, the submaxillary salivary ducts may contain calculi that are best felt by palpation. Bimanual examination, using one gloved finger inside the mouth and the other hand outside, is best.

46. Inspect the posterior structures of the mouth for congestion, swelling or pus, position of uvula, and elevation of the palate.

Press a tongue blade, positioned over middle 1/3 of tongue, firmly down to inspect tonsils, anterior and posterior tonsillar pillars, and posterior pharynx. The examiner can observe the elevation of the palate as the patient says "ah". Simultaneously, hoarseness can be detected. The conscious patient should not be gagged.

47. Observe midline protrusion of the tongue (cr n XII)

The examiner asks patient to stick out his tongue and observes midline protrusion, atrophy and fibrillation.

48. Show teeth, puff out cheeks or purse lips (lower division of cr n VII)

To test the lower facial nerve, the examiner observes if the patient has a shallow nasolabial sulcus and if the angle of mouth deviates to one side. Examiner asks patient to show teeth, blow the cheeks out and purse lips. When one side of the peripheral lower facial nerve (nuclear or below nuclear) is impaired, the patient will show weakened facial muscles on the same side (causing a shallow nasolabial sulcus, leakage of air from mouth while pursing lips, and deviation of the angle of mouth to normal side while opening mouth). When the central nerve is impaired, the patient will show weakness of the facial muscles on the opposite side.

49. Test contraction of masseter (jaw) muscle or forced opening of mouth against resistance (motor division cr n V)

Ask the patient to clench his teeth while the examiner palpates the patient's masseter muscles on each side of the jaw or temporal muscles on each side of the forehead or ask patient to open mouth and try to keep it open against the resistance offered by the examiner's hand against the patient's chin.

50. Test for facial sense of pain and touch (must check at least 2 out of 3 sensory divisions

for cr n V)

There are three divisions in the sensory fibers of the fifth cranial nerve:

Upper—includes the forehead and cornea

Middle—includes the middle portion of the face and nostrils

Lower—includes the lower jaw

Each division should be briefly checked bilaterally starting medially and moving laterally with a fine wisp of cotton or pinprick, to test the sense of light touch and pain. The examiner asks the patient to respond whenever the patient feels the touch or pain. (The patient should be asked to close his eyes first.) There is no need to check the corneal reflex in a conscious patient.

51. Expose neck correctly to observe appearance and skin of neck

The patient sits upright.

Ask patient to expose neck entirely when the neck is to be examined. All clothing should be removed as far as the axillae, which allows the whole neck to be seen in relationship to the thorax and permits inspection and palpation of the supraclavicular fossae.

Observe the appearance of the skin of the neck. The examiner should observe the neck for symmetry and pay attention to its appearance. Abnormal lumps and pulsations may be seen in this area. Generally, the thyroid cartilage will show convexity in a male. The examiner inspects the skin of the neck for erythema, spider angioma, infections, ulcers or scars.

Facial and cervical lymph nodes

Palpate lymph nodes bilaterally. The examiner may be positioned in front of or behind the patient and examine the lymph nodes with the pads of his index and middle fingers. This should be done slowly and carefully to make certain that there aren't any abnormalities present. It is better if the examiner moves the skin over the underlying tissue rather than move his fingers over the surface of the skin. The examiner may have the patient position his head with his neck slightly flexed forward. The examiner palpates all nodes bilaterally.

For palpation of lymph nodes, be sure to keep the skin and muscles relaxed. If the lymph nodes are enlarged, note their location, size, number, hardness, mobility, tenderness, adhesion, fusion, swelling, fistula or scars (Figure 2-14).

52. Palpate preauricular nodes (front of ears)

53. Palpate post-auricular nodes (back of ears)

54. Palpate occipital nodes (base of skull)

55. Palpate submaxillary nodes (by bending finger under patient's jaw)

56. Palpate submental nodes (by bending finger under patient's chin)

57. Palpate anterior cervical nodes (superficial group under mastoid and in front of sternomastoid muscle)

58. Palpate posterior cervical nodes (behind sternomastoid muscle)

59. Palpate supraclavicular nodes (by bending finger above patient's collarbone)

Thyroid gland

60. Palpate and/or move thyroid cartilage with two fingers checking for malformation and movability
61. Palpate thyroid in correct anatomical location in front of or behind the patient with both hands

The lateral lobes of the thyroid curve posteriorly around the sides of the trachea and the esophagus. In addition, they are partially covered by the sternomastoid muscle. (Figure 2-15). There are several different techniques for examining the thyroid gland. Many examiners will palpate the thyroid gland both in front of and/or behind the patient. The examiner should identify the thyroid gland which lies across the trachea below the cricoid cartilage. (If the examiner has the patient flex his neck or turn his chin slightly toward the side to be examined, it will secure the relaxation of the sternomastoid muscle, which is essential for adequate examination of the thyroid.)

62. Palpate isthmus of thyroid with and without swallowing

Using the pads of his fingers, the examiner feels below the cricoid cartilage for the isthmus of the thyroid gland. If examiner stands in front, he examines with his thumbs, from behind, with his index fingers. Examiner asks patient to swallow as he feels for the isthmus rising upward against his fingers. A good teaching point is that the thyroid gland is one of the few soft tissue structures in the neck that moves with swallowing.

63. Palpate thyroid gland (lobes) with and without swallowing

Palpation from the front-The thyroid is displaced to one side by applying pressure with the thumb upon the thyroid cartilage. With the opposite hand, the dislodged lobe of the thyroid can now be palpated between the thumb (held in front of the sternomastoid) and the 2nd and 3rd fingers (Placed behind the sternomastoid) This should be done before and during swallowing. The procedure is repeated for the opposite side (Figure 2-16).

Palpation from behind-Procedure is similar to palpation from the front except the thyroid cartilage is displaced with the 2nd and 3rd fingers. The thumb of the opposite hand is now behind the sternomastoid muscle and the 2nd and 3rd fingers are in front of it. (Figure 2-17).

If thyroid is enlarged, notice its size, symmetry, hardness, surface, tenderness, nodules, thrills, bruits, etc.

Carotid Artery (bilaterally)

The examiner may choose to defer this portion of the examination until he examines the patient's heart and vessels.

Carotid Artery

64. Gently palpate carotid artery

With the pads of his fingers, the examiner exerts gentle pressure on patient's carotid ar-

teries in the lower half of the neck on the inside edge of patient's sternomastoid muscle. One should not palpate both carotids simultaneously as the patient might feel faint if both carotids are palpated at the same time.

Trachea

65. Palpate the position of trachea

Place the patient's head erect and facing forward and make sure both shoulders are at the same horizontal level. Put index and fourth fingers at the sternoclavicular joints. Palpate trachea or the gaps between the trachea and the joints with the middle finger to determine the position of the trachea.

Movement of Cervical Spine

Ask the patient to do the movement actively, if possible. If the patient cannot do it actively or has abnormalities, then do it passively.

66. Flexion (actively, if possible; if abnormal, do passively)

The examiner instructs patient to touch his chin to his chest. The examiner is estimating the number of degrees the patient can move his neck actively from the erect position (Patient moves neck without assistance of the examiner). Normal flexion of the cervical spine is about 75 degrees.

67. Extension (actively, if possible; if abnormal, do passively)

The examiner asks the patient to tip his head backward as far as possible, or look up at the ceiling. The normal cervical spine can be extended about 40 degrees.

68. Lateral bending [ear-to-shoulder]; (actively, if possible; if abnormal, do passively)

The examiner asks the patient to touch his right ear to his right shoulder and then left ear to left shoulder. Normal lateral bending allows about 40 degrees to each side.

69. Rotation [chin -to-shoulder]; (actively, if possible; if abnormal, do passively)

To test the rotation of the patient's neck, the examiner asks the patient to touch his chin to each shoulder without raising his shoulders to meet his chin. Normal rotation allows about 60~80 degrees of movement in each direction.

70. Test rotation of patient's head against resistance or check resistance of shrugged shoulders (cr n XI)

To test the muscles of the patient's shoulder (trapezius muscle) and sternomastoid muscle), the examiner asks the patient either to shrug his shoulder upward against the examiner's hands or to turn his head to each side pushing against the examiner's hand placed on the patient's cheek.

Muscular contour and strength on both sides should be compared.

C. UPPER LIMBS

71. Expose upper limbs

The examiner observes all surfaces of patient's hands and arms from fingertips to shoulders with patient's clothing removed and inspects for symmetry, deformity, lesions, scars, muscular atrophy (wasting), edema (swelling), redness and ecchymoses

("leakage" of blood beneath the skin).

Hands

The hand is made up of carpometacarpal (CMC), metacarpophalangeal (MCP), proximal interphalangeal (PIP) and distal interphalangeal (DIP) joints. The joints of the hand are single joints, capable of two movements; flexion (bending) and extension (straightening). The thumb has only one interphalangeal joint (the IP joint).

72. Inspect dorsa and palms and palpate all joints of hand

Inspect dorsa and palms. Palpate CMC and MCP joints with thumb on dorsa and fingers on palm. Palpate PIP, DIP, and IP joints with thumb and index fingers at top, bottom, and sides of joints.

73. Check fingernail beds for clubbing or cyanosis (Figure 18).

Movement of Hand Joints

Besides the movements of flexion and extension the first carpometacarpal joint and metacarpophalangeal joints are capable of abduction and adduction. Helpful information about the range of motion of the joints in the hand can be gathered by simple screening maneuvers. If the examiner notes abnormalities, he can examine individual joints. Compare hands bilaterally.

74. Ask patient to extend fingers

75. Ask patient to make a claw

Patient bends fingers at PIP and DIP joints (makes a claw).

76. Ask patient to make a fist

77. Check patient's ability to perform thumb opposition

Ask patient first to extend his palm and then try to put thumb across the palm (toward fifth finger) and keep his other fingers extended.

78. Check for distal muscle strength

Muscle strength is the strength of muscular contraction. The grade of muscle strength can be described as follows:

Grade 0: complete paralysis

Grade I : muscle can contract but can't produce movement of joint

Grade II : extremity can move but can't resist gravity

Grade III : extremity can resist gravity and elevate itself but can't resist the force given by the examiner

Grade IV : extremity can resist the force from the examiner but the strength of the muscle is slightly weak

Grade V : normal muscle strength

The examiner asks the patient to perform muscular contraction against resistance given by the examiner. Both sides must be tested and compared. The examiner tests the strength of the flexor muscle of the fingers (distal muscle strength) by asking the patient to grasp the examiner's index and middle fingers as hard as possible.

Wrist

79. Observe and palpate wrist (for lumps, swelling, deformities, and tenderness) The examiner stands in front of the patient while palpating each wrist firmly with both hands. He places both thumbs on the dorsum (back) of patient's wrist and his index and middle fingers on the palmar surface of the wrist. Patient's wrist should be held in a relaxed position with palms facing downward. The examiner applies gentle, but firm pressure as he moves his thumbs and fingers over the wrist. The Presence of swelling, tenderness, warmth and nodules should be noted.

Movement of wrist

80. Extension of wrist (bend backward)

Measurement of range of motion should start with the wrist and hand in a straight position in relation to the forearm (0 degrees). Normal extension is about 70 degrees. This may also be checked passively. To extend patient's wrist, the examiner gently bends it backwards. This is sometimes called dorsiflexion.

81. Flexion of wrist (bend forward)

The motion of the wrist should be examined with patient's forearm in a pronated position (palms downward). Active normal flexion is approximately 80 degrees from the straight position. If necessary, the examiner gently grasps patient's forearm with one hand and gently bends his wrist down with his other hand passively. Measurement of range of motion should start with the wrist and hand in a straight position in relation to the forearm (0 degrees).

Elbow

82. Palpate olecranon process and epicondyles

The epicondyles are the two rounded bony prominences of the humerus (the bone of the upper arm) located on either side of the elbow. The examiner supports the patient's forearm with his hand while pressing the epicondyles with the thumb and fingers of the other hand. The epicondyles can be palpated more easily with the elbow slightly bent.

Epicondyles of the humerus and the olecranon process form a straight line. When the joint of the elbow is flexed to 90 degrees, the three bony points become an isometric triangle, taking the connecting line between lateral and medial epicondyles as base line. The triangle is called the "triangle of the posterior elbow".

83. palpate epitrochlear lymph nodes

The epitrochlear lymph nodes are located about one inch above the medial epicondyle of the humerus (the inside bony protuberance of the elbow). The examiner has the patient bend his elbow to about 90 degrees and then reaches around behind patient's arm and palpates in the groove formed between the biceps and triceps muscles for the nodes. The patient's arm should be relaxed. Alternative techniques for palpating these nodes are acceptable (Figure2-19).

Movement of Elbow

84. Flexion

The examiner asks the patient to flex his forearms to bring his wrist towards his shoulder. The examiner also can examine each elbow individually, with passive range of motion by cupping the elbow in one hand, while gently placing his other hand under the patient's wrist for support. He bends the forearm toward the patient's shoulder as far as it will go. If the examiner feels any limitation to this motion within the elbow joint, he should note the degree of limitation and return the patient's forearm to a normal position (0 degrees). Normal flexion is about 150 degrees.

85. Check for upper arm muscle strength

First ask patient to flex both elbows and as the examiner tries to extend them. Then ask patient to try to extend both elbows while the examiner tries to resist this movement.

86. Extension

The examiner asks the patient to extend his forearms out as much as possible. If a problem is noted, the examiner slowly straightens (extends) both of the patient's arms in front of him as fully as possible. When the arm is straight, the elbow is in full extension (0-15 degrees). Inability to extend fully is called flexion contracture and the degree of contracture should be measured (i. e. , the patient lacks 5 degrees of extension or has 5 degrees of contracture).

87. Pronation and supination (with elbows locked at patient's side)

To test active range of motion, the examiner asks the patient to bend his elbows to 90 degrees and place his upper arms tightly against the lateral chest. The patient grips a short stick as an indicator in each hand, or holds his thumbs upward (0). Then he asks the patient to supinate and pronate, and inspects for symmetry. In a normal individual, the hand and the forearm rotate in an arc of 180 degrees (80 degrees of pronation and 100 degrees of supination). If there is pain or limitation of movement, passive range of motion should be tested and active and passive range of motion should be compared. To test passive range of motion, the examiner asks the patient to bend his elbow to 90 degrees, place his thumb upward, and place the flexed elbow against his waist. The examiner stabilizes the elbow by cupping his hand beneath it. The examiner grips the patient's hand gently with his free hand. The patient's hand should be turned so that the palm of the hand is facing upward (supination). To pronate the forearm, the examiner turns the patient's arm so that the palm of the hand is facing downward. In addition, the examiner should note the presence of crepitation, a crackling noise or sensation palpated by the examiner while moving the joint.

Shoulder

88. Palpate

To examine the shoulder properly, the examiner asks the patient to slide his arms out of the gown. The examiner compares both shoulders from front and back for swelling and muscle atrophy (wasting). A systematic examination of the shoulder includes palpation

of the subdeltoid Synovial bursa and bicipital tendons.

The examiner stands in front of the patient and exerts moderate pressure over the subdeltoid bursa with three or four fingers. The examiner is looking for swelling, tenderness and heat. A Synovial bursa is a closed sac found in areas of the body subject to friction (e. g. , near a joint or where muscles and tendons pass over a bone). The Synovial bursa contains small amounts of fluid to reduce friction. A bursa is not visible to an examiner unless it is inflamed and distended with excess fluid. The subdeltoid bursa is located beneath the deltoid muscle which covers the lateral shoulder prominence and the upper portion of the arm.

The examiner should try to palpate the bicipital tendon. The bicipital tendon can be located by placing 2 fingers over a groove which extends along the front of the upper end of the humerus. The examiner places his fingertips over the groove and presses gently. Tenderness in this area may be increased if the examiner rolls the tendon under his fingertips. The examiner exerts moderate pressure over the bicipital tendon and groove on each side and compares.

Movement of Shoulder

89. Functional examination (3 screening maneuvers: hand over head to opposite ear, hands behind head, touch lower border of opposite scapula)

The patient's ability to carry out daily activities (i. e. , combing his hair, dressing himself) may be assessed by the examiner. Three simple maneuvers may be used as a screening procedure for the functional examination of the shoulder:

a) reach opposite ear from above

b) place both hands on the back of the head

c) touch opposite scapula from below. The examiner should ask the patient to touch his back at the highest point he can reach from below. Normally, a person can reach the opposite shoulder blade.

90. Check for proximal muscle strength

To check the proximal muscle strength of the shoulder, ask the patient to lift both arms laterally to the level of the shoulder abduction, then try to push both arms down.

91. Test sense of pain or touch; at least 2 of 3 positions (upper arm, forearm, & hand) on each upper extremity bilaterally and symmetrically

The examiner asks the patient to close his eyes and to respond whenever the patient feels his skin is touched and/or pricked with a pin.

92. Barre's upper limb test (test for drift of outstretched arms with eyes closed)

To test for drift of outstretched arm, the examiner asks the patient to close his eyes and to place his arms out with palms upward and maintain this position for 20~30 seconds. If one arm is weak, it will drift downwards and pronate. This test is sometimes done at the same time as the Romberg test.

Deep Tendon Reflexes (The reflexes should be checked bilaterally and both sides com-

pared.)

93. Biceps reflex

The examiner supports the patient's arm which should be relaxed with the elbow bent at about 90 degrees with the palm up. The examiner places his thumb against the biceps tendon on the inside of the patient's elbow and taps it with the reflex hammer. A reflex should be elicited. The normal reflex is contraction of the biceps causing a rapid flexion of the forearm. The reflex center is C5-6 (Figure 2-20).

94. Triceps reflex

The examiner should support the patient's forearm or hold the patient's arm flexed at the elbow away from the body and with a reflex hammer, taps the tendon of the triceps above the olecranon. The reflex elicited is extension of the forearm. The reflex center is C7-8 (Figure 2-21).

95. Brachioradialis reflex

The patient's arm should rest in his lap or on examiners arm, relaxed, with his palm down. The examiner strikes the tendon overlying the radius (the bone on the side of the thumb) with the reflex hammer. The reflex elicited is flexion (bending) and pronation (moving the palm downward) of the forearm. The reflex center is C5-6 (Figure 2-22).

Coordination

96. Rapid alternating movement

The upper extremity should be relaxed and the patient should be asked to alternate pronation and supination of the hands until maximum speed is achieved. Normally, this test is done rapidly and with a regular rhythm.

Other methods can be used as long as they are rapid, bilateral motions.

97. Finger to nose test (with open eyes)

The examiner should ask the patient to extend and abduct their arms. The examiner asks patient to touch his own nose with his index finger and repeat this procedure several times from various directions and at various speeds. Both index fingers should be compared.

98. Finger to nose test (with closed eyes)

The finger to nose test should be done with patient's eyes closed. The examiner should ask the patient to perform this with upper arm fully abducted and extended. Examiner asks patient to touch his own nose with index finger and repeat procedures several times. Compare both sides.

D. BACK

99. Expose the back correctly

Have the patient undress except for his underwear. With the patient seated, the examiner stands behind the patient and carefully inspects the spine for any postural abnormalities, configuration and symmetry of chest, and landmarks of posterior thorax (midspinal line, scapula line, costovertebral angle)

100. Palpate spinous processes one by one (check for scoliosis and tenderness)
With the index and middle fingers, the examiner presses on the patient's spinous processes from top to bottom rapidly. The skin shows a red line which should be straight. Normally, no tenderness exists.
101. Test for percussion pain of spinal column one by one (or by indirect method)
For the direct method, the examiner uses a reflex hammer or finger and directly percusses every spinous process. This method is used mainly for the examination of the lumbar and thoracic vertebrae. Normal individuals have no percussion pain. For the indirect method, the examiner places his left hand on the top of the patient's head and makes a partial fist with his right hand and percusses the left hand with the hypothenar eminence. The examiner should note the patient's expression, especially if it is painful.
102. Test CVA for kidney tenderness by pressure and indirect fist percussion
First, the examiner places both thumbs on both Costovertebral Angles and presses. If there is no pain, then the examiner uses his fist to strike gently just below the costovertebral angle on both sides. If there is no pain, then the examiner should strike with moderate force. This also can be done by indirect first percussion over the examiners hand placed on the C. V. A. Pay attention to the reaction of the patient.
103. Palpate thoracic expansion and symmetry
Confirm expansion and symmetry of respiratory movement by putting both hands gently on the patient's rib cage from behind with fingers between the ribs, thumbs vertical and parallel to the spinal column, at the 10th costal level, and have patient breath in and out. The thumbs and fingers are placed as in the figure. Estimate the movement of the chest and check the resistance of the chest wall at the same time. The examiner notes divergence of his thumbs and the symmetry of the pump handle effect of both his forearms (Fig 2-23).
104. Have patient cross arms in front and touch opposite shoulder
Examine the back of the patient's lungs by asking the patient to bend slightly forward and have both hands touch the opposite shoulder to expose the interscapular area as widely as possible.
105. Percuss posterior lung fields
To percuss, place the palmar surface of the distal interphalangeal joint of the midfinger of the left hand on the chest and keep the other fingers of the left hand off the chest wall. The midfinger tip of the right hand strikes over the distal interphalangeal joint on the chest wall. The strike should be sharp, occur repeatedly, with the movement coming from the wrist. Each point should be percussed two or three times.
106. Percuss posterior lung fields comparatively and symmetrically
Percuss posterior lung fields comparatively and symmetrically from top to bottom and from lateral to medial. When percussing interscapular area, middle finger should be parallel to spine, below the scapulae area, middle finger should be parallel to ribs. Pay at-

tention to the sound and the feeling on the left midfinger.

107. Measure diaphragmatic excursion

Percuss for bottom of lung during normal breathing and then ask patient to take a deep breath and hold it. Percuss to the lower border of the posterior lung fields. Ask patient to exhale completely. Percuss to the lower border of the posterior lung fields again. Note the difference between the two points, which should be 6~8cm

108. Instruct the patient to breathe a little deeply with mouth open slightly

109. Auscultate posterior lung fields (see 110)

110. Auscultate comparatively and symmetrically

Auscultate the lungs in the same order as percussed. Pay attention to the change of intensity and nature of the breath sounds. Differentiate normal breath sounds from abnormal including the presence of bronchial and bronchovesicular breath sounds that are heard in any area of the lungs that normally have vesicular breath sounds. Also note increased, decreased, or absent breath sounds. At each point listen to at least one or two full breath cycles. Use the diaphragmatic chest piece and place it between ribs with moderate pressure.

111. Vocal audible resonance

The examiner asks the patient to whisper "one", "two", "three" while examiner auscultates lung fields. Compare both sides of lung fields bilaterally and symmetrically.

E. BREASTS (FEMALE)

112. Expose both breasts completely

Tell the patient the purpose of the breast exam. Physical examination of the breast will provide the opportunity to detect early asymptomatic cancer and other endocrine system disorders. Both breasts should be exposed simultaneously including the neck, anterior chest wall, and upper part of both arms. Make sure that the patient's shoulders are at the same level.

113. Inspect both breasts symmetrically in sitting position

Stand opposite the patient and face her directly. The level of the patient's nipple should be about 10cm below your eyes. The examiner should inspect the location, size, shape of the breast and check for symmetry. The examiner should also observe whether there are ulcers, pigment changes, or keloids on the skin. The nipples of both breasts are at the fourth intercostal space at the midclavicular line and are symmetric and point to the anterolateral inferior direction. Attention should be paid to determine if the nipples are symmetric, dislocated or retracted. In pregnancy, the nipples are a deeper color and there are nodules in the areola. If the breasts are big and pendulous, the examiner should ask the patient to lift her breast so that the lower part of each breast can be inspected. The normal female breast varies considerably in size, shape and consistency. The breast can be visualized as being divided into 4 quadrants by an imaginary pair of

lines, perpendicular to each other, horizontally across the nipple, and vertically along the midclavicular line, to facilitate notation of the location of any abnormalities. The tail is at the superiorlateral side and extends towards the axilla (Fig 2-24).

114. Inspect both breasts symmetrically with patient leaning forward
With patient leaning forward to move breast away from chest wall, inspect for any dimpling or lack of mobility.
115. Inspect both breasts symmetrically with arms raised above head
When inspecting the breasts with the patient elevating her arms, note the shift of both nipples, dimpling of the skin, and movement of one breast as compared to the other.
116. Inspect both breasts symmetrically with hands on hips and squeeze
Squeeze so as to tighten pectoral muscles to show any asymmetry of breasts and/or project any abnormalities closer to the surface.

Palpate patient's right breast

117. Palpate patient's right breast with pads of fingers of right hand, applying gentle pressure
Breast palpation can be performed with the patient in the sitting or supine position but small masses may be missed in the supine position if they drop into the intercostal spaces.
118. Palpate right breast in the 5 following areas; superinternal, superlateral, tail, inferinternal, inferlateral (at least 4 of 5 parts of the breast should be palpated)
The examiner places his palm and fingers on the breast and uses a rotary motion with gentle pressure for palpation, avoiding scratching. If the patient has large breasts, the examiner may compress the breast tissue against his other hand. The palpation should first be performed on the upper part of the breast cm by cm to find any masses, thickness, change in consistency, tenderness, and elasticity. First gently palpate the breast using the palmar aspect of the fingertips with a rotary or to and fro motion. Remember that light palpation will yield more information than palpation with a heavy hand. The pressure on the breast should be enough to feel the rib but should not cause the patient any pain. Then each section should be more deeply explored. The usual order for palpation is from suprainternal to supralateral, to tail, then inferinternal to inferlateral. The interior quadrant margins should be palpated in an overlapping manner to insure thoroughness. Attention should be paid to any mass or tenderness.
119. Palpate nipples, areola, attempt to express discharge from nipple.
The examiner palpates the patient's areola and nipple with the thumb and index finger and then attempts to express material from the nipple by using two fingers to simultaneously exert gentle pressure on opposite sides of the nipple. The examiner should not squeeze the nipple. If any discharge appears, then the examiner should use one finger to press the areola circumferentially point by point to determine the position at which the discharge occurs and describe it as a clock face. If any discharge appears, its character such as bloody, yellow, pus, milky should be noted. A slide should touch the nipple

and a smear for pathological examination should be made.

Palpate patient's left breast

120. Palpate patient's left breast with pad of fingers and palm, apply gentle pressure.
121. Palpate left breast in the following areas: superinternal, superlateral, tail, inferinternal, inferlateral (at least 4 of 5 parts of the breast should be palpated).
122. Palpate nipples, areola, attempt to express discharge from nipple.
123. Teach patient breast self-examination.

The breasts should be self-examined every month one week after onset of menses when the breasts are the least congested. Patient should first stand before a mirror and inspect the breast using the four positions as mentioned above (i. e. , sitting, leaning forward, arms above head, hand on hips and squeeze). Then the patient should palpate both breasts and axillae.

Axillary Examination

Axillary lymph nodes can be divided into 5 groups: The top (apex) group is located at the top of the axilla and gets drainage from the other axillary lymph nodes. It is usually impossible to palpate this group due to its anatomical location. The anterior (pectoral) nodes are located within the anterior axillary fold, behind the pectoral muscles. The posterior nodes are felt in the posterior axillary fold. The medial nodes are located in the center of the axilla and are the most frequently palpable. The lateral nodes are felt along the inside upper portion of the humerus.

124. Inspect the patient's right axilla.
Raises patient's right arm with examiner's left hand and exposes and inspects the right axilla.
125. Palpate chains of lymph nodes on right: top, medial, anterior, posterior, lateral.
Raise patient's right arm with right hand and ask him to rest his arm on the examiner's left arm, then put left hand into the very top of the axilla. Lower patient's arm and feel the top of the axilla with the pads of your fingers. Then turn palm forward to feel the anterior group. Then turn your palm towards the chest wall and gently move down to feel the medial group. Then raise the patient's arm again. This time turn your palm backwards to feel the posterior group. Then feel the lateral group along the upper humerus (Figure 25).
126. Inspects patients left axilla.
127. Palpate chains of lymph nodes on left: top, medial, anterior, posterior, lateral.

F. ANTERIOR CHEST AND LUNGS

128. Inspect and palpate configuration and symmetry of chest.
Pay attention to the bony structure and topographical landmarks including: the sternal angle, suprasternal fossa, supraclavicular fossa, infraclavicular fossa, xiphoid process, epigastric angle, mid sternal line, mid-clavicular line, scapula line, mid spinal line, anterior axillary line, mid-axillary line, and posterior axillary line (Fig2-26).

Inspect thoracic shape and symmetry, direction of anterior lower ribs, size of epigastric angle, breathing motion and depth, and use of auxiliary muscles and retractions during breathing. Then palpate the anterior and lateral inferior chest wall with the whole hand, placing fingers between the ribs. Push the chest wall posteriorly and medially, then release quickly. Pay attention to elasticity and chest.

129. Percuss supraclavicular fossae bilaterally and symmetrically.

Ask the patient to relax and drop his arms to his sides. Percuss supraclavicular fossae bilaterally and symmetrically.

130. Percuss anterior and lateral lung fields. Percuss top to bottom, lateral to medial, right to left. When percussing lateral fields, have patient raise his arms and put his hands behind his head. Percuss each ICS and compare to opposite side. Pay attention to sound and feeling of sensing finger. This can be combined with percussion of the posterior thorax.

131. Auscultate supraclavicular fossae bilaterally and symmetrically.

It might be helpful to use the bell of the stethoscope with firm pressure applied (to convert it acoustically to a diaphragm) to auscultate apices in the supraclavicular fossae, especially in female patients.

132. Auscultate anterior and lateral lung fields.

Ask patient to breathe a little deeply through slightly open mouth. Auscultate anterior and lateral lung field with diaphragmatic chest piece, bilaterally and symmetrically. Pay attention to changes in intensity and nature of breath sounds.

G. HEART

133. Screening test for elevated venous pressure.

Place patient in semirecumbent position with head elevated to 15~30 degrees.

Observe neck and note distension of external jugular vein. Ask patient to change to a sitting position. In a normal patient, the distension of the vein will disappear. The distension level should be limited in lower two thirds of the distance between super clavicle and jaw at supine position.

134. Observe precordium (view tangentially).

Observe precordium with the patient supine. The character and location of any visible cardiac impulses should be noted. For example; the location, range and intensity of apical impulse should be observed. Normally the PMI can be located at the 5th left ICS, 5~1cm medial to the midclavicular line. The area of the pulse will be 2~2.5cm in diameter. In some normal patients this may not be found. Minor precordial movements can be amplified by observing during expiratory apnea. Tangential lighting may be necessary to see these movements.

135. Palpate apical area with palm and fingertips.

Palpation serves to confirm the findings detected during inspection and may reveal pulsatile movements or thrills or friction rubs suggesting specific cardiac disease. Palpate

apical (mitral) area with two steps. First, use palm to palpate apical impulse, and then use one or two finger tips to further localize the impulse. The palm is especially useful in detecting thrills; fingertips are more helpful in detecting and analyzing pulsations. When you feel the apical pulse, this indicates the beginning of systole. The apical impulse can be used to distinguish the first and second heart sounds and to time thrills and murmurs. The apical impulse is always more powerful with the patient on his left side, which usually displaces the apex 2~3 cm to the left and brings it closer to the chest wall. For purposes of auscultation and analysis of the configuration of the apical impulse, this is a useful maneuver, but assessment as to location and duration of the apical impulse should be made with the patient supine.

136. Palpate precordial area with palm.

Palpate the precordium including the: lower half of the sternum, the 3rd, 4th, and 5th ICS at the left sternal border, 2nd ICS at the left sternal border, 2nd ICS at the right sternal border, epigastrium and right lower parasternal border. Examine for pulsation, thrill, pericardial friction rub.

137. Percuss relative dullness of the heart.

Percuss the relative dullness of the heart at the left 5th ICS and record the margin of dullness.

Generally, percussion starts on the left side of the chest, 2~3 cm outside of the apical impulse, and moves medially until cardiac dullness is perceived in the 5th or possibly the 4th interspace.

If you cannot palpate the apical impulse, you can percuss from 1~2 cm outside of the mid clavicular line in the 5th or 4th ICS and move medially until cardiac dullness is appreciated. Usually, the left border of relative dullness of the heart in the 5th ICS is located 1~2 cm medial to the MCL in normal persons. As more detailed knowledge of normal and abnormal precordial movements has been accumulated, palpation has largely replaced percussion in cardiac examination. When one cannot feel the apical impulse, percussion may suggest where to search for it. Occasionally percussion may be your only tool. For example, a large pericardial effusion may make the impulse undetectable. Under these circumstances, cardiac dullness often occupies a large area. Starting well to the left on the chest, percuss from resonance toward cardiac dullness in the 3rd, 4th, 5th and possibly the 6th interspaces, and note the change with the patient's position from reclining to sitting.

Auscultate with diaphragm

Use diaphragmatic head first to auscultate the chest wall using firm pressure. The diaphragm is best for listening to high frequency sounds. Five reference points are used for localization of sounds on the surface of the chest. The examiner should follow the following sequence for auscultation; Pulmonic area→Aortic area→2nd Aortic area→Mitral area→Tricuspid area (Figure 2-27). One should auscultate for heart rate rhythm,

heart sounds, murmurs, and friction rub. Listen at each area for 15 seconds to 1 min. Identify the first and second sounds. Pay attention to the changes of intensity, nature, splitting of heart sounds, and extra heart sounds. To detect a murmur, pay attention to the timing, location, duration, quality, radiation, intensity, pitch, and relationship with position of the body, respiration, exercise, etc. The sounds of greatest importance are the S1 and S2 sounds which divide the cardiac cycle into systole and diastole. Place the diaphragm onto the pulmonary area. Normally there are two sounds: S1 and S2. Normally, S1 is lower pitched and is softer and longer than S2. With normal rhythm, the interval between S1 and S2 is shorter than between S2 and the next S1. Sometimes it may be difficult to identify S1 and S2 especially with an abnormal S1 and/or S2. In this case, three techniques may be of value; the apex impulse, carotid pulses, and the "inch by inch" move. See details of these techniques in Organ System Manual.

- 138. Pulmonary area (second left ICS).
- 139. Aortic area (second right ICS).
- 140. Second aortic area (third and fourth left ICS).
- 141. Mitral area (Apical area).
- 142. Tricuspid area (fourth, fifth left ICS, LSB).

Auscultate with bell

Use bell-type head to auscultate the chest wall using light pressure without leaving a mark. Otherwise, low frequency sounds may be missed.

- 143. Pulmonary area
- 144. Aortic area
- 145. Second aortic area
- 146. Mitral area (Apical area)
- 147. Tricuspid area

H. ABDOMEN

- 148. Expose abdomen

Both breasts of women should be covered. Expose abdomen completely from just below breasts to just above pubis.

- 149. Place pillow under head, bend knees, arms at side, have patient breathe normally.
A suitable pillow should be placed beneath the head. Ask patient to bend his knees, put arms at sides, relax abdominal muscles, breathe normally.
- 150. Observe abdomen.

Visualize the abdomen divided into 4 quadrants by a pair of imaginary lines drawn perpendicular to each other through the umbilicus.

Look at abdominal contour and symmetry. Observe the skin of abdomen, hair, striae (vertical stretch marks which result from expansion and contraction of abdominal wall such as with pregnancy), scars, location and shape of umbilicus.

Check respiratory movement as mentioned before. Observe abdominal contour and peri-

stalsis wave tangentially. Observe abdominal veins. Observe groin area for hernia.

151. Auscultate for bowel sounds. Place stethoscope in area of umbilicus Auscultate bowel sounds with diaphragmatic head for at least one minute. If there are no bowel sounds, listen until you hear them or for at least five minutes. Pay attention to the frequency, pitch and intensity.

152. Percuss abdomen

Using indirect percussion, percuss the abdominal four quadrants, from LLQ counter-clockwise, and get general information about the percussion sound (tympany or dullness) of abdomen.

153. Percuss liver span

Percussion should be done with the patient breathing normally through right midclavicular line downward from resonance in lung field (usually 2~3 ICS) to dullness and upward from tympany in abdominal field (usually umbilicus level) to dullness. Estimate or measure from upper to lower dullness for liver span. It is normally about 9~11 cm in midclavicular line.

154. Watch patient's face and response as you palpate abdomen

When examining abdomen, intermittently pay attention to the patient's face and withdrawal response which indicate discomfort and pain.

155. Palpate superficially

Examination is begun with a gentle maneuver. Use the palm of hand, put the four fingers together, with arm relaxed, press with fingers about 1 cm deep. Palpate all areas of the abdomen counter-clockwise from LLQ. Look for tenderness or resistance of abdominal muscles and/or enlargement of organs (Figure 2-28).

156. Palpate deeply

Using right hand, palpate more deeply to find the deep lesions in the abdomen. In some cases, the examiner should use both hands, (left fingertips on right DIP joints) to palpate more deeply. Use a forward and backward circular motion. The order of palpation is the same as for superficial palpation. Screen for tenderness, masses, etc. (Figure 2-29).

157. Palpate liver at midclavicular with monomanual method.

In the midclavicular line, press down firmly and ask the patient to inhale deeply and allow the liver to move down to meet your fingertips. If you feel nothing, press up a few centimeters toward the rib cage and repeat the maneuver, continuously doing this until you feel the liver or reach the costal margin. If you feel the liver, describe the edge (sharp or round and tender or not, hard or soft) and repeat the process laterally and medially to define the contour. For a mass within the liver, describe the same characteristics as above and listen for a murmur over the mass. Normally, the liver cannot be felt more than 1 cm below the costal margin. But failure to feel the liver, does not mean that it is normal.

158. Palpate liver at midclavicular line with bimanual method
Right upper quadrant
With patient lying comfortably on his back, put your left hand on the top of lower rib cage or posteriorly beneath the right lower rib cage to restrict the movement and thereby encourage abdominal breathing. Place right hand on the abdominal wall a few centimeters below the lower border of liver dullness. Use the same maneuver as monomanual method (Figure 2-30).
159. Palpate liver at midsternal line
Palpate superiorly from umbilicus along midsternal line to attempt to locate the medial inferior liver edge, using the monomanual method.
160. Palpate spleen with bimanual method.
For palpation of spleen, put the left hand behind left rib cage, from about 7th to 10th rib, and press towards umbilicus. Right hand palpates the spleen starting from umbilical level or below the dullness. The maneuver is the same as that for the liver but more subtle because the spleen is more mobile and deeper.
161. Palpate spleen with patient rolled toward his right side.
If the spleen is not palpated, have the patient roll on his right side and palpate again.
162. Palpate kidneys with bimanual method.
For palpation of left kidney, put left hand below left rib cage, at the costospinal angle and lift up. Right hand palpates deeply from umbilicus level in the left midclavicular line and moves progressively upward following each period of breath. Palpate both kidneys respectively.
163. Test for pain or light touch on abdominal wall.
Ask patient to close his eyes and to respond whenever he feels his skin touched and/or pricked. The examiner performs this in upper, middle, and lower parts of the abdomen bilaterally and symmetrically.

I. LOWER LIMBS

- (When you examine a lower limb ROM, this may be done passively if the patient cannot do it actively)
164. Expose and inspect lower limbs.
The examiner examines patient's lower extremities with outer clothing removed and with proper draping and inspects both limbs from the groin to the toes noting length, muscle circumference, symmetry, shape of feet and toes, nail beds, color and texture of skin, hair distribution on legs, pigmentation, rashes, ulcers, scars, venous pattern and edema.
165. Palpate transverse group of superficial groin lymph nodes
The examiner palpates the inguinal soft tissue and lymph nodes.
The inguinal lymph nodes in the groin and upper part of the thigh drain the lower limbs. The chain consists of both superficial and deep systems. Only the superficial

chain is accessible to the examiner during the examination. The superficial inguinal lymph nodes include two groups. The upper or transverse group is located above the inguinal ligament and is parallel to the inguinal ligament. The examiner should use a rotary motion of his finger pads for palpation.

166. Palpate longitudinal group of superficial groin lymph nodes

The lower or longitudinal group of the superficial groin lymph nodes run together with the saphenous vein. The examiner should palpate them along the saphenous vein in the anterior thigh.

Palpate pulses bilaterally

167. Femoral artery (groin)

The femoral artery is located midway between the pubic symphysis and the anterior superior iliac spine. The examiner also palpates the femoral pulses on both sides for symmetry.

168. Dorsalis pedis artery (top of foot)

This pulse lies between the basidigital bone of the great toe and the 2nd toe and on the top of the foot. The pulse is most obvious at the bottom of the basidigital bone.

169. Check for pitting edema

The examiner exerts firm pressure with his thumb for at least five seconds behind the medial malleolus, over the dorsum of foot or over the front or medial part of the ankle. The examiner is watching for the formation of depression or pit after his finger is removed.

170. Test for sense of pain or light touch

Test light touch at the upper, middle, and lower parts of the lower limbs. Ask patient to respond accordingly. Test at least 2 or 3 positions on each lower limb bilaterally and symmetrically.

Hips

171. Check flexion of the hip

The examiner asks the patient to bend his knee actively and to bring his knee toward his chest as far as possible. The examiner should note the degree of flexion. Normal hip flexion is about 120 degrees (Figure 2-31).

172. Check internal/external rotation of the hip

Ask patient to bend his knee or the examiner bends patient's knee gently to a 90 degree angle while flexing hip to 90 degrees. The examiner swings patient's leg inward (external rotation of the hip) and then outward (internal rotation of the hip). Normal hip rotation is 40. 60 degrees for both internal and external rotation (Figure 2-32).

173. Check proximal muscle strength

The examiner tests muscle strength by asking patient to lie down. Both sides must be tested and compared. The knee is best examined with the patient lying down, flexing hip against the resistance offered by examiner's hand at patient's midthigh.

Knee

174. Examine movement of patella

The examiner asks patient to relax knee with the patient lying down. The examiner can feel patella (knee cap) and then move it back and forth. Pain, tenderness or grating of the patella against the underlying bones are noted.

175. Flexion of knee

The examiner asks patient to bend his knee toward his thigh as far as possible. Normally, the knee can be flexed about 130 degrees.

176. Check for muscle strength around knee

The examiner tests muscle strength around the patient's knee by asking the patient to extend his knee against resistance exerted by the examiner's hand against the patient's ankle.

177. Palpate the knee joint

Palpation is easiest if the knee is slightly flexed. To palpate, the examiner uses both hands, with the fingers curved to fit the posterior popliteal area. The thumbs are placed on the anterior portion of the knee in the soft tissue depressions found on either side of the midline tendon. The examiner uses both thumbs and a downward pressure to palpate the ridge formed by the tibial plateau, moving out from the midpoint to either side of the joint. The examiner is looking for tenderness and irregularities in the bony surface.

178. Test knee reflex

Tell the patient to relax. With the patient in the supine position, the examiner holds the patient's leg under the knee and taps the quadriceps femoris muscle tendon below the patella. The reflex elicited is extension of the knee. If you do not elicit the reflex, have the patient sit up, tap the tendon again while feeling for muscle contraction in the patient's thigh by putting a hand on the thigh. The reflex center is L2-4 (Figure 2-33).

Ankle

179. Palpate ankle joint including Achilles tendon

The examiner palpates the ankle bones and Achilles tendon (behind ankle) for tenderness.

180. Check for distal muscle strength

To test tibialis anterior muscle, have patient dorsiflex his ankle against the examiner's hand. To test gastrocnemius muscle, have patient plantarflex ankle against the examiner's hand.

Movement of ankle

181. Check movement at tibial-talar joint (dorsiflexion-plantarflexion)

Ask patient to dorsiflex and plantarflex actively or the examiner supports patient's heel from underneath with one hand and pushes the foot upward then downward. Normal dorsiflexion (upward) is about 20 degrees. Normal plantarflexion (downward) is about

45 degrees.

182. Check movement at subtalar joint (eversion-inversion)

Ask patient to invert and evert actively or the examiner supports patient's ankle with one hand, placing other hand under patient's foot and moves ankle from side to side (medially and laterally). Eversion is movement away from the body. Inversion is movement toward the body.

Foot

183. Flexion of toes (curl toes) and extension of toes (straighten toes)

To assess the range of motion of the toes, the examiner simply asks the patient to curl toes and then straighten them.

184. Test position sense in both feet

Hold the patient's toe and demonstrate to the patient which way is up and which way is down. Ask him to close his eyes. Move the patient's toes up or down; ask patient to tell the position. Toes should be held from the side.

185. Ankle reflex

With the patient in supine position, the examiner asks patient to partially flex and externally rotate thigh and dorsiflex ankle. The examiner grasps patient's forefoot with right hand and with percussion hammer in his left hand taps the Achilles tendon. The reflex elicited is the plantarflexion of ankle. The examiner may feel the motion of the foot when tapping the Achilles tendon. If you can't elicit the reflex, place hand at mid-calf area and feel the muscle contract as you tap the tendon again. The reflex center is L5-S2 (Figure 2-34).

186. Plantar reflex

With the patient's leg extended, the examiner uses reflex hammer handle or bamboo pick to stroke the lateral edge of the bottom of patient's foot, from the heel to the base of the little toe and then curves medially across the ball of the foot. The examiner observes the movement of toes. The normal reflex is plantar flexion of the toes. If the great toe is dorsiflexed and the other toes are fan-extended, it is Babinski's sign (Figure 2-35).

Patient standing

187. Perform Romberg test

Examiner asks patient to stand erect with feet together and arms extended forward. Examiner observes the patient's ability to maintain an upright posture, at first with patient's eyes open and then with eyes closed. Examiner should stand close enough to patient to protect him if he loses balance and be ready to catch him.

188. Check gait (arms swinging at side)

Observe gait

The examiner observes the patient walking across the room, turning and returning, and observes patient's posture, and coordination of patient's arm and leg movements. Exam-

iner should not allow patient to hold arms stiffly at sides or to fold arms.

Movement of lumbar

189. Flexion

The examiner asks patient to bend forward at the waist to attempt to touch toes and notes the degree of flexion. Normally, the entire spine flexes about 75~90 degrees from an upright position. The examiner should note the presence of sharp, abnormal angulation of the spine.

190. Extension

To test extension, the examiner asks patient to bend backward as far as possible. If needed, the examiner can stabilize the patient's hips and pelvis by standing behind patient, holding patient on either side. Normal extension is usually about 30 degrees from the upright position.

191. Lateral bending

Lateral motion of the spine is sideways bending. The examiner asks the patient to bend at waist to his right, then to his left. Normally, the spine bends about 30 degrees in each direction from the upright position.

192. Rotation

The examiner must stabilize patient's hips and pelvis as described above and asks patient to turn shoulders to the right, and then to the left. Normally, the trunk can rotate about 30 degrees to either side when the pelvis is stabilized. Rotation of the trunk includes both lumbar and thoracic spine movement.

全身体格检查评分条目

A 一般检查/生命体征

- 1. 向受检者介绍自己的姓名, 职责。通过简短交谈, 了解受检者精神状态
- 2. 检查前当受检者之面洗手
- 3. 让受检者取坐位
- 4. 检查桡动脉脉搏至少 30 秒, 并记录
- 5. 检查脉搏对称性
- 6. 计数呼吸频率至少 30 秒, 并记录
- 7. 测量右上臂血压
- 8. 将袖带缚于上臂正确位置
- 9. 触诊肱动脉
- 10. 测量血压两次, 记录较低值

得分:

满分: 10

B 头部和颈部

头颅

- 11. 检查头颅 (分开头发观察)

眼

- 12. 检查视力
- 13. 检查角膜、下份巩膜、结膜和泪囊：置拇指于下睑中份，轻轻向下按下睑，请受检者向上看
- 14. 检查上份巩膜及球结膜：置拇指于上睑中份，轻轻向上牵拉上睑，请受检者向下看
- 15. 面神经（第Ⅵ对颅神经）上支运动功能的检查，皱眉、皱额或紧闭双目
- 16. 检查双眼眼外肌六个方向运动功能
- 17. 瞳孔直接对光反射
- 18. 瞳孔间接对光反射
- 19. 检查调节反射

检眼镜检查

- 20. 调整受检者坐位高度，以检查者感觉舒适为宜
- 21. 关暗室内光线，以利观察眼内情况
- 22. 正确握持检眼镜
- 23. 右手持检眼镜站在右前方，用右眼检查受检者的右眼
- 24. 左手持镜眼镜站在左前方，用左眼检查受检者的左眼
- 25. 调整方位开始检查
- 26. 用检眼镜检查角膜、晶状体和玻璃体
- 27. 观察眼底视乳头及其周围视网膜
- 28. 检查四个象限的视网膜血管
- 29. 检查黄斑（嘱受检者注视光源）

耳及颞下颌关节

- 30. 观察和触诊双侧耳廓及周围
- 31. 触诊双侧颞下颌关节，注意有无肿胀及触痛
- 32. 双手指置于耳屏前或稍插入外耳道，检查颞颌关节的运动
- 33. 用手稍向后上方牵拉耳廓，使外耳道变直，以便插入耳镜
- 34. 插入耳镜观察鼓膜
- 35. 使受检者不感疼痛
- 36. 检查听力
- 37. 用适当方法分别检查双耳听力

鼻

- 38. 观察及触诊外鼻有否畸形，压痛等
- 39. 观察鼻前庭（不用鼻镜，可用电筒）
- 40. 插入鼻镜观察前庭、中隔、鼻甲及鼻粘膜。检查过程中，受者头部逐渐后仰
- 41. 分别压闭一侧鼻孔，令受检者吸气，检查其通气情况
- 42. 按压双侧上颌窦区，有无肿痛
- 43. 按压双侧额窦区，有无肿痛

口腔、唇、咽

- 44. 检查唇、颊粘膜、牙、牙龈、舌
- 45. 检查口底
- 46. 检查口咽部有无充血、肿胀及溢脓
- 47. 嘱受检者向前伸舌，观察有无偏歪以检查第XII对颅神经功能
- 48. 嘱受检者露齿、鼓腮或吹口哨，以检查第VII对颅神经功能
- 49. 检查咬肌肌力，嘱受检者对抗阻力张口
- 50. 检查三叉神经感觉支（至少2/3部位）
- 51. 暴露和观察颈部

淋巴结

- 52. 触诊耳前淋巴结：双侧耳前区
- 53. 触诊耳后淋巴结：双侧耳后区
- 54. 触诊枕后淋巴结：枕外隆凸下方
- 55. 触诊下颌下淋巴结：屈曲手指于下颌骨内侧触诊
- 56. 触诊颌下淋巴结：屈曲手指于颌下中线处触诊
- 57. 触诊颈前淋巴结浅组：位于乳突下，胸锁乳突肌前缘浅表处
- 58. 触诊颈后淋巴结：位于胸锁乳突肌后缘浅表处
- 59. 触诊锁骨上淋巴结：屈曲手指在锁骨与胸锁乳突肌之间的交角处触诊

甲状腺

- 60. 用双指触摸甲状软骨，检查其移动度及有无疼痛
- 61. 用双手从患者前面或后面在正确部位触诊甲状腺
- 62. 触摸甲状腺峡部、配合吞咽动作
- 63. 触摸甲状腺侧叶、配合吞咽动作

颈动脉

- 64. 触诊颈动脉（双侧）

气管

- 65. 检查气管位置

颈椎运动

- 66. 屈曲
 - 67. 后伸
 - 68. 侧弯（耳—肩运动）
 - 69. 旋转（颈—肩运动）
 - 70. 嘱受检者对抗阻力作头部旋转或耸肩以检查第XI对颅神经功能
- 得分： 满分：60

C 上肢

- 71. 正确暴露双上肢

手

- 72. 观察手掌、手背触诊双手各关节
- 73. 检查双手及指甲，有无紫绀和杵状指
- 74. 伸展手指

—75. 弯曲近指间和远指间关节呈爪状

—76. 握拳

—77. 拇指对掌运动

—78. 检查远端肌力

腕

—79. 触诊双手腕有无肿块、水肿、畸形和压痛

—80. 背伸

—81. 掌屈

肘

—82. 触诊鹰嘴和肱骨髁状突

—83. 触诊滑车上淋巴结

—84. 屈肘

—85. 检查上臂肌力

—86. 伸肘

—87. 旋前和旋后

肩

—88. 触诊双肩

—89. 功能检查 (3 个过筛试验: 一手越过头顶触摸对侧耳朵, 双臂上举, 双手置于后枕, 一手从背后触及对侧肩胛下角)

—90. 检查上肢近端肌力

—91. 检查触觉或痛觉 (至少 2/3 部位)

—92. 贝勒氏 (Barre's) 上肢轻瘫试验 (闭眼)

腱反射

—93. 肱二头肌反射

—94. 肱三头肌反射

—95. 桡骨骨膜反射

共济运动

—96. 快速轮替动作

—97. 指鼻试验 (睁眼)

—98. 指鼻试验 (闭眼)

得分:

满分: 28

D 背部

—99. 正确暴露背部

—100. 逐个触诊脊柱棘突, 检查有无畸形、压痛

—101. 逐个叩击脊椎棘突 (或用间接叩击法) 检查有无叩痛

—102. 检查肾区压痛和叩击痛

—103. 检查胸廓活动度和对称性

—104. 嘱受检者稍前倾, 双上肢交叉双手分别置于对侧肩部

—105. 叩诊后胸部

- 106. 双侧对称地叩诊后胸部
- 107. 叩诊肺下界移动范围
- 108. 嘱受检者轻微张口稍作深呼吸
- 109. 听诊后胸部
- 110. 双侧对称地听诊后胸部
- 111. 听觉语音（耳语音）

得分：

满分：13

E 乳房（女性）* 为男性受检者应查的条目

- 112. 充分暴露双侧乳房
- 113. 坐位（或站立位）观察乳房
- 114. 前倾位观察乳房
- 115. 双臂高举过头观察乳房
- 116. 双手叉腰并用力向内挤压观察乳房
- 117. * 用手指掌面以适当压力触诊右乳房
- 118. * 按内上、外上、尾部、内下、外下顺序触诊右乳房，至少 4/5 部位
- 119. * 触诊右乳晕及乳头，注意乳头溢液
- 120. * 用手指掌面以适当压力触诊左乳房
- 121. * 按内上、外上、尾部、内下、外下顺序触诊左乳房，至少 4/5 部位
- 122. * 触诊左乳晕及乳头，注意乳头溢液
- 123. 教受检者作乳房自我检查

腋窝检查

- 124. * 检查受检者右腋窝
- 125. * 触诊右腋窝 5 群淋巴结
- 126. * 检查受检者左腋窝
- 127. * 触诊左腋窝 5 群淋巴结

得分：

满分：16（女） 10（男）

F 前胸和肺：

- 128. 视触胸廓
- 129. 双侧对称地叩诊肺尖
- 130. 叩诊前胸和侧胸
- 131. 双侧对称地听诊肺尖
- 132. 听诊前、侧胸部

得分：

满分：5

G 心脏

- 133. 嘱受检者仰卧，初略估计颈静脉压
- 134. 观察心前区（取切线方向）
- 135. 用手掌、手指触诊心尖搏动
- 136. 用手掌触诊心前区
- 137. 叩诊心脏相对浊音界

用膜型胸件听诊

- 138. 肺动脉瓣区（胸骨左缘第2肋间隙）
- 139. 主动脉瓣区（胸骨右缘第2肋间隙）
- 140. 主动脉瓣第二听诊区（胸骨左缘第3、4肋间隙）
- 141. 二尖瓣区（心尖部）
- 142. 三尖瓣区（胸骨左缘第4、5肋间隙或胸骨体下端稍偏右）

用钟型胸件听诊

- 143. 肺动脉瓣区
- 144. 主动脉瓣区
- 145. 主动脉瓣第二听诊区
- 146. 二尖瓣区
- 147. 三尖瓣区

得分：

满分：15

H 腹部

- 148. 正确暴露腹部
- 149. 头下置一小枕，嘱受检者屈膝、尽量放松腹肌、双上肢置于躯干两侧，平静呼吸
- 150. 视诊腹部
- 151. 听诊肠鸣
- 152. 叩诊腹部
- 153. 叩诊肝浊音界
- 154. 触诊腹部时应注意受检者面部表情及退缩反应
- 155. 浅部触诊
- 156. 深部触诊
- 157. 单手法触诊肝脏
- 158. 双手法触诊肝脏
- 159. 在前正中线触诊肝脏
- 160. 双手法触诊脾脏
- 161. 右侧卧位触诊脾脏
- 162. 双手触诊法检查双侧肾脏
- 163. 检查腹部的触觉和痛觉

得分：

满分：16

I 下肢

- 164. 充分暴露和视诊双下肢
- 165. 触诊双侧腹股沟浅表淋巴结（横组）
- 166. 触摸双侧腹股沟浅表淋巴结（纵组）
- 167. 触诊双侧股动脉
- 168. 触诊双侧足背动脉
- 169. 检查双下肢水肿
- 170. 检查下肢触觉或痛觉（至少2/3部位）

髌

- 171. 屈髌
- 172. 内旋和外旋运动
- 173. 检查下肢近端肌力

膝

- 174. 检查髌骨运动
- 175. 屈膝
- 176. 检查膝周肌力
- 177. 触诊膝关节
- 178. 检查膝腱反射

踝

- 179. 触诊踝关节（包括跟腱）
- 180. 检查双下肢远端肌力
- 181. 背屈和跖屈
- 182. 内翻和外翻

足

- 183. 屈趾和伸趾
- 184. 检查双足位置觉
- 185. 检查跟腱反射
- 186. 检查跖反射
- 187. 罗姆伯格征（Romberg 征即闭目难立征）检查
- 188. 步态观察

腰椎运动

- 189. 俯屈
- 190. 仰伸
- 191. 侧弯
- 192. 旋转

得分：

满分：29

总满分：192（女） 186（男）

COMPLETE PHYSICAL EXAMINATION CHECKLIST

A. GENERAL EXAMINATION/VITAL SIGNS

- _____ 1. Introduce yourself to patient, usually last name and title and have a little conversation to relax the patient and to judge mental state
- _____ 2. Wash hands before starting examination
- _____ 3. Patient is seated in a chair
- _____ 4. Palpate radial (wrist) pulses for at least 30 seconds and record

- _____ 5. Palpate both radial (wrist) pulses simultaneously for symmetry
- _____ 6. Measure respiratory rate for at least 30 seconds and record
- _____ 7. Measure blood pressure on right arm
- _____ 8. Place cuff in correct location 2~3 cm above the antecubital crease
- _____ 9. Palpate brachial artery
- _____ 10. Measure blood pressure over brachial artery twice and record the lower reading

B. HEAD AND NECK

Skull

- _____ 11. Palpate and observe scalp (parting hair, and observing hair density, color, lustre and distribution)

Eyes

- _____ 12. Visual screening
- _____ 13. Observe cornea, sclera, conjunctive and lacrimal puncta by gently moving lower eyelids down.
- _____ 14. Observe sclera and bulbar conjunctiva by gently elevating upper eyelid while patient looks down
- _____ 15. Check cranial nerve VII upper division: raised eyebrows, wrinkle forehead or forced eyelid closing
- _____ 16. Evaluate extraocular muscle function in both eyes in 6 directions (left, upper left, and lower left, right, upper right, lower right)
- _____ 17. Observe pupillary direct response to light
- _____ 18. Observe pupillary consensual response to light
- _____ 19. Check for convergence and accommodation

Ophthalmoscopic Examination

- _____ 20. Position patient at height comfortable for examiner
- _____ 21. Dim lights of room
- _____ 22. Hold ophthalmoscope properly and use index finger to switch lenses
- _____ 23. To examine patient's right eye, examiner holds ophthalmoscope with right hand and uses right eye
- _____ 24. To examine patient's left eye, examiner holds ophthalmoscope with left hand and uses left eye
- _____ 25. Position to start ophthalmoscopic examination
- _____ 26. Inspect cornea, lens, and vitreous body for opacity with ophthalmoscope
- _____ 27. Inspect optic disc (color, margin, etc.)
- _____ 28. Trace retinal vessels in four quadrants
- _____ 29. Observe macula (patient asked to look directly at light of ophthalmoscope)

Ears

- _____ 30. Observe and palpate the auricles and observe postauricular regions bilaterally
- _____ 31. Palpate temporomandibular joint for tenderness and swelling

- _____ 32. Feel the movement of the TMJ with index fingers inside examinee's ears or over joint
- _____ 33. Gently pull auricle upward and backward to ease insertion of otoscope
- _____ 34. Insert otoscope into external auditory meatus to observe tympanic membrane
- _____ 35. Insert otoscope without causing pain to the patient
- _____ 36. Evaluate auditory acuity
- _____ 37. Use proper technique to check auditory acuity separately in each ear

Nose

- _____ 38. Inspect and palpate external nose for malformation and inflammation
- _____ 39. Observe nasal vestibule without otoscope
- _____ 40. Turn the tip of the nose upwards and insert the tip of the speculum to inspect nasal vestibule and anterior part of nasal cavity for ulcer, crust, swelling, discharge, atrophy or perforation
- _____ 41. Test patency by inhaling through each nostril separately while the opposite nostril is held occluded
- _____ 42. Palpate and/or percuss maxillary sinus for swelling and tenderness
- _____ 43. Palpate and/or percuss frontal sinus for swelling and tenderness

Mouth, Lips, Pharynx

- _____ 44. Observe lips, buccal mucosa, teeth, gums and tongue
- _____ 45. Observe the floor of mouth
- _____ 46. Inspect the posterior structures of the mouth for congestion, swelling or pus, position of uvula, and elevation of the palate.
- _____ 47. Observe midline protrusion of the tongue (cr n XI)
- _____ 48. Show teeth, puff out cheeks or purse lips (lower division of cr n VI)
- _____ 49. Test contraction of masseter(jaw)muscle or forced opening of mouth against resistance (motor division cr n V)
- _____ 50. Test for facial sense of pain and touch (must check at least 2 out of 3 sensory divisions for cr n V)
- _____ 51. Expose neck correctly to observe appearance and skin of neck

Lymph nodes

- _____ 52. Palpate preauricular nodes (front of ears)
- _____ 53. Palpate post-auricular nodes (back of ears)
- _____ 54. Palpate occipital nodes (base of skull)
- _____ 55. Palpate submaxillary nodes (by bending finger under patient's jaw)
- _____ 56. Palpate submental nodes (by bending finger under patient's chin)
- _____ 57. Palpate anterior cervical nodes (superficial group under mastoid and the front of sternomastoid muscle)
- _____ 58. Palpate posterior cervical nodes (behind sternomastoid muscle)
- _____ 59. Palpate supraclavicular nodes (by bending finger above patient's collarbone)

Thyroid gland

- _____ 60. Palpate and/or move thyroid cartilage with two fingers checking for malformation and movability
- _____ 61. Palpate thyroid in correct anatomical location in front of or behind the patient with both hands
- _____ 62. Palpate isthmus of thyroid with and without swallowing
- _____ 63. Palpate thyroid gland (lobes) with and without swallowing

Carotid Artery (bilaterally)

- _____ 64. Gently palpate carotid artery

Trachea

- _____ 65. Palpate the position of trachea

Movement of Cervical Spine

- _____ 66. Flexion (actively, if possible; if abnormal, do passively)
- _____ 67. Extension (actively, if possible; if abnormal, do passively)
- _____ 68. Lateral bending [ear-to-shoulder]; (actively, if possible; if abnormal, do passively)
- _____ 69. Rotation (chin-to-shoulder), (actively, if possible; if abnormal, do passively)
- _____ 70. Test rotation of patient's head against resistance or check resistance of shrugged shoulders (cr n XI)

C. UPPER LIMBS

- _____ 71. Expose upper limbs

Hands

- _____ 72. Inspect dorsa and palms and palpate all joints of hand
- _____ 73. Check fingernails for clubbing or cyanosis
- _____ 74. Ask patient to extend fingers
- _____ 75. Ask patient to make a claw
- _____ 76. Ask patient to make a fist
- _____ 77. Check patient's ability to perform thumb opposition
- _____ 78. Check for distal muscle strength

Wrist

- _____ 79. Observe and palpate wrist (for lumps, swelling, deformities, and tenderness)
- _____ 80. Extension of wrist (bend backward)
- _____ 81. Flexion of wrist (bend forward)

Elbow

- _____ 82. Palpate olecranon process and epicondyles
- _____ 83. Palpate epitrochlear lymph nodes
- _____ 84. Flexion
- _____ 85. Check for upper arm muscle strength
- _____ 86. Extension

_____ 87. Pronation and supination (with elbows locked at patient's side)

Shoulder

_____ 88. Palpate both shoulders

_____ 89. Functional examination (3 screening maneuvers: hand over head to opposite ear, hands behind head, touch lower border of opposite scapula)

_____ 90. Check for proximal muscle strength

_____ 91. Test sense of pain or touch: at least 2 of 3 positions (upper arm, forearm, & hand) on each upper extremity bilaterally and symmetrically

_____ 92. Barre's upper limb test (test for drift of outstretched arms with eyes closed)

Deep Tendon Reflexes (The reflexes should be checked bilaterally and both sides compared.)

_____ 93. Biceps reflex

_____ 94. Triceps reflex

_____ 95. Brachioradialis reflex

Coordination

_____ 96. Rapid alternating movement

_____ 97. Finger to nose test (with open eyes)

_____ 98. Finger to nose test (with closed eyes)

D. BACK

_____ 99. Expose the back correctly

_____ 100. Palpate spinous processes one by one (check for scoliosis and tenderness)

_____ 101. Test for percussion pain of spinal column one by one (or by indirect method)

_____ 102. Test CVA for kidney tenderness by pressure and indirect fist percussion

_____ 103. Palpate thoracic expansion and symmetry

_____ 104. Have patient cross arms in front and touch opposite shoulder

_____ 105. Percuss posterior lung fields

_____ 106. Percuss posterior lung fields comparatively and symmetrically

_____ 107. Measure diaphragmatic excursion

_____ 108. Instruct the patient to breathe a little deeply with mouth open slightly

_____ 109. Auscultate posterior lung fields

_____ 110. Auscultate comparatively and symmetrically

_____ 111. Vocal audible resonance

E. BREASTS (FEMALE)

_____ 112. Expose both breasts completely

_____ 113. Inspect both breasts symmetrically in sitting position

_____ 114. Inspect both breasts symmetrically with patient leaning forward

_____ 115. Inspect both breasts symmetrically with arms raised above head

_____ 116. Inspect both breasts symmetrically with hands on hips and squeeze

_____ 117. Palpate patient's right breast with pads of fingers of right hand, applying gentle

pressure

- _____ 118. Palpate right breast in the 5 following areas: superinternal, superlateral, tail, inferinternal, inferlateral (at least 4 of 5 parts of the breast should be palpated)
- _____ 119. Palpate nipples, areola, attempt to express discharge from nipple.
- _____ 120. Palpate patient's left breast with pad of fingers and palm, apply gentle pressure.
- _____ 121. Palpate left breast in the following areas: superinternal, superlateral, tail, inferinternal, inferlateral.
- _____ 122. Palpate nipples, areola, attempt to express discharge from nipple.
- _____ 123. Teach patient breast self-examination.

Axillary Examination

- _____ 124. Inspect the patient's right axilla.
- _____ 125. Palpate chains of lymph nodes on right: top, medial, anterior, posterior, lateral
- _____ 126. Inspects patients left axilla.
- _____ 127. Palpate chains of lymph nodes on left: top, medial, anterior, posterior, lateral.

F. ANTERIOR CHEST AND LUNGS

- _____ 128. Inspect and palpate configuration and symmetry of chest.
- _____ 129. Percuss supraclavicular fossae bilaterally and symmetrically.
- _____ 130. Percuss anterior and lateral lung fields.
- _____ 131. Auscultate supraclavicular fossae bilaterally and symmetrically.
- _____ 132. Auscultate anterior and lateral lung fields.

G. HEART

- _____ 133. Screening test for elevated venous pressure.
- _____ 134. Observe precordium (view tangentially).
- _____ 135. Palpate apical area with palm and fingertips.
- _____ 136. Palpate precordial area with palm.
- _____ 137. Percuss relative dullness of the heart.

Auscultate with diaphragm

- _____ 138. Pulmonary area (second left ICS)
- _____ 139. Aortic area (second right ICS).
- _____ 140. Second aortic area (third and fourth left ICS).
- _____ 141. Mitral area (Apical area).
- _____ 142. Tricuspid area (fourth, fifth left ICS, LSB and RSB).

Auscultate with bell

- _____ 143. Pulmonary area
- _____ 144. Aortic area
- _____ 145. Second aortic area
- _____ 146. Mitral area (Apical area)
- _____ 147. Tricuspid area

H. ABDOMEN

- _____ 148. Expose abdomenmen completely from just below breasts to just above pubis
- _____ 149. Place pillow under head, bend knees, arms at side, have patient breathe normally.
- _____ 150. Observe abdomen.
- _____ 151. Auscultate for bowel sounds. Place stethoscope in area of umbilicus
- _____ 152. Percuss abdomen
- _____ 153. Percuss liver span
- _____ 154. Watch patient's face and response as you palpate abdomen
- _____ 155. Palpate superficially
- _____ 156. Palpate deeply
- _____ 157. Palpate liver at midclavicular with monomanual method.
- _____ 158. Palpate liver at midclavicular line with bimanual method

Right upper quadrant

- _____ 159. Palpate liver at midsternal line
- _____ 160. Palpate spleen with bimanual method.
- _____ 161. Palpate spleen with patient rolled toward his right side.
- _____ 162. Palpate kidneys with bimanual method.
- _____ 163. Test for pain or light touch on abdominal wall

I. LOWER LIMBS

- _____ 164. Expose and inspect lower limbs.
- _____ 165. Palpate transverse group of superficial groin lymph nodes
- _____ 166. Palpate longitudinal group of superficial groin lymph nodes
- _____ 167. Femoral artery (groin)
- _____ 168. Dorsalis pedis artery (top of foot)
- _____ 169. Check for pitting edema
- _____ 170. Test for sense of pain or light touch in at least 2 or 3 positions

Hips

- _____ 171. Check flexion of the hip
- _____ 172. Check internal/external rotation of the hip
- _____ 173. Check proximal muscle strength

Knee

- _____ 174. Examine movement of patella
- _____ 175. Flexion of knee
- _____ 176. Check for muscle strength around knee
- _____ 177. Palpate the knee joint
- _____ 178. Test knee jerk

Ankle

- _____ 179. Palpate ankle joint including Achilles tendon
- _____ 180. Check for distal muscle strength

- _____ 181. Check movement at tibial-talar joint (dorsiflexion-plantarflexion)
- _____ 182. Check movement at subtalar joint (eversion-inversion)

Foot

- _____ 183. Flexion of toes (curl toes) and extension of toes (straighten toes)
- _____ 184. Test position sense in both feet
- _____ 185. Ankle jerk
- _____ 186. Plantar reflex
- _____ 187. Perform Romberg test
- _____ 188. Check gait (arms swinging at side)

Movement of lumbar spine

- _____ 189. Flexion
- _____ 190. Extension
- _____ 191. Lateral bending
- _____ 192. Rotation

Total: 192 for female, 186 for male

第三章 器官系统体格检查

本章体格检查方法与“器官系统检查纲要”相对应，为诊断学教学补充教材，重点阐述各器官系统体格检查手法及技巧的细节，以及正常表现和异常体征及其临床意义。

学生在学习器官系统检查之前，已学习过成人问诊及全身体格检查，本章即在此基础上更深入、细致地学习各器官系统的检查。通过分段地学习各器官系统检查及各系统的主要症状学，将有助于掌握各系统问诊、体检的技能，并为学习临床各科的各种疾病奠定坚实的基础。

眼部检查方法

A. 视功能的检查

1. 远视力的检查

视力检查不仅是眼科病人，而且是所有病人常规检查的一部分。我们常使用国际标准视力表进行这项检查。

其方法是：病人距视力表 5 米远，两眼分别检查，一般先检查右眼，用干净的卡片或遮眼板盖于左眼前，但勿使眼球受压，嘱患者用右眼从上至下指出“E”字形视标开口的方向，记录所能看清的最小一行视力读数，即为该眼的远视力。正常标准视力定为 1.0，即应能看清视力表第 10 行。用同样的方法检查左眼。如远视力未达到正常者可用针孔镜放在被检眼前测针孔视力，这样，倘能改善视力，则说明视力较差多系屈光不正所致，通常须戴镜矫正。戴眼镜者必须测裸眼视力和戴眼镜的矫正视力。矫正视力远比裸眼视力更加重要。

如在 5 米处不能辨认 0.1 行视标者，应让病人逐步走近视力表，直至认出 0.1 视标为止，然后以实测距离（米）/50，即为其视力。

在 1 米处不能辨认 0.1 视标者，则改为“数手指”。其方法为：让病人背光而立，检查者任意伸出几个手指，嘱其说出手指的数目。记录为数指/距离（CF/cm）。

手指近到眼前 5cm 仍数不清者，则改为用手在病人眼前左右摆动，并问其能否看到手动，如能看到，连同距离记录为手动/距离（HM/cm）。

不能看到眼前手动者，到暗室中用手电筒照被检眼，如能准确地看到光亮，记录视力为光感（LP），不能者，则记录为无光感。

确定有光感后，重要的是还需分别检查视网膜各个部位的视敏度，即“光定位”。方法是：嘱病人坐于暗室内，用一只手轻轻的盖住一眼，另一眼注视前方不动，将小手电筒光线从左、左上、左下、上、中、下、右、右上、右下九个方向投射到被检眼，询问并记录各方向有（+）、无（-）光感。

良好的光定位通常提示视网膜和视神经的功能是正常的，反之，则多提示视网膜和视神经的疾病。

2. 近视力检查

近视力表由大小不同的“E”字视标组成，检查的标准距离为33cm。正常视力能看清第10行的“E”字，即记录近视力为1.0。平时戴眼镜者，可让其戴上眼镜检查。尚可让其改变检查距离，将近视力表拿近或离远至清晰辨认，以便测得其最佳视力和估计其屈光性质和度数。

3. 色觉检查

色觉的检查应用色盲检查表，在自然光线下进行，检查的标准距离为0.5米，一般均双眼同时检查，让病人在5秒钟内读出。

色觉正常者可辨认色盲表的所有图形。色盲者则不能辨认色盲表上的图形，可按表内所附说明书，判定为何种色盲或色弱。红绿色盲的发病率男性高于女性，男性约为8%，女性约为0.4%，蓝黄或紫色盲极为罕见。

4. 对比视野检查法

周边视野检查用以测定周边视网膜的功能，对比法仅能粗略地测定视野。即使对比法测得结果正常，但用更敏感的一些检查方法仍可检出可能存在的视野缺陷。检查方法为：检查时，患者与检查者面对面而坐，距离约1米，照明良好，两眼分开检查。如检查右眼，则嘱其用手遮住左眼、右眼注视检查者的左眼，此时，检查者亦应将自己的右眼遮盖；然后，检查者将其手指（1个、2个或3个）置于自己与患者中间等距离处，分别自上、下、左、右等不同的方位从外周逐渐向眼的中央部移动，嘱患者在发现手指出现时，立即说出。如患者能在各方向与检查者同时看到手指，则大体属正常视野。

B. 外眼检查

5. 视诊眼睑及眼球的位置

系统的眼部检查是从眼睑的皮肤开始逐渐向内进行的。检查者首先观察睑裂的对称性及宽度、眼球的位置。观察眼睑有无缺损、瘀血、炎症，睑缘的位置有无内翻或外翻及其他异常。通常，自然睁眼平视前方时上眼睑遮盖11—1点方位的角巩膜缘，甲亢性的突眼或上睑退缩常首先表现为上方角巩膜缘的暴露。

检查时，亦应注意眼球的大小（有无小眼或眼球内陷），突出度（突眼）和位置（有无眼眶肿瘤或斜视）。触诊对确定眼眶肿瘤的大小、位置、硬度及搏动性是有益的。

6. 检查双眼眼外肌6个方向的功能

检查者置一手指（或铅笔）于患者眼前30~40cm处，请患者头部固定，双眼注视手指（或铅笔），并随手指（或铅笔）运动，一般以左、左上、左下、右、右上、右下的顺序检查6个方向的双眼眼球运动。

7. 泪囊的检查

请病人向上看，检查者用双手拇指轻压病人双下睑内眦处，骨性眶缘下内侧，即挤压泪囊，同时观察有无分泌物或泪液自上下泪点溢出。有急性炎症时应避免作此检查。

8. 下睑、下穹窿及下份球结膜和巩膜的检查

请患者向上看，检查者用双手拇指置于下睑中份，同时向下按下睑缘，此时可观察下份的球结膜和巩膜、下睑和下穹窿结膜。注意结膜和巩膜的颜色，血管形态，有无异物。

除沙眼、春季卡他性结膜炎外，几乎所有结膜炎症在下穹窿结膜的表现比上穹窿结膜更为明显。

9. 上份球结膜和巩膜的检查

请病人向下看，检查者置双手拇指于上睑中份，轻轻向上牵拉上睑，此时可观察上睑球结膜和巩膜。

10. 翻转上睑检查上睑结膜

检查上睑结膜需要翻转上眼睑。嘱病人向下看，检查者用左手食指在上方，拇指在下方夹住上睑缘处皮肤，先轻轻拉上睑向前下方，使其离开眼球，并以食指稍向下压迫上睑，拇指稍往上推上睑，轻轻捻转，翻转上睑，暴露上睑结膜，然后用拇指固定上睑缘（图 3-1），即可进行观察。通过透明的上睑结膜可见垂直于睑缘排列的睑板腺。有时还可见到泪腺的一小部分暴露于外眦部。

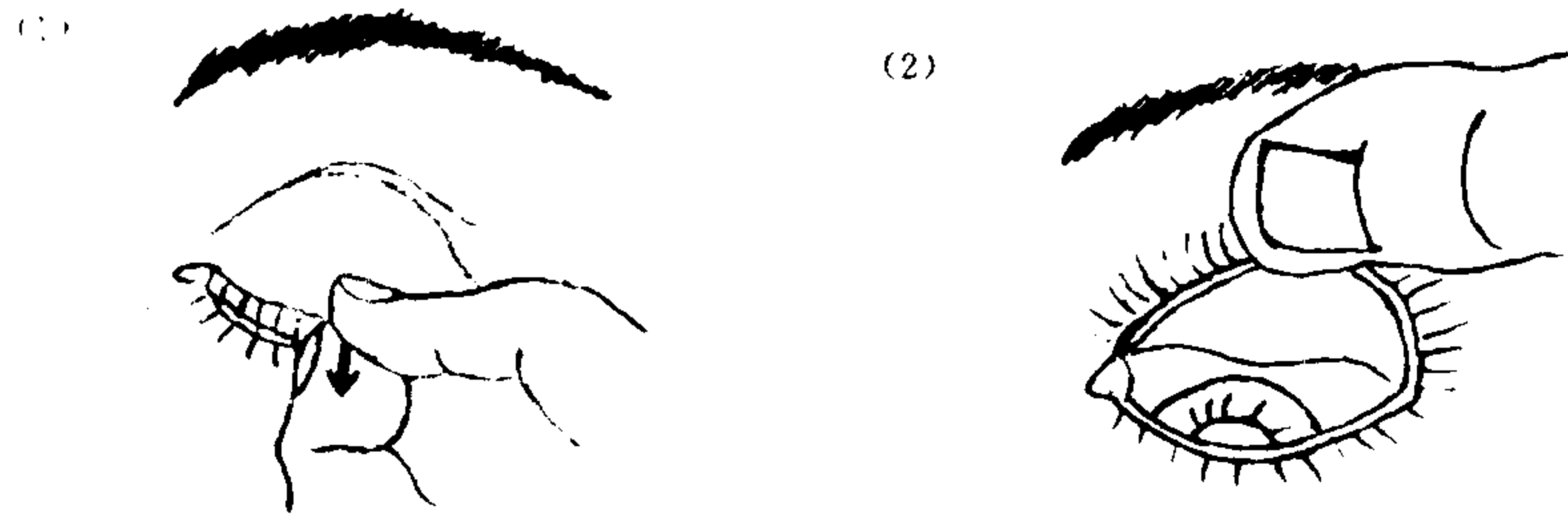


图 3-1 翻转上睑检查法

11. 眼前部的检查

观察眼前部的疾病可无需借助特殊的仪器。检查者面对患者，用右手持装有聚光灯泡的手电筒，以 45° 角将集中的光线投照于被检查眼上。然后以左手拇指和食指持 10 倍放大镜，以中指撑开上睑，并以无名指固定于患者的眼前外上方，随时调整放大镜的焦点仔细地观察角膜，前房和虹膜。

正常的角膜表面应是光滑、规则、无血管、透明，颇似镜面；透过角膜可清晰地见到虹膜的各个部分。角膜水肿时呈毛玻璃样外观；明显的角膜混浊容易识别；角膜出现的新生血管可位于表面，亦可在深部，可侵及全角膜或者一部分；角膜上皮缺损难以发现，角膜的荧光素染色可显示上皮缺损的区域。

前房深度是指角膜的后表面与虹膜的前表面之间的距离。正常的前房深度约为 3mm。

正常时，虹膜的纹理应清晰可见，倘不能见到则提示角膜混浊、房水中有细胞漂浮或虹膜炎症等。

12. 角膜知觉检查

角膜的感觉神经是来自于三叉神经眼支的鼻睫支中的睫状长神经。临床上，角膜的知觉检查方法为：令患者平视前方，检查者从消毒棉签中抽出一束棉花纤维，用其尖端从患者的侧面触及角膜（注意：勿触及眼睑及睫毛，不允许患者注视棉签），如能立即引起反射性的瞬目运动，则说明角膜知觉正常。更换棉签检查另一眼。

单疱病毒性角膜炎、三叉神经眼支的鼻睫支感染带状疱疹时角膜的知觉减退；在角膜的腺病毒感染、先天性干眼症、角膜的营养不良，角膜的感觉亦减退；角膜知觉下降亦可出现在与眼的运动神经相关的眶顶受损时。角膜麻痹是小脑桥脑角肿瘤的一个重要体征。

13. 瞳孔的直接光反射检查

应检查瞳孔的大小、形状，双侧是否相等以及对光线刺激的反应。

请患者双眼平视前方，检查者手持电筒从眼外侧迅速将光线移向一侧瞳孔部位，同时观察该侧瞳孔的缩小；移开光线，瞳孔扩大，此为瞳孔的直接光反射。两眼分别检查，用同样的方法检查另一眼。检查对光线的反应，最好在暗室中进行，检查者位于患者一侧。注意勿使光线同时照射双眼，并嘱患者不能注视光源。

14. 瞳孔的间接光反射检查

采用与 13 条相同的方法，当检查者将光线移向一眼的瞳孔时，观察对侧眼瞳孔的缩小。

15. 检查调节和辐辏反射

检查者置一手指于病人眼前约 1 米处（指尖向上，与双眼同一高度），请病人注视指尖，然后迅速向病人鼻梁移近手指，同时观察双侧瞳孔由大缩小的变化及双眼辐辏。辐辏的意思是当病人注视近物时，两眼内聚的能力（图 3-2）。

当病人注视近物时的近反射，则包括辐辏和瞳孔缩小（调节）。

动眼神经（第Ⅲ颅神经）损害时，调节反射消失。



图 3 2 辐辏反射

16. 眼压的检查

检查眼内压可采用触诊法和眼压计检查法。触诊法：凭手指的感觉判断眼球的硬度，该法虽不够精确，但简便易行，有临床应用价值。检查时令患者向下看（不能闭眼），检查者用双手食指放在上睑的眉弓与睑板上缘之间的地方，其他手指放在额部及颊部，然后两手食指交替地轻压眼球的赤道部，便可借助指尖感觉眼球波动的抗力，确定其软硬度。

记录方法：T_n 表示眼压正常。T+1 表示眼压稍高，T+2 表示中等度增高，T+3 表示极高；T-1 表示眼压稍低，T-2 表示中度降低，T-3 表示极低。

C. 直接检眼镜的检查

17. 调整患者座位于适当高度；

18. 关暗室内光线

关暗室内光线以便于观察眼内结构。

19. 打开检眼镜的光源并调节光线

打开检眼镜的光源，调节光线为大圆白色光束。一些临床医师则惯于用大圆光束检查散大瞳孔时的眼底，用小圆光束检查小瞳孔状态的眼底。

20. 正确握持检眼镜

食指始终置于转盘上调节焦距，拇指及其余 3 指握住镜柄。检查者另一手置于患者眉弓部。

21. 检查者的位置

检查右眼时，检查者站在患者右侧，用右手持镜、右眼观察；检查左眼时则站于患者左侧，左手持镜、左眼观察。

22. 检查时检查者的姿势（1）

检查者用左手固定患者头部，拇指置于其眉弓附近。检查过程中，应保持检眼镜的顶端紧靠检查者的骨性眶缘上内侧（眉弓内侧），并与头部的运动一致。

23. 检查时检查者的姿势（2）

嘱患者目光越过检查者肩部，注视前上方墙上一固定点。检查者右眼置于检眼镜的窥视孔前，并以与患者视轴呈 15° 角接近受检眼进行观察。用同样的方法检查患者的左眼。

24. 眼的屈光间质的检查

将检眼镜的转盘置于 $+8\sim+10$ 屈光度，从大约20cm远处将检眼镜光线投射入眼，便可见到眼底反射的红光。检查眼的屈光间质有无混浊，若有混浊，在红色的反光中可见到黑影。

25. 视乳头及四个象限血管的检查

继续注视眼底反射的红光，逐渐靠近被检眼，同时拨动检眼镜的转盘减少屈光度（如，拨动到“0”，或越过“0”到负数）当看清眼底血管时，则沿视网膜血管分枝由细到粗的方向追踪找到视乳头，系统的眼底检查通常自视乳头的检查开始。

除生理凹陷为近白色外，视乳头为淡红色的圆形或椭圆形结构，边界清晰，鼻侧稍模糊，颞侧可见有色素沉着。色素沉着有时可呈弧或环形，有时为与视盘成同心圆的线样条纹，称之为脉络膜弧（环），无病理意义。

视乳头（视神经盘）直径约1.5mm，系丈量眼底的标准长度单位。大多数人的视乳头直径是大约相等的。眼底检查时发现视乳头的明显增大，提示可能存在圆锥角膜、近视眼或后葡萄肿。

视乳头中央的漏斗形凹陷，色泽稍淡，称为生理凹陷。有的凹陷底部隐约可见暗灰色区域，即巩膜筛板。有的生理凹陷呈斜坡状，看不见底部。在青光眼的诊断中，生理凹陷的水平径与视乳头水平径之比是尤为重要的。

检查视乳头时，应注意其色泽、大小、边界是否清楚，有无出血、渗出、水肿等。

检查视网膜血管时，应注意区分动、静脉。动脉色鲜红、细、反光强，静脉色暗红、较粗，二者直径之比约为 $2:3\sim3:4$ 。应沿四个方向（即颞上、颞下、鼻上、鼻下）追踪血管。检查动脉静脉直径之比例，动静脉交叉压迹情况。并观察周围视网膜情况，注意有无出血、渗出、视网膜的脱离及变性等等，同时观察这些病损的大小、形状、颜色及分布等。

26. 检查黄斑

通常，进行眼底检查时最后观察的区域为黄斑区。

黄斑区由于负责中心视力而特别重要。请受检者短暂注视检眼镜光源，即可见到黄斑，黄斑为一无血管区，较视盘略大，但边界不清。黄斑中央凹位于距视乳头颞侧约2PD（3mm）偏下方处。年轻人黄斑中央凹常见一针尖大的反光点称中央凹光反射。检查者（尤其是初学者）通常应扩大被检者瞳孔（药物性）方能仔细地检查黄斑，因为当黄斑区接受光线刺激时，瞳孔将明显地缩小。

检查黄斑区时，应注意黄斑中央凹光反射存在与否，以及是否有水肿、渗出、出血、新生血管及裂孔等。

Chapter 3

ORGAN SYSTEM EXAMINATIONS

These manuals with their companion checklists for the organ system examinations are good supplemental teaching materials for your diagnostic's course. This material specifies in detail the techniques and maneuvers for the physical examination in each system. In addition, some normal and abnormal findings and their clinical significance are described.

Prior to studying the organ system examinations, students should have studied and mastered the adult interview and complete physical examination. This supplemental material will allow you to learn each organ system in greater depth and detail. By studying each of these examinations and the important symptoms in each organ system, you will be provided with a rich background about the important diseases of each system. You will learn to correlate key symptoms and signs with the medical interview and physical examination.

TRAINING MANUAL FOR THE EYE EXAMINATION

A. Functional Examination of the Eyes

1. Visual acuity

Visual acuity determination should be part of the routine examination of all patients—not only those who present with eye complaints. The usual method of testing visual acuity is with one of the various types of special charts. The Snellen chart is most commonly used.

The patient faces the test chart at a distance of 5 meters. A clean card or occluder is placed in front of the left eye without pressure on the globe, and the patient is asked to read as far down the chart as possible with the right eye. If the patient is able to read the line marked 1.0, this is recorded and the same procedure is repeated for the left eye. The eye which can recognize the line 10 (1.0) is considered normal. If the patient can read the large letters at the top of the chart but cannot read down to the 1.0 line, the value that corresponds to the smallest line that can be read is recorded. If the patient cannot read the 1.0 line, it is necessary to re-test the patient through a pinhole. If the visual acuity improves when the patient looks through a pinhole, it indicates an error of refraction which spectacles can usually correct. If glasses are usually worn, the test should be repeated with glasses on and the results recorded as “uncorrected” and “corrected”. Corrected visual acuity is far more important than uncorrected visual acuity.

A patient who is unable to read the large letters at the top of the chart should be moved progressively closer to the chart until they can be read; this distance is then recorded as

the distance (m) from the chart over 50, i. e., $x/50$. If the patient cannot read the large letters at the top of the chart at 1 meter, another method of testing patients with poor vision is to ask the patient to count fingers. This is recorded as counting fingers at 20cm, 1 meter, and so on (CF at X centimeter or meters).

If the patient is unable to count fingers at 5cm in front of his eye, the distance at which he can recognize hand movements is recorded (HM at X meters). If he is unable to recognize hand movements, a small penlight is used to indicate whether or not he perceives light when light is entering the eye. This is recorded as light perception. If not, such an eye is recorded as having no light perception.

If there is perception of light, it is also important to test if the patient can identify the direction the light is coming from. This is recorded as light projection. The light projection is carried out as follows:

The patient sits in a darkened room. He is then told to hold one hand lightly over one eye and look ahead with the other eye. A small penlight is used to shine a light into his eye in 9 directions (left, upper left, lower left, upper, ahead, lower, right, upper right, lower right). The patient is asked to project the direction from which light is entering the eye. Good projection usually indicates that the retina and optic nerve are functioning normally. Poor projection of light indicates retinal or optic nerve disease.

2. Near sight vision test

The near vision chart is composed of "E" letters of various sizes. The standard test distance is considered to be 33cm. Normal eyes can see the "E" on line 10 (1.0). If the patient usually wears glasses, let him wear glasses for the examination. The patient can hold the chart far or near, provided that he can see clearly.

3. Color vision test

The color vision test is carried out with pseudoisochromatic plates. Under adequate illumination, at a distance of half a meter, the various poly-chromatic plates are presented to the patient who is asked to identify the patterns in 5 seconds.

All patterns are recognizable to the person with normal color vision. A color-blind person is unable to identify the various figures and forms on the polychromatic plates. The type of color blindness is diagnosed according to the plates used. Red-green blindness is diagnosed in about 8% of the male population and 0.4% of the female population. Blue-yellow or violet blindness is extremely rare.

4. Confrontation visual field test

The function of the retinal periphery is assessed by measurement of the peripheral field of vision. The confrontation test grossly measures visual fields, and even though the results are normal, a defect may still be detected by more sensitive methods of examination. The confrontation test is carried out as follows.

The examiner sits facing the patient at a distance of one meter in an area with good illumination. The patient is asked to close one eye, usually by holding the eyelid closed with

his fingers. The examiner closes his own opposite eye. Thus, if the patient closes his right eye, the examiner closes his left. The examiner then brings his hand slowly in from the periphery mid way between the subject and himself, with one, two, or three fingers extended. The patient is instructed to tell the examiner when he can see and count the number of fingers in his field of vision. When the patient and examiner have normal vision, each should recognize the number of fingers at the same time. Usually one tests the temporal and nasal fields and the fields above and below each eye in turn.

B. External Examination of the Eyes

5. Inspection of eyelids and position of eyes

Examination is carried out in a systematic manner beginning with the skin of the eyelids and continuing inward. The examiner first notices the symmetry and width of the palpebral fissures and the position of the eyes. The eyelids are inspected for defects, blood stasis, inflammation, entropion or ectropion, and any other abnormalities. The eyelids usually conceal the corneoscleral limbus from 11 to 1 o'clock meridians. Proptosis or retraction of the upper eyelids in thyroid ophthalmopathy is often first manifested by exposure of a narrow rim of sclera above the corneoscleral limbus.

The examiner should note the size (microphthalmos or enophthalmos), prominence (exophthalmos), and position (orbital tumor, strabismus) of the eyes. Palpation may be helpful in locating orbital tumors and determining their size, consistency and pulsation.

6. Evaluation of extraocular muscle function in 6 directions

The examiner positions himself in front of the patient and requests that, without moving the patient's head, the patient's eyes follow the examiner's finger or a pencil in six directions. The usual format is from left to upper left, to lower left, and then to the right, upper right and lower right.

7. Lacrimal sac examination

(With thumb compression for lacrimal duct obstruction). Ask the patient to look up. Press on the lower lids close to the medial canthus, just inside the rim of the bony orbit. You are thus compressing the lacrimal sac. Observe fluid regurgitation out of the puncta into the eye. Avoid this test if the area is inflamed and/or tender.

8. Inspection of the lower tarsal, fornical bulbar conjunctivae and sclera

The patient looks upward, and the lower eyelid is drawn downward by the examiner's thumb applied to its orbital portion, exposing the lower tarsal, fornical, bulbar conjunctivae and sclera. Note the conjunctiva and sclera for color, the vascular pattern, foreign body, etc. With the exception of trachoma and vernal catarrh, nearly all conjunctival inflammations are more marked in the inferior fornix than in the superior fornix.

9. Inspection of the upper bulbar conjunctiva and sclera

Instruct the patient to look downward. Get the patient to relax the eyes. Raise the upper eyelids slightly so that the eyelashes protrude and then inspect sclera and bulbar conjunctiva.

10. Inspection of the upper tarsal conjunctiva by eversion of the upper eyelids

Inspection of the upper tarsal conjunctiva requires eversion of the upper eyelids. While the patient looks down, the margin of the upper eyelid is grasped by the examiner between the thumb and the index finger. The eyelid is drawn gently outward to break the suction between the eyelid and the globe. The eyelid is then everted. The tarsal conjunctiva is exposed, and the meibomian glands perpendicular to the eyelid margin may be seen through the transparent tarsal conjunctiva. Sometimes a small portion of the lacrimal gland may be seen at the outer canthus (Fig. 3-1).

11. Inspection of the anterior segment of eyes

Obvious disorders in the front part of the eye can be seen without any special instruments. The examiner faces the patient and holds a small penlight in his right hand, which provides a concentrated beam of light upon the eye, at an angle of 45 degrees. Examiner observes the cornea, anterior chamber, and iris carefully through a +10 diopter convex lens held in his other hand.

The anterior surface of the cornea should be smooth, regular, and mirror like. The iris pattern should be distinctly seen in all regions. Corneal blood vessels should not be present. In corneal edema, the cornea has a diffuse ground-glass appearance. Marked opacities are usually evident. Corneal vascularization may be superficial or deep and may involve the entire cornea or merely a segment of it. Staining of the cornea with fluorescein solution may be used to demonstrate areas where epithelium is deficient.

The depth of the anterior chamber is estimated as the distance between the posterior surface of the cornea and the front surface of the iris. Usually it measures 3mm or more.

The iris crypts and collarette should be clearly visible. Inability to see them suggests a corneal opacity, cells in the aqueous humor, or an iritis.

12. Corneal sensitivity examination

The sensory innervation of the cornea is derived from the nasociliary branch of the ophthalmic division of the trigeminal nerve (NV) through the long ciliary nerves. Corneal sensitivity is tested clinically by means of a cotton-tipped applicator with a wisp of cotton twisted to a point. The patient is instructed to look directly ahead and the cornea is touched with the cotton wisp. With normal innervation, an eyelid closure reflex follows almost immediately. Care must be taken not to touch the eyelashes or the eyelid margins with the cotton wisp and not to stimulate eyelid closure by allowing the patient to see the wisp. A different cottontipped applicator should be used for each eye.

Corneal sensitivity is reduced in herpes simplex inflammation of the cornea. It is also reduced after herpes zoster involving the nasociliary branch of the ophthalmic division of the trigeminal nerve, in adenovirus disease of the cornea, in congenital alacrima, and in many corneal dystrophy. Corneal sensitivity may be reduced in lesions at the apex of the orbit, which may also be associated with involvement of the motor nerves to the eye.

Corneal anesthesia is an important sign in cerebellopontine angle tumors.

13. Observation of pupillary direct response to light

The pupils should be inspected for size, shape, equality of the pupils, reaction to the stimulation of light.

The direct pupillary response to light is elicited by directing the light of a penlight into the eye and observing the pupillary constriction in the same eye. The pupillary constriction is reversed as soon as the light moves away. Each eye is examined separately. Examination for reaction to light is best performed in a darkened room with the examiner to the side of the patient. The examiner should avoid shining the light into both pupils simultaneously and should not permit the patient to focus on the light source.

14. Observation of pupillary consensual response to light

With the same method as above, the examiner shines the light into one eye and inspects for pupillary constriction in the opposite eye.

15. Check for convergence and accommodation

The examiner, positioned in the front of the patient, asks the patient to look ahead and then at his finger held just in front of the bridge of the patient's nose, while the examiner is observing the patient's eyes for pupillary constriction and convergence. Convergence means the ability of both eyes to come together as the patient focuses on a near object. (Fig. 3-2)

The near reflex includes convergence and pupillary constriction (accommodation) as the patient focuses on the near object.

The accommodation will vanish when cranial nerve III is damaged.

16. Examination of intraocular tension

Examination of intraocular tension can be done by two methods. One is to use fingers and another is to use a tonometer. Finger tension technique is a gross screening procedure for detecting increases or decreases in pressure. It is best to have the patient look down (do not close eyes), and then palpate the sclera through the upper lids. Use two fingers, preferably the forefingers of both hands. Gentle alternating pressure is applied to the upper sclera. The advancing finger holds the whole eye in position against the orbital fat and is not used to interpret softness. The rebound of the depressed sclera against the withdrawing finger is the most reliable criterion of intraocular tension.

Record intraocular tension: Tn indicates normal tension. T + 1 indicates slightly increased tension, T + 2 indicates moderately increased tension, T + 3 indicates much increased tension. T - 1 indicates slightly decreased tension, T - 2 indicates moderately decreased tension, T - 3 indicates much decreased tension.

C. Ophthalmoscopic Examination

17. Positioning patient at height comfortable for examiner

It is best to have the patient positioned at a height comfortable for the examiner.

18. Dim lights of the room

Dim lights before ophthalmoscopic examination. The examiner should darken the room to facilitate observation of the intraocular structures.

19. Switch on the ophthalmoscopic light and adjust it

Switch on the ophthalmoscope light and adjust it to the large round beam of white light. Some physicians like to use the large round beam for large pupils and the small round beam for smaller pupils.

20. Hold the ophthalmoscope properly

Hold the ophthalmoscope properly, keeping your index finger on the lens disc so that you can change lenses during examination. The examiner's free hand rests on the patient's eyebrow.

21. Position of the examiner

To examine patient's right eye, examiner stands on the patient's right side, holds the ophthalmoscope with his right hand and uses his right eye. This is reversed to examine the patient's left eye.

22. The action of examiner during the fundus examination (1)

During the examination, the examiner holds the patient's head still by placing his thumb on the patient's eyebrow. The head of the ophthalmoscope is steadied in the mediosuperior margin of the examiner's bony orbit. Usually it is not necessary to elevate the patient's eyelid for an adequate view.

23. The action of examiner during the fundus examination (2)

Ask the patient to look slightly up and over your shoulder and gaze at a specific point on the wall. Bring one's own right eye up to the sight-hole and move closer to the patient's right eye at the angle of 15 degrees lateral to the patient's line of vision. Then look down into the patient's eye. This is reversed to examine the patient's left eye.

24. Inspection for any opacities in the ocular media

A +8--+10 diopter lens is rotated on the viewing aperture of the ophthalmoscope, and the patient fixes on an object. The examiner directs the ophthalmoscopic light into the eye at a distance of about 20cm. A red fundus reflex will be observed. Any opacities in the ocular media will stand out as black silhouettes against a red background.

25. Inspection of optic disc and tracing vessels in four quarters

Keeping attention directed to the red reflex, the examiner gradually approaches the patient's eye while steadily decreasing the power of the ophthalmoscope lens (i. e. moves towards "0" or beyond to negative numbers). Once funduscopy details are seen, a blood vessel is followed to its origin at the optic disc, and the systematic examination usually begins with the optic disc.

The disc is pale pink, except for the physiologic cup, which is nearly white. The edges of the disc are usually flat and sharp, but not uncommonly the nasal margin is less distinct than the temporal margin. Pigment may be visible, particularly on the temporal side, sometimes as a continuous arc and at other times as linear streaks concentric with

the disc. This is called a choroidal ring and is of no pathologic significance.

The optic disc is about 1.5mm in diameter. The diameter of the disc is the standard unit of measurement in the fundus. The disc is approximately the same size in most patients. Marked enlargement of the disc rarely occurs, but its occurrence suggests a cuneiform, myopia, or posterior staphyloma.

The physiologic cup of the optic disc is a funnel shaped depression that varies in size and shape. In some cases it is located nearly at the center of the disc, and greyish areas of the lamina cribrosa are evident. In other eyes the cup has a more oblique arrangement and its bottom cannot be seen. The ratio of the horizontal diameter of the cup to the horizontal diameter of the disc is important in glaucoma.

During optic disc examination, you should note: color, size, clearness of the margin, etc.

Identify the arterioles and venules. The retinal arterioles have a smaller diameter than the venules; the usual ratio of arteriole to venule being 3 : 4 or 2 : 3. A broad, bright streak is reflected from the convex surface of arterioles. The reflection from venules is much narrower and not nearly as bright. The oxygenated blood is much brighter red in the arterioles than in the venules. In a complete examination of the fundus, the examiner should trace vessels in four quadrants. The superior and inferior temporal and nasal arteries are followed as far to the periphery as they can be seen. Note their relative sizes and the character of the arteriovenous crossings. Identify any lesions of the surrounding retina (e. g. edema, hemorrhage, detachment, degeneration, etc.) and note their size, shape, color and distribution.

26. Observation of macula

In the usual ophthalmoscopic examination, final attention is directed to the macula area. The macular area is especially important because it is responsible for central vision. By asking the patient to look directly into the light, inspect the macular area. This is an avascular area somewhat larger than the disc but has no distinct margins. The fovea centralis is situated about 2 disc diameters (3mm) temporal to the optic disc. Its center is slightly below the center of the optic disc. Shimmering light reflections in the fovea centralis are common in young people. Usually pupillary dilation is required for careful examination of this area since pupillary constriction is marked when the fovea centralis is illuminated.

During the examination of the macular area, you should observe for light reflection in the fovea centralis, edema, exudation, hemorrhage and neovascularization, tear (hole) etc.

附：眼部检查纲要

A. 视功能的检查

1. 远视力的检查

2. 近视力检查
3. 色觉检查
4. 对比视野检查法

B. 外眼检查

5. 视诊眼睑及眼球的位置
6. 检查双眼眼外肌 6 个方向的功能
7. 泪囊的检查
8. 下睑、下穹窿及下份球结膜和巩膜的检查
9. 上份球结膜和巩膜的检查
10. 翻转上睑检查上睑结膜
11. 眼前节的检查
12. 角膜知觉检查
13. 瞳孔的直接光反射检查
14. 瞳孔的间接光反射检查
15. 检查调节和辐辏反射
16. 眼压的检查

C. 检眼镜检查

17. 调整患者座位于适当高度；
18. 关暗室内光线
19. 打开检眼镜的光源并调节光线
20. 正确握持检眼镜
21. 检查者的位置
22. 检查时检查者的姿势 (1)
23. 检查时检查者的姿势 (2)
24. 眼的屈光间质的检查
25. 视乳头及四个象限血管的检查
26. 检查黄斑

APPENDIX

CHECKLIST FOR EYE EXAMINATION

A. Functional Examination of the Eyes

1. Visual acuity
2. Near sight vision test
3. Color vision test
4. Confrontation visual field test

B. External examination of the eyes

5. Inspection of eyelids and position of eyes
6. Evaluation of extraocular muscle function in 6 directions

7. Lacrimal sac examination
8. Inspection of the lower tarsal, fornical, bulbar conjunctivae and sclera
9. Inspection of the upper bulbar conjunctiva and sclera
10. Inspection of the upper tarsal conjunctiva by eversion of the upper eyelids
11. Inspection of the anterior segment of eyes
12. Corneal sensitivity examination
13. Observation of pupillary direct response to light
14. Observation of pupillary consensual response to light
15. Check for convergence and accommodation
16. Examination of intraocular tension

C. Ophthalmoscopic examination

17. Position patient at height comfortable for examiner
18. Dim lights of the room
19. Switch on the ophthalmoscopic light and adjusting it
20. Hold the ophthalmoscope properly
21. Position of the examiner
22. The action of examiner during the fundus examination (1)
23. The action of examiner during the fundus examination (2)
24. Inspection for any opacities in the ocular media
25. Inspection of optic disk and tracing vessels in four quadrants.
26. Observation of macula

耳、鼻、咽喉部检查方法

A. 耳部

耳部检查常采用患者侧坐，受检耳向检查者的体位进行视诊、触诊及电耳镜检查。

1. 视触两侧耳廓及周围有否畸形、炎症 外耳的视诊虽仅需数秒钟，但常易被忽视。视诊时注意耳廓的外形、大小及位置、两侧的对称性，有无畸形、肿胀、肥厚等。观察耳周有无附耳，红、肿、瘻口、疤痕、新生物及皮肤损害，并予以记录。耳后区的肿胀、充血、瘻管及疤痕提示乳突炎。乳突感染可使耳廓向前、向侧方移位。

牵拉和触诊双侧耳廓及耳后区，触痛提示炎症。

2. 触诊颞下颌关节有无触痛及肿胀，食指插入外耳道检查关节运动 颞下颌关节位于外耳道之前，该处肿胀常不易察觉。触诊时，检查者将一指或两指指尖同时按压于两侧颞下颌关节上，或将两食指分别放入患者外耳道内并向前轻推，同时嘱患者张口及闭口，关节的运动及有无触痛。如关节肿胀明显，可在该区域触及一圆形肿块。年幼的颞下颌关节炎患者可导致下颌变短。

3. 仔细清除外耳道耵聍和脓液以利鼓膜检查 检查耳部时，最重要的步骤是耳道和鼓膜的准备，保证其清洁。必须仔细清除耵聍和分泌物。最简单的办法是用耵聍钩或棉拭子在耳镜直视下取出耵聍或清除脓液。耵聍钩应轻轻插入嵌顿耵聍之上移除之。因耳道壁覆盖的上

皮非常敏感，因此操作时应特别小心以免引起疼痛和出血（图 3-3）。

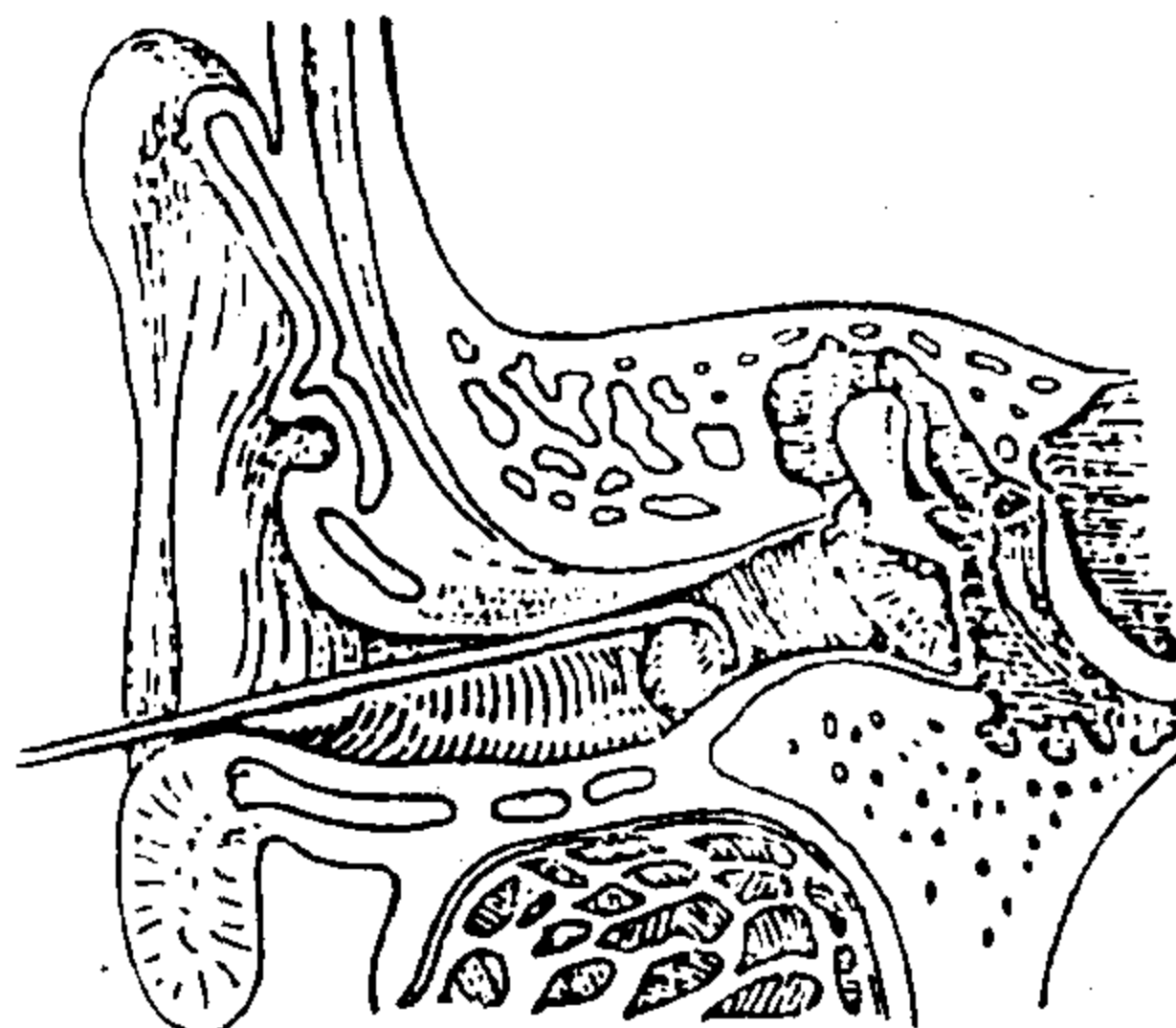


图 3-3 耳镜使用示意图

4. 向上牵拉耳廓，轻轻插入耳镜检查外耳道和鼓膜，注意有无肿瘤、脓液和穿孔

用耳镜检查双侧外耳道和鼓膜。耳镜呈漏斗状，为一基本检查器械。插入耳镜时，不应引起患者的疼痛和不适。为方便检查可使患者头部稍偏向对侧，并将耳廓轻轻向上、后外方向牵拉，向前下方向插入耳镜，检查外耳道和鼓膜。稳定耳镜对小儿和不合作的病人尤为重要，可使其手柄朝上，将握镜手的无名指和小指顶住头部。也可手柄朝下。

检查时注意外耳道有无肿胀、充血、疖肿、新生物、瘻管及狭窄。当外耳道内有分泌物时，应观察分泌物的性质，如脓性、粘液脓性、粘液性、浆液性等。纯脓性时，说明系外耳道炎症或腮腺脓肿破溃至外耳道；粘液脓性，常提示中耳的炎症。还应注意分泌物的气味、颜色，并将脓液彻底拭净，以便窥清鼓膜。当耳道内分泌物臭，特别是奇臭时，说明中耳内炎症病变严重，需尽快手术，以避免发生颅内外并发症。

检查鼓膜时应注意有无红肿、内陷、增厚、穿孔、疤痕及积液等。听小骨的检查也很重要。

充血肿胀的鼓膜可以呈条纹状、放射状或者弥漫性，这提示中耳有炎症。如鼓膜穿孔，应说明其部位（紧张部或松弛部）、大小（大、中、小穿孔）和形状（圆形、椭圆形或不规则形）。如光锥缩短、变形或消失，锤骨短突明显外突则提示鼓膜内陷，常见于中耳的非化脓性炎症。

如外耳道有疖肿时，应避免使用耳镜进行检查。（图 3-4）

5. 摩擦手指或用耳语和秒表分别粗略测试两耳听力 听力检查应在安静的房中，两耳分别进行。嘱患者闭目，以手指堵塞一耳，检查对侧耳。检查者用两手指摩擦，自受检耳 1 米处逐渐移近，直至患者能鉴别声音。同样方法检查另一耳。有些检查者喜欢用耳语或秒表来测试。比较两耳的测试结果并与检查者的听力进行对照。

6. 用音叉鉴别传音性聋或感音神经性聋 如有听力障碍，可采用下列方法来区分是传音性耳聋还是感音神经性耳聋。

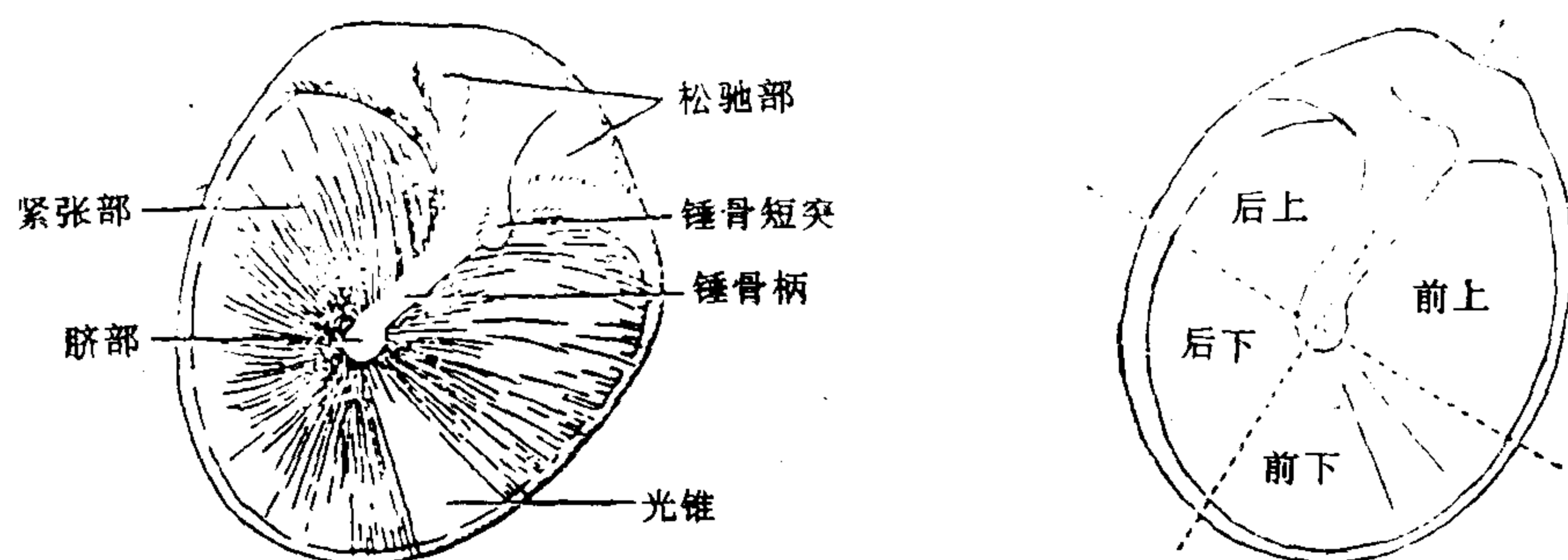


图 3-4 右耳正常的鼓膜像及其四个象限

(1) 韦伯氏试验 (Weber's test, WT): 又名骨导偏向试验, 用以比较受检者两耳的骨导听力。检查时, 将敲响音叉之柄底部紧压于头顶或前额正中, 或两中切牙之间。请患者辨别声音偏向何侧。听力正常或两耳骨导听力相等时, 声音居中。传音性耳聋的患者, 声音偏于病耳, 这是因为周围环境的噪音失去了对传音功能障碍耳的干扰作用, 因此病耳的骨导听力不受干扰之故。反之, 感音神经性聋的患者, 声音偏向健侧。

测试结果可用下列方法记录: 声音在中间无偏移, 记录为“↑”; 偏右记录为“↖”; 偏左记录为“↗”。

(2) 任内氏试验 (Rinne's test, RT): 亦称气导骨导听力比较试验, 测试单耳气、骨导听力。检查时, 将低频振动的音叉 (512Hz) 置于患者乳突上 (耳后的骨突), 直到患者听不到声音为止, 然后迅速将振动的音叉移近外耳道口 (相距 1cm), 检查患者能否听到声音。测试时, 应将敲响之音叉反复交替置于乳突区及外耳道口进行比较, 直到气、骨导均消失为止, 并记录两者时间。

气导时程长于骨导时程时, 称为“阳性”, 记录为“+”, 正常时气导时程约为骨导时程的 2 倍。中耳病变时, 气导和骨导时程之比发生变化, 如中度传音性聋, 气导和骨导时程相等, 记录为“±”; 重度传音性聋时, 骨导时程长于气导时程, 称为“阴性”, 记录为“-”。感音神经性聋的患者, 气导时程比骨导长, 虽然测试结果也是“阳性”, 但气导和骨导均有障碍。换句话说, 因两条途径传导均下降, 所以气导和骨导之比仍可为“阳性”。

(3) 施瓦巴赫氏试验 (Schwabach's test, ST): 又称骨导对比试验, 用以比较受检耳与正常耳的骨导听力。测试方法是将敲响之音叉交替置于患者及检查者的乳突区。传音性聋患者的骨导长于检查者 (正常) 的骨导, 记录为“↑”; 感音神经性聋的患者则相反, 其骨导短于检查者的骨导, 记录为“↓”; 如果患者与检查者的骨导时程一样, 记录为“=”。其原因和韦伯氏试验一样。

B. 鼻部

7. 视触外鼻有无畸形和炎症 检查外鼻时, 检查者取站立位或坐位, 面对患者。观察和触诊外鼻的皮肤和支撑结构的改变。鞍鼻可见于梅毒和麻风。鼻骨骨折是除腕骨和锁骨骨折外最常见的骨折, 任何鼻外伤引起出血都可能表明鼻骨或软骨骨折或移位。

8. 抬起患者鼻尖以检查鼻前庭和鼻腔前部有否溃疡和结痂 嘱患者头微后仰, 用拇指抬

起鼻尖，可以较好地观察鼻腔。鼻前底内衬皮肤，长有鼻毛，毛囊炎和皲裂是该处最常见的病变。

9. 嘱患者分别堵塞对侧鼻孔用单侧鼻孔呼吸以检查鼻通气状态 检查鼻腔通气状态，详见全身体格检查方法第 41 条。

10. 用鼻镜检查鼻中隔、中、下鼻甲和鼻道有无分泌物、肿胀、萎缩或穿孔 检查者立于患者前面。在耳镜头上套上短而宽的鼻镜，左手持镜检查左右侧鼻腔。轻轻从鼻孔插入鼻镜至鼻前庭内约 1cm。避免压迫敏感的鼻中隔引起疼痛。右手对内鼻检查至关重要，除使用器械外，右手始终置于头顶，随时调整头的位置以便看清鼻腔全貌（图 3-5）。

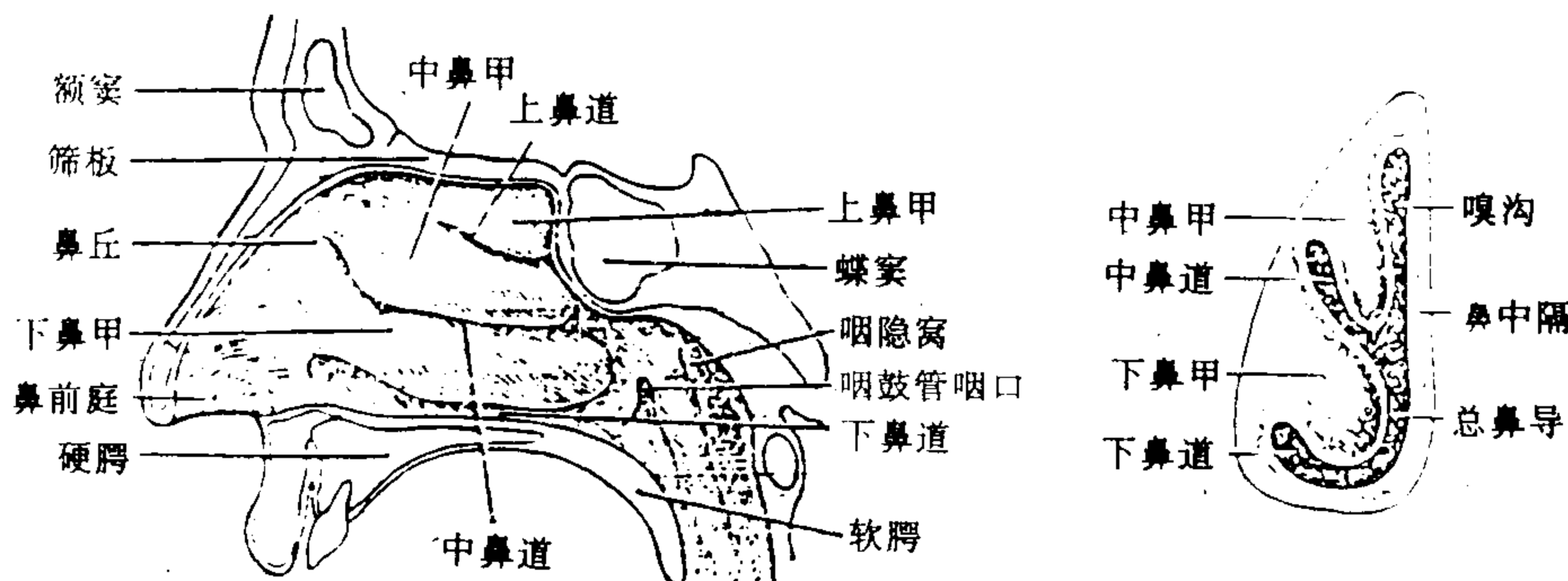


图 3-5 右侧鼻腔

例如，患者头呈立位时，检查者可以看清鼻底和下鼻甲；头后仰 30°，可以见到中鼻甲、中鼻道和嗅裂的一部分；头后仰 60°，则可观察到中鼻甲前份、嗅裂、中鼻道前下部分和中隔上部。检查时不主张使用头靠，因为头靠固定了患者的头部，妨碍右手调整头部的位置。鼻前庭有疖肿时不宜进行鼻镜检查。

鼻粘膜呈红色，光滑而湿润，以棉拭子轻触下鼻甲，觉粘膜柔软而具弹性。正常时，各鼻道无分泌物积聚。检查鼻腔时，注意鼻甲有无充血、肿胀、肥厚、干燥、萎缩，各鼻道内有无分泌物（描述其部位和量）、息肉、新生物，鼻中隔有无穿孔等。

11. 触诊和叩诊上颌窦、筛窦和额窦有无肿胀和触痛 鼻窦采用的是一种间接的检查方法，检查者不能直接观察鼻窦。上颌窦和额窦检查可用触诊和叩诊两种方法。同时按压两侧上颌骨可以比较两侧压痛的不同，而触诊上颌窦上份可以检查出视诊无法发现的上颌窦肿胀。额窦的触诊可用手指直接按压额窦的底部（眉根附近），该处壁较薄，容易引出触痛。额窦肿瘤或分泌物潴留常导致其向下隆起。筛窦的触痛可在鼻梁和内眦之间检查，也可叩诊该部位（图 3-6）。蝶窦除作鼻内检查以外，不能在体表进行检查。鼻窦检查时，应观察各鼻窦表面区有无红肿及隆起；观察眼睛的位置非常重要，很多疾病如炎症、囊肿、新生物可以压迫眼球并使其突出、移位或产生复视。

C. 口腔及咽、喉检查

12. 口腔检查 嘱病人张口，借助光线观察唇、舌的表面、牙龈及口腔顶部、颊粘膜，可用压舌板以助观察。若欲观察口底和舌底部，可令病人舌尖上翘触及口顶。

a. 唇：健康人口唇润泽而呈红色，因其富含毛细血管。唇色苍白见于贫血或虚脱病人，发

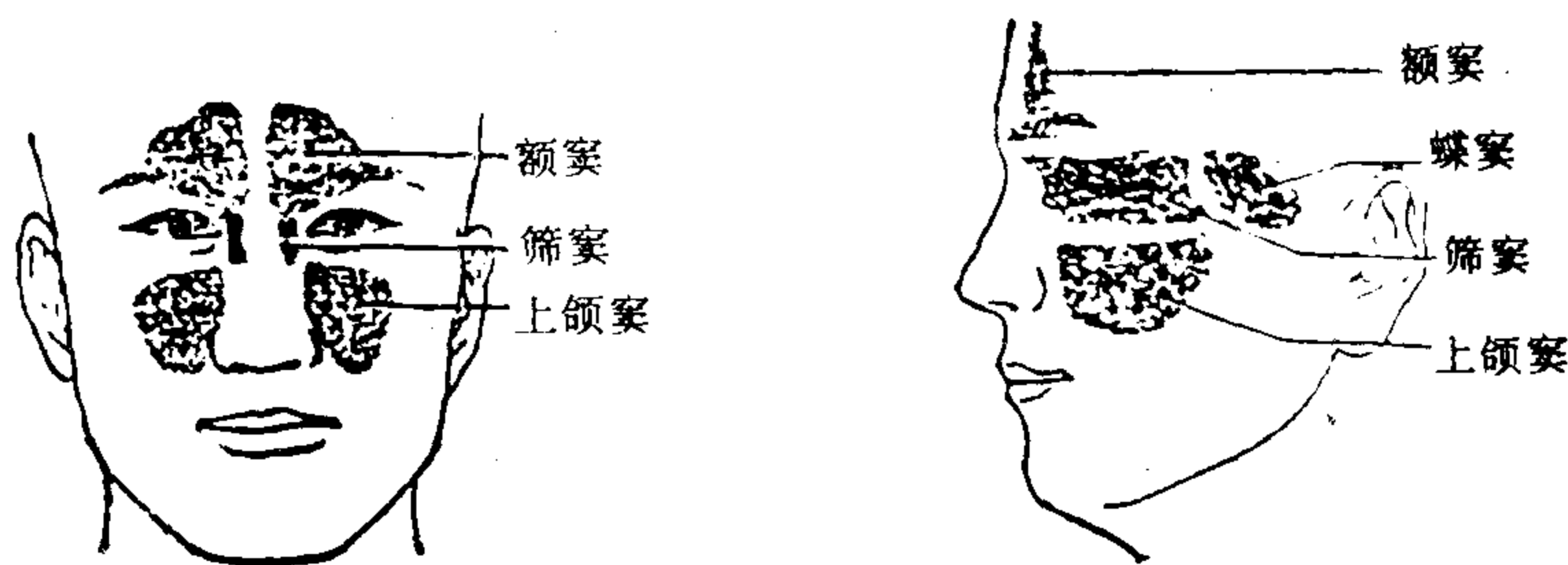


图 3-6 鼻窦的表面投影

绀可由心肺功能衰竭引起，唇干裂见于脱水，唇厚见于肢端肥大症等。

b. 颊粘膜：可利用自然光线或电筒检查。正常颊粘膜粉红而光滑，应注意溃疡及出血。色素沉着、蓝黑斑块见于艾迪生（Addison）氏病。腮腺开口于上颌第二磨牙正对的颊粘膜上。

c. 牙：成人有 32 颗牙，观察有否龋齿、错位。

d. 牙龈：观察有否肿胀、出血或色素沉着。

e. 舌：观察舌的外形、溃疡和运动。

13. 检查口底 触诊在口底检查中很重要。由于口底组织比较松软，有时只有触诊法才能触及新生物的存在。颌下腺导管结石最好也用触诊法检查。双手触诊法：用戴指套的手指置于口腔内触诊，另一手在口腔外配合。

14. 观察腭的抬高 令患者发“啊”音，观察双侧软腭的抬高情况，是否对称，并注意有无声嘶。

15. 用压舌板压住患者舌部以视诊腭扁桃体、腭咽弓、腭舌弓、咽侧索和咽后壁，注意有无充血、肿胀和脓液 咽部检查时，令病人张口，但勿伸舌。左手持压舌板，右手可握持其他器械。压舌板最好压在舌的中 1/3，如果压舌靠前，舌后部会隆起，非但不能暴露咽部，反而遮蔽视线；另一方面，如压舌靠后 1/3，多数病人易于呕吐。咽后壁是用压舌板时可观察到咽部的一部分。当学生观察到咽后壁血管时，常常倾向于认为是咽部“充血”，事实上，这些血管是正常的并无炎症改变，同样也见于腭咽弓、腭舌弓和软腭。咽后壁可见细小不规则的淋巴组织滤泡，呈红色或淡红色。咽侧索位于咽腭弓之后，从鼻咽部向舌根，亦有淋巴组织滤泡。检查时应注意有无充血、肿胀、脓性假膜和突起等。

扁桃体检查时让患者发“啊”音，同时用压舌板压住患者舌部。为了充分暴露扁桃体，以判断其是否正常、健康或肿大、罹病，最好的办法是用一压舌板压住舌部，再用另一压舌板轻压腭舌弓，使扁桃体显现；如增加压力可以使扁桃体隐窝的内容物流出。脓液（黄色）则提示炎症，白色分泌物可能为正常。至青春期时，淋巴组织减少，扁桃体变小。如新近发作扁桃体炎，扁桃体淋巴结常可触到。扁桃体增大不一定都有感染，舌的过度突出或对扁桃体的过度压迫可以使扁桃体看起来增大。单侧肿大可能为扁桃体癌肿或淋巴肉瘤。

扁桃体肿大分三度：

扁桃体位于腭舌弓与腭咽弓之间的扁桃体窝内，为 I°；

扁桃体超过腭咽弓，为 II°；

扁桃体达到或超过咽后壁中线者，为 III°。

16. 用两手指触诊和移动甲状软骨，注意其活动度，有否畸形

吞咽或发高音时，喉向上运动。喉狭窄的病人吸气时，喉向下运动。气管狭窄的病人，喉的运动受限。

完整的喉检查应包括颈部的触诊。应观察甲状软骨的外形，触诊甲状软骨和舌骨间的间隙，这是甲状舌骨管囊肿的好发部位。甲状软骨和环状软骨之间的间隙也应触诊，喉癌的病人有时可在此触及淋巴结。环甲间隙常作紧急气管切开的部位，因为在此处切开出血量最少。

用一手的拇指和食指捏住甲状软骨两侧，并将其向两侧摇动，可以引出喉的摩擦感，可在任何一侧触到。如不能引出，可能是新生物影响了喉关节的运动所致。

TRAINING MANUAL FOR OTO-NASO- LARYNGEAL EXAMINATION

A. Ears

While examining the ear, patient assumes a seated position and examiner faces the lateral side of the patient.

1. Inspection of the external ear

Inspection of the external ear is frequently neglected. It requires only a few seconds. The form, size, location, symmetry, malformation, bulge, hyperplasia should be noted. Pleonotia (additional ear), congestion, fistula, scar, neoplasms and damage of the skin around the auricles also should be documented. Swelling, congestion, fistula and scar in the post auricular region indicates mastoidal inflammation. In mastoid infection the auricles shift anterolaterally.

The examiner pulls and palpates the auricles (outer ears) and posterior auricular regions (behind the ears) bilaterally. Tenderness usually indicates inflammation.

2. Palpation of the temporomandibular joint

The temporomandibular joint (TMJ) is located anteriorly to the external auditory canal of the ear. Swelling in this joint is usually not appreciated.

To palpate the TMJ joint, the examiner presses both sides simultaneously with one or two fingers and asks the patient to open and close his mouth. Then the examiner places his index finger in the patient's ear and gently pulls forward (anteriorly), asking the patient to open and close his mouth. Marked swelling of the joint would feel like a rounded lump lying over the area. In young individuals, arthritis of the temporomandibular joint may result in a shortened lower jaw (micrognathia).

3. Move the wax and pus

The most important step in preparing to examine the ear canal and eardrum is making sure that they are clean. Wax and secretions must be meticulously removed.

Often the simplest way is to remove particulate matter with a cerumen spoon or cotton applicator while working under direct vision through the ear speculum. The cerumen spoon should be inserted above the impacted wax dislodging the wax. Because the epithe-

lium covering the inner aspect of the ear canal is exquisitely sensitive, great care must be used in these manipulations to prevent pain and bleeding (Figure 3-3).

4. Inspects the external auditory canal and the tympanic membrane bilaterally

The examiner inspects the external auditory canal and the tympanic membrane bilaterally with otoscope. The speculum of the otoscope, like a funnel, is a basic examining instrument. The examiner inserts the speculum of the otoscope without causing the patient pain or discomfort. To facilitate insertion, the examiner might ask the patient to tilt his head to the side opposite that which he is examining. By gently pulling the auricle upward, backward and slightly away from the skull, the examiner can insert the speculum in a downward and forward position and examine the canal and eardrum. The otoscope might be stabilized against the patient's head. This is especially important for children and uncooperative patients. This can be done by holding the handle pointing upwards and placing the 4th and 5th fingers on the patient's head. It can also be stabilized with the handle pointing downwards.

When the external auditory canal is inspected, check for swelling, congestion, furuncle, neoplasms, fistula, and narrowing of the canal. If there are secretions, their quality (such as purulent, mucopurulent, mucous, serous, etc.) odor and color should be observed and described. Purulent secretions usually indicate inflammation of the alvearium (ear canal) or a parotid abscess which has ruptured into the ear canal; mucopurulent secretions always indicate otitis media (OM) or middle ear inflammation. Bad smelling secretions usually indicate that inflammation in middle ear is very serious and the patient must be operated on as soon as possible to avoid intracranial or extracranial complications caused by OM.

The tympanic membrane, or eardrum, may be regarded as a translucent membrane through which the otologist views normal anatomy and also pathologic processes in the middle ear. When examining the eardrum, the examiner should note the presence of swelling, retraction, thickness, perforation, scar or hydrops. Auditory ossicles are also important to examine.

A swollen eardrum may be striped, radial or have total tumefaction which often indicates inflammation in the middle ear. If there is a perforation in the eardrum, its location (pars flaccida or pars tensa), size (large, middle or small perforation), and appearance (round, elliptical or heterogeneous shape) must be noted. If the cone of light becomes shortened, deformed or disappears, the projection protrudes, and the eardrum is retracted. Retraction of the eardrum indicates nonpurulent inflammation in middle ear. When there is a furuncle in the ear canal, the use of the speculum should be omitted (Figure 3-4).

5. Auditory acuity

Auditory acuity is tested in each ear separately in a silent room. The examiner should ask the patient to close his eyes and occlude (block) one ear with his finger while he checks

the auditory acuity in the opposite ear. He will then ask the patient to respond when the patient hears his two fingers rubbing together. The examiner should move his fingers from a distance of about 1 meter from the unobstructed ear towards the ear until the patient can distinguish the sound made. The same procedure should be repeated on the opposite ear. Some examiners will prefer to use whispered sounds or a ticking watch. The result is compared with the other ear of the patient or that of the examiner.

6. Distinguish between conductive deafness and sensorineural deafness

If a hearing loss is present, the examiner should attempt to distinguish between conductive deafness and sensorineural deafness by the following three maneuvers:

a) Weber's Test

This test is accomplished by placing the vibrating tuning fork on the vertex, forehead, or front teeth. With a conductive loss, the sound lateralizes to the diseased ear. The reason is that the conductive loss is masking some of the environmental noise, and thus the cochlea is more efficient on the diseased side. The lateralization of the sound or vibrations to the better-hearing ear signifies sensorineural hearing loss in the poorer hearing ear.

To document your findings, record the fact that the sound is heard in the center without lateralization to either side as " $\uparrow$ ". If the sound lateralizes to the right side, record this as " $\searrow$ ", left side as " $\nearrow$ ".

b) Rinne's Test

The examiner should place the base of a lightly vibrating tuning fork (512 Hz) on the mastoid process (bony point behind the ear) until the patient no longer hears the sound. Then the examiner should quickly place the vibrating fork near the ear canal (1cm) and ascertain whether the patient perceives the sound. In this test, the tuning fork is presented to each ear alternately by bone conduction and air conduction. The examiner should document both transmitting times.

The normal ear hears twice as long by air conduction as bone conduction. This is called a "positive" test which is recorded as "+". In middle ear disease, the ratio between air and bone conduction changes in favor of bone conduction. In other words, in moderate conductive loss the patient hears about as long by bone conduction as by air conduction. This is recorded as " $\pm$ ". In severe conductive loss, he hears even longer by bone conduction than by air conduction. This is called a "negative" test which is recorded as "-". The patient with a sensorineural loss hears longer by air conduction than bone conduction, i. e., he has a 'positive' test. But he hears poorly either way. In other words, the normal ratio is maintained, but hearing is reduced by both routes.

c) Schwabach's Test

This test is accomplished by alternately placing the vibrating tuning fork on the mastoid process of the examiner and the patient. With a conductive deafness, the patient's bone conduction is longer than examiner's and is recorded as " $\uparrow$ ". With a sensorineural loss, the patient's is shorter than examiner's and is recorded as " $\downarrow$ ". If the bone conduction

of the patient is as long as that of the examiner, this is recorded as “=”. The reason is the same as in Weber’s Test.

B. Nose

7. Observe and palpate external nose

Begin by examining the external nose. The examiner may stand or sit and face the patient. Observe and palpate for any changes of skin and loss of structure of support. The saddle-nose may happen in syphilis and leprosy. Fracture of the nasal bones probably occurs more often than any other fracture, except those of the wrist and the clavicle. Any trauma to the nose that causes bleeding from the nose may signify that the bone or cartilage has been broken or displaced.

8. Inspect the nasal vestibule and anterior part of nasal cavities

A better view of the nasal cavities is obtained by tilting the patient’s head back and elevating the tip of the nose with the thumb. The nasal vestibule is lined with skin and contains the nasal hairs, or vibrissae. Folliculitis and fissures are common diseases in the vestibule.

9. Test for patency

To test for patency, the examiner asks the patient to breathe through each nostril separately while the opposite nostril is held occluded. Normally there is free and equal egress of air through each nasal passage.

10. Inspect the nasal cavity with speculum

The examiner positions himself in front of the patient. The short wide nasal speculum on the otoscope is held in the left hand whether the examiner is examining the left or right side of the nose. The speculum is inserted gently through the nostril about 1cm into the vestibule while avoiding painful pressure against the nasal septum which is the most sensitive area. The examiner’s right hand is the real key to intranasal inspection because it positions the head. Except when used for instrumentation, the right hand is placed firmly on the top of the patient’s head and is used to change the head’s position from time to time. Ideally, the lower portions of the nose will be examined first and then the examiner will ask the patient to tilt his head slightly backward, stabilizing it with his hand to examine the upper portions of the patient’s nose. This presents a different view and is a good teaching point. For example, with the patient’s head erect, the examiner can see the floor of the nose and the inferior turbinate. When the head is tilted back 30 degrees, he can see middle turbinate, middle meatus and a part of the olfactory sulcus. When the head is tilted back 60 degrees, the front portions of the middle turbinate, olfactory sulcus, anteroinferior portions of middle meatus and superior portions of the nasal septum can be observed. The use of the headrest is discouraged because it fixes the patient’s head and defeats the proper use of the examiner’s right hand. When a furuncle of the nasal vestibule exists, the use of the speculum should be omitted.

The nasal mucosa is red, smooth and wet. A soft and elastic sensation can be felt when the lower concha is gently pressed by a cotton applicator. Normally there is no accumulation of secretions on any meatus. The examiner should inspect for the presence of swelling, thickness, dryness, atrophy, secretions (describe its location and quantity), polyps, neoplasms or perforation on examining the nasal chambers (Figure 3-5).

11. Examination of the paranasal sinuses

Examination of the paranasal sinuses is done more indirectly than other otolaryngeal procedures. Palpation and percussion might be used over the maxillary and frontal sinuses. Simultaneous finger pressure over both maxilla will demonstrate differences in tenderness. Palpation under the upper lip may demonstrate fullness not appreciated by inspection. The frontal sinuses are palpated by finger pressure directed upward toward the floor of the sinus where the sinus wall is thin. Tenderness may be elicited in this way. Swelling caused by tumors or retained secretions may cause a downward bulge in the floor of the frontal sinus. The ethmoid sinus can be palpated for tenderness between the bridge of nose and medial angle of eye. This can also be accomplished by tapping over the sinus areas. The sphenoid sinus cannot be examined except by intranasal inspection (Figure 3-6). The presence of swelling and bulge should be documented. The location of the eyes is very important in examination of the paranasal sinuses. Many diseases of them such as inflammation, cyst, neoplasms can constrict the eyes and make them bulge, shift position, or produce diplopia.

C. Mouth, Pharynx, Larynx

12. Inspects the lips, all surfaces of the tongue, gums, roof of the mouth and buccal mucosa

The examiner inspects the lips, all surfaces of the tongue, gums, roof of the month, buccal mucosa (the tissue lining the cheeks) by asking the patient to open his month and by shining a light into the area to be examined. The examiner may use a tongue depressor to aid inspection. To examine the floor of the mouth and the base of the tongue, the examiner will ask the patient to touch the roof of his mouth with the tip of his tongue.

a) Lips: The healthy lips are wet and a red colour. This is caused by a rich capillary network. Pale lips are seen in anemia or collapse. Cyanosis of the lips is present in failure of the heart or lungs. Xerocheilia may exist in dehydration and enlargement of lips may be seen in acromegaly.

b) Buccal mucosa: To examine the buccal mucosa, it is necessary to inspect in natural light or by shining a light. The healthy buccal mucus is pink and smooth. Pigmentation and blue-black plaques may appear on the buccal mucosa in Addison's disease. Ulcers and hemorrhages should be also observed. The duct of the parotid gland opens onto the buccal mucosa opposite the upper second molar.

c) Teeth: There are 32 teeth in the full adult dentition. The teeth are inspected for evidence of caries and malocclusion.

d) Gums: The gums should be inspected for the presence of swelling, bleeding or prg-

mentation.

e) Tongue: The tongue is inspected for its shape, movement and ulceration.

13. Inspect and palpate the floor of the mouth

The floor of the mouth is a region where palpation is important. Tissues are loose, and neoplasms are sometimes detectable only by palpation. The submaxillary salivary ducts may contain calculi that are best felt by palpation. Bimanual examination, using one gloved finger inside the mouth and the other hand outside, is best.

14. Observe the elevation of the palate

The examiner can observe the elevation of the palate as the patient says "AH". Simultaneously, hoarseness can be detected.

15. Inspection of the pharynx

To visualize the pharynx, the examiner asks the patient to open his mouth without sticking out his tongue. The tongue depressor is held in the left hand so that the right hand is free to hold other instruments. The blade is best placed on the middle third of the tongue. If placed too far anteriorly, the blade causes the posterior part of the tongue to mound up so as to obscure rather than to expose the pharynx. On the other hand, most patients gag if the blade touches the posterior third of the tongue. The posterior pharyngeal wall is that part of the pharynx that is visible when the examiner uses only a tongue blade. Students are prone to speak of hyperemia or "injection" of the throat when they see vessels on the posterior pharyngeal wall. Usually these small vessels are normal and do not present inflammatory changes. The same appearances may be seen on the tonsillar pillars and the soft palate. Small irregular spots of lymphoid tissue are common in the mucosa of the posterior pharyngeal wall. They are red or pink. The lateral pharyngeal bands are found posterior to the pillars running downward from the nasopharynx toward the base of the tongue. These pink bands are also composed of lymphoid tissue. The pharynx should be inspected for evidence of congestion, swelling, pus, pseudomembranes and protrusion.

Examination of the (palatine) tonsil. The tongue is depressed with a spatula, and while the patient says "AH", the tonsils are inspected. To decide whether the tonsils (absent in the newborn) are normal in size and healthy or enlarged and/or diseased, it is necessary to display them. The best method is to depress the tongue with one depressor while the tip of a second depressor gently compresses the anterior pillar. This everts the tonsil from its bed. Increasing pressure will discharge the crypts content. Pus (yellow) signifies inflammation; a whitish discharge may be normal.

With the advent of puberty, lymphoid tissue diminishes, and the tonsils become smaller. Following recurrent attacks of tonsillitis the tonsillar lymph node are frequently palpable. Enlarged tonsils are not necessarily infected. Extensive protrusion of the tongue or its forcible depression make the tonsils appear larger. Unilateral enlargement may signify carcinoma or lymphosarcoma of the tonsil.

Enlargement of tonsils is classified by three degrees.

- 1) Tonsil lies between the anterior and posterior pillars, recorded as “ I ”;
- 2) Tonsil is beyond the posterior pillar, recorded as “ II ”;
- 3) Tonsil reaches or is beyond the midline, recorded as “ III ”.

16. External laryngeal examination.

External laryngeal examination. The larynx moves upwards on deglutition and sometimes when singing high notes. It moves downwards during inspiration in cases of laryngeal stenosis but is immobile in tracheal stenosis.

Complete examination of the larynx calls for palpation of the neck. The shape of the thyroid cartilage is noted, and the space between the thyroid cartilage and the hyoid bone is palpated. This is a common site for a thyroglossal duct cyst. The space between the thyroid and cricoid cartilages is also palpated. Sometimes a lymph node is felt in patients with carcinoma of the larynx. The cricothyroid space is the site where an emergency tracheotomy may be done with the least bleeding.

Laryngeal crepitation is elicited by grasping the larynx (thyroid cartilage) between the thumb and index finger and rocking it vigorously from side to side. This maneuver should cause a crepitation felt on either side. If it does not, a postcricoid neoplasm may be present that cushions movements of the laryngeal joints.

附：耳、鼻、咽喉部检查纲要

A. 耳部

1. 视触两侧耳廓及周围有否畸形、炎症
2. 触诊颞颌关节有无触痛及肿胀，食指插入外耳道检查关节运动
3. 仔细清除外耳道耵聍和脓液以利鼓膜检查
4. 向上牵拉耳廓，轻轻插入耳镜检查外耳道和鼓膜，注意有无肿瘤、脓液和穿孔
5. 摩擦手指或用耳语和秒表分别粗略测试两耳听力
6. 用音叉鉴别传音性聋或感音神经性聋

B. 鼻部

7. 视触外鼻有无畸形和炎症
8. 抬起患者鼻尖以检查鼻前庭和鼻腔前部有无溃疡和结痂
9. 嘱患者分别用单侧鼻孔呼吸并堵塞其对侧鼻孔以检查鼻通气状态
10. 用鼻镜检查鼻中隔、中、下鼻甲和鼻道有无分泌物、肿胀、萎缩或穿孔
11. 触诊和叩诊上颌窦、筛窦和额窦有无肿胀和触痛

C. 口腔、咽、喉

12. 视诊唇、颊粘膜、牙、牙龈和舌有无溃疡、色素沉着和龋齿
13. 视触诊口底有无新生物
14. 令患者发“啊”音，观察软腭的抬高并注意有无声嘶
15. 用压舌板压住患者舌部以视诊腭扁桃体、腭咽弓、腭舌弓、咽侧索和咽后壁，注意

有无充血、肿胀和脓液

16. 用两手指触诊和移动甲状软骨，注意其活动度，有否畸形

APPENDIX

CHECKLIST FOR OTO-NASO-LARYNGEAL EXAMINATION

A. Ears

1. Observe and palpate auricles and postauricular regions bilaterally
2. Palpate temporomandibular joint for tenderness and swelling
3. Meticulously remove the wax and pus from the ear canal for examination of the eardrum.
4. Gently pull the auricle upward and insert the speculum to inspect external auditory meatus (ear canal) and tympanic membrane (eardrum, drumhead) for mass, pus and perforation.
5. Perform preliminary evaluation of auditory acuity, each ear separately, by rubbing fingers, whispered sounds or ticking watch.
6. Distinguish between conductive deafness and sensorineural deafness by tuning fork.

B. Nose

7. Inspect and palpate external nose
8. Inspect nasal vestibule and anterior part of nasal cavity
9. Test nasal patency by asking patient to breath through each nostril separately while the opposite nostril is held occluded.
10. With speculum inspect septum, inferior and middle turbinate, and corresponding meatus, for secretion, swelling, atrophy or perforation.
11. Palpate and percuss maxillary, ethmoid and frontal sinuses for swelling and tenderness.

C. Mouth, Pharynx Larynx

12. Inspect lips, buccal mucosa, teeth, gum and tongue for ulcer, pigmentation and caries.
13. Inspect and palpate the floor of mouth for neoplasms.
14. Observe elevation of the palate by asking patient to say "AH" and detect hoarseness.
15. Press a tongue blade firmly down on the tongue to inspect tonsils, anterior and posterior tonsillar pillars, lateral pharynx bands and posterior pharynx for congestion, swelling or pus.
16. Palpate and move thyroid cartilage with two fingers for malformation and mobility.

胸部检查方法

复习

复习体表标志 熟悉胸部的解剖和体表标志，以便正确描述胸部查体发现。

骨性标志包括：胸骨角、胸骨上切迹、锁骨上窝、锁骨下窝、腹上角、胸骨剑突、肋间隙、肩胛骨内缘、肋脊角。

人工划线包括：前正中线、左、右锁骨中线、腋前线、腋中线、腋后线、后正中线、肩胛线。

正确描述查体所见的部位：正常和异常。最好采用先水平位再垂直位的记录方式以便准确定位。

如“心尖搏动最强点在第五肋间隙左锁骨中线内1cm”；又如“左侧胸第五肋间隙以下，左后胸第七肋间隙以下叩诊浊音”。

A. 视诊

1. 检查者面对病人站立，观察胸廓外形和对称性，估计病人胸廓前后径与左右径之比（正常为1:1.5）。注意胸廓外形的变化。如前后径短，少于左右径的一半，则是扁平胸。胸骨明显下陷限制肺的活动，称为漏斗胸。鸡胸是胸骨前突的一种常见畸形，但一般不影响肺通气。图3-7显示几种常见胸廓畸形。

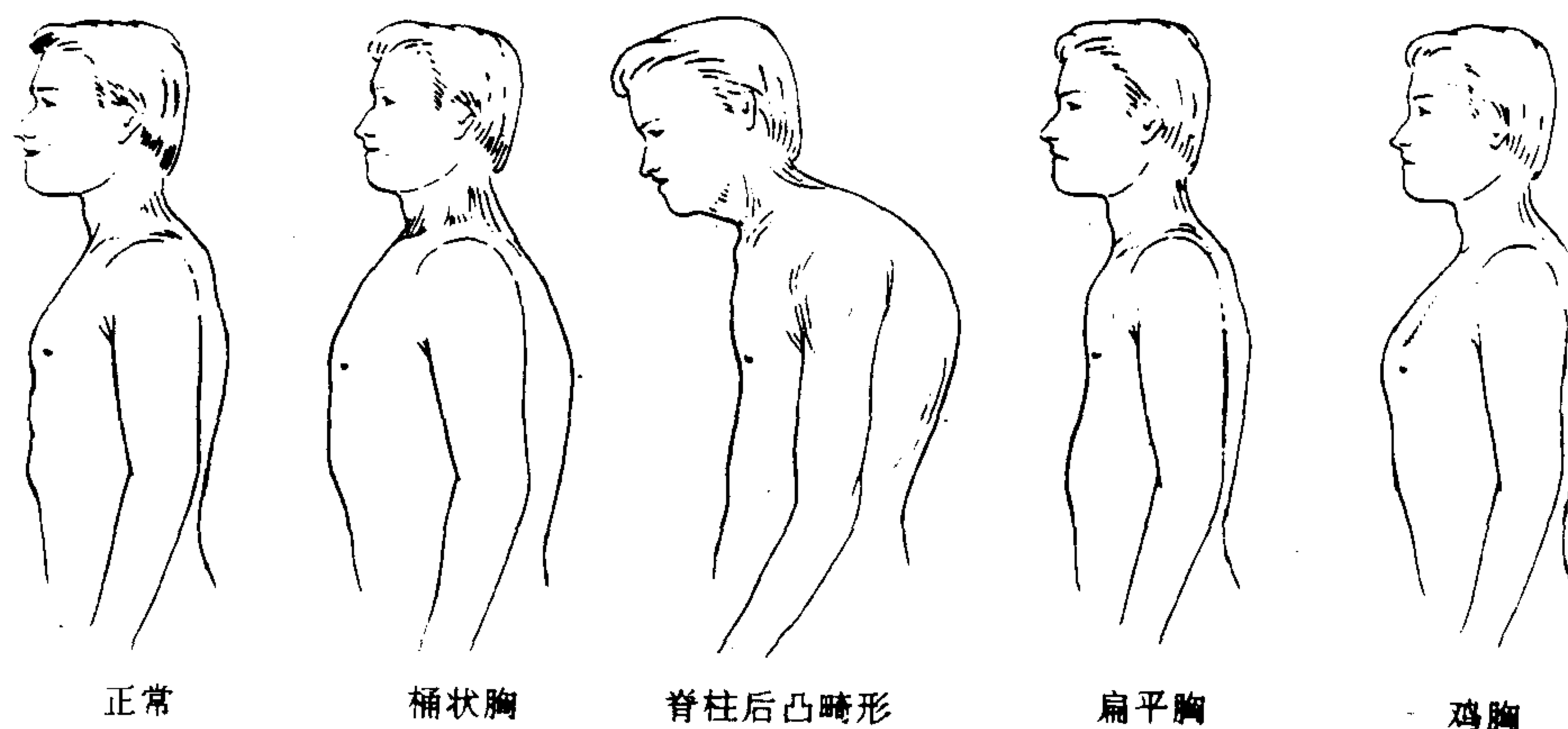


图3-7 常见胸廓畸形

2. 测量呼吸频率 当检查者将计数呼吸频率时，绝不要告诉病人。因为当一个人注意自己的呼吸时，他会不自觉地改变其呼吸深度和频率。较好的方法是，触诊脉搏后，继续将手指置于病人腕上，而将视线移至病人胸部，观察和计数呼吸频率。这样，病人未注意到检查者已完成脉搏触诊，就不会自主改变呼吸。计数30秒钟的呼吸次数，乘2可得每分钟呼吸次数。

正常成人每分钟呼吸16—20次。不正常的呼吸减慢称为呼吸过慢；而太快称为呼吸急促。呼吸暂停（Apnea）是指暂时的呼吸停止。过度通气是指呼吸过快过深，通常与代谢性酸中毒有关，此又称为库斯莫尔（Kussmaul）呼吸。其他还有一些异常的呼吸类型。呼吸困难是指呼吸频率增快且呼吸费力。正常呼吸比是1~2.5。如果呼吸费力主要是在吸气阶段，则称为吸气性呼吸困难。如果呼吸费力主要是在呼气阶段，则称为呼气性呼吸困难。在女性妊娠后期，由于横膈运动减少而以胸式呼吸为主，不能把此种情况视为异常。在儿童和成年男性，呼吸主要地依赖横膈的运动，即以腹式呼吸为主；在女性，则主要依赖肋间肌肉的运动，即以胸式呼吸为主。

B. 触诊

3. 触诊气管和确定气管的位置 嘱病人两眼平视正前方，双肩在水平位且两侧等高。检查者以一手示指和无名指分别置于病人两侧胸锁关节上，用中指触诊气管或气管与胸锁关节之间的间隙，从而确定气管的位置。正常人，气管与两侧胸锁关节的间隙相等，即气管居中。另一方法是置食指于胸骨切迹处轻轻往一侧移动手指感觉气管的位置，然后再从胸骨切迹往另一侧移动手指，如此判断气管是否在中线上。一些肺部疾病、胸膜疾病和纵隔的移位会推或拉气管而使气管偏移中线。

4. 触诊胸壁有无压痛 所有胸壁部位都应触诊有无触痛。“胸痛”为主诉的病人可能只是局部肌肉骨骼疾病而非心肺疾病所致，故需仔细检查胸壁所有部位有无压痛。检查者置一手于病人背部，同时另一手于胸骨上向后加压，若病人疼痛，则最明显的疼痛点可能是肋骨骨折部位。触诊时还应注意胸壁的弹性（需结合年龄因素考虑）、肋骨是否变得更水平以及肋间隙的宽度。捻发感是触诊胸壁皮肤的一种特殊感觉，提示皮下积气。捻发感类似手握雪团的感觉。

5. 乳房（女性乳房检查见乳房与盆腔检查）

6. 在后胸检查呼吸动度 检查呼吸动度及其对称性。局部的肺疾病和胸膜疾病可引起一侧呼吸动度弱于另一侧。

7. 在前胸部检查呼吸动度 检查者站于病人前面，双手置于病人两侧肋缘处，拇指指后剑突，其余四指沿肋缘张开，嘱病人深吸气，同时观察检查者双手的活动及其对称性。以检查前胸部的呼吸动度和对称性。

8. 触诊胸膜摩擦感 检查者将双手置于病人呼吸动度最大的部位即侧胸部的前下份，同时嘱病人深呼吸。此时若感到脏、壁层胸膜相互摩擦的感觉，即胸膜摩擦感。可在呼气和吸气相感觉到，但有时仅存在于吸气相。

9. 检查触觉语颤 受检查讲话时，检查者触其胸壁可感到震颤，这就是触觉语颤。触觉语颤对判断该部位肺组织密度及胸腔的病变有较大价值。当肺密度增加，肺变得更致密（即肺实变），将增加语言声波的传导，而使触觉语颤增强。皮下脂肪较厚、气胸或胸腔积液、肺气肿，则可使触觉语颤减弱。

检查触觉语颤通常是检查者用双手置于双侧胸壁对称部位进行检查。但为方便起见，也可用下列二种单手检查方法。第一种是检查者将右手尺侧缘置于病人胸壁，如图 3-8。嘱病人发“E”音，此时检查者可感觉和判断其语颤强弱，检查者将手移至另一侧胸壁的对侧部位，作同样检查。如此，检查者从上到下、两侧对比检查胸部不同部位的触觉语颤。因为发“E”音时引起的震动较明显，所以发“E”音是最常用的。嘱病人大声发音调更低的音，则可使触觉语颤增强。在后胸部 5—6 个部位检查触觉语颤，如图 3-9 所示。

另一种方法是用手指尖置于胸壁上来检查。检查部位如上图所示。以上两种方法任选一种即可。检查者初学时可对比此两种手法，选择自己认为更敏感之方法。

C. 叩诊

叩诊的原则：叩诊是指通过叩击机体表面来了解其深部结构的一种检查方法，如像雷达或回声探测系统。在胸壁的叩击传到其深层的组织，再反射回来使检查者的触觉和听觉能感受到。检查者听到的声音的性质或触到震动感的差异取决于空气与组织之比例。通过胸部的叩诊引起的震动只能判断 5 至 6cm 深度的肺组织的结构，但因为肺组织含气的改变在肺部疾病是很明显的，故叩诊在胸部检查中很有价值。

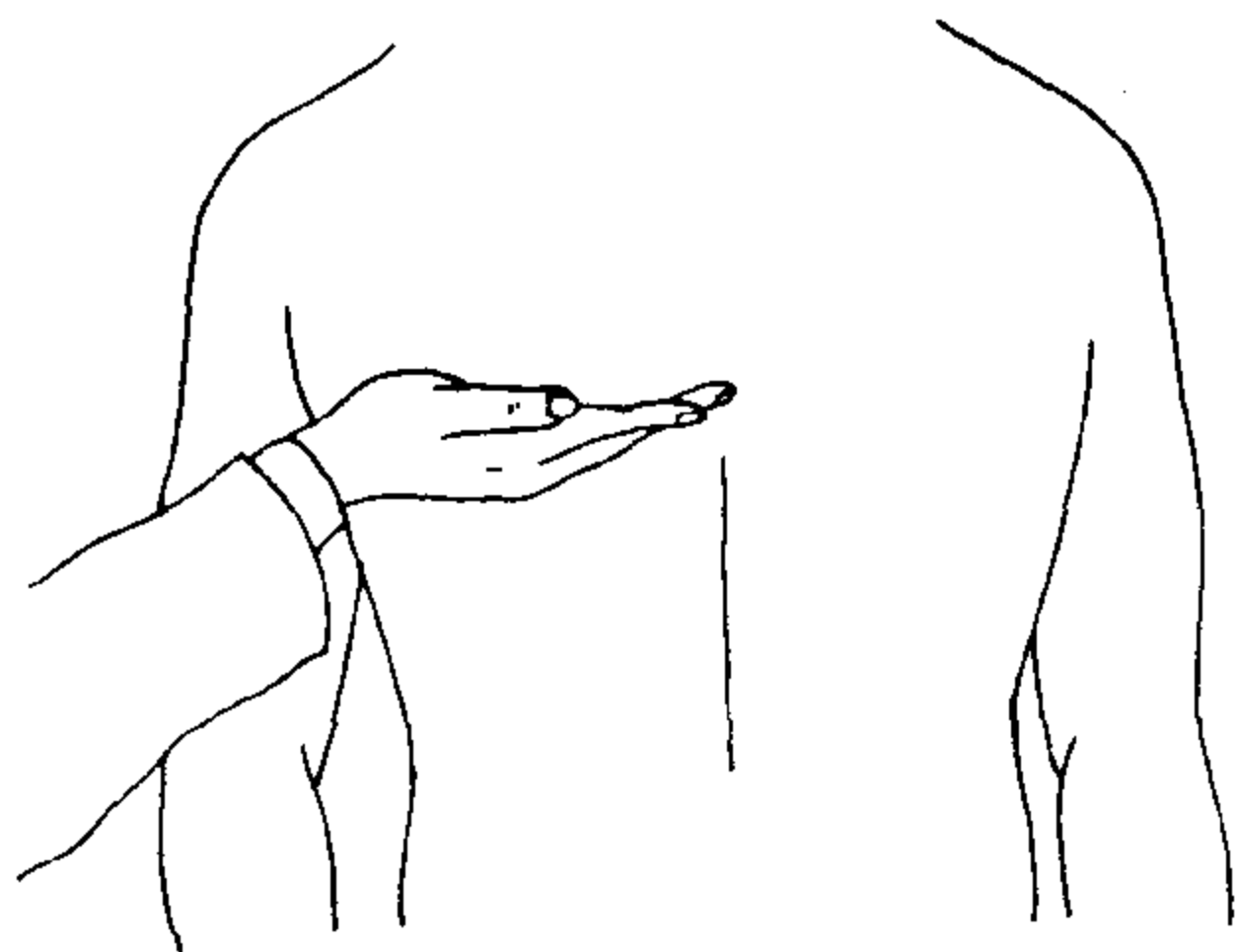


图 3-8 用手尺侧缘检查触觉语颤

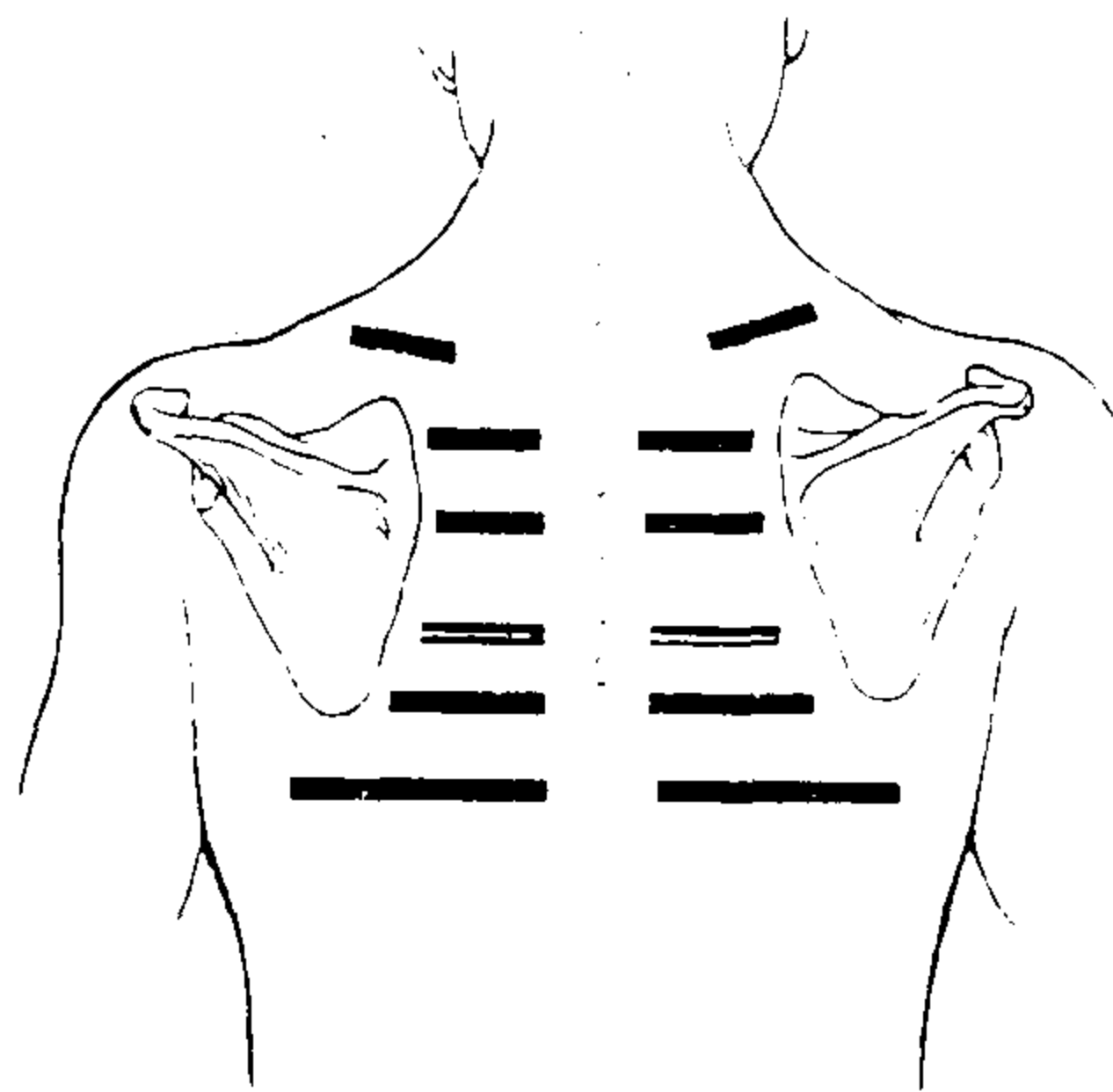


图 3-9 在后胸部检查触觉语颤的部位

在一个由肺脏遮盖的实质器官表面叩诊，如肝脏表面，产生浊音。浊音是一种低振幅、持续时间短而无回响的叩诊音。在含气组织结构表面叩诊，如肺脏表面，产生清音。这是一种振幅较高、音调较低的叩诊音。在含气空腔的表面叩诊，如胃表面，产生鼓音，即一种高调空响性质的叩诊音。在实质脏器表面叩诊，如肝脏、心脏，产生实音，一种高音调叩诊音。

在正常胸部叩诊，心脏被肺所覆盖部分呈浊音，肺野呈清音。当肺炎性渗出而实变时，如肺炎，则正常肺清音区就会变成浊音。高清音的概念是指叩诊密度降低的肺脏如肺气肿，产生的一种低调、介于清音和鼓音之间的声音。

正常肺野叩诊音的分布见图 3-10。

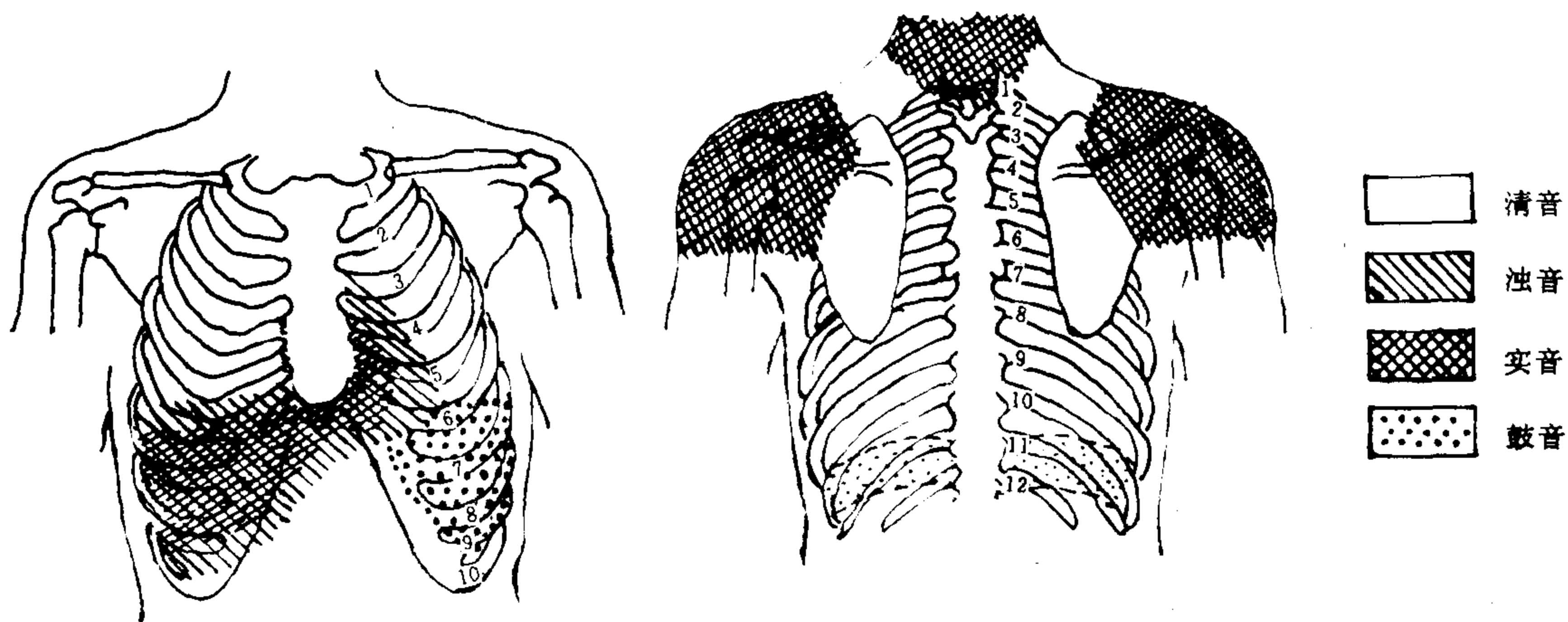


图 3-10 正常肺野叩诊音

在胸部叩诊主要有两种方法：间接叩诊法（指指叩诊法）和直接叩诊法。前者更常用。

间接叩诊法：将左手中指远端指间关节紧贴于胸壁，并与肋间隙平行（在肩胛间区，则手指与后正中线平行），手掌和其余四指离开胸壁。右手中指指尖短促而灵活地叩击胸壁上左手中指的远端指骨间关节。叩诊时右手的力量应来源于手腕而不是肘关节。叩诊技巧如图 3-11 所示。

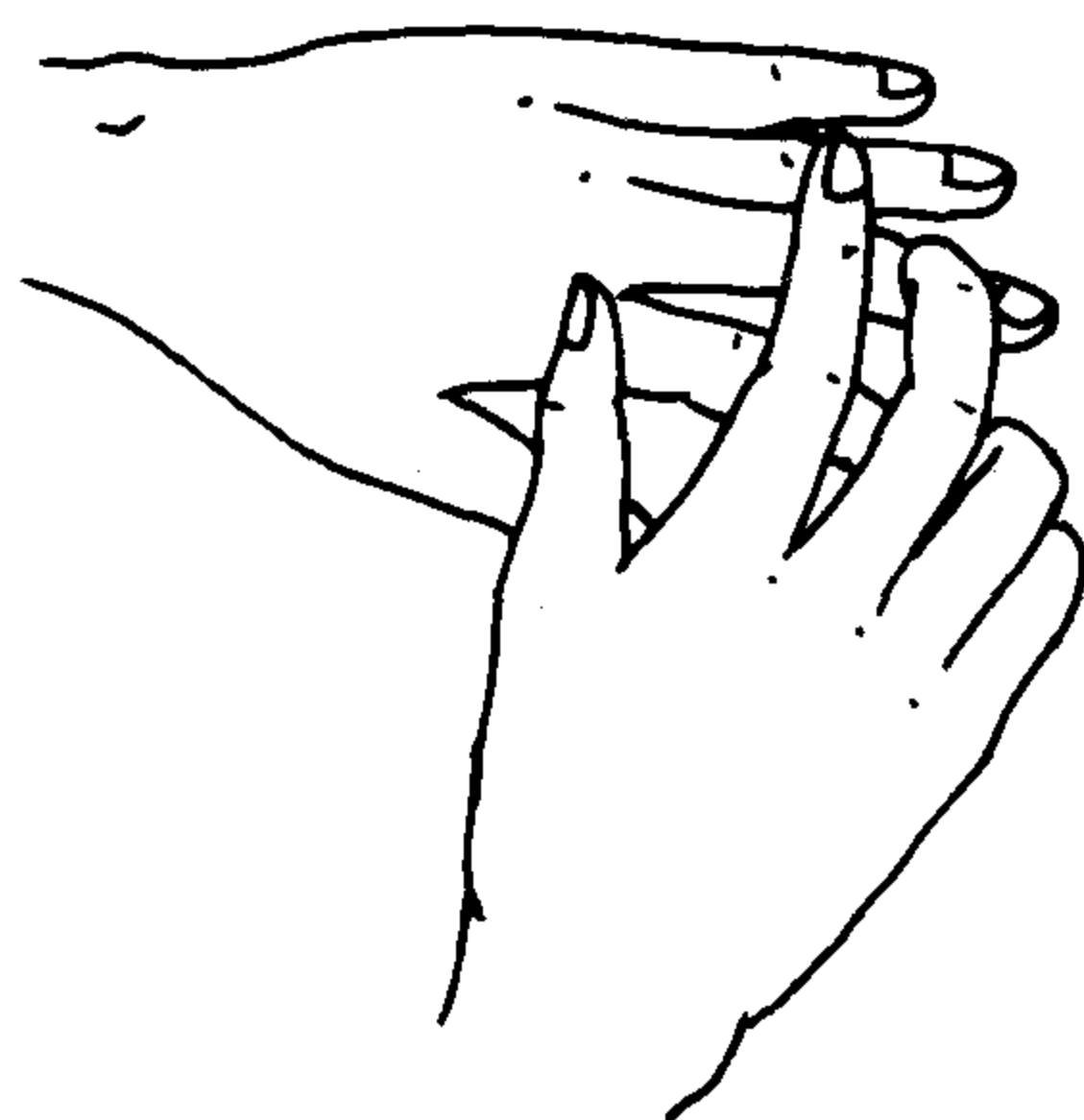


图 3-11 指指叩诊法

直接叩诊法：用中指的掌面或并拢中间三指的指尖叩诊胸壁。

胸部叩诊时需注意手指的感觉和叩诊音。

10. 叩诊锁骨上窝 锁骨上窝是肺尖区域。检查者站于病人背后。用指指叩诊法自斜方肌前缘的中点开始向外叩，直至清音变为浊音，标记该点。然后再从上述中点向颈部方向叩，至清音变为浊音，再标记该点。两点间距离即为肺尖之宽度。正常宽度为 4 至 6cm，右侧较左侧稍窄。如肺尖叩诊音变浊，则肺尖可能有实变。

11. 叩诊后胸部 检查者站于病人背后。后胸部的叩诊部位包括肩胛上区、肩胛间区和肩胛下区，同触觉语颤的部位。肩胛骨上不能叩诊。叩诊应从上至下，两侧对比。每侧每一肋间隙至少应叩两个部位。

12. 叩诊肺下界 通常在两侧锁骨中线、腋中线和肩胛下线上叩诊肺下界。嘱病人平静呼吸，从肺野的清音区（一般前胸从第 2 或第 3 肋间隙，后胸从肩胛线上第 8 肋间隙）开始叩诊，向下叩至浊音点。正常人，在锁骨中线、腋中线和肩胛下线上，肺下界分别是第 6、第 8 和第 10 肋间隙。

13. 叩诊肺下界移动度 在两侧肩胛下线用叩诊来了解肺下界移动度，即膈肌移动范围。嘱病人深呼气后屏住呼吸，叩出右肺下界，此代表膈肌最低水平，再下即是肝浊音区。再嘱病人深吸气后屏住呼吸，从上至下重新叩出肺下界。呼气后，肺脏缩小，肝脏上移，浊音界上移。吸气和呼气时浊音界的上下距离即表示膈肌运动范围，正常为 4—5cm。用同样方法检查左侧。肺气肿患者，此移动度减少。膈神经瘫痪的病人，则移动度消失。

14. 叩诊前胸、侧胸部 检查者站于病人前面，从上到下、两侧对比进行叩诊。每侧每一肋间隙至少应叩诊 2—3 个部位。

D. 听诊

因为大多数呼吸音是高调的，故应用膜型听诊器来检查双肺。

听诊是听取机体所产生的声音的一种检查方法。胸部听诊可以了解肺产生的声音。听诊器有2种胸件：钟型和膜型。钟型用于听取低调声音，而膜型用于听取高调声音更好。钟型胸件必须轻轻置于皮肤上，若压得太紧，皮肤犹如隔膜，使低调声音滤掉。相反，膜型胸件需紧贴胸壁皮肤。瘦弱者因肋间隙太窄，难以放置膜型胸件，可将钟型听诊器紧压皮肤而相当于变成膜型胸件。正确使用方法如图3-12所示。

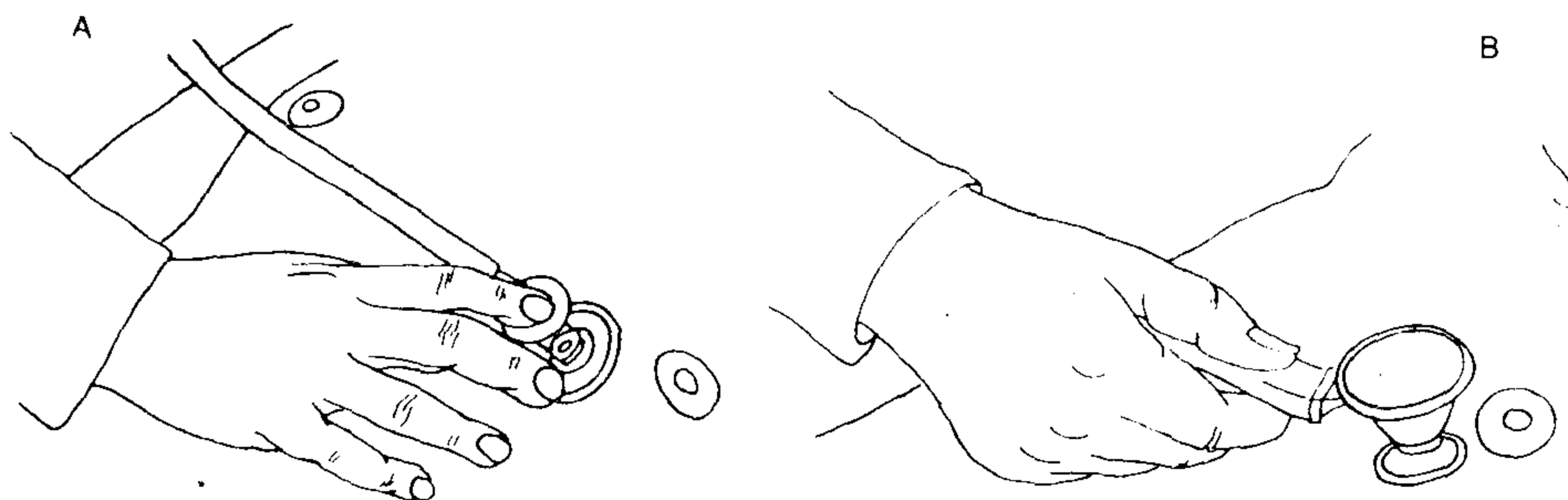


图3-12 听诊器膜型胸件(A)和钟型胸件(B)的使用方法

绝不能隔着衣服听诊。钟型或膜型胸件都必须直接置于皮肤上听诊。

听诊环境必须安静。嘱病人经口呼吸。听诊肺脏时，先注意吸气相，再注意呼气相。注意呼吸音强度和性质和变化，呼吸音减弱通常见于肺过度充气的病人，如肺气肿。区别正常呼吸音和异常呼吸音（在正常时听到肺泡呼吸音的任何肺野内，如听到管样呼吸音或支气管肺泡呼吸音，均为异常呼吸音。另外，呼吸音增强、减弱或消失都是异常呼吸音）。

注意湿啰音和干啰音

(1) 湿啰音 包括细湿啰音和粗湿啰音。

细湿啰音：细小的水泡破裂的声音或捻发音。

粗湿啰音：一种粗糙和低调的湿啰音。

(2) 干啰音 包括哨笛音和鼾音。

哨笛音：是气流通过狭窄的气道产生的一种高调声音，常在呼气相听到。

鼾音：是气流通过气管或主支气管产生的一种低调声音。像睡觉时打鼾的声音。

15. 听诊锁骨上窝 儿童、瘦弱者或女性病人，因锁骨上窝较窄，使用钟型胸件紧压于皮肤上（即声学上已相当于膜型）来听诊肺尖更理想。

16. 听诊前、侧胸部 从上至下，左、右两侧对比听诊，每侧每一肋间隙至少听诊2—3个部位。图3-13显示听诊部位。

17. 听诊后胸部 从上至下，左、右两侧对比地听诊。听诊部位同后胸部触诊部位。

18. 嘱病人深呼吸，检查胸膜摩擦音 听诊胸膜摩擦音最通常的部位是腋中线下胸部。一般在吸气末或呼气初容易听到，是一种像两层砂纸摩擦时产生的粗糙声音。

19. 检查听觉语音 受检者讲话时，其声音的震动可在胸壁上听到，即听觉语音。该声音的传导是从喉经过气管、支气管至肺和胸壁的。其临床意义与触觉语颤相同，但更为敏感。

嘱病人发“E”音或说“1、2、3”，同时检查者用膜式胸件听诊前胸和后胸肺野。注意声

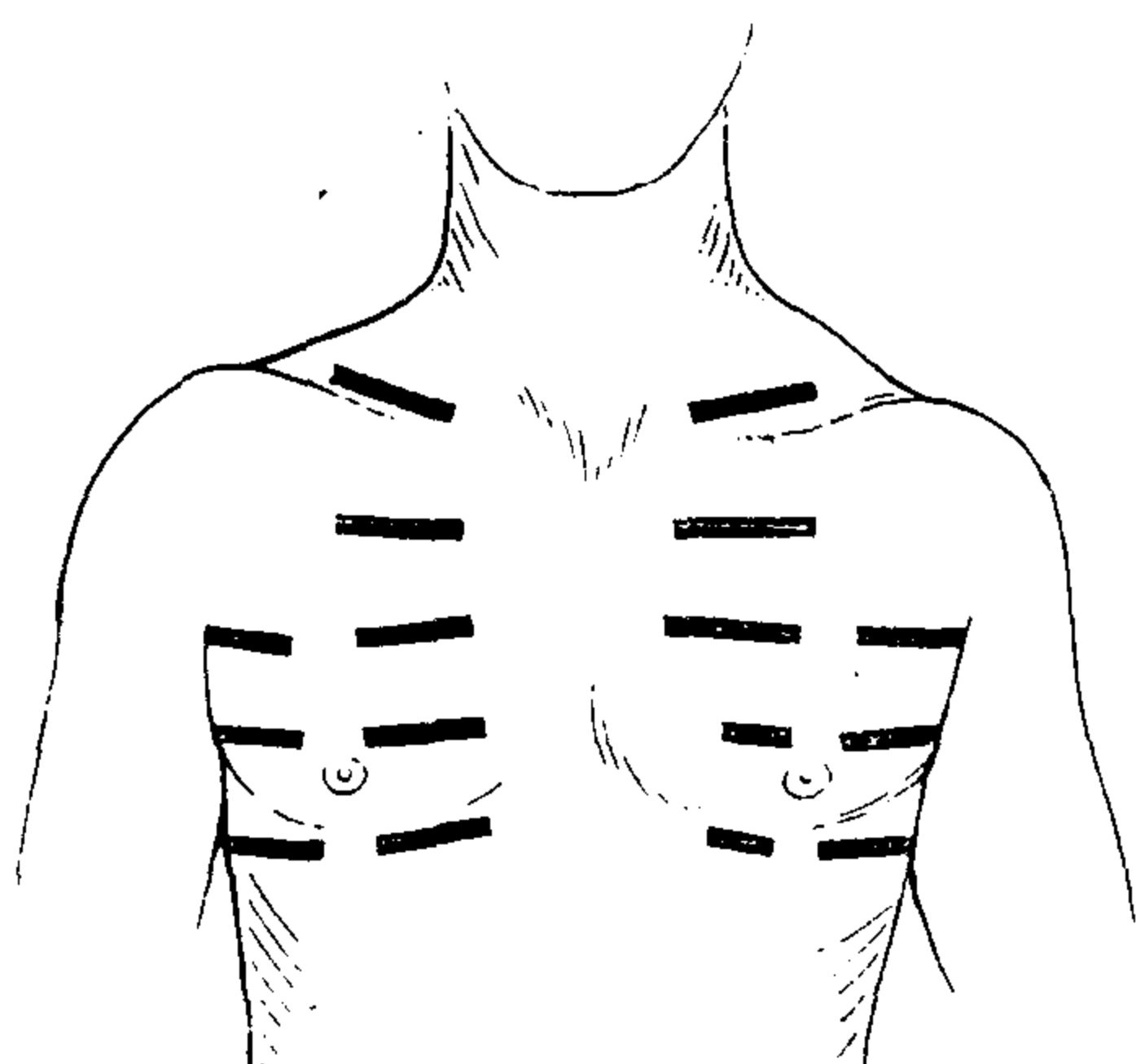


图 3-13 听诊前胸部的部位

音的强度和性质，并两侧对比。

熟悉减低听觉语音的因素，和以下听觉语音的特点。

- (1) 支气管语音——是一种响亮、清晰的听觉语音，甚至能辨出字音。
- (2) 胸语音——是一种比支气管语音更响亮的声音，可清晰地听到并辨出字音。
- (3) 羊鸣音——是一种声音性质改变的听觉语音。当病人发“E”音时，听起来像是发“啊”音。
- (4) 胸耳语音——嘱病人用耳语音讲“1、2、3”，在正常人，在胸壁只能听到非常微弱的声音。在肺实变病人，则声音变得非常清晰，是一种高调的声音。

注：a. 本章对胸部检查的教学采用以下顺序逐步进行：视诊、触诊、叩诊和听诊。由于胸部包括前胸部、侧胸部和后胸部，而查体需遵循尽量减少病人体位变动的原则，所以，对仰卧位病人，先进行前胸、侧胸部的视诊、触诊、叩诊和听诊，然后让病人坐起（对不能坐起的虚弱者取左侧卧位），检查者移至病人背面，再进行后胸部的视诊、触诊、叩诊和听诊。对坐位病人，则相反，即先检查后胸部，再检查前胸、侧胸部。

b. 本章主要强调胸部查体手法，在临床实际工作中，胸部检查常需结合一般情况检查和其他系统的检查进行。如病人有急性病容吗？有鼻翼煽动、张口呼吸吗？有能听见的呼吸声音，如喘鸣声吗？病人发绀吗？有呼吸费力的表现，如上肢、肩部、颈部肌肉运动辅助呼吸吗？其他系统的检查如有无杵状指、水肿等。

c. 对肺脏的检查，最理想的体位是坐位。检查后肺野时，让病人稍前倾，双手在前面交叉置于对侧肢体的肩关节或肘关节，充分暴露肩胛间区。对心脏的检查，让病人取仰卧位、半卧位，甚至左侧卧位。若病人一般情况差，则不要让病人坐起或频繁变动体位。

d. 检查男性病人时，胸部的暴露应下至腰部。检查女性病人时，应有盖单在不必要暴露的时候盖住乳房。但绝不能隔着衣服检查胸部。

TRAINING MANUAL FOR THE CHEST EXAMINATION

Review

Get familiar with the normal and artificial landmarks of the chest surface, so you can correctly locate physical findings in the chest.

Skeletal landmarks include Louis' angle, suprasternal notch, supraclavicular fossae, infraclavicular area, infrasternal angle (costal angle), xiphoid process, intercostal space, medial scapular border, costovertebral angle.

Artificial vertical landmarks include midsternal line, midclavicular line, anterior, posterior and midaxillary line, midspinal line, scapular line.

Tomographic description of location for any positive physical findings: normal or abnormal
The best way of describing location is by using a horizontal line first, and then a vertical line to locate the finding precisely, e. g. "the point of maximal impulse is located in the left 5th intercostal space 1cm medial to the midclavicular line."

A. Inspection

1. Examiner should stand facing the patient and observe the shape and symmetry of the chest
Estimate the ratio of the anteroposterior (AP) diameter to transverse diameter (normal is 1 to 1.5). Pay attention to the variety of chest shapes. Flat chest-AP diameter is decreased and is usually less than half of transverse diameter. Funnel chest is a depression of the sternum which will produce a restrictive lung problem if the depression is marked. Pigeon breast results from an anterior protrusion of the sternum. It is a common deformity but does not compromise ventilation. Fig3-7 illustrates the various configurations of the chest.

2. Measure respiratory rate

Never ask the patient to breathe "normally" when you assess respiratory rate. Individuals will voluntarily change their breathing pattern and rate once they are aware of it. A less conspicuous way is, to direct your eyes to the chest and evaluate the respirations after taking the radial pulse but while still holding the wrist. The patient is unaware that you are no longer taking the pulse, and voluntary changes in breathing will not occur. Counting the number of respirations in a 30 second period and multiplying this number by 2 will provide an accurate respiratory rate per minute.

The normal adult breathes about 16-20 times a minute. Bradypnea is an abnormal slowing of respiration; tachypnea is an abnormal increase. Apnea is the temporary cessation of breathing. The term hyperpnea is an increased depth of breathing, usually associated with metabolic acidosis; It is also known as Kussmaul's breathing. There are many types of abnormal breathing patterns. Dyspnea means rapid breathing with increased effort.

The normal ratio of inspiration to expiration is 1~2.5. If effort is the greatest in the inspiratory phase, it is called inspiratory dyspnea. If effort is the greatest in the expiratory phase, it is called expiratory dyspnea. In late stages of pregnancy, a woman's diaphragmatic movement is decreased and chest respiration is predominant; this should not be considered abnormal. In children and men, breathing depends predominantly on the diaphragm and is called abdominal respiration; in women it depends predominantly on the chest muscles and is called chest respiration.

B. Palpation

3. Palpate trachea and evaluate position of the trachea

Ask the patient to look straight ahead. Both shoulders should be horizontal and at the same level. The examiner puts his index and fourth finger at sternoclavicular joints. Palpate trachea or the gaps between the trachea and the joints with middle finger to determine the position of the trachea. The space between the trachea and the clavicles should be equal. The position of the trachea can also be determined by placing the right index finger in the suprasternal notch and moving slightly lateral to feel the location of the trachea. This technique is repeated, moving the finger from the suprasternal notch to the other side. Some lung diseases, pleural diseases and a shift of the mediastinum that either pushes or pulls the trachea can displace the trachea.

4. Palpate for tenderness

All chest areas should be evaluated for tenderness. A complaint of "chest pain" may be related only to local musculoskeletal disease and not to disease of the heart or lungs. Be meticulous in assessing for areas of tenderness. Put one hand against the patient's back and at the same time exert pressure with the other hand on the sternum. If pain occurs, the point of maximal pain may indicate the location of a rib fracture. Pay attention to the elasticity of the chest wall (be concerned with the aging factor), the horizontal degree of the ribs, and the width of the intercostal spaces. Crackling sensation is a special feeling when palpating the chest skin. It suggests that air is present. The feeling is just like holding snow and crushing it.

5. Breasts (see information included in manual for Breast and Pelvic Examination)

6. Evaluate posterior chest excursion

Pay attention to The degree and symmetry of chest excursion. Localized pulmonary disease and pleural disease may cause one side of the chest to move less than the opposite side.

7. Evaluate Anterior Chest Excursion

The examiner stands facing the patient. The range and symmetry of anterior chest excursion is assessed by placing your hands along the lateral rib margins, with both of thumb directed to the midsternal line. Instruct the patient to inhale deeply and observe the motion and symmetry of the movement of the hands.

8. Palpate for pleural friction rubs

Ask the patient to breath deeply and place both hands on the inferior anteriolateral portion of the chest. Feel for rubbing sensation (fremitus) to find pleural friction rub. The friction rubs are usually palpated in both phases of respiration, but sometimes only during inspiration.

9. Check for tactile fremitus

When the examiner palpates the chest wall while the patient is speaking, these vibrations can be felt. This is tactile fremitus. Tactile fremitus provides useful information about the density of the underlying lung tissue and abnormality of the chest cavity. Conditions that increase the density of the lung and make it more solid (such as consolidation) will increase the transmission of these sound waves and increase tactile fremitus. If there is excess fat tissue on the chest, air or fluid in the chest cavity, or an overexpanded lung, tactile fremitus will be diminished. Normally, Examiner use both hands on the symmetrical positions of chest wall to check for tactile fremitus simultaneously.

To be convenient, Tactile fremitus can also be evaluated in one of two single hand ways. The first technique involves the examiner placing the ulnar side of the right hand against the chest wall, as shown in Fig 3-8, and asking the patient to say "E". Tactile fremitus is evaluated, and the examiner's hand is moved to the corresponding position on the other side. Tactile fremitus is then compared with the opposite side. By moving the hand from side to side and from top to bottom, the examiner can detect differences in the transmission of the sound to the chest wall. "E" is one of the phrases used because it causes good vibratory tones. Asking the patient to speak either louder or deeper will enhance the tactile sensation. Tactile fremitus should be evaluated in the five or six locations shown in Fig3-9.

The other method of evaluating tactile fremitus uses the finger tips instead of the ulnar side of the hand. The same side to side and top to bottom positions as shown in fig3-9 are used. It is only necessary to perform one of these techniques. The examiner should try both methods initially to determine which one he prefers.

C. Percussion

The principle of percussion: Percussion refers to the tapping on a surface to determine the underlying structure. It is very similar to a radar or echo detection system. Tapping on the chest wall is transmitted to the underlying tissue, reflected back, and perceived by the examiner's tactile and auditory senses. The sound heard and the tactile sensation felt are dependent upon the air-tissue ratio. The vibrations set up by the percussion of the chest can evaluate the lung tissue only to a depth of 5~6cm, but percussion is valuable because many changes in the air-tissue ratio are readily apparent.

Percussion over a solid organ covered by lung, such as the liver, produces a dull, low amplitude, short duration note without resonance. Percussion over a structure containing air and tissue, such as the lung, produces a resonant, higher amplitude, lower-pitched note. Percussion over a hollow air containing structure, such as the stomach,

produces a tympanic, high-pitched, hollow quality note. Percussion over a solid organ such as the liver and heart, produces a flat, high-pitched note.

Normally in the chest, dullness over the heart covered by the lung and resonance over the lung fields are heard and felt. As the lungs are filled with fluid and become more dense, as in pneumonia, resonance is replaced by dullness. The term hyperresonance has been applied to the percussion note obtained from a lung of decreased density, as is found in emphysema. Hyperresonance is a low-pitched, hollow quality, sustained resonant note bordering on tympany.

The normal distribution of percussion sounds over the lung fields is seen in Fig3-10.

Two principle methods that may be used for percussion of the chest are: mediate percussion (finger-finger percussion) and immediate percussion (direct percussion). The former is the method in almost universal use today.

Mediate Percussion

Percussion of the chest uses the distal interphalangeal joint of the middle finger of the left hand placed firmly against the chest wall parallel to the ribs on the area between the scapulae, be parallel to the posterior midspinal line in an interspace with the palm and other fingers held off the chest. The tip of the right middle finger strikes a quick, sharp blow to the distal interphalangeal joint of the left finger on the chest wall. The motion of the striking finger should come from the wrist, and not from the elbow. The technique of percussion is diagrammed and shown in Fig3-11.

Immediate Percussion

This can be done by striking the chest wall with tips of the three middle fingers held firmly together. Pay attention to the feeling and sound from percussion on the chest wall.

10. Percuss supraclavicular fossae

The supraclavicular fossae indicate the apices of the lungs. The examiner stands behind the patient and performs finger to finger percussion from the middle point of the trapezius muscle and moves laterally until he finds the dull point. This point is then marked. He then percusses from above middle point towards the neck until he finds a dull point and makes a mark. The distance between the 2 marks is considered the width of apex of the lung. Normally, it is 4-6 cm and the distance on the right is a bit smaller than that on the left. If the percussion sound becomes dull in the apex, consolidation of the lung apex might be present.

11. Percuss the posterior chest

The examiner stands behind the patient. The sites for the posterior chest percussion are above, between, and below the scapulae in the intercostal spaces. The bony scapulae are not percussed. The examiner should start at the top and work downward, proceeding from side to side, comparing one side with the other. For each intercostal space, a minimum of 2 points should be percussed on each side.

12. Percuss the lower margins of the lungs

This is usually done in the midclavicular lines, midaxillary lines, and scapular lines of both sides. Ask the patient to breathe quietly. The examiner percusses from a resonant area (usually 2nd or 3rd intercostal space anteriorly and 8th intercostal space on the scapular line), working down to a dull point. Normally, in the midclavicular lines, midaxillary lines and scapular lines, the lower margins are 6th, 8th and 10th intercostal spaces respectively.

13. Percuss to detect diaphragmatic movement at scapular lines

Percussion is also used to detect diaphragmatic movement at the scapular lines. The patient is asked to take a deep breath and hold it. Percussion at the right lung base determines the lowest area of resonance, which represents the lowest level of the diaphragm. Below this level is dullness from the liver. The patient is then instructed to exhale as much as possible, and the percussion is repeated downward. With expiration, the lung will contract, the liver will move up and the level of dullness will have moved upward. The difference between the inspiration and expiration levels represents the diaphragmatic movement, which is normally 4-5cm. Left side should be detected by the same method. Patients with emphysema have a reduced movement. Patients with a phrenic nerve palsy will have absent diaphragmatic movement.

14. Percuss the anterior and lateral chest

The examiner stands in front of the patient. Percussion of anterior and lateral chest starts at the top and works downward, proceeding from side to side, comparing one side with the other. For each intercostal space, a minimum of 2 to 3 points should be percussed on each side.

D. Auscultation

Because most breath sounds are high pitched, the diaphragm of the stethoscope is used to evaluate lung sounds.

Auscultation is the technique of listening for sounds produced in the body. Auscultation of the chest is used to identify lung sounds. The stethoscope usually has two heads; the bell and the diaphragm. The bell is used to detect low-pitched sounds, whereas the diaphragm is better at detecting high-pitched sounds. The bell must be loosely applied to the skin; if it is pressed too tightly, the skin will act as a diaphragm and the lower-pitched sounds will be filtered out. In contrast, the diaphragm is applied firmly to the skin. In very thin individuals, the bell may be used and converted to a diaphragm by using firm pressure. Placement of the diaphragm is more difficult in these patients because of the protrusion of their ribs. The correct placement of the heads of the stethoscope is shown in Fig3-12.

It is never acceptable to listen through clothing! The bell or the diaphragm of the stethoscope must always be in contact with the skin.

Auscultation should be performed in a quiet environment. The patient is asked to

breathe in and out through his mouth. The examiner should first concentrate on the length of inspiration and then on expiration. When the breath sounds are very soft, the term distant is used. Distant breath sounds are commonly found in patients with hyperinflated lungs, as in emphysema. Pay attention to the change of intensity and nature of the breath sounds. Differentiate normal from abnormal breath sounds (including bronchial and bronchovesicular breath sounds heard in any areas of the lungs that normally have vesicular breath sounds, as well as, increased, decreased, or absent breath sounds).

Rales and rhonchi should be noticed.

Rales: including fine rales and coarser rales

Fine rales: fine bubbling sound or crackling-like sound

Coarse rales: these are usually coarse and lower-pitched rales

Rhonchi: including wheezing (sibilant) and sonorous.

Wheezing (sibilant): high-pitched sound caused by air flow through constricted airways, most often heard in expiratory phase

Sonorous: lower-pitched sound caused by air flow through trachea or main bronchi. It sounds like snoring.

15. Auscultate supraclavicular fossae

In small of female patients, it might be helpful to use the bell of the stethoscope with firm pressure applied (to convert it acoustically to a diaphragm) to auscultate apices in the supraclavicular fossae.

16. Auscultate the anterior and lateral chest

Auscultation of the anterior chest is performed in the anterior and lateral chest interspaces, as illustrated in Fig3-13.

In each intercostal space, at least 2-3 points should be auscultated. The breath sounds of one side are compared with the breath sounds in the corresponding position on the other side.

17. Auscultate the posterior chest

The examination should proceed from side to side and from top to bottom, comparing one side with the other.

18. Ask patient to breathe deeply and examine for pleural friction sounds

The most common area where a pleural friction sound is heard is in the lower part of the chest in the midaxillary line. The sound is a coarse sound usually beginning at the end of inspiration or the beginning of expiration. It sounds like sand paper rubbed together.

19. Examine for vocal audible resonance

The spoken word creates vibrations that can be heard when one listens to the chest and lungs. This is termed vocal audible resonance. The sound is conducted from the larynx through the bronchial tree to the lung and the chest wall. Its clinical significance is the same as tactile fremitus, but it is more sensitive.

Ask the patient to say "E" or "1, 2, 3" and auscultate the lung fields anteriorly and posteriorly with a diaphragm head of the stethoscope. Pay attention to the intensity and nature of the sound and compare both sides.

Get familiar with the factors that decrease the vocal audible resonance. Get familiar with the following pathological characteristics of vocal audible resonance:

- 1) Bronchophony-the sound becomes louder, clearer and even the pronunciation of words can be heard.
- 2) Pectoriloquy-much louder than normal, pronunciation of the words can be heard clearly.
- 3) Egophony-nature of the sound changes. When patient says "E" it sounds like "A".
- 4) Whispered pectoriloquy-ask the patient to whisper "1, 2, 3." In a normal patient, the sound is very weak. In a patient with lung consolidation, it sounds very clear, and high-pitched.

Things Need to Know

- a) The chest examination is taught step by step in a logical sequence: inspection, palpation, percussion and auscultation. Because the chest includes the anterior, lateral and posterior lung fields, the physical examination should be done in a sequence that reduces the number of times the patient needs to change body position. In the case of the supine patient, inspection, palpation, percussion and auscultation of the anterior and lateral chest should be done first. Then the examiner should move to the back of the patient and do the inspection, palpation, percussion and auscultation on the posterior chest. If the patient is in a sitting position, start with the posterior lung field and then examine the anterior and lateral lung fields.
- b) In this chapter the techniques and maneuvers of the physical examination of the chest are emphasized. In clinical practice, the examination should be performed in conjunction with general assessment and examination in other systems. For example: Is the patient in acute distress? Is there nasal flaring or pursed lip breathing? Are there audible signs of breathing, such as stridor and wheezing? Is cyanosis present? Is the patient positioned to support his arms and fix the muscles of the shoulder and neck to aid in respiration, i. e., to increase his effort to breathe?

The examination of other systems includes checking for clubbing of the fingers, edema, etc.

- c) For the lung examination it is preferable to have the patient in a sitting position. For examination of the back of the lungs, have the patient bend forward with both hands touching opposite shoulder. This will move the scapular out of the way and expose the interscapular area. For the heart examination, have the patient in lying or semirecumbent position, or even lying on his left side. If the patient's general condition is poor, do not have him sit up or changing position frequently.

- d) If the patient is a man, his gown should be removed to his waist. If the patient is a woman, the gown should be positioned to prevent unnecessary or embarrassing exposure of the breasts. Never examine a patient over clothing.

附：胸部体格检查纲要

A. 视诊

1. 检查者应面对病人站立，观察胸廓外形和对称性；
2. 观察计数呼吸频率；

B. 触诊

3. 触诊气管，确定气管位置；
4. 触诊胸壁有无压痛；
5. 触诊乳房；
6. 在后胸检查呼吸动度；
7. 在前胸检查呼吸动度；
8. 触诊胸膜摩擦感；
9. 检查触觉语颤；

C. 叩诊

10. 叩诊锁骨上窝；
11. 叩诊后胸部；
12. 叩诊肺下界（肩胛下线）；
13. 肩胛下线叩诊肺下界移动度；
14. 叩诊前、侧胸部；

D. 听诊

15. 听诊锁骨上窝；
16. 听诊前、侧胸部；
17. 听诊后胸部；
18. 检查有无胸膜摩擦音；
19. 检查听觉语音。

APPENDIX

CHECKLIST FOR CHEST EXAMINATION

A. Review

1. Review skeletal landmarks.
2. Topographic description of location for any positive physical findings; normal or abnormal.

B. Methods

3. Examiner should stand facing the patient and observe the shape and symmetry of the chest.
4. Measure respiratory rate.
5. Palpate trachea and evaluate position of the trachea.
6. Palpate for tenderness.

7. Breasts.
8. Evaluate posterior chest excursion.
9. Evaluate Anterior Chest Excursion.
10. Palpate for pleural friction rubs.
11. Check for tactile fremitus.
12. Percuss supraclavicular fossae.
13. Percuss the posterior chest.
14. Percuss the lower margins of the lungs.
15. Percuss to detect diaphragmatic movement at scapular lines.
16. Percuss the anterior and lateral chest.
17. Auscultate supraclavicular fossae.
18. Auscultate the anterior and lateral chest.
19. Auscultate the posterior chest.
20. Ask patient to breathe deeply and examine for pleural friction sounds.
21. Examine for vocal audible resonance.

心血管体格检查方法

A. 心脏

A-1. 受检者仰卧

视诊

受检者取仰卧位，头部和躯干抬高 15~30 度。

1. 观察体位、呼吸、皮肤、面容、眼、口、胸廓外形、四肢和指甲，作一般检查。
2. 观察心前区：注意心前区有无隆起，异常搏动的特征和部位。例如心尖搏动的位置、范围、强度。如搏动较弱则呼气时易见。其他部位有无搏动，如有应注意位置、范围、强度。
3. 斜照光或取切线方向观察：发现异常时，检查者站在床尾，取切线方向观察有助于发现搏动最强处。

触诊

心脏触诊，除可验证视诊检查的结果外。还可发现视诊未能察觉的搏动，某些心脏病特有的震颤或心包摩擦感。

4. 用二步法（手掌、手指）触诊心尖搏动 手掌易发现震颤，手指易触及和分析搏动情况。先用手掌或几个手指指腹触诊心尖搏动，然后用二个手指探出其范围。正常人心尖搏动的最强点，位于左第 4 或第 5 肋间，一般不超过一个肋间持续不到半个收缩期，不越过正中线至胸廓外侧的一半。左室肥大时，可呈抬举性搏动，并向左下移位。若平卧位未能触及心尖搏动，请受检者左侧卧位再触诊（详见本节 第 20 条）。

5. 触诊肺动脉瓣区（胸骨左缘第 2 肋间）：检查有无搏动、震颤、震荡

6. 触诊主动脉瓣区（胸骨右缘第 2 肋间）：检查有无搏动、震颤、震荡

7. 触诊心前区（胸骨左缘 3、4、5 肋间，胸骨体下份左、右两旁） 检查有无搏动、震颤和心包摩擦感。右室肥大和扩张时，沿胸骨左缘可触及弥散搏动。如疑有心包摩擦感，请

受检者取坐位再触诊（详见 22 条）。

8. 触诊上腹部，注意有无搏动 将手指置于剑突下，常可触及因右室容量或压力负荷增加所致的冲动，吸气时明显，另外也可触及正常人的腹主动脉搏动。为鉴别两者，可将手掌置于腹上部，手指从胸廓下压向后上方，如搏动向前冲击手指掌面，则为主动脉搏动。如搏动向下冲击手指末端，则为右心室搏动。

触诊震颤，通常以掌指关节近侧的灵敏区为好。

若触诊发现异常，为确定其出现的时期与心动周期的关系，可采用以下两种方法：

1) 同时用听诊器听诊心尖区。因听诊心尖区时，有时可观察到左室收缩时听诊器胸件的冲动，得知其与第一心音和第二心音间的关系。对于看到或触到的胸部任何部位搏动，也可同时听诊心尖区以确定其与心动周期的关系。

2) 观察或触诊胸壁的同时用左手示指和中指触诊颈动脉搏动，因颈动脉搏动出现在收缩期。

震颤和震荡的检查方法和临床意义：震颤常伴响亮、粗糙或隆隆样杂音，例如出现在主动脉瓣狭窄，动脉导管未闭，室间隔缺损和二尖瓣狭窄时的杂音。为确定震颤出现的时期与心动周期的关系，也可用上述两种方法。短促高频震动为震荡，即可触及性心音，如主动脉或肺动脉高压时瓣膜关闭引起的强烈震动。

叩诊

9. 叩诊心脏相对浊音界并记录 由于积累了许多详细的有关心前区正常与异常搏动的知识，心脏触诊已代替了大部分心脏叩诊。叩诊心脏时，通常从左胸心尖搏动所在肋间向内叩至相对浊音处，正常位于第 5 或 4 肋间锁骨中线上或稍内（见全身体格检查方法第 137 条）。直接和间接叩诊法有时可用以估计心脏大小，当心脏相对浊音区的左界超过锁骨中线时，可能有心脏增大，相反，心浊音区缩小或消失是肺气肿的体征。当心尖搏动叩不清时，叩诊可显示心脏位置。如大量心包积液时，无法触及心尖搏动，叩诊成为判别心浊音界的唯一方法，而且往往明显增大，应在左胸依次叩出第 3、4、5 甚至 6 肋间清音变浊音的边界，再从肝浊音界上一肋间依次向上叩出右界，并需注意坐、卧位时浊音界的变化。

听诊

常用的 5 个心脏瓣膜听诊区参见图 2-27。听诊内容包括心率、心律、心音、杂音和心包摩擦音。

钟型和膜型两种胸（体）件的应用不同，膜型可滤去低调声音，更宜听取高调声音，如第二心音和高调杂音。使用钟型胸件时，皮肤尤如隔膜，听取的频率随压力大小而变动，如想听低调声音和杂音应尽可能轻的扣在胸壁上。

通常依次听诊肺动脉瓣区、主动脉瓣区、主动脉瓣第二听诊区、二尖瓣区和三尖瓣区。或者因二尖瓣病变多见，依次听诊二尖瓣区、肺动脉瓣区、主动脉瓣区、主动脉瓣第二听诊区、和三尖瓣区。

10. 用膜型胸件紧贴胸壁听诊心尖区至少 1 分钟，如疑有心房颤动，宜同时触诊桡动脉，注意有无脉搏短绌。

用膜型胸件紧贴胸壁听诊心尖区至少 1 分钟，注意心率和心律。正常成人心率为 60—100 次/min，与心尖搏动和桡动脉脉搏一致，节律是规则的，也可随呼吸略有不齐。吸气时心率增快，呼气时心率减慢，称为窦性心律不齐。

心率低于 60 次/分，称为心动过缓；心率超过 100 次/分，称为心动过速。

许多心律失常，可通过床旁仔细听诊及同时触诊桡动脉脉率和脉律而发现，某些常见心律失常和有关体征如表 3-1。注意听诊有关窦性心律不齐、过早搏动、室上性心动过速、心房颤动等特点。

表 3-1 常见心律失常的特点

心律失常	动脉搏动	心脏检查发现
过早搏动	不规则	过早搏动的第一心音响亮、提早出现，伴或不伴代偿间歇
室上性心动过速	快而弱	心前区有快速搏动，心率 150—240 次/min
心房颤动	绝对不规则（快慢不一） 脉搏短绌	第一心音强弱不等和节律不齐

鉴别第一心音（S1）和第二心音（S2）极为重要，由此可区分心室的收缩期和舒张期，并应分别听取 S1 和 S2。

在肺动脉瓣区用膜型胸件听诊时，S1 比 S2 音调低、声音弱、时间长；S1 和 S2 的间隔比 S2 和下一心动周期 S1 的间隔短。

在 S1 和或 S2 有异常改变时，区别较困难，不妨试用以下三种方法：

1) 心尖搏动触诊法：心尖搏动发生在收缩期，与心尖搏动同步的是 S1。（由于机械搏动传导需要时间，故 S1 刚好在颈动脉或心尖搏动前一点，几乎是同时出现。）

2) 颈动脉搏动触诊法：同时触诊颈动脉，颈动脉搏动发生在收缩期，与搏动同步的是 S1；

3) 寸移法：先在肺动脉瓣区找准 S2，此处 S2 总是响亮的，然后按心跳节律记住 S2 音调和节律，同时将胸件一寸一寸地移向心尖区。

听诊心音强度、性质的改变和有无分裂。

S1 增强常见于高热、心动过速和甲状腺功能亢进。S2 增强常见于主、肺动脉高压。

心音分裂可能提示心脏有病变，但也可发生在健康人。S2 分裂：由于主、肺动脉瓣关闭不同步形成 S2 轻度分裂成二个音，常在吸气时听诊肺动脉瓣区明显。S1 分裂：听诊心尖区，若二尖瓣关闭与三尖瓣关闭不同步可引起 S1 分裂。

如发现有额外音，应注意其出现在收缩期还是舒张期，以及它的强度和音调。

奔马律：当 S3（图 3-14）增强时，与原有的 S1、S2 共同组成的三韵律，犹如马奔驰时的蹄声；常伴有心动过速。

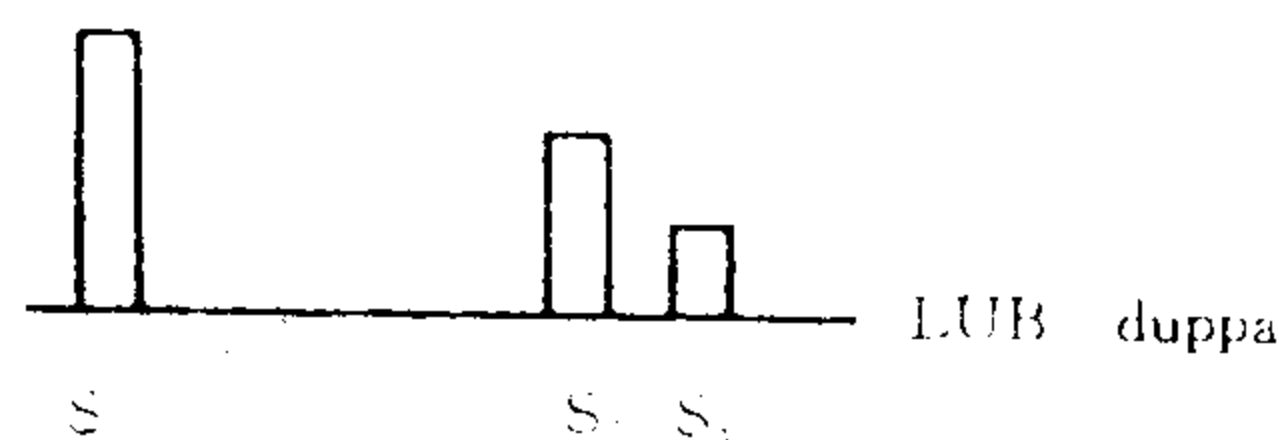


图 3-14 第三心音

二尖瓣开放拍击音：二尖瓣狭窄时，紧跟在 S2 后出现一个音调较高，短促清脆的附加音，在二尖瓣区稍右（稍内）最易听到。它出现在舒张早期、快速充盈相之前（图 3-15）。

若发现心脏杂音，应仔细听诊。注意每个瓣膜区杂音出现的时期，区别在收缩期还是舒张期，每个瓣膜区应用膜型和钟型两种胸件听取。

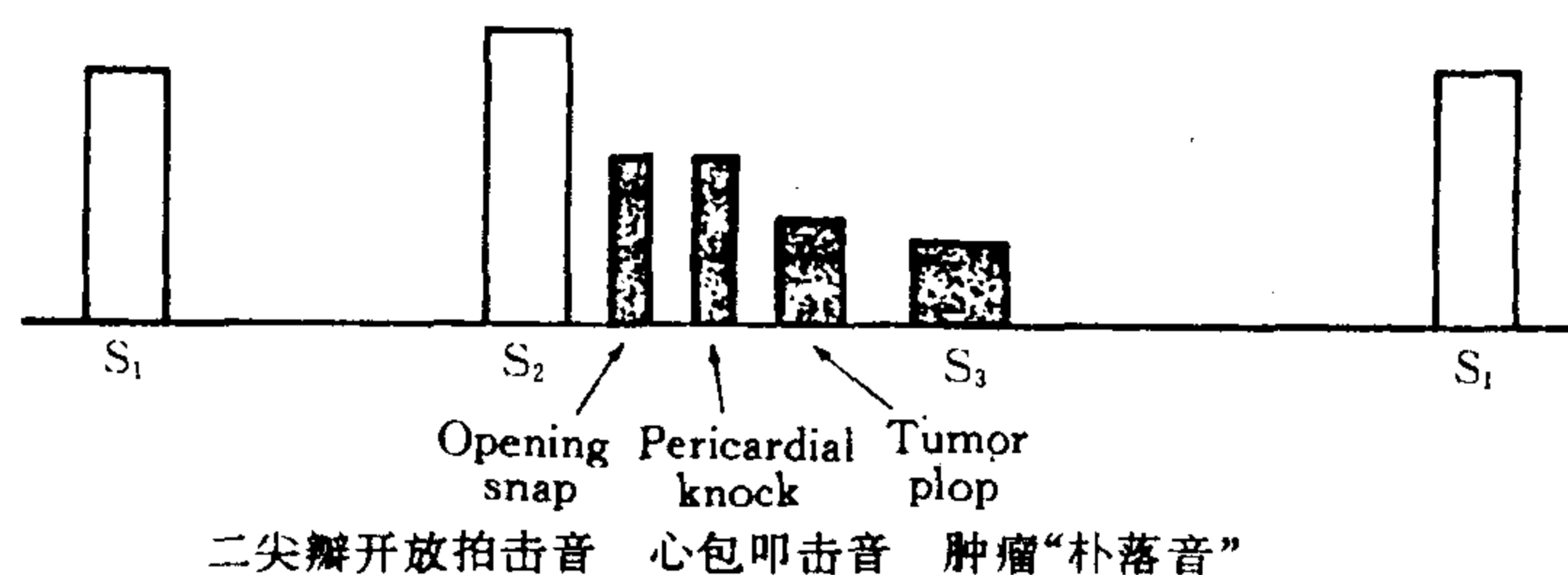


图 3-15 舒张期额外音

杂音持续时间比心音长，来自心脏或大血管，产生机理包括瓣膜口狭窄、瓣膜关闭不全、血流加速、异常分流、血管腔扩大、心腔内漂浮物，如瓣膜或腱索断裂等。

听诊杂音的要点：出现时期，最响部位，持续时间、性质、传导方向、强度、音调。

时期：收缩期、舒张期、连续性。

部位：指杂音最响部位。以解剖标记术语准确定位：心尖区，胸骨左缘、第几肋间隙以及离前正中线、锁骨中线、或腋前、腋中、腋后线之一的距离。

时限：按持续时间的长短分。如表 3-2 和图 3-16。

表 3-2 心脏杂音的时期和时限

	短时间	长时间	中等时间
收缩期	早或晚	全期	中期
舒张期	早或晚	全期	中期
		连续双期	

性质：吹风样、隆隆样或雷鸣样、叹气样、乐音样。

传导方向：判断杂音分布和传导方向。例如：主动脉瓣区杂音可向上传至颈部或沿胸骨左缘向下传至心尖部。二尖瓣区杂音可传至腋下。

强度：收缩期杂音的强度一般可分为六级。

I 级 杂音很弱，须仔细听诊才能听到。

II 级 杂音较轻，但放好胸件后较易听到。

III 级 中等强度，但不伴震颤。

IV 级 响亮，可伴有震颤。

V 级 非常响亮，胸件部分接触胸壁即可听到，均伴有震颤。

VI 级 极响，即使胸件稍离开胸壁一点距离，亦能听到，并伴有震颤。

音调：分高、中、低调。

11. 听诊肺动脉瓣区（胸骨左缘第 2 肋间） 仔细听诊有无心音分裂、与肺动脉瓣、肺动脉病变等有关的心音改变和杂音，注意呼吸对分裂的影响，鉴别窄、宽分裂，逆分裂，固定分裂。

12. 听诊主动脉瓣区（胸骨右缘第 2 肋间） 仔细听诊与主动脉瓣、主动脉病变等有关

的心音改变和杂音。

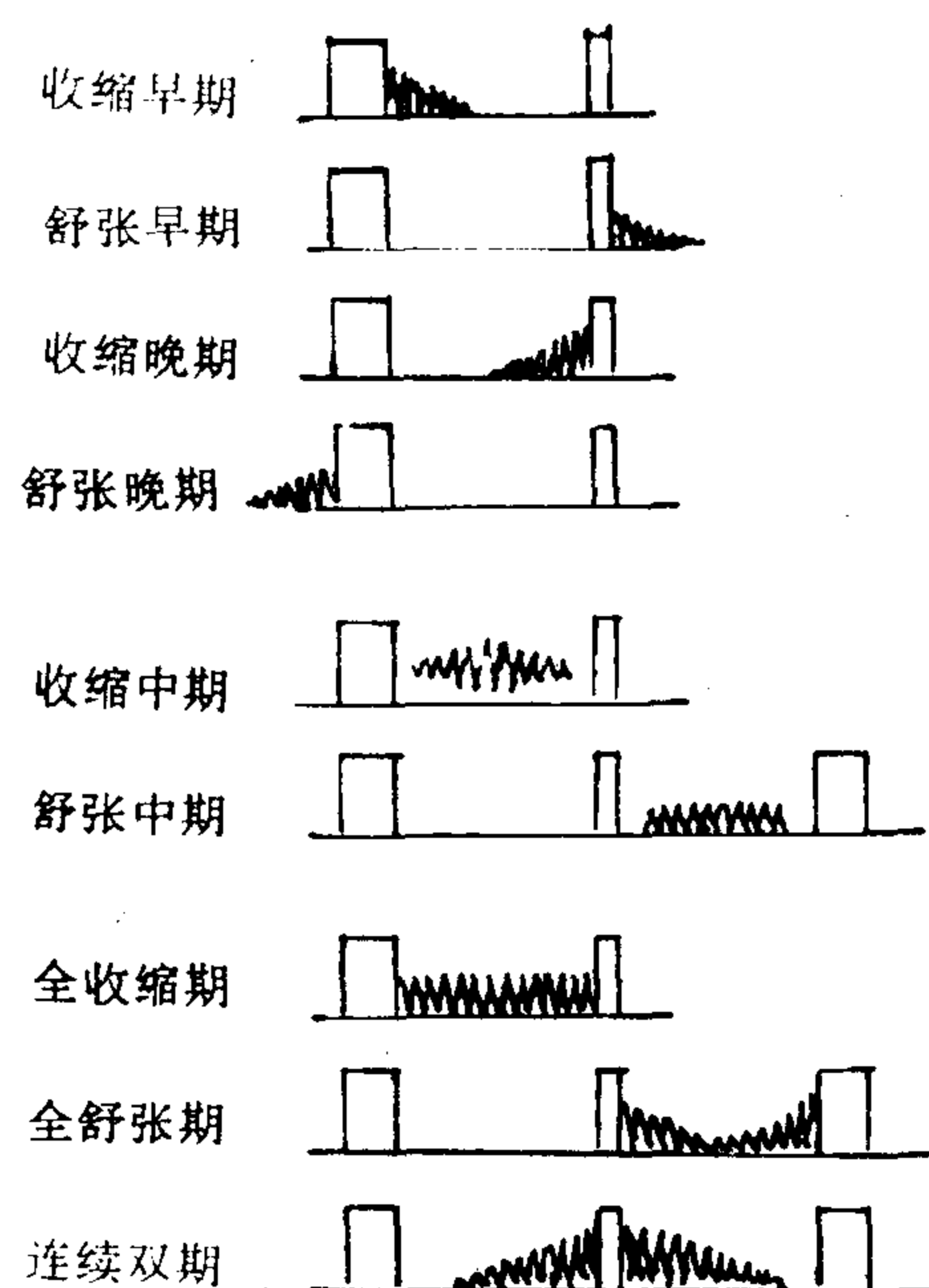


图 3-16 心脏杂音时期示意图

13. 听诊主动脉瓣第二听诊区（胸骨左缘 3、4 肋间） 仔细听诊与主动脉瓣病变、室间隔缺损等有关的心音改变和杂音，有否心包摩擦音。

14. 听诊三尖瓣区（胸骨左缘 4、5 肋间，胸骨体下端两旁） 注意与三尖瓣、右室病变等有关的心音改变和杂音。

15~19. 用钟型胸件轻轻放在各瓣膜听诊区，按上述顺序依次听诊。

A-2. 受检者左侧卧

20. 触诊心尖区 左侧卧位常使心尖搏动靠近胸壁而易触及，但又使心尖搏动左移 2~3 厘米，虽有助于心脏听诊或观察心尖搏动范围，但在确定心尖搏动的位置和时限仍以仰卧位为准。

21. 听诊心尖区

1) 第三心音 (S3): S3 在 S2 后，与 S2 类似但较弱，音调较低，难以听到。在二尖瓣区较易听到，必要时让受检者左侧卧位，用钟型胸件轻轻放在心尖区，仔细听诊。S3 常在儿童和青少年中听到，但不一定表示有心脏病。

2) 二尖瓣狭窄舒张期隆隆样杂音，左侧卧位时易听到或更响。

A-3. 受检者坐位

22. 坐位触诊心前区，包括心尖区、肺动脉瓣区、主动脉瓣区、三尖瓣区。检查有无震荡、震颤和心包摩擦感。后者是一种来回摩擦的感觉，常于心脏收缩期和舒张期均能触及，尤其病人取坐位和前倾位时更易触及。常由纤维素性心包炎引起。

23. 坐位听诊各瓣膜区（与卧位时相同），通常用膜型胸件，疑有心房粘液瘤时，可用钟

型胸件。

1) 如怀疑主动脉瓣杂音,尤其是主动脉瓣关闭不全,让受检者取坐位上身稍前倾,深呼气末屏住呼吸,用膜型胸件紧贴胸壁,听诊主动脉瓣区并沿胸骨左缘向下听至心尖区。检查应间断暂停让受检者呼吸。坐位或站立位时,梗阻性肥厚型心肌病的杂音会更响。

2) 心包摩擦音

它是一种不受呼吸影响,在收缩期和舒张期均能听到的、由心包壁层和脏层摩擦发出的声音;让受检者取坐位上身前倾,检查者将膜型胸件用力紧压在胸壁上则更响。

3) 如怀疑有心房粘液瘤而舒张期隆隆样杂音又不很清楚,可用钟型胸件轻放于心尖区,令受检者坐起,杂音可能会变响而易于听到。

B. 血管检查

B-1. 上肢

24. 测量右上肢血压(如发现高血压,加测左上肢,如怀疑血管病变引起的继发性高血压,加测双下肢血压) 为准确测定血压,避免听诊测压时偶然出现的听诊间歇,在听诊测压前,可先用触诊法粗略估计收缩压的高度,即先充气到右侧肱或桡动脉搏动消失时之上,再缓缓放气至桡动脉初现时的血压约为收缩压。右上肢听诊血压的方法在全身体格检查方法第7—10条中已叙述。正常成人血压变动范围较大,并随年龄增长而升高,收缩压 $\leq 18.6\text{kPa}$ (140mmHg),舒张压 $\leq 12.0\text{kPa}$ (90mmHg),收缩压与舒张压之差为脉压,约4.0~5.3kPa。三分之一的脉压加舒张压为平均动脉压。初诊高血压至少应测双上肢血压后才能确定,健康人两上肢血压之差可达1.3kPa (10mmHg)。当怀疑血管病变如主动脉狭窄、多发性大动脉炎、夹层动脉瘤,应测下肢血压。让被检者取卧位,气袖束于小腿(气袖下缘位于内踝上3~4cm)或腘窝上部约3~4cm处,用手扪足背或胫后动脉,当脉搏搏动初现时约为收缩压,下肢收缩压比上肢稍高或相等。一般不测下肢舒张压。

高血压常见于原发性高血压、肾脏疾病、肾上腺皮质或髓质肿瘤等。低血压(血压低于12.0/8.0kPa、90/60mmHg)常见于休克、恶病质、长期卧床不起、心包积液、缩窄性心包炎、肾上腺皮质机能减退症等。

25. 检查双手及指甲,注意有无紫绀、杵状指 观察肢端和甲床的颜色,有无指甲变宽,指端粗大,检查指甲与指背之间的角度,指甲基部有无隆起。

26. 当脉压增大时应检查有无毛细血管搏动征 用手指轻压受检者指甲床末端,或以清洁玻片轻压其口唇粘膜,如见到红、白交替的节律性改变,称为毛细血管搏动征阳性。常见于主动脉瓣关闭不全,或其它脉压增大的疾病。

27. 触诊桡动脉脉搏(至少30秒钟),注意脉率和脉律 触诊手法见全身体格检查方法第4条。检查时还需注意紧张度、强弱或大小、动脉壁的情况。左心衰或心肌损害病人还应检查有无交替脉。

28. 检查桡动脉脉搏的对称性 双手分别置于受检查者左、右桡动脉上,仔细比较两侧搏动是否对称(见全身体格检查方法第5条)。

29. 当脉压增大时,检查有无水冲脉 其脉搏骤起骤降、急促有力,将受检者手臂抬高过头则更明显。常见于主动脉瓣关闭不全,或其他脉压差增大的疾病。

30. 疑有心包积液时,检查有无奇脉 奇脉是心包填塞的重要体征之一,多数见于心包腔压力增高的心包积液,少数见于缩窄性心包炎,在吸气时脉搏明显减弱。奇脉这一术语实

际上名不符实，因它只是吸气时收缩压正常下降的加剧而已，虽然可用触诊发现，但以血压计听诊血压变化更可靠，当气袖压力逐渐下降时，呼气相出现的第一音是收缩压高水平，继续下降时，呼气相和吸气相均能听到为收缩压低水平，如两者相差 10 毫米汞柱以上则为异常。哮喘和肺气肿等肺阻塞性疾病是奇脉常见的非心源性原因。

B-2. 颈部

31. 观察并初略估计颈外或颈内静脉压 颈静脉检查可参照全身体格检查方法第 133 条。颈外和颈内静均需仔细检查，前者主要用以初略估计右房压，后者既可较准确地估计压力又可观察静脉搏动。如病人取坐位或头部和躯干抬高 30—45 度的半卧位，颈外静脉充盈最高点超过锁骨可能有静脉压增高，5 厘米加颈内静脉搏动最高点和胸骨角的垂直距离即为该病人的中心静脉压（图 3-17）。正常人半卧位时，最高点不超过胸骨角上 3 厘米，因大多数情况下，不论病人取坐位或卧位，胸骨角约位于右心房上 5—7 厘米，故静脉压约 5~10cm 水柱。颈静脉压升高常见于充血性心力衰竭、缩窄性心包炎、心包积液和因机械梗阻引起的上腔静脉综合征。

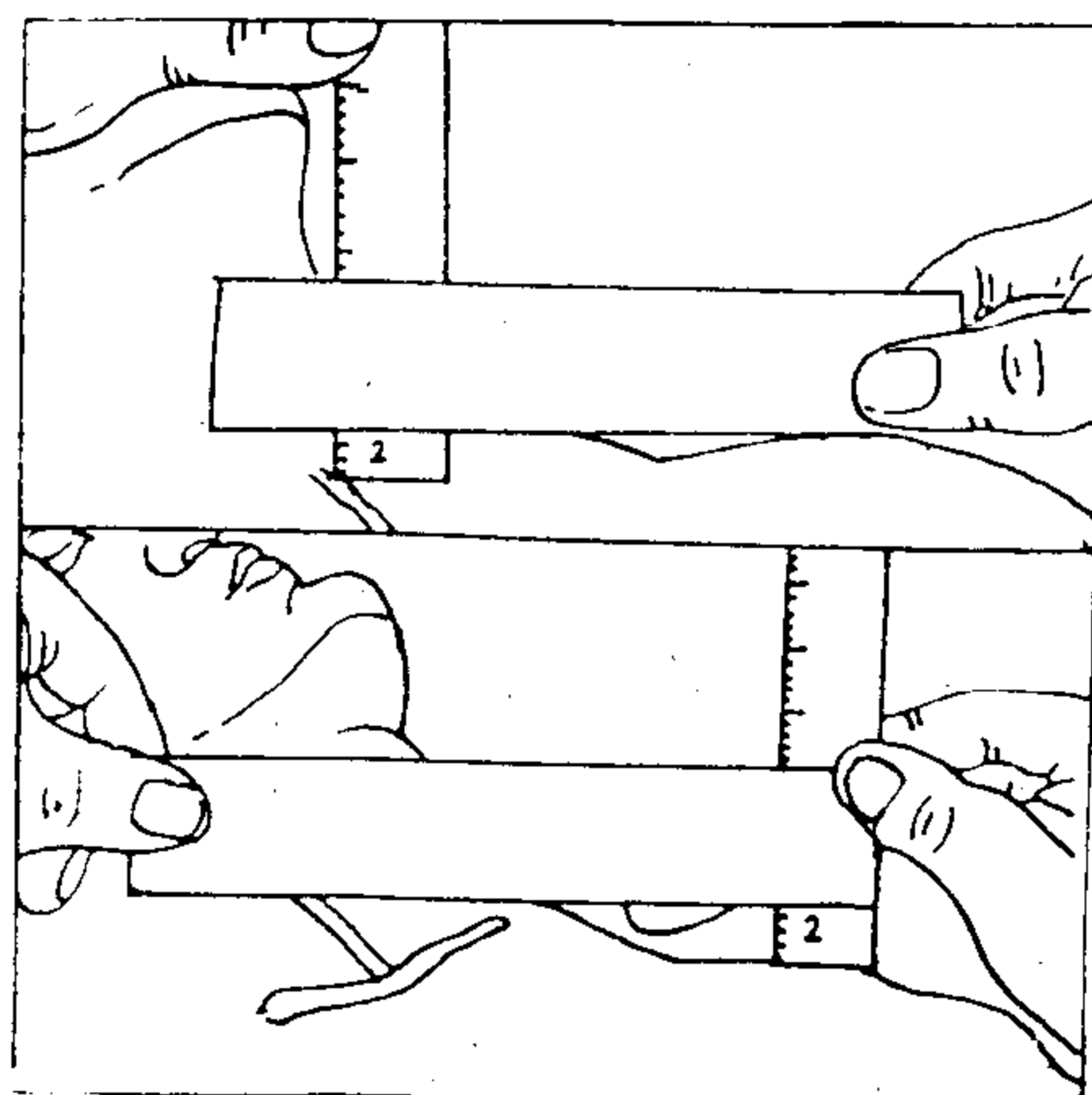


图 3-17 估计静脉压

32. 如颈静脉压增高，检查颈静脉搏动波 颈静脉搏动在正常状态下不易观察到，在完全房室传导阻滞、心房颤动、三尖瓣狭窄或关闭不全、肺动脉高压伴右室肥厚等情况下的特征性改变留到内科学中学习。因颈动脉和颈静脉都会发生搏动，而且部位相近故应鉴别。一般静脉搏动呈波浪状、柔和、弥散，在颈部下份偏外易见，刚好在胸锁乳突肌下面或稍后，触诊时无搏动感。动脉搏动比较粗大，在胸锁乳突肌上方和内侧易见，为膨张性、与脉搏基本一致，搏动感明显。鉴别时，还可参照以下几点：

1) 呼吸的影响：颈静脉搏动的水平可随正常的吸气而降低；这是由于胸腔内的压力下降所致。而后随呼气而升高。颈动脉就看不出有这样的变化。

2) 压迫静脉的影响：在颈根部轻轻施加压力即可使静脉搏动消失。然而，要消除颈动脉搏动，则需要大得多的压力。

3) 体位改变的影响：通常颈动脉搏动受体位变动的影响少，而颈静脉搏动坐位时明显减

弱或消失。

4) 搏动的多相性: 如果是正常的窦性心律, 在脉搏搏动图上颈静脉脉搏有 a、c、v 三个正相 (向上的) 波和 x、y 二个负相 (向下的) 波; 而颈动脉脉搏只有一个正相波 (图 3-18)。检查时可用一手扪左侧颈动脉搏动, 同时观察右侧颈静脉搏动。

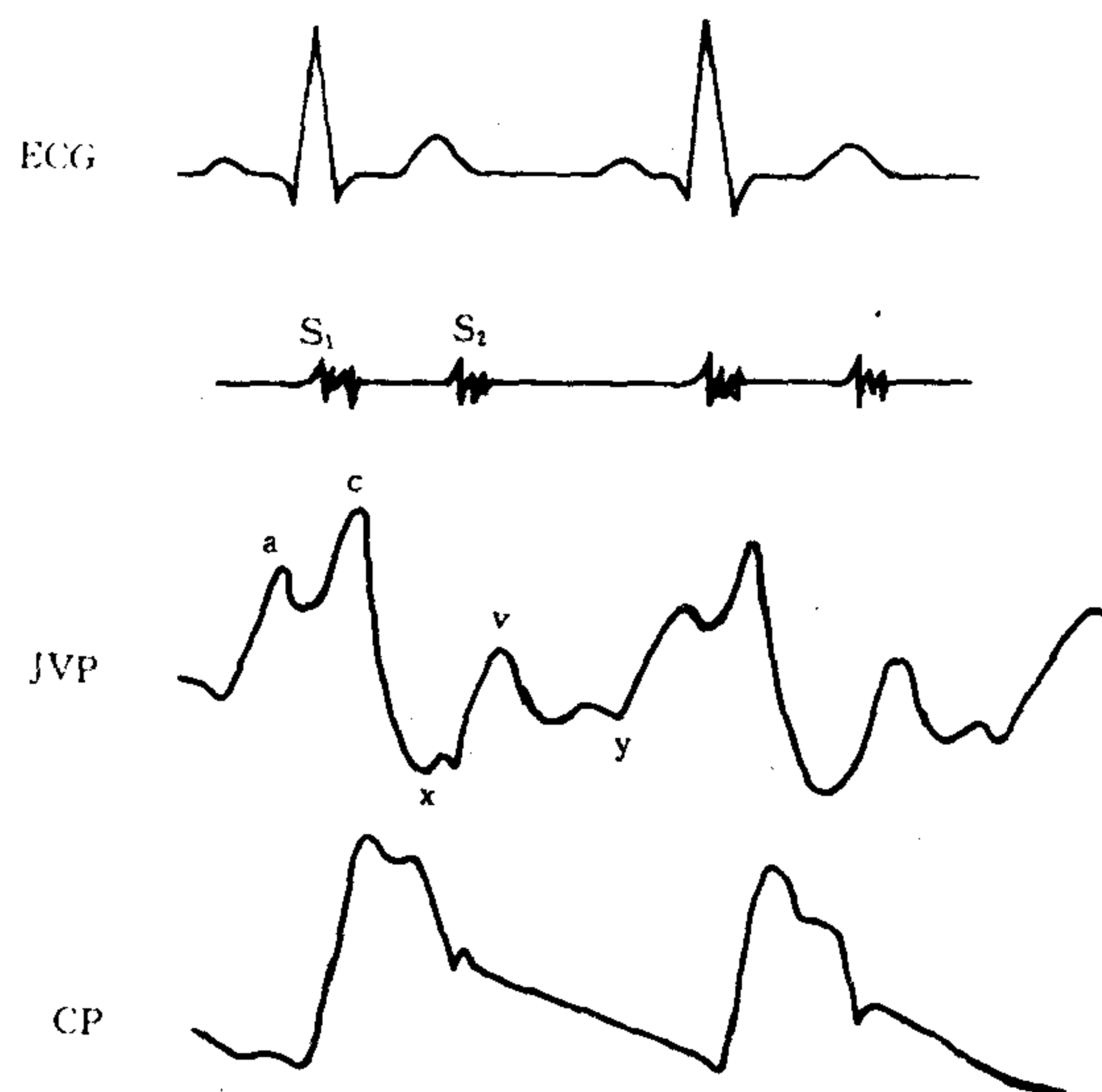


图 3-18 颈静脉和颈动脉搏动图

33. 检查肝颈静脉回流 检查时, 受检者应平静呼吸, 取半卧位, 所取体位应使颈静脉怒张水平位于颈的下半段。检查者用手掌按压受检者右上腹部约 30—60 秒。(如右上腹壁局部有压痛, 也可在腹部其它部位施加压力) 如有颈静脉明显扩张, 或颈静脉搏动的水平升高 1 厘米以上, 称为肝颈静脉回流征阳性。说明从肝脏回流至下腔静脉与右心房的血量增加, 但因右心房郁血或右心室舒张受限, 不能完全接受回流的血量, 而致颈静充盈更明显。这为早期右心功能不全、渗出性或缩窄性心包炎的一个重要体征。正常人颈静脉怒张水平不升高或升高不到 1 厘米。

34. 检查双侧颈动脉 检查者用食指和中指指腹, 在受检者胸锁乳突肌内侧轻轻触摸颈动脉, 不可两侧同时触摸, 以免引起昏厥。(见全身体格检查方法第 64 条)

35. 听诊双侧颈部, 注意有无血管杂音 一般用膜型胸件分别置于左、右颈动脉和颈根部听诊有无血管杂音。

B-3. 腹部

36. 听诊腹主动脉 (腹部中线处) 用膜型胸件紧压于脐上 5 厘米中线处听诊有无杂音。

37. 听诊双侧肾动脉 (右、左上腹部) 用膜型胸件紧压于脐上 5 厘米、距正中线约 3—5 厘米的左、右两侧, (或于腰背部) 听诊有无来自肾动脉的杂音

B-4. 下肢

38. 触诊双侧股动脉 检查者可在髂前上棘至耻骨联合连线的中点处触诊股动脉，并注意双侧对比。

39. 听诊双侧股动脉，注意有无枪击音和 Douroziez 征 一侧股动脉搏动减弱或消失时，有必要听诊股动脉（如疑有多发性大动脉炎累及髂总动脉或腹主动脉），可用膜型胸件稳固地置于股动脉上听杂音。如有杂音，则可能有引起腹主、髂、股动脉阻塞的疾病。

当疑有主动脉瓣关闭不全时，注意有无“嗒嗒”枪击音和 Douroziez 征，将听诊器钟形胸件的远侧边缘加压于股动脉上（造成人工狭窄），听诊有无收缩与舒张期均有的来去性双重杂音，称之为 Douroziez 征，这与脉压增大有关。通常严重贫血时，可有收缩期杂音，但仅限于钟型胸件近侧边缘加压于股动脉上时。

40. 触诊双侧足背动脉 足背动脉经过踝关节前方行走于第 1、2 跖骨之间，在跖骨基部易于扪及其搏动，并注意双侧对比。（见全身体格检查方法第 168 条）

41. 检查双下肢水肿 在内踝后方、足背或胫前、踝关节前或内侧，用大拇指深压皮肤至少 5 秒钟，移去拇指后，观察有无凹陷性水肿。（见全身体格检查方法第 169 条）

TRAINING MANUAL FOR THE CARDIOVASCULAR EXAMINATION

A. Heart

A-1. Patient in supine position

Inspection

Observe patient in the supine position, head elevated to 15-30 degrees

1. Inspect the general appearance.

Inspect position, breath, skin, facies, eyes, mouth, chest configuration, extremities and nails to evaluate

2. Observe precordium.

Observe protrusion of the precordium and abnormal pulsations in this area. The character and location of any visible cardiac impulses should be noted. For example, the location, range and intensity of apical impulses should be observed. Minor precordial movements can be amplified by observing during expiratory apnea. Check for other movement in other areas and if present describe its location, range and intensity.

3. Tangential lighting is necessary.

Examiner moves toward the foot of the bed when abnormality is discovered. Observing the chest surface tangentially is helpful, allowing you to see the pulsations at their maximal amplitude.

Palpation

Palpation serves: to confirm the observations made during inspection, to detect pulsatile movements that are not visible, and to reveal thrills or friction rubs in the presence of specific cardiac diseases.

4. Palpate apical (mitral) area with two steps (palm first, then use fingertips).

The palm is especially useful for detecting thrills, fingertips are more helpful in detecting and analyzing pulsations. First the examiner uses his Palm or fingertips to palpate the apical impulse, and then use two fingertips to further localize the impulse. The normal point of maximum impulse (PMI) is usually in the fourth or fifth interspace, should not be felt in more than one interspace, usually occupies less than the first one-half of systole, and should not be felt further to the left than halfway between the midsternal line and lateral thoracic border. Left ventricular hypertrophy produces a sustained, systolic apical impulse that may be displaced laterally and downward. if the apical impulse can't be felt, palpate with the patient on his left side (see Item 20)

5. Palpate pulmonary area (2nd ICS-LSB)

Examine for any pulsation, thrill, shock.

6. Palpate aortic area (2nd ICS-RSB)

Examine for any pulsation, thrill, shock.

7. Palpate precordium (3rd, 4th, 5th, ICS, both sides of lower half of the sternum).

Palpate any pulsation, thrill, or pericardial friction rub. Right ventricular hypertrophy and dilation produce a movement that is usually more diffuse and can be felt along the left sternal edge. If a pericardial friction rub is suspected, palpate with the patient in a sitting position (see Item 22).

8. Palpate epigastric area noting any pulsations

The pulsation of the abdominal aorta may often be felt here in the normal patient. The impulse of the volume or pressure-loaded right ventricle frequently can be felt with a finger placed under the xiphoid process while the patient gently inhales. To distinguish these two, place the palm of your hand on the epigastric area and move your fingers up under the rib cage. The examiner can feel the aorta pulsating forward against the palmar surface of your fingers, or the right ventricle beating downward against your fingertips. Detection of thrills (palpable murmurs), is usually best accomplished using the sensitive area just proximal to the metacarpophalangeal joints.

If an abnormality is discovered on palpation, there are 2 techniques for timing it;

1) Listen simultaneously to the heart with a stethoscope. When listening at the apex you may watch the movement of the stethoscope as it usually reflects left ventricular contraction and can note its relation to the first and second heart sounds. You can also listen at the apex while watching or feeling impulses elsewhere on the chest, in order to confirm the relation to the cardiac cycle.

2) Feel the carotid impulse in the neck with your left 2nd and 3rd fingers as you inspect or palpate the chest. The carotid impulse is systolic.

The methods of detecting and significance of thrills and shock; Thrills most often accompany loud harsh or rumbling murmurs such as those of aortic stenosis, patent ductus arteriosus, ventricular septal defect, and mitral stenosis. In order to time what you observe

in relation to the cardiac cycle, you can use two methods mentioned above. Short, high-frequency vibrations are known as shocks. They are palpable heart sounds, such as accentuated aortic or pulmonic valve closure; there are usually due to hypertension.

Percussion

9. Percuss the relative dullness of the entire heart border and record the margin of the dullness

As more detailed knowledge of normal and abnormal precordial movements has been accumulated, palpation has largely replaced percussion in cardiac examination. Generally, percussion starts well to the left on the chest, from outside of the apical impulse ICS toward cardiac dullness which is normally at or medial to the midclavicular line in the fifth or possibly the fourth interspaces (See the complete physical examination Item 137). The methods of direct and indirect percussion are occasionally applicable to the estimation of heart size. When the left border of cardiac dullness falls outside the midclavicular line, the heart is usually enlarged. An actual decrease or absence of cardiac dullness per se is an important sign suggestive of pulmonary emphysema. When one cannot feel the apical impulse, percussion may suggest where to search for it. Occasionally, percussion may be your only tool. For example, a large pericardial effusion may make the impulse undetectable. Under these circumstances cardiac dullness often occupies a large area. Starting well to the left on the chest, percuss from resonance toward cardiac dullness in the 3rd, 4th, 5th, and even possibly the 6th interspaces, and then to the right of the chest above the liver dullness. Note the change with the patient's position from reclining to sitting.

Auscultation

Five reference points are used for localization of sounds on the surface of the chest see Fig2-27 The content of auscultation includes heart rate, rhythm, heart sound, murmur and friction rub.

Endpieces of the stethoscope are of two standard types, the diaphragm and the bell. The diaphragm acts as a filter, eliminating low-pitched sounds. High-pitched sounds, such as the second heart sound, and high-pitched murmurs are best heard with the diaphragm. With the bell, the skin becomes the diaphragm, and the natural frequency varies depending on the amount of pressure exerted. When you try to detect low-pitched sounds and murmurs, therefore, the bell should be applied as lightly as possible.

While auscultating, you should follow the following sequence: Pulmonic area, Aortic area, 2nd Aortic area, Mitral area, Tricuspid area, OR Mitral area, Pulmonic area, Aortic area, 2nd Aortic area, Tricuspid area, because mitral valve diseases are more common.

10. Using diaphragmatic chestpiece, auscultate apex at least 1 minute. If atrial fibrillation is suspected, auscultate at apex and simultaneously palpate radial pulse. Note any pulse deficit.

Use diaphragmatic chestpiece to listen at apex, for the heart beat and rhythm, for at

least 1 minute. Normally the rate ranges from 60-100 per minute, and the apical beat corresponds to the radial pulse. The rhythm is regular and may change slightly with respiration, becoming faster during inspiration and slower during expiration. This is called respiratory sinus arrhythmia.

Rate lower than 60 is called bradycardia. Rate higher than 100 is called tachycardia

Many arrhythmias can be detected by careful auscultation and examination of the radial pulse simultaneously at the bedside. Pay attention to pulse deficit. Some of the common arrhythmias and their associated physical findings are listed in the Table 3-1 below. Pay attention to the characteristics of sinus arrhythmia, premature beats, paroxysmal tachycardia, atrial fibrillation, etc.

TABLE 3-1. Characters of Common Arrhythmias

Common Arrhythmias	Arterial Pulse	Cardiac Examination
Premature contraction	Irregular	Loud S1, premature cardiac cycle with or without subsequent pause
Paroxysmal supraventricular tachycardia	Rapid, often diminished	"bouncing precordium" with rate of 150-240 per minute
Atrial fibrillation	Irregular, pulse deficit	Variable intensity S1, Irregular rhythm

It is important that identify the first and second sounds which divide the cardiac cycle into systolic and diastolic phases, and listen to them separately. Place the diaphragm over the pulmonary area. Normally there are two sounds: S1 and S2, S1 is lower pitched, softer and longer than S2. With normal rhythm the interval between S1 and S2 is shorter than between S2 and the next S1.

Sometimes it may be difficult to identify S1 and S2, especially if they are abnormal. The following three techniques may be of value:

- 1) It is easy to correlate the sounds with the apex impulse, which is systolic in timing. The S1 should just precede these phenomena because of the time required for the mechanical transmission of the pulse wave.
- 2) The sounds can be confirmed by simultaneously feeling the carotid pulse, which is systolic in timing. The pulse corresponds to S1.
- 3) You can familiarize yourself with the S2 at the pulmonic area, which is invariably the louder sound, and then move the stethoscope "inch by inch" downward toward the apex, keeping the S2 sound and rhythm clearly in your mind.

Pay attention to the changes of intensity, nature and splitting of the heart sounds.

In some conditions, S1 may be intensified, i. e., this includes high fever, tachycardia, hyperthyroidism. In other conditions, S2 may be intensified, i. e., this includes systemic hypertension and pulmonary hypertension.

The splitting of the heart sounds may indicate cardiac abnormalities but can also occur in

people with otherwise health hearts. Splitting of the second sound: In some individuals there is a slight difference in closure of the two valves. This results in the slight separation of the S2 called splitting of the second. The splitting is more prominent during inspiration. Splitting of the first sound: S1 may also be split because the mitral valve closes slightly before the tricuspid.

If an extra heart sound is discovered in systole or diastole, note its timing ,intensity and pitch.

Gallop: In people with an accentuated S3, there is a triple sound like a horse running, and, it is called a gallop. It is often associated with tachycardia. Fig3-14.

Opening snap: In patients with mitral stenosis there may be a higher pitched, short crackling sound, immediately after S2, which is more predominant slightly to the right of the mitral area. This is called the opening snap of the mitral valve. It occurs early in ventricular diastole prior to the rapid filling phase. Fig3-15.

If a heart murmur is discovered, auscultate it carefully. To detect murmurs, concentrate on the interval between the heart sounds in each area. Differentiate systolic from diastolic murmurs. In each area, use both diaphragm and bell.

Heart murmurs are of longer duration than heart sounds. They originate within the heart itself or in its great vessels and are usually caused by one of several mechanisms, including: valve stenosis, valve regurgitation, increased flow, shunting, great vessel dilation and rupture of a valve or chordae.

Pay attention to timing, location, duration, quality, conduction, intensity, pitch and the relationship with position of the body, respiration and exercise, etc.

Timing: systolic, diastolic, continuous.

Location: point of maximum intensity. Described in terms of anatomic landmarks: apex, left sternal border, interspace and centimeters from the midsternal, midclavicular or one of the axillary lines.

Duration: Table 3-2 and Fig3-16

TABLE 3-2. Duration of Murmurs

Short Duration	Long Duration	Medium Duration
Systolic-early, late	Pansystolic	Mid-systolic
Diastolic-early, late	Pandiatolic	Mid-diastolic
	Continuous	

Quality: blowing, rumbling, harsh or musical.

Conduction: to determine its distribution and radiation. For example, murmurs in the aortic area may radiate to the neck or down the left sternal border to the apex; those in the mitral area may radiate to the axilla.

Intensity: grade 1 to 6

Grade 1-very faint, heard only after listener has "tuned in."

Grade 2-quiet but heard immediately upon placing the stethoscope on the chest

Grade 3-moderately loud, not associated with a thrill

Grade 4-loud, may be associated with a thrill

Grade 5-very loud, may be heard with stethoscope partly off the chest, associated with a thrill

Grade 6-may be heard with stethoscope off the chest, associated with a thrill.

Pitch: high, medium, or low.

11. Auscultate pulmonary area (2nd ICS-LSB)

Carefully auscultate for splitting of the second sound and murmurs.

Note the changes in the splitting related to respiration.

Differentiate among narrow, wide, paradoxical or fixed splitting related to pulmonary and pulmonary valvular diseases.

12. Auscultate aortic area (2nd ICS-RSB)

Carefully auscultate changes in heart sounds and murmurs related to aortic, aortic valvular disease, etc.

13. Auscultate 2nd aortic area (3rd, 4th ICS-LSB)

Carefully auscultate changes in heart sounds and murmurs related to aortic valvular disease, ventricular septal defect, etc. Auscultate any pericardial friction rub.

14. Auscultate tricuspid area (4th, 5th, ICS-both sides of lower half of sternum)

Pay attention to changes in heart sounds and murmurs related to tricuspid valvular, right ventricular disease, etc.

15-19. Auscultate each area-use bell-type chestpiece and make light contact with the chest wall lightly

Pay attention to the sequence as above.

A-2. Place patient in left lateral decubitus position

20. Palpate apical area

Ask the patient to roll partially onto the left side. The apical impulse is always more powerful with the patient on his left side, which usually displaces the apex 2-3 cm to the left and brings it closer to the chest wall. For purposes of auscultation and analysis of the configuration of the apical impulse, this is a useful maneuver, but assessment as to location and duration of the apical impulse should be made with the patient supine.

21. Auscultate apical area

Carefully listen at apex with the patient on his left side.

1) The third heart sound (S3) may be heard at the apex. It occurs after S2 and mimics S2, but is softer. It is low pitched and is often difficult to detect. Auscultation of the cardiac apex in the left lateral decubitus position with light application of the bell of the stethoscope is imperative for detection of this sound. It can be heard easily in mitral area. In children and young adults, it is often heard and doesn't indicate heart disease.

2) Diastolic rumbling murmur may be heard or increased at the apex with the patient in the left lateral decubitus position.

A-3. Patient in sitting position

22. Palpate the same areas of the precordium-as when patient was supine

Check for a pericardial friction rub. Pericardial friction rub is a to-and-fro grating sensation, which is usually present during the systolic and diastolic phases of the cardiac cycle, especially with the patient sitting erect and leaning forward. It is best palpated in the left third and fourth ICS at the sternal border. It is caused by a fibrinous carditis.

23. Auscultate each area of precordium-use diaphragm. When atrial myxoma is suspected, use bell

1) If you suspect an aortic murmur, especially the murmur of aortic regurgitation, ask the patient to sit up, lean forward, exhale completely and hold his breath in expiration. With the diaphragm of your stethoscope pressed on the chest, listen at the aortic area and down the left sternal border to the apex, pausing periodically so the patient may breathe. The murmur of obstructive hypertrophic cardiomyopathy may increase with the patient in the sitting position.

2) Pericardial friction rub of pericardium is a to-and-fro rubbing or grating sound, heard in both phases of the cardiac cycle and unaffected by respiration. It is increased when the patient is sitting upright or leaning forward, and when the examiner presses the diaphragm of the stethoscope firmly against the patient's chest wall.

3) If atrial myxoma is suspected and a rumbling diastolic murmur is not heard clearly, auscultate the apical area with bell contacting the chest wall lightly and patient in a sitting position. This will cause the murmur to increase and be easily heard.

B. Vessel

B-1. Upper limbs

24. Measure blood pressure in right arm. If hypertension is discovered, measure blood pressure in left arm. When secondary hypertension is suspected, also measure blood pressure in both lower limbs.

In order to determine the systolic blood pressure adequately and to exclude an error as a result of an auscultatory gap, blood pressure is first assessed by palpation. In this procedure, the right brachial or radial artery is palpated while the cuff is inflated above the pressure required to obliterate the pulse. The systolic pressure is identified by the reappearance of the brachial pulse while the cuff is deflated. Measurement of blood pressure by auscultation is described in the complete physical examination Items 7-10. The normal adult blood pressure varies over a wide range. The normal systolic pressure varies from 95 to 140mmHg, generally increasing with age. The normal diastolic range is from 60 to 90 mmHg. Pulse pressure is the difference between the systolic and diastolic pressures. Mean pressure can be approximated by dividing the pulse pressure by three and adding this value to the diastolic pressure. The pressure should be determined in both

arms, at least during the initial evaluation. One may have a normal variation of up to 10 mmHg between the two arms. When it is advisable to measure the blood pressure in the leg, such as when a congenital narrowing (coarctation) of the aorta or dissecting aortic aneurysm is suspected, the palpation method should be employed with the patient prone. Apply the cuff to the calf or thigh and estimate the systolic level by palpating the tibial or dorsalis pedis artery. The systolic pressure in the leg is normally equal to or higher than that in the arm. It is never critical to measure the diastolic pressure in the leg.

High blood pressure may be present in essential hypertension, kidney disease, Cushing's syndrome, etc. Low blood pressure may of course be present in shock states or may accompany cachexia, prolonged bed rest, pericardial effusion, constrictive pericarditis and adrenal insufficiency.

25. Examine nail beds and hands. Check for cyanosis, clubbing.

Examine the color of nail beds and angle between nail and basic bed of the nail.

26. Check for capillary pulsation when wide pulse pressure is present

Examine capillary pulsation by pressing on nails or lips with a clean glass and looking at the change of color from pink to white. Capillary pulsation occurs in aortic insufficiency and other abnormalities associated with wide pulse pressure.

27. Palpate radial (wrist) pulse (at least 30 seconds), check for rate, rhythm.

It is described in the complete physical examination Item 4. Check strength of the beat and elasticity of artery. If left heart failure is discovered, check if there is pulsus alternans.

28. Palpate radial pulses simultaneously for symmetry

It is described in the complete physical examination Item 5.

29. Check if there is water-hammer pulse when wide pulse pressure is present.

It is a bounding pulse and reinforced by elevating the arm above the head. It occurs in aortic insufficiency and other abnormalities associated with wide pulse pressure.

30. Palpate radial pulses and check for pulsus paradoxus when pericardial effusion is suspected

Pulsus paradoxus is an important sign of cardiac tamponade. It is found with tense pericardial effusions and less frequently with chronic constrictive pericarditis. The term refers to a weakening of the pulse during normal inspiration. It is really a misnomer, however, because this is an exaggeration of the normal (up to 10 mmHg) inspiratory decline in systolic blood pressure. Although pulsus paradoxus may be detected by palpation, it is more reliably quantitated by using the sphygmomanometer. As the pressure in the cuff is slowly reduced, the first Korotkoff sound will appear only during expiration (upper systolic level). As one lowers the pressure, the sounds begin to occur in both inspiration and expiration (lower systolic level). A difference of greater than 10 mmHg between these two points is abnormal. A common non cardiac cause of pulsus paradoxus is

the labored respiration of the patient with obstructive pulmonary disease (asthma, emphysema).

B-2. Neck

31. Observe and approximately measure the venous pressure in either the internal or external jugular vein

Check the jugular veins (also see the complete physical examination Item 133). Both external and internal jugular veins require careful inspection; external vein for estimation of mean right atrial pressure, and internal vein for wave form as well as pressure. Ask patient to assume a sitting or 30-45 degree semirecumbent position. If an engorged external jugular vein can be seen above the clavicle, this indicates increased venous pressure. This can be measured by adding 5 cm to the vertical distance in centimeters between the sternal angle and the highest point of oscillation in the internal jugular veins. Fig. 3-17. Normally the highest point is no more than 3 cm above the sternal angle with the patient semi-recumbent. In most positions, whether upright or supine, the sternal angle is roughly 5-7 cm above the right atrium. Venous pressure varies from 5 to 10 cm of H₂O. Jugular venous pressure elevation is an important sign of congestive heart failure, pericardial constriction, pericardial effusion and superior vena cava syndrome which may result from mechanical obstruction to venous inflow.

32. Observe neck, check for jugular venous wave form in internal jugular vein when the pressure of vein is increased

Jugular venous pulses (wave form) are not easy to see normally, but may demonstrate specific changes in complete atrioventricular block, tricuspid stenosis or regurgitation, and pulmonary hypertension with right ventricular hypertrophy. This will be studied in Internal Medicine. It is important to differentiate venous from arterial pulsations. The venous pulse is diffuse and undulant. Venous pulsations in the neck are lower and more lateral, either under or just behind the sternocleidomastoid muscle, without a palpable impulse. Arterial pulsations in the neck are localized and brisk and are usually best seen high and medial to the sternocleidomastoid muscle. The differential key points are as follows:

- 1) The level of visible pulsation in the neck vein descends with inspiration, (although the venous waves may become more prominent during inspiration) because thoracic pressure decreases. Arterial pulsations do not vary with respiration.
- 2) Venous waves can usually be obliterated by moderate pressure at the base of the neck. Arterial pulsations can be obliterated by much more pressure.
- 3) Arterial pulsations are unaffected by position but the venous pulse usually disappears or markedly decreases in a sitting position.
- 4) Venous waves are polyphasic during normal sinus rhythm, including A, C, V positive deflections and X, Y negative deflections. Fig3-18. Arterial pulse has only one positive deflection. Perhaps the simplest method is to use vision and touch, observing the venous

pattern while palpating the opposite carotid pulse.

33. Examine hepato-jugular reflux

Examine hepato-jugular reflux with patient recumbent so that the highest level of pulsation is readily identifiable in the lower half of the neck. Press over the patient's right upper abdominal quadrant firmly for 30-60 seconds and look at the external jugular vein. Normally it is not engorged. The engorgement indicates that blood is being transmitted from the liver to the superior vena cava and is called hepato-jugular reflux. A rise of more than 1 cm is abnormal and usually is an important sign of right ventricular failure or pericardial effusion or constriction.

34. Palpate carotid artery bilaterally

It is described in the complete physical examination Item 64.

35. Auscultate both sides of neck, check for carotid bruit

Generally, use the diaphragmatic chestpiece of the stethoscope to listen for a bruit. Pay special attention to the carotid artery and the lower half of the neck.

B-3. Abdomen

36. Auscultate abdominal aorta (midline of abdomen)

Place diaphragmatic chestpiece firmly in the midline of abdomen about 5 cm above the umbilicus, auscultate for any bruits.

37. Auscultate renal arteries (RUQ and LUQ)

Place diaphragmatic chestpiece firmly about 5 cm above the umbilicus and 3-5 cm laterally to the right and to the left of midline, auscultate for any bruits.

B-4. Lower limbs

38. Palpate femoral artery

Feel the femoral impulse midway between the pubic symphysis and the anterior superior iliac spine. Palpate both sides for symmetry.

39. Auscultate femoral artery, note if there is pistol-shot sound and Duroziez sign when aortic insufficiency is suspected.

If one of the femoral pulses is diminished or absent, auscultation for a bruit is necessary. Place diaphragmatic chestpiece firmly over the femoral artery and auscultate for any bruits. The presence of a bruit may indicate obstructive aorto-ilio-femoral disease.

When aortic insufficiency is suspected, put the bell head on the femoral artery to auscultate for a pistol-shot like "Ta-Ta" sound. Press the distal edge of the bell over the femoral artery to hear the to and fro bruit called Duroziez sign. Both of the sounds are associated with increased pulse pressure. Normally a systolic murmur can be heard in severe anemia only when the proximal edge of the bell head is pressed over the femoral artery.

40. Palpate dorsalis pedis pulse

Palpate both sides for symmetry. It is described in the complete physical examination Item 168.

41. Check for pitting edema (at least 15 seconds)

It is described in the complete physical examination Item 169.

附：心血管检查纲要

A. 心脏

A-1. 受检者仰卧

视诊

1. 观察一般状况
2. 观察心前区
3. 斜照光或取切线方向观察

触诊

4. 用二步法（手掌、手指）触诊心尖搏动，如平卧位未触及心尖搏动，请受检者左侧卧位再触诊（见 20 条）
5. 触诊肺动脉瓣区（胸骨左缘第 2 肋间）：检查有无搏动、震颤、震荡
6. 触诊主动脉瓣区（胸骨右缘第 2 肋间）：检查有无搏动、震颤、震荡
7. 触诊胸骨左缘 3、4、5 肋间，胸骨体下份左、右两旁，如疑有心包摩擦感，请受检者取坐位再触诊（详见 22 条）
8. 触诊上腹部，注意有无搏动

叩诊

9. 叩诊心脏相对浊音界并记录

听诊

用膜型胸件听诊

10. 紧贴胸壁听诊心尖区至少 1 分钟，如疑有心房颤动，宜同时触诊桡动脉，注意有无脉搏短绌

11. 听诊肺动脉瓣区（胸骨左缘第 2 肋间）
12. 听诊主动脉瓣区（胸骨右缘第 2 肋间）
13. 听诊主动脉瓣第二听诊区（胸骨左缘 3、4 肋间）
14. 听诊三尖瓣区（胸骨左缘第 4、5 肋间，胸骨体下端两旁）

用钟型胸件听诊

15. 听诊心尖区
16. 听诊肺动脉瓣区
17. 听诊主动脉瓣区
18. 听诊主动脉瓣第二听诊区
19. 听诊三尖瓣区

A-2. 受检者左侧卧

20. 触诊心尖区
21. 听诊心尖区

A-3. 受检者坐位

22. 触诊心前区，包括心尖区、肺动脉瓣区、主动脉瓣区、三尖瓣区

23. 听诊各瓣膜区(与卧位时相同),通常用膜型胸件,疑有心房粘液瘤时,可用钟型胸件

B. 血管

B-1. 上肢

24. 测量右上肢血压(如发现高血压,加测左上肢,如怀疑血管病变引起的继发性高血压,加测双下肢血压)

25. 检查双手及指甲,注意有无紫绀、杵状指

26. 当脉压增大时应检查有无毛细血管搏动征

27. 触诊桡动脉脉搏(至少 30 秒钟),注意脉率和脉律

28. 检查桡动脉脉搏的对称性

29. 当脉压增大时,检查有无水冲脉

30. 疑有心包积液时,检查有无奇脉

B-2. 颈部

31. 观察并粗略估计颈外或颈内静脉压

32. 如颈静脉压增高,检查颈静脉搏动波

33. 检查肝颈静脉回流

34. 检查双侧颈动脉

35. 听诊双侧颈部,注意有无杂音

B-3. 腹部

36. 听诊腹主动脉(腹部中线处)

37. 听诊双侧肾动脉(右、左上腹部)

B-4. 下肢

38. 触诊双侧股动脉

39. 听诊双侧股动脉,注意有无枪击音和 Duroziez 征

40. 触诊双侧足背动脉

41. 检查双下肢水肿

APPENDIX

CHECKLIST FOR THE CARDIOVASCULAR EXAMINATION

A. Heart

A-1. Patient in supine position

Inspection

1. Inspect the general appearance.

2. Observe precordium.

3. Tangential lighting is necessary.

Palpation

4. Palpate apical (mitral) area with two steps (palm first, then use fingertips). If the apical impulse can't be felt, palpate with the patient on his left side (see Item 20)

5. Palpate pulmonary area (2nd ICS-LSB)

6. Palpate aortic area (2nd ICS-RSB)

7. Palpate precordium (3rd, 4th, 5th, ICS, both sides of lower half of the sternum). If pericardial friction is suspected, palpate with the patient in a sitting position (see Item 22)

8. Palpate epigastric area

Percussion

9. Percuss the relative dullness of the entire heart border and record the margin of the dullness

Auscultation

10. Using diaphragmatic chestpiece, auscultate apex at least 1 minute. If atrial fibrillation is suspected, auscultate at apex and simultaneously palpate radial pulse. Note any pulse deficit.

11. Auscultate pulmonary area (2nd ICS-LSB)

12. Auscultate aortic area (2nd ICS-RSB)

13. Auscultate 2nd aortic area (3rd, 4th ICS-LSB)

14. Auscultate tricuspid area (4th, 5th, ICS-both sides of lower half of sternum)

Auscultate each area-use bell-type chestpiece and make light contact with the chest wall lightly

15. Using bell chestpiece, auscultate apex

16. Auscultate pulmonary area

17. Auscultate aortic area

18. Auscultate 2nd aortic area

19. Auscultate tricuspid area

A-2. Place patient in left lateral decubitus position

20. Palpate apical area

21. Auscultate apical area

A-3. Patient in sitting position

22. Palpate the same areas of the precordium-as when patient was supine

23. Auscultate each area of precordium-use diaphragm. When atrial myxoma is suspected, use bell

B. Vessel

B-1. Upper limbs

24. Measure blood pressure in right arm. If hypertension is discovered, measure blood pressure in left arm. When secondary hypertension is suspected, also measure blood pressure in both lower limbs.

25. Examine nail beds and hands. Check for cyanosis, clubbing.

26. Check for capillary pulsation when wide pulse pressure is present

27. Palpate radial (wrist) pulse (at least 30 seconds), check for rate, rhythm.

28. Palpate radial pulses simultaneously for symmetry

29. Check if there is water-hammer pulse when wide pulse pressure is present.

30. Palpate radial pulses and check for pulsus paradoxus when pericardial effusion is suspected

B-2. Neck

31. Observe and approximately measure the venous pressure in either the internal or external jugular vein.

32. Observe neck, check for jugular venous wave form in internal jugular vein when the pressure of vein is increased

33. Examine hepato-jugular reflux

34. Palpate carotid artery bilaterally

35. Auscultate both sides of neck, check for carotid bruit

B-3. Abdomen

36. Auscultate abdominal aorta (midline of abdomen)

37. Auscultate renal arteries (RUQ and LUQ)

B-4. Lower limbs

38. Palpate femoral artery

39. Auscultate femoral artery, note if there is pistol-shot sound and Duroziez sign when aortic insufficiency is suspected.

40. Palpate dorsalis pedis pulse

41. Check for pitting edema (at least 15 seconds)

腹部体格检查方法

复习

认识下列解剖标志，有助于描述疼痛、压痛和其他异常发现的部位：

胸骨剑突

肋缘

脐

髂前上棘

腹股沟韧带

耻骨上缘

前正中线

腹直肌外缘

腹部分区——两种常用分区法（图 3-19）

a. 四分法：从胸骨中线经脐至耻骨划一垂直线，第二条线经脐与第一线直角相交，如此将腹部划分为四个区：右上腹、左上腹、右下腹、左下腹。

熟悉各个区内的脏器分布。

b. 九分法：经两侧肋缘最低点和两侧髂前上棘划两条假想的水平横线；两条垂线是锁骨中线至腹股沟韧带中点，大约相当于腹直肌外缘；如此将腹部分为九区。各区内脏器内容也应掌握。

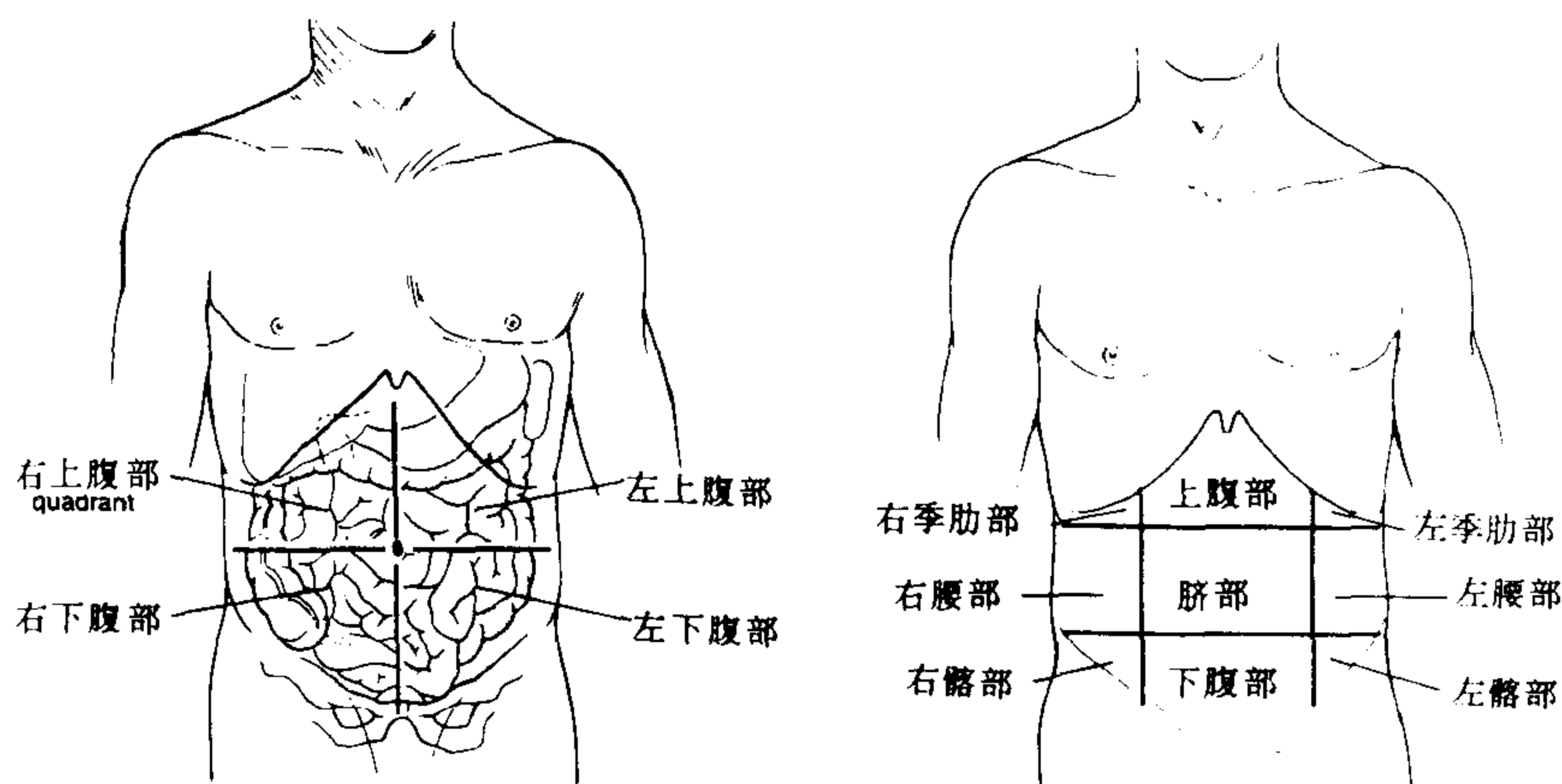


图 3-19 腹部四分法和九分法

A. 准备

1. 嘱病人解小便以保证膀胱空虚。
2. 病人仰卧，置一小枕于头下，膝关节弯曲以放松腹壁肌肉；病人双手置于身体两侧，不能放在头后。与病人简单交谈或重复一下病史可有助于病人放松腹肌。
3. 正确暴露腹部，从乳房至耻骨联合；对女病人，需盖住乳头。

B. 视诊

4. 观察腹部外形和对称性 检查皮肤（紫纹、疤痕），脐（部位、形状），据剑突至耻骨联合的连线水平判断腹部外形是膨隆、平坦或舟状腹；阴毛的分布及其与病人性别是否相符。
5. 检查腹壁静脉 如静脉怒张，应检查其血流方向。用两示指或以一手示、中指并列置于一根静脉上，加压然后分开两指，排空这段静脉；分别移去一手指，观察每个方向静脉充盈的时间，较迅速充盈的方向就是静脉血流方向。下腔静脉阻塞时腹壁浅静脉怒张，血流向上；反之上腔静脉阻塞时，血流向下；门脉高压时曲张静脉由脐放射向上、下各方向（图 3-20）。

6. 切线方向观察呼吸运动、蠕动波或搏动

呼吸运动：在女性，呼吸以胸式呼吸为主，腹壁运动较少；在男性和儿童，呼吸以腹式呼吸为主。呼吸时腹壁运动受限，可见于膈肌下炎症（特别是腹膜炎）等情况，这在男性病人尤其明显。

蠕动波：瘦弱者，即使是在无疾病情况下，胃肠蠕动也可能反映在腹壁表面。中等腹壁厚度者，腹壁见到强的收缩蠕动波，则应注意肠梗阻的可能。逆蠕动波见于幽门梗阻、十二指肠梗阻或肠转位不良。

7. 测量腹围 腹围应在病人平静呼吸时经脐水平，用软尺绕腹一周进行测量，以厘米表示。

8. 观察腹股沟区，注意有无肿块及肿大淋巴结 病人仰卧床上，当医生观察腹股沟时，

嘱病人咳嗽，由此增加腹压，如该区出现包块，则可能与疝有关。

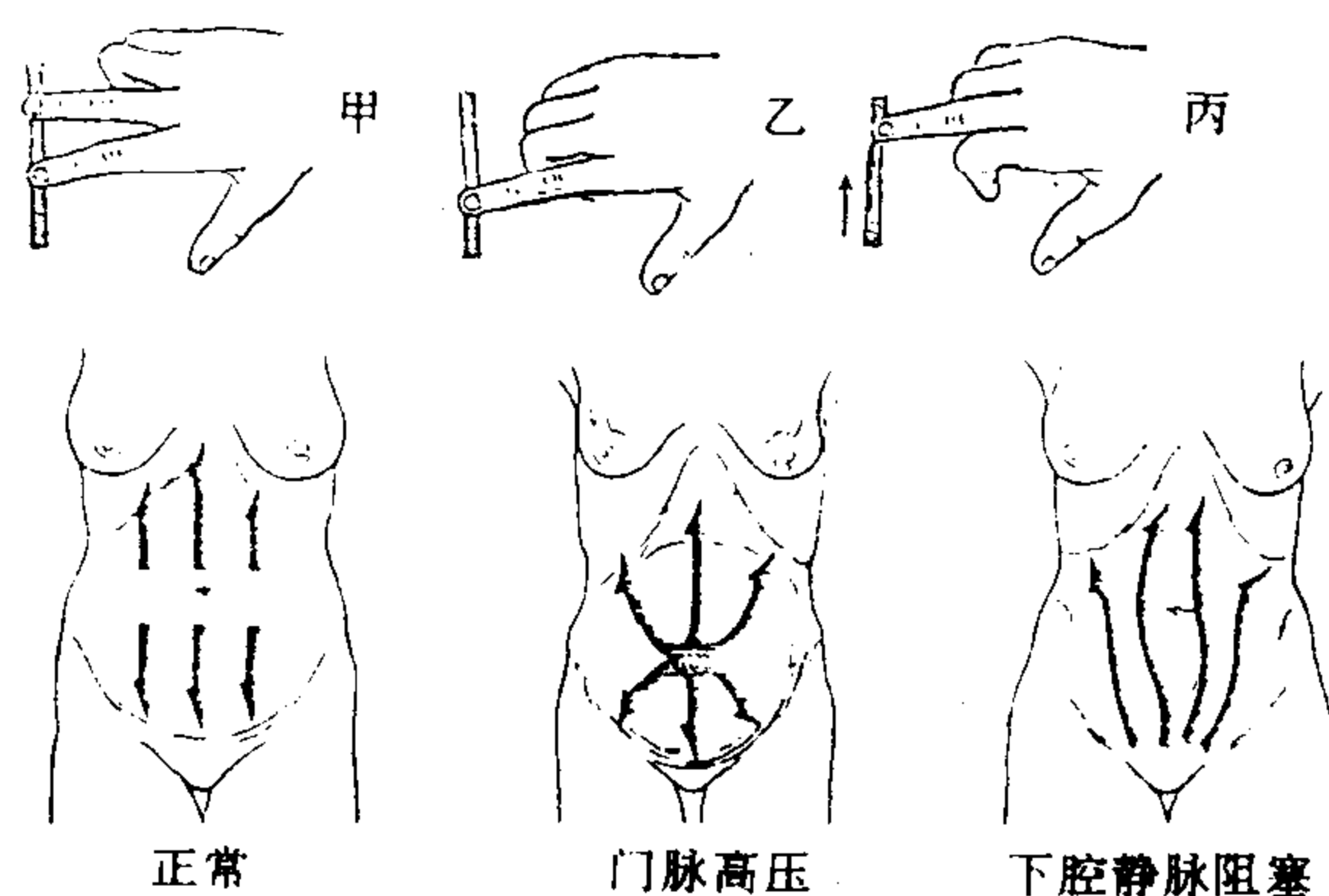


图 3-20 腹壁静脉血流方向

C. 听诊

9. 肠鸣音 用膜式胸件听诊肠鸣至少一分钟。如果未闻及肠鸣，则继续听诊至听到肠鸣或至少 5 分钟。正常肠鸣音是一种断断续续或连续的咕噜声，每分钟大约 3 至 5 次。注意肠鸣音的频率、音调和强度。频率增加伴高调肠鸣音是肠鸣活跃之标志。肠鸣音缺乏则显示肠蠕动减弱或消失。

10. 杂音与静脉“嗡鸣声” 杂音由动脉产生，性质相似于低调的心脏杂音。静脉嗡鸣声由静脉产生，为一种连续性声音，称为静脉杂音。用钟式胸件听诊腹部各区：左上腹部听诊左肾动脉，右上腹部听诊右肾动脉，右下腹部听诊右髂总动脉，左下腹部听诊左髂总动脉，沿前正中线听诊主动脉。

11. 振水声 振水声是左右摇晃上腹部产生的一种声音。正常人在餐后 6—8 小时以上则不会产生振水声，即振水声检查阴性。如果阳性，则提示胃潴留。

12. 肝或脾区摩擦音 嘱病人较深呼吸，用听诊器听诊肝、脾区。

D. 叩诊

13. 腹部叩诊 叩诊腹部 4 个象限。由于胃肠内含气，在腹部多为鼓音。

14. 肝脏叩诊

肝界叩诊：嘱病人平静呼吸。叩诊从右锁骨中线肺野内清音区开始向下至出现浊音，标记该点；再从腹部鼓音区向上叩诊至浊音点。测量上下两点间距离为肝上下界。正常人右锁骨中线上为 9~11cm。

拳击叩诊：告诉病人检查者将做拳击叩诊。然后置一手于肝浊音区上，用另一手握拳轻轻叩击该手背。同时，检查者应观察病人面部表情和疼痛引起的退缩反应，并询问病人有否疼痛。如果有疼痛，则同样方法叩击左侧同样部位作比较，注意疼痛的强度与部位（图 3-21）。

15. 脾脏叩诊

脾脏浊音区叩诊：当怀疑脾肿大时才作此检查。在左腋中线叩诊最下一个肋间隙，该部位通常是鼓音。然后嘱病人做深呼吸。若脾脏无肿大，则此时叩诊该部位仍是鼓音。

拳击叩诊：手法同肝脏拳击叩诊。

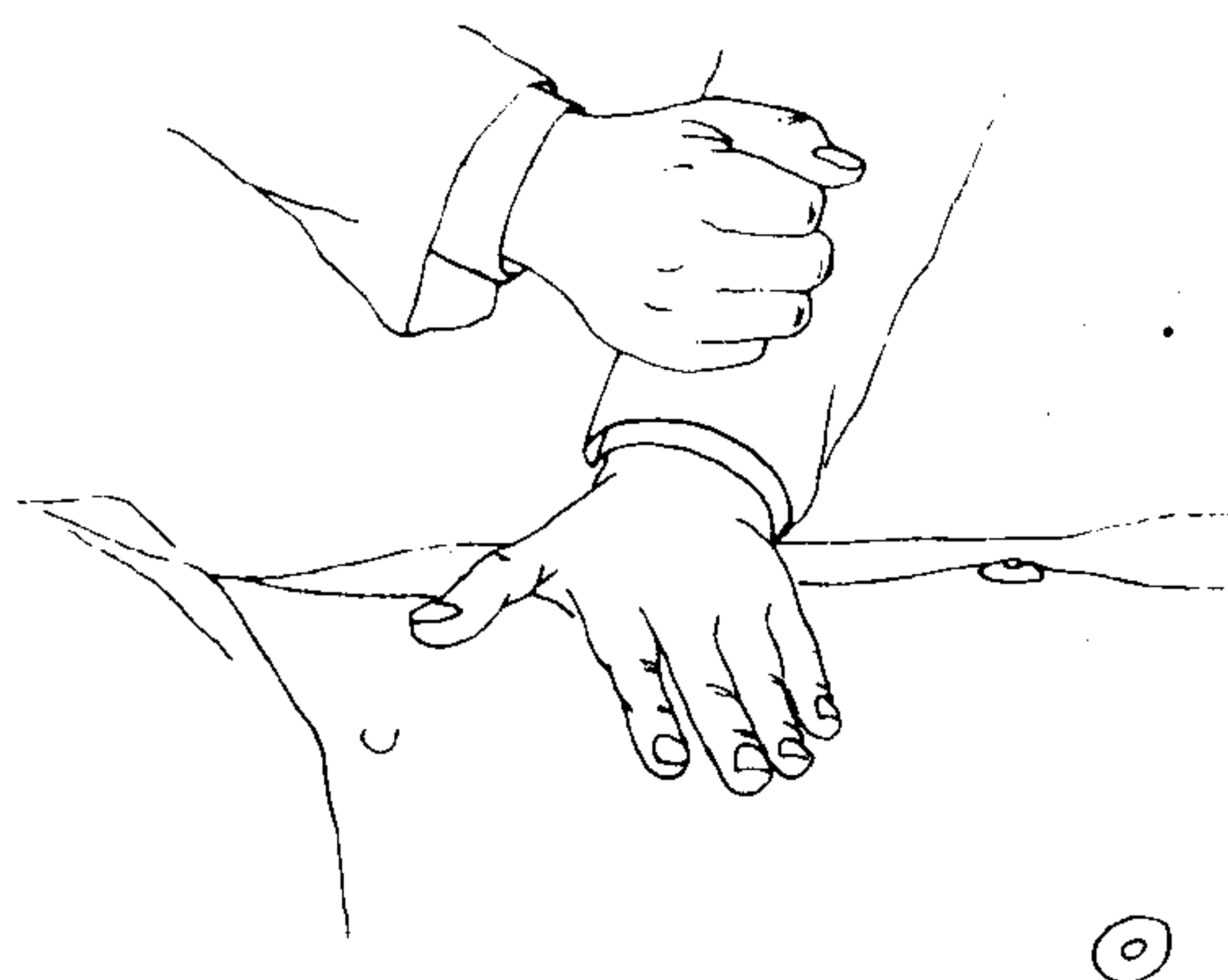


图 3-21 拳击叩诊检查肝脏

16. 胃的叩诊 在左上腹叩诊胃以了解 Traube 鼓音区的范围。可在前胸下部左锁骨中线上垂直叩诊，再水平叩至腋后线。

17. 检查移动性浊音 病人仰卧位，液体浊音可在两侧腹部叩出，标记此浊音与鼓音之分界线；嘱病人右侧卧位，腹水流向右侧，叩诊并标记新的交界线；测量此新的交界线与原交界线的距离，用 cm 表示。然后，病人左侧卧位，重复此手法，记录浊音区的变化。用此法可以检查出腹膜腔内大于 1000ml 的游离液体。为简化手法，检查者可以先让病人仰卧位，首先确定从鼓音变成浊音的部位。然后嘱病人侧卧位，检查者保持板指不动再度叩诊，此时若叩诊音由浊音变为鼓音，表明浊音移向低处，提示腹水存在（图 3-22）。

18. 液波震颤 检查者将病人一手或另一检查者一手之尺侧缘压在病人腹部前正中线上，以阻止腹壁震动的传导。然后，检查者拍击一侧腹部，而另一手同时对侧贴于腹壁，有液体波动冲击手掌的感觉。液波震颤说明腹水的存在，其特异性强（图 3-23）。

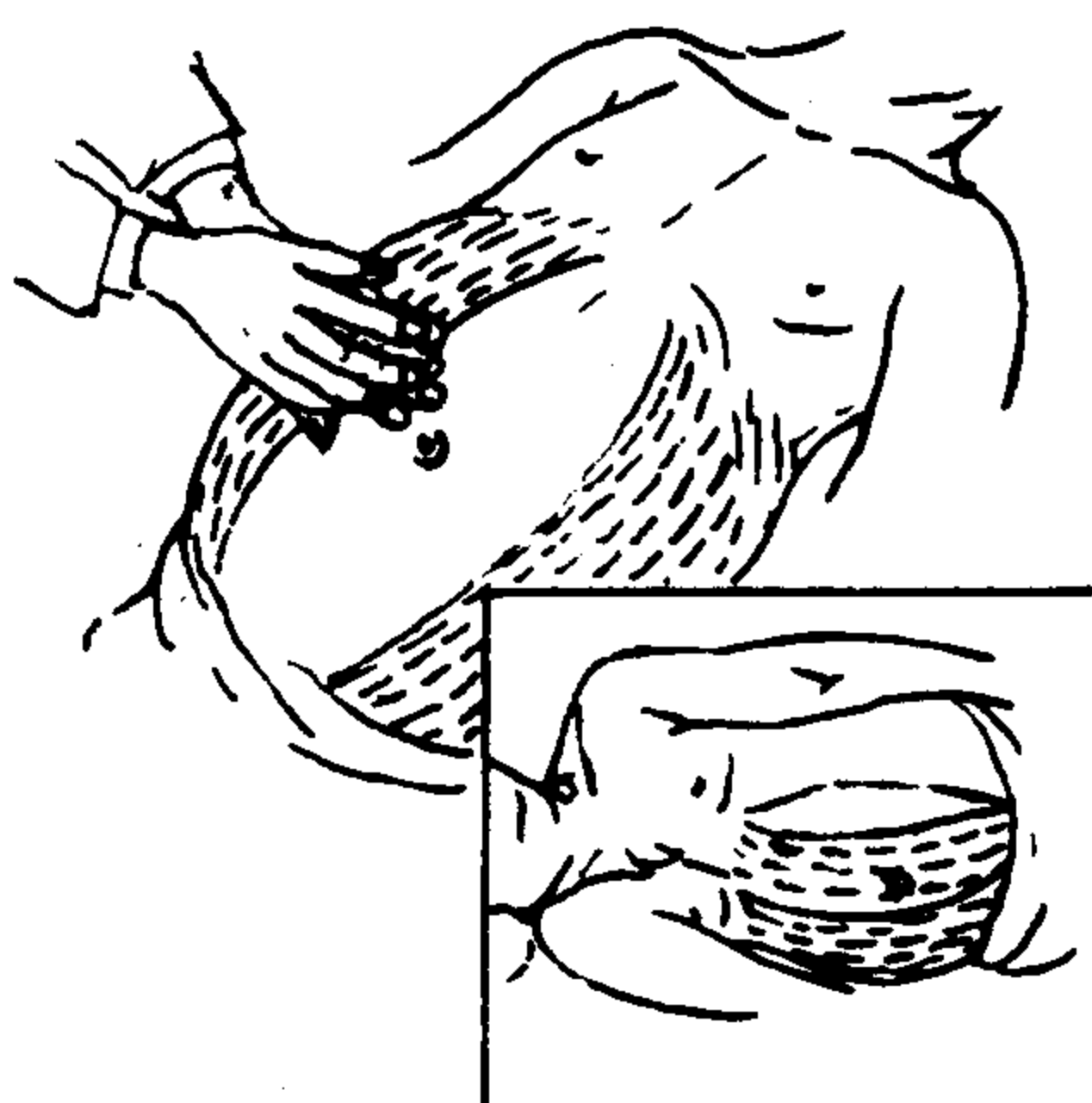


图 3-22 检查移动性浊音

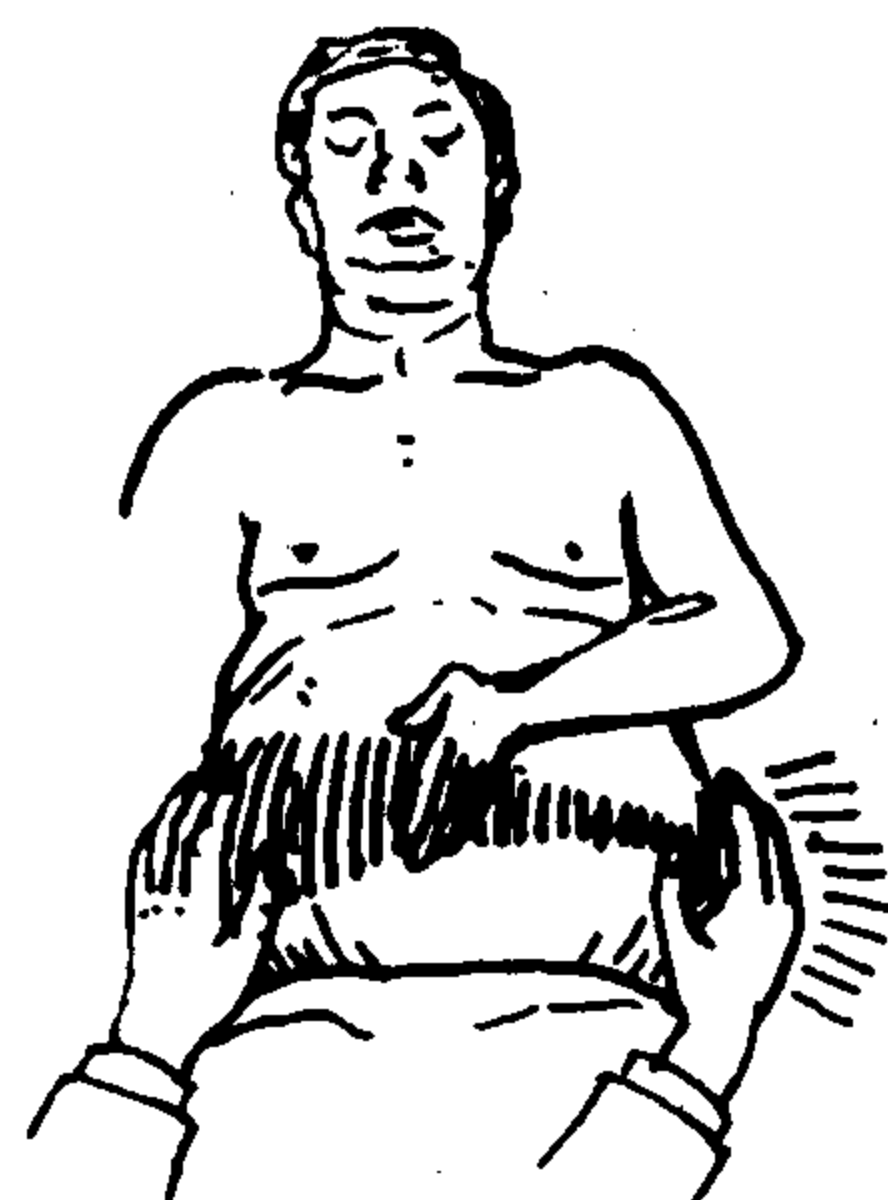


图 3-23 检查液波震颤

E. 触诊

19. 浅触诊腹部四个象限 作为常规，从左下腹开始反时针浅触诊全腹部以检查有无肌紧张、压痛、肿块等。检查应从轻触开始，然后稍微用力。检查者应用手掌和并拢的手指进行触诊，手臂放松并使前臂置于水平位（图 3-24）。

20. 深触诊腹部四个象限 应用手指掌面，深触诊腹部四个象限以检查有无肿块、压痛、搏动等。深触诊应使腹壁压陷至少 2cm。当腹壁较厚或检查者力气较小时，可用左手置于右手背以增大触诊压力（图 3-25）。如疑及肿块，则应触诊其大小、形状、移动度、压痛、表面情况、包块规则否、软硬度，并用听诊器听诊有无血管杂音。如有压痛，则应确定最痛点及压痛的分布。

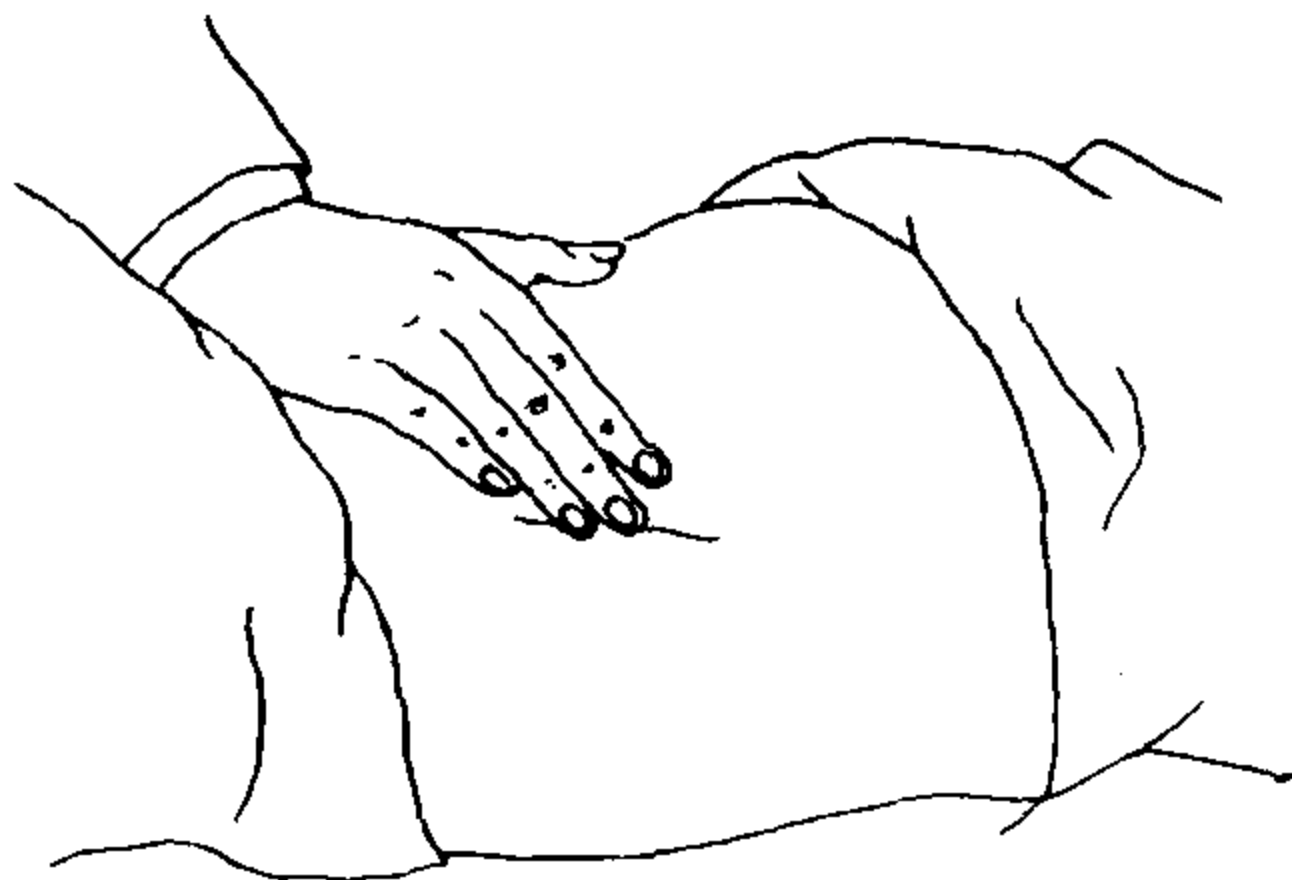


图 3-24 浅触诊法

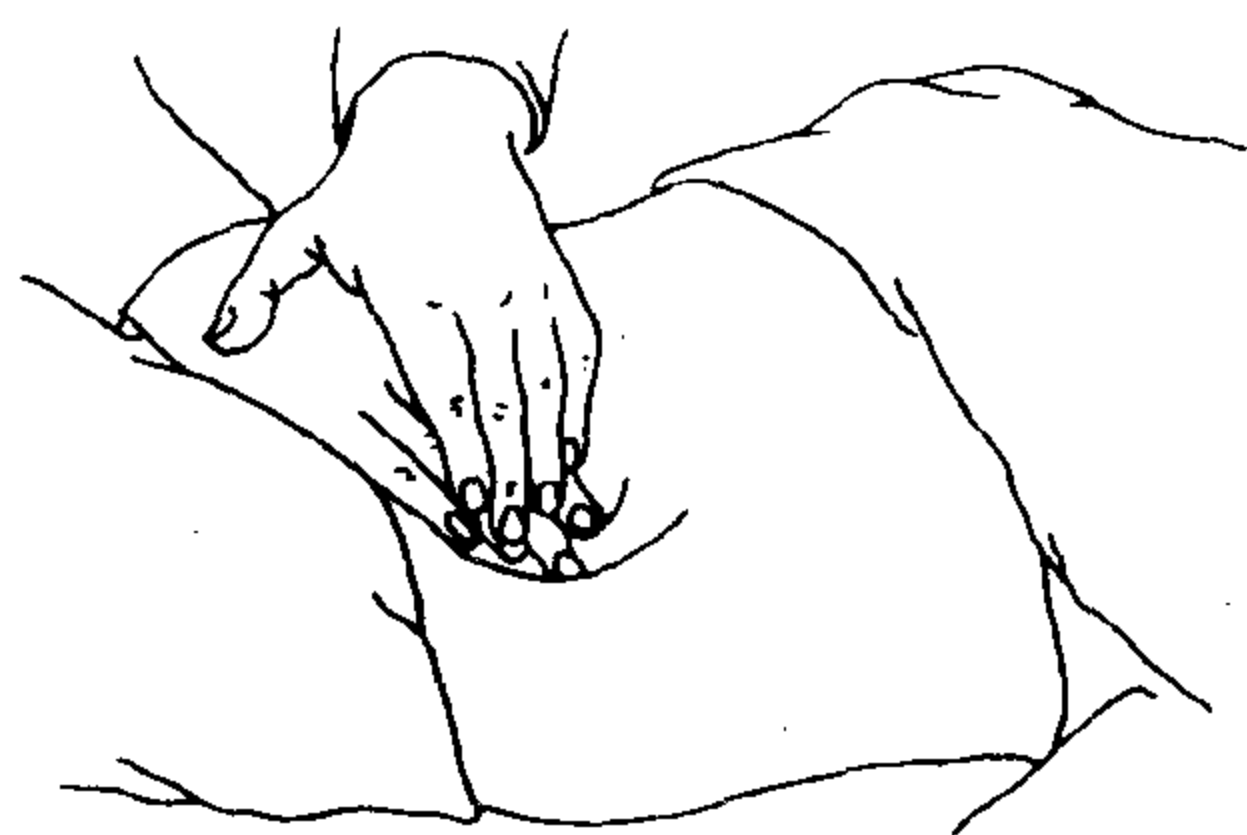


图 3-25 深触诊法

检查反跳痛，于压痛点深触诊，短暂停顿，然后突然松开手指，同时观察病人面部有无疼痛加剧的表情。同样手法检查另一些部位以作比较。

21. 锁骨中线和前正中线上触诊肝脏 在右锁骨中线上，从髂前上棘水平开始深触诊，同时让病人深呼吸，吸气时肝脏下移，便于指尖探触。若未触及，则检查手逐渐向肋缘方向上移，重复探触，直至触及肝脏或至肋缘。在前正中线上，从脐水平开始，重复上述手法触诊肝脏。若触及肝脏，则确定其边缘（锐或钝），表面是否光滑，压痛，软硬度，并向外侧和中线方向再触诊以确定其外形。若发现肿块，则同样需了解其上述特征，并用听诊器听诊以了解有无血管杂音。正常人深吸气时肝脏肋下不超过 1cm，剑下则不超过剑突基底部与脐连线的上 1/3。未触及肝脏并不说明肝脏正常。若肝脏长大，在右锁骨中线和前正中线上测量肝脏大小。大多数医师愿采用双手法触诊肝脏。左手置于病人右胸下分背面即 11~12 肋区域或胸骨下份以限制胸廓呼吸时的运动而使右手更有效地触到随吸气时下移的肝脏（图 3-26）。

22. 触诊脾脏 检查者将左手伸过腹部置于病人左胸廓下份后面，用右手在其左上腹触诊脾脏，从脐水平（或低于叩诊浊音区）开始触诊。手法类似前述肝脏的触诊，但需更仔细，因脾脏活动度比肝脏大，位置也较深。若未触及脾脏，则嘱病人右侧卧位，再重复上述手法触诊。脾脏的测量同肝脏，常用锁骨中线上肋下厘米数和前正中线上剑突下厘米数表示。中至重度脾长大则最好用图示，特别是三线的线条图显示更清楚（图 2-27、28）。（注：当用力触诊重度肿大脾脏时，可能引起脾脏破裂，故触诊脾脏手法应轻柔）。

23. 触诊胆囊 置右手在病人右锁骨中线上（大约相当于右侧腹直肌外缘）肋缘下或肝下界之下，深触诊以检查胆囊有无压痛或肿块。

24. 墨非氏征 如胆囊区发现压痛，检查者应置左手于病人右侧胸廓下份外侧，拇指向下弯曲压向胆囊点，余四指垂直置胸廓下份。嘱病人深吸气，检查病人是否因胆囊点压痛而突然停止呼吸运动，有无疼痛的面部表情或述说疼痛（图 3-29）。

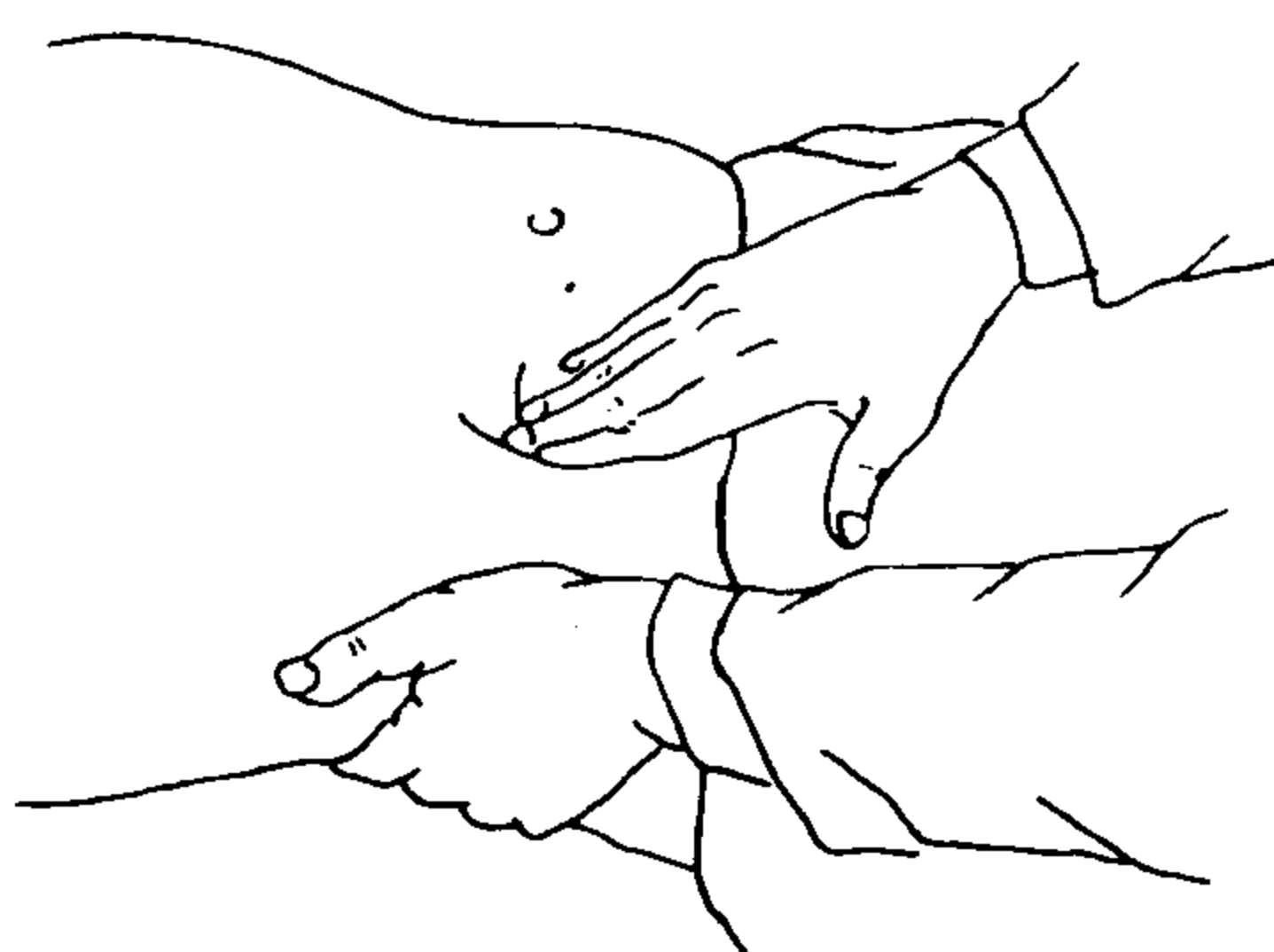


图 3-26 双手法触诊肝脏

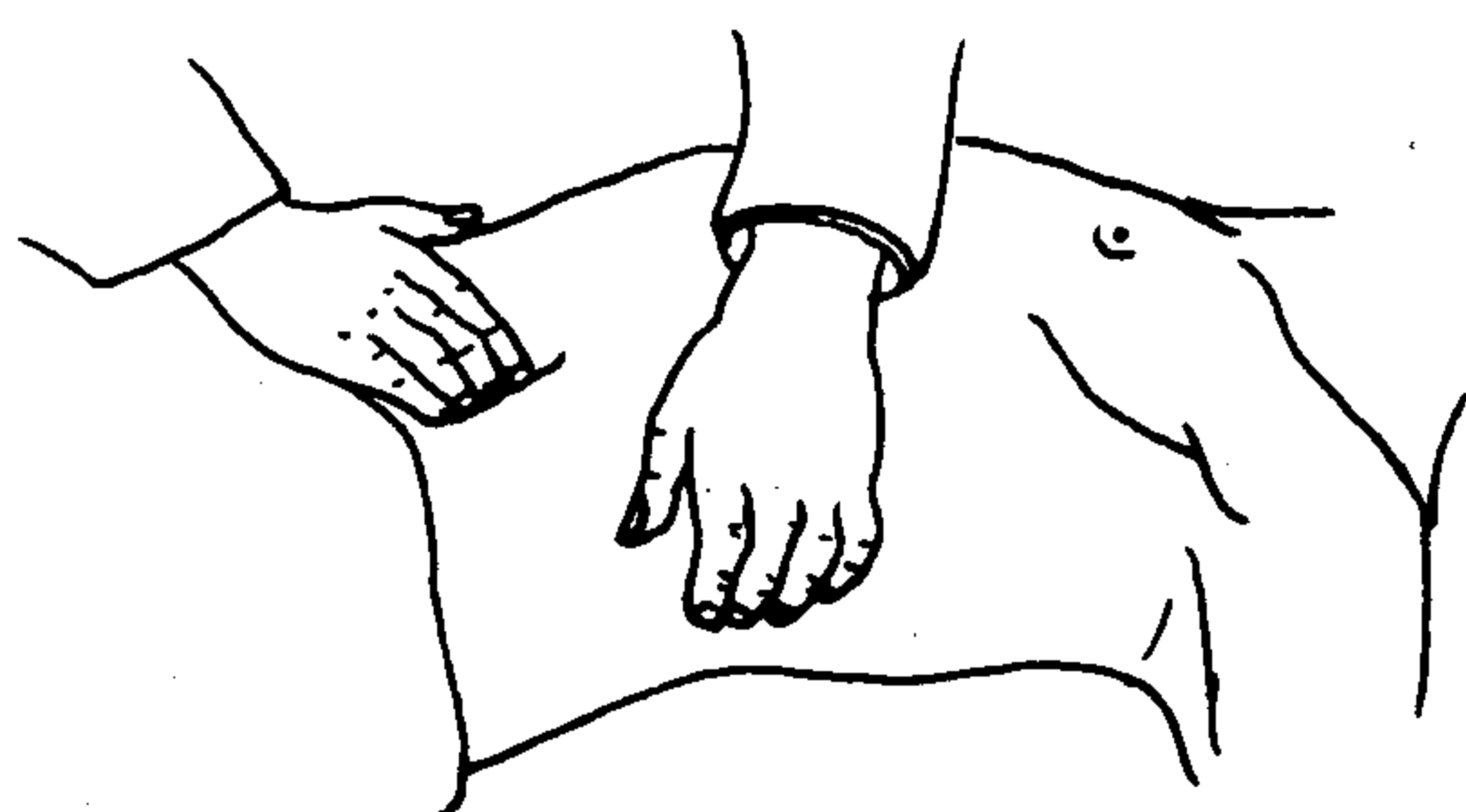


图 3-27 触诊脾脏

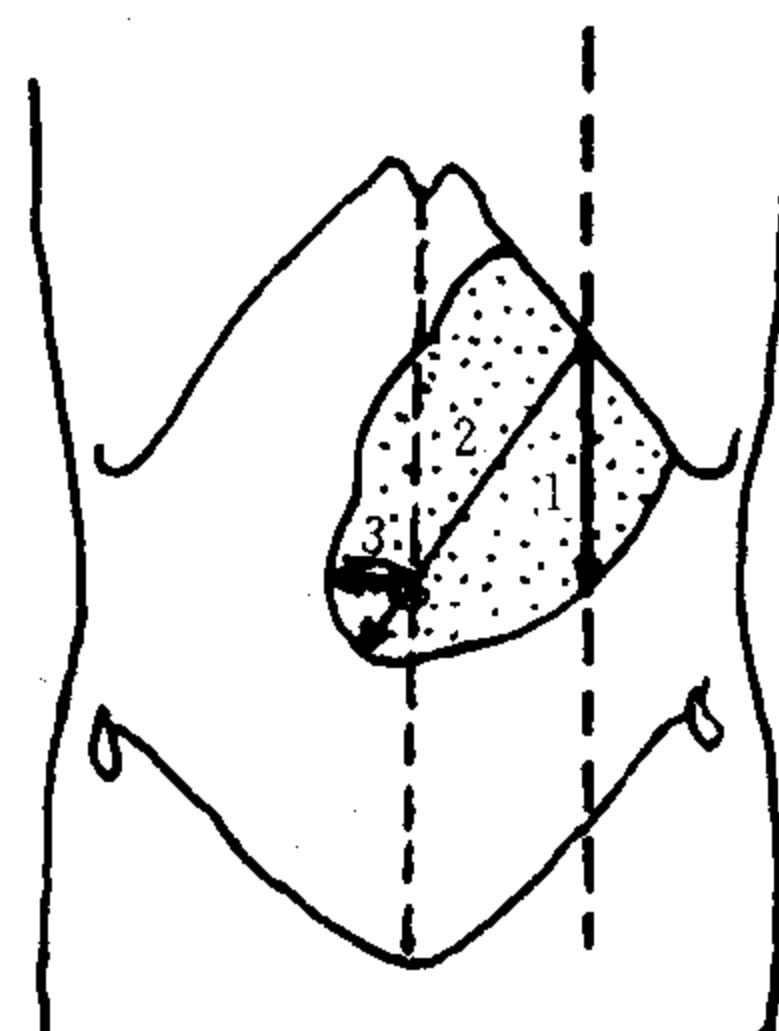


图 3-28 用三线法图示长大的脾脏

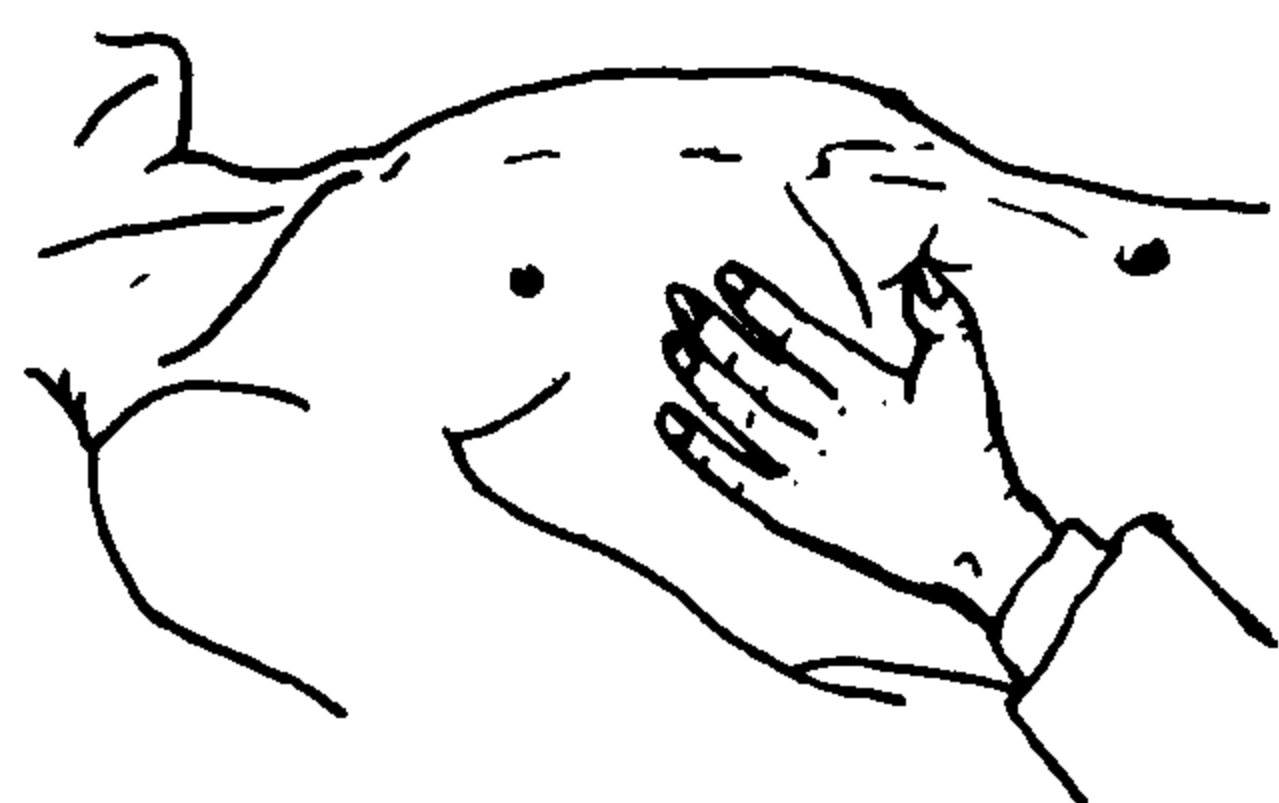


图 3-29 墨非氏征检查方法

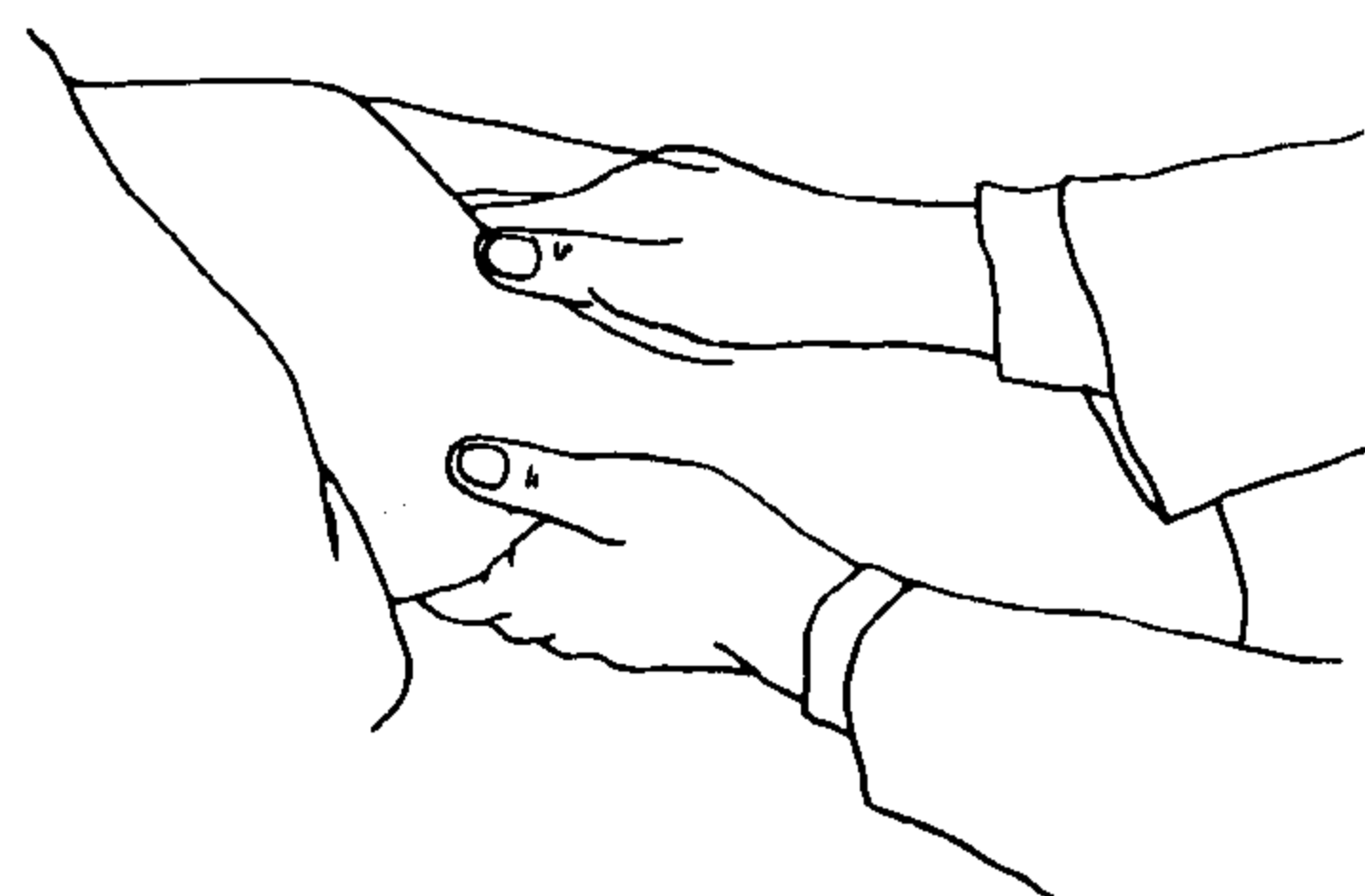


图 3-30 双手法触诊肾脏

25. 双手法触诊肾脏

检查者置左手于病人左胸廓下，即肋脊角部位并用力上抬。用右手从其左锁骨中线上脐水平开始，并逐渐向上移动进行深触诊。可能触到肾下极，为光滑、圆形、随呼吸而略有运动的器官。在右侧重复该手法，触诊右肾。在正常人，右肾下极可能被触及。若希望更清楚地触诊肾脏，可让病人取坐位和站立位再用上述手法触诊（图 3-30）。

26. 检查腹壁痛觉或触觉（见神经系统检查）

27. 检查腹壁反射（见神经系统检查）

TRAINING MANUAL FOR THE ABDOMINAL EXAMINATION

Review

The following anatomic landmarks should be recognized in order to describe the location of pain, tenderness and other abnormal findings:

- xiphoid (ensiform) process of sternum
- costal margin
- umbilicus
- anterosuperior iliac spine
- inguinal ligament
- superior margin of os pubis
- anterior midline
- lateral border of rectus muscle

Abdominal mapping—there are two commonly used methods of subdividing the abdomen (Fig3-19)

- the abdomen is divided into four quadrants. A line is dropped from the sternum to the pubic bone through the umbilicus and a second line is placed at a right angle to the first through the umbilicus. Four areas can be outlined utilizing the quadrant map i. e. RUQ, LUQ, RLQ, LLQ. The content of the abdomen underlying each of the four quadrants in both males and females should be known.
- the abdomen is divided into nine sections (this method is less commonly used). Draw imaginary, parallel, horizontal lines across the lowest border of the costal margin and the anterior superior iliac crest. The two vertical lines are dropped from the middle of Poupart's ligament, approximating the lateral borders of the abdominal recti muscles. Nine areas can be outlined with these four lines. The content of the abdomen underlying each of the nine areas should also be known.

A. Preparation

1. Ask the patient to urinate completely to be sure that the bladder is empty.
2. Patient should be lying on his back with a pillow under his head and his knees bent to relax his abdominal muscles.

Be sure the arms are on either side, not behind his head. A little conversation or repeating of the patient's history might help to relax the patient.

3. Expose abdomen completely from the breasts to pubis

For female patients, breasts should be covered with a sheet.

B. Inspection

4. Observe abdominal contour and symmetry

Check skin for striae and scars. Check umbilicus for location and shape. Observe abdominal contour for symmetry, distension, protuberance, flatness, or scaphoid shape should be judged according to an ideal level from xiphoid to pubis. The distribution of pubic hair and its relationship to sex of patient should be noted.

5. Observe abdominal veins

If a vein is engorged, the direction of flow can be demonstrated by placing the index fingers side by side over the vein, pressing laterally, separating the fingers one by one, and observing the time it takes the veins to refill from each direction; the flow of venous blood is in the direction that fills the fastest; In the presence of inferior vena caval obstruction, superficial veins may dilate and drain upward toward the head. This is reversed in superior vena caval obstruction, i. e. they drain downward towards the feet with portal hypertension, the dilated veins appear to radiate outward from the umbilicus. (Fig3-20).

6. Observe respiration, peristalsis or pulsation tangentially

Respiratory movements—respiration in a female is mainly costal, little movement of the abdominal wall occurs; in males and children, the breathing is quiet with the major respiratory movement being abdominal. Restriction of the abdominal phase of respiration, especially in the male patient, may be found in disease and inflammation below the diaphragm (particularly peritonitis).

Visible peristalsis—in lean individuals, even in the absence of disease, motility of the stomach and intestines may be reflected in movement of the abdominal wall. When strong contractions are visible through an abdominal wall of average thickness, the possibility of bowel obstruction should be investigated. Reverse peristalsis indicates pyloric stenosis, duodenal stenosis, or malrotation of the bowel.

7. Measure the abdominal circumference

Circumference should be measured in centimeters at the level of the umbilicus with a soft tape measure during normal abdominal breathing.

8. Observe inguinal area for mass or enlarged lymph nodes

With the patient lying in the bed, examiner should ask him to cough while examiner inspects the inguinal/femoral area. By increasing intra-abdominal pressure, examiner may produce a sudden bulging in this area which may be related to a hernia.

C. Auscultation

9. Bowel sounds

Auscultate bowel sounds with diaphragmatic head of stethoscope for at least one minute.

If there are no bowel sounds, listen until you hear them or for at least 5 minutes. Normal bowel sounds are a glue-glue, glue-glue-like sound occurring either separately or together, approximately 3-5 times per minute. Pay attention to the frequency, pitch and intensity. High-pitched (gurgling) sounds with increased frequency are regarded as hyperactivity. Lack of bowel sounds indicate little or no peristalsis.

10. Murmurs or bruits

Murmurs from arteries are called bruits and are similar to lowerpitched heart murmurs. Murmurs from veins sound like a hum and are more continuous; they are called venous bruits. Auscultate abdominal murmurs with bell-type head of stethoscope:

Left upper quadrant to include (L) renal artery

Right upper quadrant to include (R) renal artery

Right lower quadrant to include (R) iliac artery

Left lower quadrant to include (L) iliac artery

Aorta along the midsternal line

11. Succussion splash in the epigastric area

Succussion splash is the splash sound over the upper abdomen. It should be checked by rocking the upper abdomen to the left and right. In normal patients this is negative about 6-8 hours after eating food. If positive, it indicates gastric retention.

12. Friction rubs over the liver and spleen

Listen with stethoscope over liver and spleen while patient breathes deeply.

D. Percussion

13. General percussion

All four quadrants of the abdomen are evaluated by percussion.

Tympany is the most common percussion sound in the abdomen due to gas collection. It is appreciated over the stomach, small intestine, and colon.

14. Percussion of the liver

Percussion of liver span; should be done with the patient breathing normally. Percussion should occur through the right midclavicular line from resonance over the lung field downward to dullness and from tympany over abdomen upward to dullness. Measure from upper to lower border of dullness for liver span. It is normally about 9-11 cm in the midclavicular line.

Fist percussion of liver— tell the patient what you intend to do before you start. Examiner places one palm over the area of liver dullness. Examiner then hits that hand gently with the fist of his other hand. Examiner should watch the patient's facial expression and withdrawal effort and ask him if it hurts. If pain occurs, do fist percussion at the same site on the left side for comparison and pay attention to the intensity and site of the pain. (Fig3-21).

15. Percussion of the spleen

Percuss for splenic dullness. This should be done when splenic enlargement is suspected.

Percuss the lowest intercostal space in the left axillary line. This area is usually tympanic. Then ask the patient to take a deep breath. When the size of the spleen is normal, the percussion note usually remains tympanic.

Fist percussion of spleen— as discussed in fist percussion of liver

16. Percussion of the stomach

Percuss the stomach over the left upper quadrant for the range of Traube tympanic area. Percussion may pass through left midclavicular line vertically and back to the posterior axillary line.

17. Percussion for shifting dullness

Percuss shifting dullness with the patient supine. Fluid dullness is percussed laterally. The line of demarcation between the dull and tympanic sounds is marked, and the patient is then asked to lie on his right side. All of the ascites will flow to a dependent portion on the right side of the abdomen. A new line is marked and the change is measured in centimeters. Subsequently, the patient is turned to the left side and the procedure repeated and the change is recorded. A volume of free fluid in the peritoneal cavity greater than 1000 ml can be detected with this method. To simplify the procedure, the examiner first determines the point from tympany to dullness with the patient in the supine position. The patient is then asked to turn on his side while the examiner holds his pleximeter on the point where the change in percussion sound occurred. The examiner then percusses this same point again. If the sound changes from dullness to tympany, it means that the dullness has been shifted to a more dependent position. This implies that ascites is present. (Fig3-22).

18. Testing for a fluid wave

Examiner places one of the patient's hands, or the hand of another examiner, in the middle of the patient's abdomen to indent the abdominal wall and stop transmission of the impulsed wave. The examiner then taps one flank while palpating the other side. Detection of a fluid wave is quite specific for ascites. (Fig3-23).

E. Palpation

19. Palpate four quadrants superficially from LLQ counterclockwise

Palpate all areas of the abdomen counterclockwise and superficially from left lower quadrant screening for tenseness, tenderness, masses, etc. Examination is begun with gentle maneuvers and then palpation occurs more deeply. Examiner uses the palms of his hands with fingers together and arm relaxed and forearm on a horizontal plane. The examiner presses with his fingers. (Fig3-24).

20. Palpate four quadrants deeply

Using the palmar surface of the fingers, examiner palpates in four quadrants to identify masses, tenderness, pulsations, etc. The abdominal wall should be depressed more than 2 cm. When deep palpation is difficult, examiner may want to use left hand placed over right hand to help exert pressure (Fig3-25). If a mass is suspected, determine its size,

contour, mobility, tenderness, smoothness, irregularity, the hardness or softness and listen with stethoscope for a bruit over the mass. If there is tenderness, determine the point of maximum tenderness and distribution.

To check for rebound tenderness, palpate deeply at the point of tenderness, pause briefly, then remove the fingers quickly. Watch the patient's face to see if it hurts. Then check other areas in the same manner for comparison.

21. Palpate liver at midclavicular and midsternal lines

In the midclavicular starting at the anterior superior iliac crest, examiner presses down firmly and asks patient to inhale deeply. This allows the liver to move down to meet your fingertips. If you feel nothing, press up a few centimeters toward the rib cage and repeat the maneuver. Do this continuously until you feel the liver or reach the costal margin. In the midsternal line, from the level of the umbilicus, repeat the above maneuvers to palpate the liver. If you feel the liver, detect the edge (sharp or round), tender or not, hard or soft and repeat the process laterally and medially to define the contour. For masses within the liver, describe the same characteristics as above and listen for a bruit over the mass. Normally, the liver can not be felt more than 1 cm below the lower costal margin, and can not be felt more than upper 1/3 distance of the line from xiphoid to umbilicus. Failure to feel the liver does not mean that the liver is normal. Measurement of the liver is done in the midclavicular line and midsternal line. Most doctors like to use bimanual maneuvers to palpate the liver. To do this, place the left hand at right lower posterior chest wall parallel to, or supporting patient's right 11-12th ribs or at lower sternal area to limit the chest respiration to make right hand palpation more effective. (Fig3-26).

22. Palpate spleen from umbilicus to left costal margin

For palpation of the spleen examiner puts his left hand behind the left rib cage while his right hand palpates the spleen in the left upper quadrant. Starting from the level of the umbilicus (or below the percussed dullness). The maneuver is similar to that used to palpate the liver, but is more subtle because the spleen is more mobile and deeper than the liver. If the spleen is not palpated, have the patient roll on his right side and repeat palpation. Measurement of the spleen is the same as that of the liver and is usually expressed as centimeters under the costal margin in the midclavicular and under the xiphoid process in the midsternal lines. A moderately or greatly enlarged spleen is best described by a drawing, especially the three lines which are presented schematically in the following diagram (Fig3-27, 28). (NOTE: Severe splenomegaly may cause rupture when spleen is vigorously palpated, so palpate gently and carefully).

23. Palpate gall bladder

Put right hand below the costal margin or lower border of liver at midclavicular line (grossly equal to the lateral border of the right rectus muscles) and palpate deeply to check for tenderness or bulging

24. Check for Murphy's sign

If pain is found in the gall bladder area, examiner should put his left hand on the lower lateral rib cage with the 4 fingers stretching superiorly and the thumb hooked under the costal margin. Press down to the point of gallbladder tenderness and ask the patient to breathe deeply and check to see if patient stops breathing, changes facial expression, or complains of pain. (Fig3-29).

25. Palpate kidneys bimanually

For palpation of the kidney, examiner puts his left hand below left rib cage, at the costospinal angle, and lifts up. Examiner uses his right hand to palpate deeply from umbilical level in the left midclavicular line, and moves progressively upward. The lower pole of the kidney may be felt as a smooth, round, and deep structure that moves relatively little with respiration. This maneuver is repeated on the right side to palpate the right kidney. The lower pole of the right kidney may be felt in normal patients. Repeat the maneuver with the patient in sitting and standing positions if you wish to expose the kidney further. (Fig3-30).

26. Test for pain or touch sensation on abdominal wall (see neurological examination)

27. Test for abdominal reflex (see neurological examination)

附：腹部体格检查纲要

A. 准备

1. 嘱病人解小便使膀胱排空；
2. 病人取仰卧位，小枕置于头下，双下肢弯曲以使腹壁肌肉放松；
3. 正确暴露腹部，从乳头至耻骨联合；

B. 视诊

4. 观察腹部外形和对称性；
5. 观察腹壁静脉；
6. 切线方向观察呼吸、蠕动波和搏动；
7. 测量腹围；
8. 观察腹股沟有无肿块或肿大淋巴结；

C. 听诊

9. 肠鸣；
10. 动脉杂音或静脉嗡嗡声；
11. 检查上腹振水声；
12. 肝区和脾区摩擦音；

D. 叩诊

13. 腹部一般叩诊；
14. 叩诊肝界；
15. 叩诊脾界；

16. 胃区叩诊;
17. 移动性浊音;
18. 检查液波震颤;

E. 触诊

19. 浅触诊腹部四个象限, 从左下腹反时针方向进行;
20. 深触诊腹部四个象限; 顺序同上;
21. 在左锁骨中线触诊肝脏, 在前正中线触诊肝脏;
22. 从脐水平向上至肋缘触诊脾脏;
23. 触诊胆囊;
24. 检查墨非氏征;
25. 双手法触诊肾脏;
26. 检查腹壁痛觉、触觉;
27. 检查腹壁反射。

APPENDIX

CHECKLIST FOR THE ABDOMINAL EXAMINATION

- A. preparation**
1. Ask the patient to urinate completely to be sure that the bladder is empty
 2. Patient should be lying on his back with a pillow under his head and his knees bent to relax his abdominal muscles.

3. Expose abdomen completely from the breasts to pubis

B. Inspection

4. Observe abdominal contour and symmetry
5. Observe abdominal veins
6. Observe respiration, peristalsis or pulsation tangentially
7. Measure the abdominal circumference
8. Observe inguinal area for mass or enlarged lymph nodes

C. Auscultation

9. Bowel sounds
10. Murmurs or bruits
11. Succussion splash in the epigastric area
12. Friction rubs over the liver and spleen

D. Percussion

13. General percussion
14. Percussion of the liver span
15. Percussion of the spleen
16. Percussion of the stomach
17. Percussion for shifting dullness
18. Testing for a fluid wave

E. Palpation

19. Palpate four quadrants superficially from LLQ counterclockwise
20. Palpate four quadrants deeply
21. Palpate liver at midclavicular and midsternal lines
22. Palpate spleen from umbilicus to left costal margin
23. Palpate gall bladder
24. Check for Murphy's sign
25. Palpate kidneys bimanually
26. Test for pain or touch sensation on abdominal wall
27. Test for abdominal reflex

骨骼肌肉系统检查方法

骨骼肌肉系统检查可分为上肢、下肢及脊柱三部分。

A. 上肢

1. 双上肢的暴露 检查者应要求病人脱去上衣，暴露从指端到肩部的全部上肢。
2. 双上肢检查 注意观察双上肢的对称性，有无损伤、疤痕，肌肉萎缩、水肿、肿胀、红肿和淤斑。

A-2. 手

手有腕掌关节、掌指关节、近指骨间关节、远指骨间关节。手部许多关节是单轴关节；大多数有两方向运动：屈（弯曲）和伸（伸直）。拇指只有一个指间关节。手部许多疾病常有形态和大小的异常。在类风湿性关节炎，常有对称性的掌指关节和近指骨间关节的梭状肿胀。当有急性感染时，关节可有肿痛。老年性骨关节炎常有远指骨间关节的异常。

3. 近指骨间关节和远指骨间关节的触诊

近指骨间关节：触诊时，检查者用拇指和示指仔细触压近指骨间关节的各个部位，近指骨间关节骨性肿大称为 Bouchard's 结节；软组织肿大可为滑膜增厚，检查者应观察近指骨间关节的屈伸活动。近指骨间关节过度伸展是鹅颈畸形的特点。

远指骨间关节：触诊时，检查者应将病人手掌向下，拇指和示指放置于被检查关节的背、掌侧，每一个远指间关节都应扣及。这些关节硬性骨增大称为 Heberden's 结节，检查者观察远侧指骨间关节的软组织有无肿胀，活动范围和方向有无异常。

Boutinierre 畸形是指远指骨间关节过伸和近指间关节屈曲挛缩。

4. 掌指关节的触诊

病人手掌向下，检查者的拇指放于掌指关节的背侧，示指和中指放于关节掌侧，每一掌指关节都必须被扣及以明确有无疼痛、压痛和/或肿胀，并应观察每个关节的屈伸情况，注意有无排列上的异常。在这些关节有时可发现手指的尺偏畸形。

活动度

除了可以屈、伸外，第一掌指关节可以有内收和外展。下述第 5~8 项简单的检查对了解手部关节活动度有无异常很有帮助。如果检查者发现有异常，应逐个检查每一个手指的活动度。

5. 要求病人伸直手指

6. 要求病人屈曲近指骨间关节和远指骨间关节（做爪状）

7. 要求病人握掌

8. 要求病人的拇指去碰触小指（拇对掌），而小指保持不动

9. 屈指深肌的检查 检查者将病人的手指维持伸直位，固定近指骨间关节，再让病人屈曲远指骨间关节，若屈指深肌腱有病损，则不能做此动作。

10. 手的肌力检查 检查者嘱病人用双手分别紧握住检查者的双手示指，检查者力图将示指抽出，比较病人双手的握力。

A-3. 腕关节

腕关节由八块腕骨组成，并排列成两排。检查者注意观察病人腕部有无肿胀和畸形。

11. 腕部的触诊 第一掌腕关节位于拇指、第一掌骨和腕关节之间，由于这一关节经常使用，应特别予以重视。检查者用拇指和示指稍用力扣触此关节以确定有无疼痛、压痛或肿胀。检查病人两侧腕关节稳定性时，检查者应该站在病人前面，两拇指放于病人的腕背，示指和中指放于腕掌侧，病人的腕关节应处于松弛位，手掌朝下。检查者移动拇、示指的位置逐点扣触病人腕部。扣触应柔和但有一定力度。注意有无肿胀、痛、热和肿块的存在。通常桡骨远端背侧面较平滑，而掌侧面凹陷不平。尺骨茎突比桡骨茎突低 1cm。当桡骨骨折时，正常的解剖关系发生改变。桡骨茎突上移至尺骨茎突同一平面，甚至高于尺骨茎突平面。

12. 腕关节屈曲功能检查 检查腕关节的屈曲度时，病人的前臂应处于旋前位（手掌向下）检查者一手轻握病人前臂，另一手轻轻地将病人腕关节向下弯曲。腕关节的活动度的测量常是以腕关节、手和前臂在一直线上作为 0 度，正常屈曲大约为 80 度。

13. 腕关节伸展功能检查 伸展腕关节时，检查者应将病人的腕关节轻轻弯向背侧。因此，有时称为背屈。正常的背伸 70 度。当然也可检查主动活动。

14. 腕关节的外展和内收 外展—内收动作是从一侧到另一侧的活动。将病人的前臂放于旋前位，检查者用一手轻柔地握住病人前臂，病人的手朝病人自己身体方向活动（内收），然后作离开身体方向活动（外展），正常腕关节内收（桡侧偏屈）约 35 度，外展（尺侧偏屈）约 25 度。

15. 掌骨远端的叩诊 当腕关节被疑有病损时，可进行间接叩诊。病人握拳腕关节外展，检查者叩击第 3 掌骨远端，若有月骨缺血坏死或腕舟骨骨折，则可在腕的中线部引起疼痛。

16. 腕部肌力检查 检查者施阻力于病人的手部，嘱病人作腕的伸展和屈曲活动。

17. Finkelstein 试验 检查者要求病人拇指屈于掌心，然后握拳，腕关节慢慢外展，若在桡骨茎突处有疼痛，则表明有桡骨茎突处狭窄性腱鞘炎。

A-4. 肘关节

当肘关节伸直时，肱骨内、外上髁和尺骨鹰嘴位于一直线上。肘关节屈曲 90 度时，这三点关系大约成为以内、外上髁间的连线为底线的等腰三角形。这一三角型称为“肘后三角”。当肱骨髁以上骨折时肘后三角关系可无改变，但在肘关节脱位、内、外上髁骨折时，此三角即成不等腰三角形。

18. 肱骨髁，尺骨鹰嘴滑囊及周围结构的触诊 肱骨内、外上髁是位于肱骨下端的两个圆形的骨性隆凸，位于肘的两侧。检查者用一手托起病人前臂，另一手的拇指和其他手指扣及内、外上髁。当肘关节轻度屈曲时，内、外上髁很容易被触及。若有局限性压痛，且压痛点位于外上髁称“网球肘”，痛点位于内上髁，则称“高尔夫肘”。尺骨鹰嘴滑囊位于尺骨鹰

嘴的上方，也就是肘后大的骨性隆凸上。当肘关节轻度屈曲位时，此滑囊最易被触及，检查者用拇、示和中指检查这一区域有无波动感、肿胀、压痛、温度和肿块。

19. 肘关节屈曲 检查者先查看病人的双侧肘关节表面情况，然后一手握住一侧肘关节，另一手握住患者的手掌，将患者的前臂尽可能屈曲向肩部。若活动有限制，应测量记录受限角度。以同样方法检查另一侧肘关节。正常肘关节完全伸直成中立位（0度），主动或被动屈曲能达150度左右。

20. 肘关节伸直 检查者缓慢伸直病人的前臂，当上肢伸直时，肘关节恰好是过伸位（5~10度），肘关节不能完全伸直时称肘关节屈曲挛缩，此时应记录挛缩角度（如肘关节伸直缺失5度或屈曲挛缩5度）。

21. 前臂旋前旋后 病人双肘屈曲90度，并贴住胸部外侧，双手握拳，拇指朝上，检查者一手托住病人的肘下以固定肘关节，另一手握住病人的手部，将其前臂缓慢旋转使掌心朝上（旋后），然后将患者前臂回复并将掌心转向下方，检查旋前动作。在正常情况下，前臂和手部有180度的旋转弧（旋前80度和旋后100度）如有疼痛，则应比较主动和被动活动情况，另外应同时注意捻发音，弹响等情况。在检查主动活动时，要求患者屈肘90度，上臂紧贴胸部外侧，双手各握短棒，拇指朝上（0度）然后观察主动旋前旋后情况，并注意两侧对比。

22. 肱二头肌腱触诊 二头肌腱鞘跨过肱骨下端之前方，易于触及并可用二指固定。检查者用指尖触及肌腱并稍用力，在上臂旋前旋后时可感觉到肌腱的滚动。如果检查者用指尖拨动肌腱，可能有轻度酸痛。注意，检查时应适当用力触压肌腱并两侧对比。

23. 上臂肌力检查 检查两侧前臂的肌强度，先要求病人同时屈曲双侧肘关节并抵抗检查者所施的伸肘力量以测定患者的屈肘肌力，然后抵抗检查者施加的屈肘力量检查患者双侧的伸肘肌力。

24. Mills 试验 要求病人伸肘，握拳并前臂旋前，肘关节外侧疼痛提示肱骨外髁炎。

A-5. 肩关节

肩关节是由肱骨头和肩胛骨的关节盂所组成的变异球窝关节：其周围包裹一组加固其稳定性的肌肉和腱组织。正确的肩部检查，应要求病人脱去衣服以暴露双肩。检查者对比观察双侧肩有无肿胀和肌肉萎缩情况。系统的肩部检查应包括肩关节活动度及三角肌下滑囊和肱二头肌腱等内容。由于较厚的三角肌包盖，肩关节肿胀常较难发现。胸锁和肩锁关节的肿胀亦较难发现，但往往可通过双侧的对比而发现肿胀。肱骨头的孟下脱位使肩关节外侧变平的现象称“方肩”。

胸锁关节

胸骨上端两侧分别与二根锁骨的内侧端连续，形成胸锁关节。正常情况下，关节处略隆起。检查者应观察局部的红肿情况。

25. 胸锁关节的触诊 检查者手指触诊胸锁关节并稍用力，以了解触痛情况，并对比两侧。

26. 三角肌下滑囊的触诊 三角肌下滑囊位于覆盖在肩关节外侧和上臂上段的三角肌下。检查者站立在病人的前面，用3~4个手指以适当的轻重压此部位，以了解局部的肿胀，压痛及皮温等情况。

27. 肩锁关节触诊 确定肩锁关节部位，手指从锁骨上向肩部方向滑动，即可感觉到锁骨于外侧端与肩胛骨的骨性突起骨峰形成肩锁关节。肩锁关节可出现触痛和肿胀。

检查者站在病人前方，用指触压肩锁关节，并两侧比较，可发现触痛或疼痛，若有则应

注明疼痛部位。肩锁关节活动度极小。

肩关节活动度

肩关节活动度应在一定的解剖位置上测定。检查者站在病人后方，以手指固定肩胛骨下角，然后再检查病人的主动与被动活动。肩关节的中立位是上肢自然下垂，肘窝朝前所处的位置。

28. 肩关节屈曲 检查者要求病人尽可能地将上肢向正前方上抬并超过头部高度。同样对比对侧情况。正常肩关节可前屈 135 度左右。

29. 肩关节伸展 检查者要求病人的上肢尽可能地向后上方活动（与屈曲时正好相反）。正常应该有 45 度范围。

30. 肩关节外展（离开躯干的活动） 肩关节外展是指上肢自躯干向外侧活动并抬到尽量高的位置（固定肩胛骨肩关节完全外展有 90 度活动范围）。超过 90 度的活动范围主要与肱骨外旋和肩胛骨的活动有关，称为上举。

31. 内收（向躯干中线活动） 检查者要求病人上肢于躯干前方尽可能地向中线方向活动，以测量其内收角度，正常约 45 度。

32. 肩关节内旋 肩关节的旋转有两种：内旋和外旋。通过前臂作为活动指标来检查关节的旋转，检查时病人肩外展，肘与肩在同一水平，肘曲 90 度使手指向前，手掌向下。检查内旋时，请患者将前臂尽量向下向后移。正常内旋约 135°度。如果在检查过程中患者出现疼痛，则应作被动活动与主动活动相对比。

33. 肩关节外旋 作外旋试验，要求患者外展肩关节，屈肘 90 度，手指向前，手心向下，嘱患者尽可能将前臂转向上、后方。正常外旋约 75 度。

34. 检查上肢近端肌力 检查肩关节周围肌力，要求患者两上肢向侧方上举至肩水平，然后试用力将两上肢压下。

35. 杜加氏征（Duga's 征） 患肢肘部固定于胸前壁，检查者嘱患者用手搭住对侧肩关节，如手不能搭到对侧肩部为阳性提示肩关节脱位。

36. 上肢长度的测量 患者将双上肢保持在相同的功能位置，检查者用软尺测量肩峰至桡骨茎突的长度。

B. 下肢

37. 暴露双下肢 检查双下肢时应去除外裤，并用适当帷帘遮挡。

38. 双下肢的望诊 检查双下肢从腹股沟部至足趾，观察长度、粗细、对称性，足及趾的形态，甲床、皮肤的颜色及质地，腿部毛发分布，色素沉着、皮疹、溃疡、疤痕、静脉形状及水肿。

39. 双下肢长度测量（有两种测量方法）

直接测量双下肢长度：测量时，患者躯干与骨盆成一直线，检查者通过测量骨性标志间距离，如髂前上棘或内收肌结节至胫骨内踝间距比较两下肢长度。

间接测量双下肢长度：患肢站立于书或木板上，增加或减少书或木板的厚度使双髂前上棘位于同一水平向上，测量书或木板的厚度即是肢体短缩的长度。

40. 大转子的叩诊 检查者用拳头叩击大转子以检查是否有叩痛。

41. 骨盆挤压及分离试验 在骨盆骨折的患者，轻微挤压或分离骨盆即可引起骨折部位疼痛。

髋关节

42. Shoemaker 征 在股骨大转子与髂前上棘之间画一连线，并向上延伸，正常应与中线相交于脐或脐上。大转子上移时，则相交于脐下（图 3-31）。

43. Bryant 三角测量 平卧位，从股骨大转子与髂前上棘向后垂直线之间的距离为 5cm，大转子向上移位时将改变这一距离，与对侧作比较（图 3-32）。

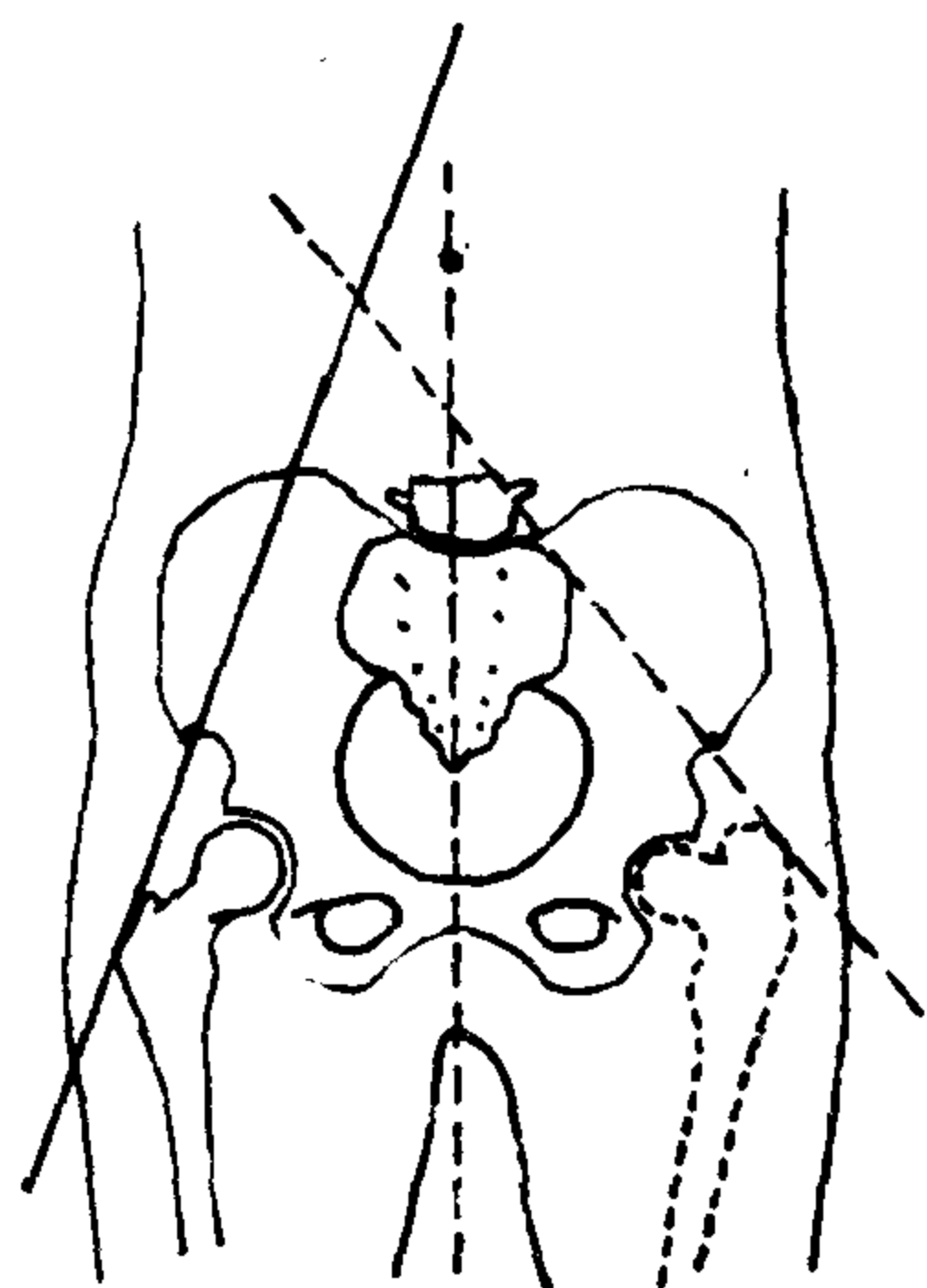


图 3-31 Shoemaker 征

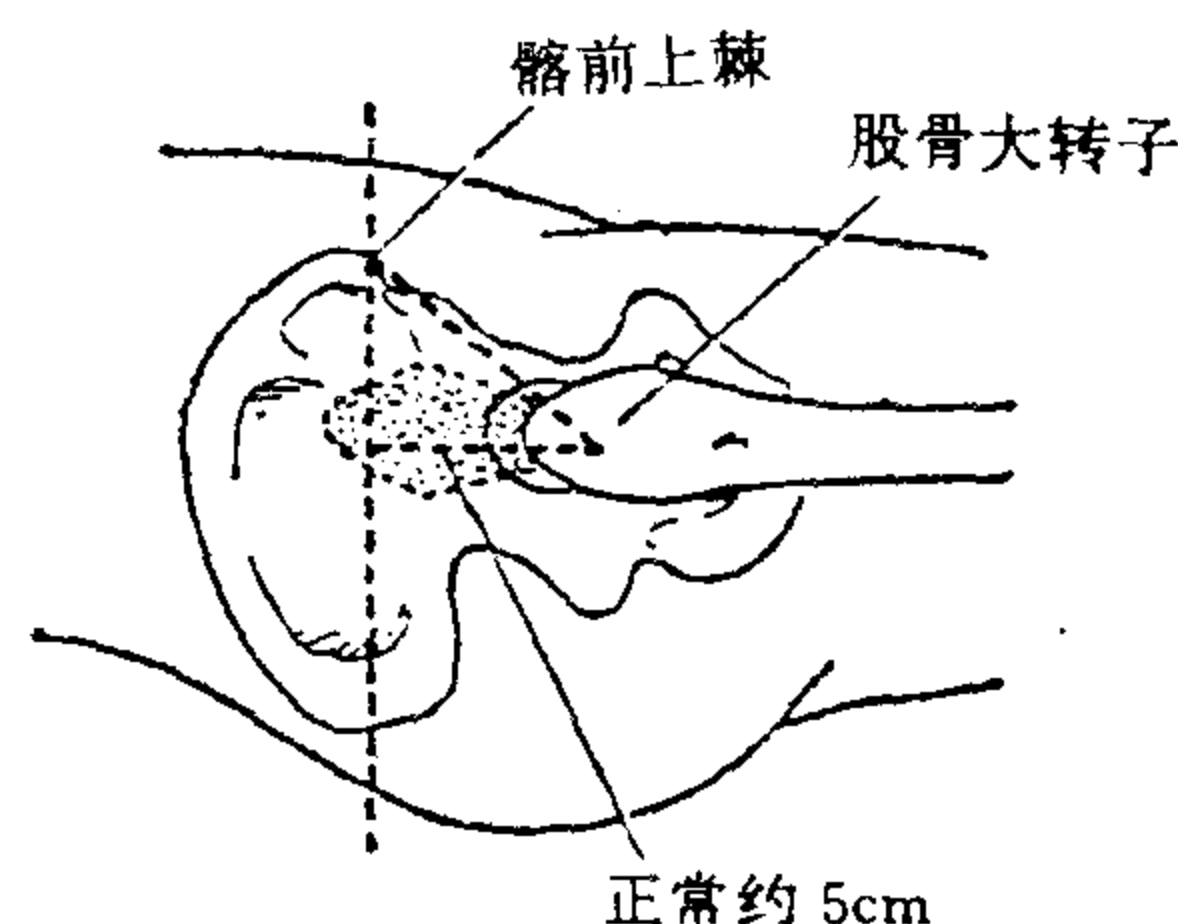


图 3-32 Bryant 三角

44. 髋关节触诊 髋关节是一个负重的杵臼关节，周围有强大肌肉包裹。触诊前，检查者应询问患者是否有髋关节疼痛或压痛史。真正的髋关节疼痛是感到腹股沟区（前侧）疼痛。检查包括触压髋关节周围的肌肉，滑囊及软组织，特别应注意通过触诊股骨外侧异常突起来检查大转子和滑囊。

45. 滚动试验 检查者将手置于患者大腿前侧，并向内、外侧滚动。如果患者有急性髋关节炎，则会出现疼痛及髋关节活动受限。

46. “4”字试验 患者屈髋屈膝关节，大腿外展、外旋。将患侧小腿横置于对侧大腿上。双腿作成“4”字形。正常情况下，受检大腿可接触床面，髋关节有病变时，则髋关节活动受限和疼痛。

47. 髋屈曲活动 检查患者髋屈曲活动时，膝须屈曲，在不损伤患者的情况下将膝尽量靠向胸部。观察以髋伸直位至髋屈曲位活动的角度，正常可屈髋约 150°度。

48. Thomas 征 患者尽量屈曲健侧髋、膝，双手抱膝。正常，患者腰背及对侧下肢可接触床面，如对侧髋有屈曲畸形，则不能与床面接触。所抬起的角度称为髋屈曲畸形角。

49. 直腿抬高试验（坐骨神经牵拉试验，Laseque 征） 检查者要求患者伸直膝关节，被动抬高患肢。正常髋关节可前屈曲超过 70 度而无疼痛出现。双下肢须分别检查。出现疼痛为试验阳性，表示坐骨神经受到压迫，如腰椎间盘突出症。在检查中如有疼痛出现，略降低患肢至疼痛消失后再将踝关节背曲称为加强试验，阳性提示有坐骨神经牵拉。

50. 髋关节的过伸 患者俯卧，微屈膝关节以放松肌肉。检查者用手压在骶骨上以固定住患者的骨盆，另一手置于患者大腿前方用力将下肢抬举向后侧。正常髋关节可过伸 10~30 度。如果患者在髋过伸时感到疼痛，提示有髋损伤性疼痛。

51. 髋外展 外展是远离躯体中线的运动。如果粗试异常，可测量二踝之间的距离及与中线的距离。患者仰卧，两下肢伸直，平行放置。检查者将一侧下肢外移，远离躯体中线。用想象中的躯体中线与下肢的纵轴之间的夹角来测量外展角度。当达到最大外展角度时，患者的骨盆将活动或旋转。当两下肢均外展时，检查者可通过检测两内踝之间的距离客观地测量外展的程度。也可检测两内踝外展时距正中线的距离来分别测定两侧髋外展。正常外展角度约 45 度。

52. 髋内收 内收是靠近躯体中线的运动。将患者双下肢伸直，并靠拢。检查者将一侧下肢抬起越过另一侧下肢向对侧活动。这活动因为有对侧大腿的阻挡而受限，正常内收为 20~30 度。两髋均应检查并比较之。

53. 髋内旋 检查者将患肢屈膝屈髋均至 90 度，一手握住小腿，另一手握住足部向外侧旋转。正常髋关节内旋约为 45 度。

54. 髋外旋 检查者握住病人的足向内旋转（髋外旋）。正常髋外旋约为 60 度。

55. 检查髋关节近端肌力 测试肌力时，要求病人抵抗检查者施加于其大腿部的阻力屈曲髋关节，同时必须检查对侧肌力并进行对比。除曲腿外，还应测定伸展，内收，外展肌力。

膝

膝关节的稳定性主要依靠关节的韧带，如内、外侧副韧带和膝交叉韧带等，内、外侧半月板对膝关节的稳定性也起辅助作用。检查者要求病人仰卧位，通过视诊可以获得膝部畸形的依据，膝部最主要的两种畸形是膝内翻和膝外翻。正常情况下，当病人的双足靠拢时（指双内踝），双膝内侧可以接触在一起。患膝外翻者，其双膝靠拢时，双内踝不能靠拢在一起；患膝内翻者，当其双内踝靠拢时，双膝不能靠拢在一起。这两种畸形主要由佝偻病引起。

56. 膝部触诊 检查方法是：检查者双手指屈曲置于腘窝部，双大拇指放于膝部肌腱两侧软组织的凹陷部，同时用两大拇指触压胫骨内、外侧髁，并逐渐向两侧移动，注意发现压痛及骨表面的不平整感。

57. 浮髌试验 浮髌征的检查，要求病人仰卧位，伸直膝关节，放松下肢肌肉。检查者一手置髌骨近侧，向下压迫髌上囊使囊内液体流入关节。另一手食指和中指放于髌骨表面并迅速按压髌骨。如有膝关节积液，检查者可以感觉到髌骨与股骨接触并有浮动感。

58. 髌骨运动检查 要求病人取仰卧位，伸直双膝并放松膝关节，检查者可以触到髌骨，同时上下推动髌骨。任何疼痛、触痛及髌膝关节发出的磨擦音，均为阳性体征。正常情况下髌骨的活动光滑无摩擦感，如触诊髌骨时出现摩擦感，则提示髌骨软化症。

59. 检查膝关节屈曲度 检查者慢慢地尽力屈曲病人的膝关节，正常膝关节可屈曲 130 度。

60. 检查膝关节伸直度 检查者握住病人的膝和踝关节，从屈曲位尽力伸直膝关节。正常情况下，膝节能完全伸直，有时可有 5~10 度的过伸。

韧带的稳定性

膝关节韧带的稳定性可以用以下两种方法，进行评估，进行检查时病人最好取仰卧位。

61. 检查侧副韧带 侧副韧带位于膝关节的两侧，是强大的纤维带，起维持膝关节稳定的作用。检查者嘱病人伸直膝关节，一手握住大腿的下段，另一手握住踝部，将小腿向内侧或外侧扳动。正常情况下，膝关节只有轻微的侧方活动或没有活动。

62. 检查交叉韧带 交叉韧带位于膝关节内，检查交叉韧带的稳定性时，要求病人屈曲

膝关节至 90 度，检查者握住病人的小腿上端，并将小腿向后推或向前拉。胫骨如能向后推动者为后交叉韧带断裂，如能向前拉动者，为前交叉韧带断裂。

63. McMurray 试验（病人有膝关节运动疼痛时施行） 破损的半月板可引起膝关节的疼痛或压痛。检查半月板是否有损伤时，检查者一手握住病人的膝部，另一手握住踝上，并尽力屈曲膝关节使踝部与臀部接触，并外旋足部，然后在足部外旋位将小腿向外侧伸直，如听到膝关节内发出“咔嗒”的响声提示外侧半月板损伤。重复屈膝过程，内旋病足，并向小腿内侧伸直检查内侧半月板损伤。

64. 下肢远端肌力的检查 要求病人抵抗检查者作用于小腿的阻力伸直膝关节。

踝和足

65. 踝和足跟的触诊 要求病人脱去鞋子和袜子，观察踝部有无肿胀和畸形，并按压踝部和跟腱以确定有无压痛。

66. 检查踝关节活动（背屈和跖屈） 握住病人的足部并将之向上方或下方推动，正常背屈是 20 度，跖屈是 45 度。

67. 检查距跟关节运动（距下关节）（足外翻和足内翻） 检查者用一手握住病人的踝部，另一手握住病人的足部并将踝部向左右两侧活动（内侧和外侧），外翻是指足部离开中线向腓侧活动，内翻是指足部向胫内侧活动；内翻畸形者，病足永久性地处于内翻，内收位。外翻畸形者，病足永久性地处于外翻外展位。这种畸形常发生于先天性畸形或小儿麻痹症患者。

68. 跖趾关节的触诊 检查足部有无疼痛、压痛及肿胀。检查者用大拇指和示指压每一个跖趾关节以确定有无半脱位存在。

69. 跗跖关节的内收和外展

检查跗跖关节的活动范围，先用一手稳定足跟，另一手将足趾向内侧或外侧移动，因其活动范围很窄，故很难测量，但可以获得触痛和活动范围的受限程度。

70. 足趾的屈曲 检查足趾的活动范围，要求病人屈曲足趾。

71. 足趾伸直 要求病人伸直足趾。

72. 检查足部肌力 测试胫骨前肌肌力，要求病人抗阻力背屈踝关节；测试腓肠肌肌力，要求病人抗阻力跖屈踝关节。

C. 脊柱

73. 脊柱的视诊 患者站立位，仔细查看是否有畸形，通常可见三种基本的畸形：

①脊柱侧凸：脊柱向侧方弯曲：这是脊髓灰质炎后遗症与软骨病的常见体征。

②驼背：脊柱向后弯曲。见于椎体结核、骨折、肿瘤以及强直性脊柱炎的病人。

③前凸：脊柱的向前弯曲，可见于有大量腹水或腹腔内肿瘤，髋关节结核的病人。

检查者用示指与中指在病人的棘突上从上向下快速压划，皮肤可见一条红线，可以此判断有无侧弯。

74. 触诊检查压痛 患有器质性脊柱疾病（包括颈、胸、腰椎）病人局部可有压痛和叩痛。

压痛：检查者用拇指在患者的棘突上用力自上向下按压。正常情况下脊柱是无压痛的。如病人患有椎体结核，骨折或椎间盘突出，可有压痛。如棘突或棘突旁肌肉有压痛提示病人有急性腰肌劳损。

75. 间接叩痛检查 间接叩痛：病人取坐位，检查者将左手置于病人头顶，右手半握拳用小鱼际肌部叩击左手，注意病人的疼痛表现。

76. 直接叩痛的检查 检查者用叩诊锤或手指叩击每个棘突。这主要用在胸、腰椎的检查。正常人应无叩痛，患有腰椎骨折、结核的病人可有叩痛。

颈部活动度的检查

77. 屈曲 正常颈椎稍向前弯曲。检查者通过嘱病人用颈部去触胸前，从而估计颈椎的屈曲度，正常颈椎可屈曲约 35 度，这是患者主动活动的度数，检查者不要去推压患者头部以了解进一步的屈曲情况。类风湿性关节炎可使其屈曲度减少。

78. 伸展 检查者嘱患者尽量仰头，正常能后伸约 40 度。

79. 侧屈 嘱患者用右耳触碰右肩，左耳触碰左肩。侧弯时对侧的疼痛多为肌肉的疼痛。正常侧屈每侧约 40 度。

80. 旋转 检查颈部的旋转，可嘱受检者用颈部分别去接触左右肩，但不能抬高肩部去触颈部。正常的旋转每侧约 60~80 度。

81. 颈部旋转抵抗阻力 为检查患者颈部肌肉（胸锁乳突肌）的肌力，在检查者给予阻力的情况下嘱患者用颈部去触肩部。两侧均应检查。

82. 臂丛神经牵位试验 患者上肢外展，检查者握住患者的手，另一手将病人的头推向对侧（对侧耳向肩的方向）的同时，牵拉上肢。疼痛提示颈神经根受压。

腰

83. 腰椎前屈 嘱患者弯腰并力图以手触地，记录屈曲度数。正常情况从直立到屈曲约有 45 度活动度。检查者应注意脊柱的形态。

84. 拾物试验 当发现患者弯腰活动受限时，可嘱患者去拾地上所放物品，正常人可弯腰拾起物品，这称拾物试验阴性。腰部有病变的病人，其腰部僵硬，不能弯腰而通过屈髋、屈膝保持腰部直位，并且一只手按于膝部，另一手小心地拾起物品，这称拾物试验阳性。

85. 伸展 检查者嘱患者腰尽量向后弯曲，并在患者后面，固定患者两侧骨盆与髋关节以检查其腰部伸展度。正常的伸展度约 30 度。

86. 侧屈 是指脊柱向两边弯曲的活动度。检查者与上述一样固定患者之骨盆与髋关节，嘱患者向右侧弯腰，再向左侧弯腰。正常情况每侧活动度约 30 度。

87. 旋转 继续象上述一样固定患者骨盆与髋关节，嘱患者肩部向右旋，然后向左旋，正常人其躯干旋转度每侧约 30 度。躯干旋转包括胸腰椎活动。

TRAINING MANUAL FOR MUSCULOSKELETAL EXAMINATION

The examination of musculoskeletal system includes 3 sections:
upper limbs, lower limbs and the spine.

A. Upper Limbs

A-1. Inspection of upper limbs

1. Expose both arms and hands

The examiner exposes all surfaces of patient's hands and arms from fingertips to shoulders by asking the patient to remove clothing.

2. Inspect hands, arms

The examiner observes all surfaces of patient's hands and arms, from fingertips to shoul-

ders with clothing removed and inspects for symmetry, lesions, scars, muscular atrophy (wasting), edema, swelling, redness and ecchymosis.

A-2. Hands

The hand is made up of carpometacarpal (CMC), metacarpophalangeal (MCP), proximal interphalangeal (PIP), and distal interphalangeal (DIP) joints. The joints of the hand are single joints, and most are capable of 2 movements: flexion (bending), and extension (straightening). The thumb has only one interphalangeal joint (the IP joint). Several diseases are associated with obvious abnormalities in the size and shape of the hand. In rheumatoid arthritis, fusiform swelling of the joints is usually found with a fairly symmetric involvement of the proximal interphalangeal and metacarpophalangeal joints bilaterally. The joints may be swollen and painful when they are acutely infected. In elder patients with osteoarthritis, the abnormalities are commonly in the distal interphalangeal joints.

3. Palpation of interphalangeal joints

a), Proximal interphalangeal (PIP) joints:

The proximal interphalangeal (PIP) joints are the second row of knuckles. To palpate the PIP joint, the examiner exerts pressure with his thumb and index finger on all sides of each PIP joint. Bony enlargements of the PIP joints are called Bouchard's nodes; soft tissue enlargements are called synovial thickening. The examiner should observe flexion and extension of the PIP joints and observe any disorders of alignment. The swan neck deformity is characterized by hyperextension of these joints.

b), Distal interphalangeal (DIP) joints:

The distal interphalangeal (DIP) joints are the third row of knuckles. To palpate the DIP joint, the examiner turns the patient's palm downward and places his thumb and index fingers on the dorsum (back) and palm side of the joint. Each DIP joint should be palpated. Hard, bony enlargements of these joints are called Heberden's nodes. The examiner observes the joints for soft tissue swelling, disorders of alignment and range of motion. The Boutinierre deformity is associated with hyperextension of this joint and flexion contracture of the PIP.

4. Palpation of metacarpophalangeal (MCP) joints

The metacarpophalangeal joints (MCP) are the first row of knuckles. The examiner turns patient's downward, places his thumb on the dorsal (back) aspect of the MCP joint and his index and middle fingers on the palmar aspect of the joint. Each metacarpophalangeal joint should be pressed firmly for pain, tenderness and/or swelling. Flexion and extension of each joint should be observed, and abnormalities in alignment should be noted. Ulnar deviation of the fingers may be noted at these joints.

Range of motion:

Besides the movements of flexion and extension, the first carpometacarpal and metacarpophalangeal joints are capable of abduction and adduction. Helpful information about the

range of motion of the joints in the hand can be obtained by four simple screening maneuvers. If the examiner notes abnormalities, he should examine individual joints separately.

5. Ask patient to extend his fingers fully
6. Ask patient to bend his fingers at PIP and DIP joints (make a claw)
7. Ask patient to make a fist
8. Ask the patient to make thumb to meet the 5th finger thumb opposition while not moving the fifth finger.
9. Check muscle strength of flexor digitorum profundus

The examiner holds the patient's middle finger straight with fixation of the PIP joint and asks the patient to flex the distal interphalangeal joint of that finger. If there is weakness of the flexor digitorum profundus, the patient is unable to do it.

10. Check for muscle strength of hands

The examiner asks the patient to use each of his hands to tightly hold the examiner's fingers bilaterally. The examiner tries to pull the fingers out. Compare the patient's muscle strength in both of his hands.

A-3. Wrist

The wrist is composed of eight carpal bones, aligned in two rows. The examiner observes the patient's wrist for swelling and deformity.

11. Palpation of both wrists

Carpometacarpal (CMC) joints:

The first carpometacarpal joint, located where the wrist joins the first metacarpal bone and thumb, should receive special attention because of its frequent use. The examiner should exert moderate pressure over the joint with his thumb and index finger to detect presence of pain, tenderness or swelling. The examiner stands in front of the patient while palpating each wrist firmly with both hands. He places both thumbs on the dorsum (back) of the patient's wrist and the index and middle fingers on the palmar surface of the wrist. The patient's wrist should be held in a relaxed position, palms downward. The examiner applies gentle, but firm pressure as he moves his thumbs and fingers over the patient's wrist. The presence of swelling, tenderness, warmth, and nodules should be noted. Normally, the distal dorsal surface of the radius is smooth, while the palmar surface is indentative. The ulnar styloid process is 1 cm lower than the radial styloid process. When the radius is broken, the normal anatomical relationship will change. The radial styloid process shifts to the ulnar styloid process, even if it is upper than the ulnar styloid process.

12. Check for flexion of the wrists

The motion of the wrists should be examined with the patient's forearm in a pronated position (palms downward). The examiner gently grasps the patient's forearm with one hand and gently bends the patient's wrist downward with his other hand. Measurement of range of motion should start with the wrist and hand in a straight position in relation

to the forearm (0 degrees). Normal flexion is approximately 80 degrees from the straight position.

13. Check for extension of both wrists

Measurement of range of motion should start with the wrist and hand in a straight position in relation to the forearm (0 degrees). To extend the patient's wrist, the examiner gently bends the patient's wrist backwards. This is sometimes called dorsiflexion. Normal extension is about 70 degrees. This may also be checked actively.

14. Check for lateral and medial movement of wrists

Lateral-medial motion is motion from side to side. With the patient's forearm in pronation, the examiner gently grasps it with one hand, moves the patient's hand toward the body (medially) and then away from the patient's body (laterally). The normal wrist can move medially (radial) about 35 degrees, and laterally (ulnar) about 25 degrees.

15. Percussion of the distal end of metacarpal

When lesions of the carpal bones are suspected, indirect percussion should be done. The patient is told to make a fist and hold the fist with ulnar deviation. The examiner percusses the distal end of 3rd metacarpal. Ischemic necrosis of lunate or fracture of navicular manus is likely when pain is found in the mid line of the wrist.

16. Check the muscle strength around the wrists

The examiner asks the patient to extend and flex the wrists against the examiner's pressure exerted on the patient's hand.

17. Finkelstein test

The examiner asks the patient to make a fist with the thumb in the fist and then asks the patient to do ulnar (lateral) deviation gently with the fist. The pain occurring at radial process indicates constrictive tenosynovitis.

A-4. Elbows

The epicondyles of the humerus and the olecranon process are on one line when the joint is extended. When the elbow joint is flexed to 90 degrees the three points above become an isometric triangle. Using the line connecting the lateral and medial epicondyles as the base line, the triangle is called the "triangle of the posterior elbow". The relation of the three points is unchanged in supracondylar fracture of humerus unless dislocation of elbow joint and fracture of epicondyles exists.

18. Palpation of epicondyles, olecranon bursa and surrounding areas

The epicondyles are the two rounded bony prominence of the humerus (the bone of the upper arm) located on either side of the elbow. The examiner supports the patient's forearm with his hand while pressing the epicondyles with the thumb and fingers of the other hand. The epicondyles can be palpated more easily with the elbow slightly bent. If pain is noted, it should be localized to the lateral epicondyle (tennis elbow) or to the medial epicondyle (golfer's elbow).

The olecranon bursa is located over the olecranon process of the ulnar, the large bony

prominence at the back of the elbow. The bursa can best be examined with the patient's elbow slightly flexed. The examiner palpates this area with his thumb, index and middle finger and checks for fluid, swelling, tenderness, heat and nodules.

19. Flexion of elbows

The examiner observes each elbow individually, cupping the elbow in one hand, while gently placing his other under the patient's wrist and then bends the patient's forearm toward the patient's shoulder as far as it will go. If the examiner feels any limitation to this motion within the elbow joint, he should note the degree of limitation and return the patient's forearm to a normal position. The other elbow is examined in the same manner. Normally the elbow can be extended fully into a neutral position (0 degrees), and flexed about 150 degrees in either active or passive movement.

20. Extension of elbows

The examiner slowly straightens (extends) both of the patient's arms in front of the patient. When the arm is straight, the elbow is in full extension (5~10 degrees). Inability to extend fully is called flexion contracture and the degree of contracture should be measured (i. e. , the patient lacks 5 degrees of extension or has 5 degrees of contracture).

21. Supination-pronation of the forearm

The examiner asks the patient to bend the patient's elbow to 90 degrees with the thumb upward, then lock the flexed elbow onto the patient's waist at his side. The examiner stabilizes the elbow by cupping one of his hands beneath it. The examiner grips the patient's hand gently with his free hand. The patient's hand should be turned so that the palm of the patient's hand is facing upward (supination). To pronate the forearm, the examiner turns the patient's arm so that the palm of the patient's hand is facing downward. In a normal individual, the hand and forearm rotate in an arc of 180 degrees, (80 degrees of pronation and 100 degrees of supination). If there is pain, the examiner should compare active and passive range of motion. In addition, the examiner should note the presence of crepitation, a crackling noise or sensation palpated by the examiner while moving the joint. To test active range of motion, the examiner asks the patient to bend his elbows to 90 degrees and place his upper arms tightly against lateral chest. The patient grips a short stick in each hand as an indicator, and points his thumb upward (0 degree). Then he asks the patient to supinate and pronate, and inspects for symmetry.

22. Palpation of bicipital tendon

The bicipital tendon can be located by placing two fingers over a groove which extends along the front of the upper end of the humerus. The examiner places his fingertips over the groove and presses gently. He can check the position of the bicipital tendon by having the patient pronate and supinate his arm and feel the tendon roll under the palpating fingers during these maneuvers. Tenderness in this area may be increased as the examiner rolls the tendon under his fingertips. The examiner exerts moderate pressure over the bicipital tendon and groove on each side and compares.

23. Check for muscle strength of both upper arms

Check for muscle strength of both upper arms . First ask the patient to flex both elbows and resist your effort to extend them. Then ask patient to try to extend both elbows while you try to resist this movement.

24. Mills test

The examiner asks the patient to extend elbow , make a fist and do pronation. Pain in the lateral aspect of the elbow indicates epicondylitis.

A-5. Shoulders

The shoulder is a modified ball and socket joint , formed by the head of the humerus and the glenoid fossa. The shoulder joint is surrounded by a group of muscles and tendons (the capsule) which serve to strengthen the joint. To examine the shoulder properly , the examiner has the patient slide his arms out of the gown. The examiner compares both shoulders from front and back for swelling and muscle atrophy (wasting). A systematic examination of the shoulder includes palpation of the subdeltoid bursa and bicipital tendons as well as a test for range of motion. Swelling of the shoulder joint is often difficult to detect because of the thickness of the deltoid muscle. Swelling of the sternoclavicular or acromioclavicular joint is also difficult to detect but , if present , is usually apparent by comparing both sides. A subcoracoid dislocation of the humeral head can sometimes be seen as a flattening over the lateral portion of the shoulder.

Sternoclavicular joints

The sternoclavicular joints are located on each side of the upper end of the patient's breast bone where the sternum is met by the collarbone. A slight elevation may be felt at this point. The examiner looks for redness and swelling in this area.

25. palpation of sternoclavicular joints

The examiner presses the sternoclavicular joints firmly with the tips of his fingers and compares the joints bilaterally. The examiner needs to ask if the joints are tender.

26. Palpation of subdeltoid bursa

The subdeltoid bursa is located beneath the deltoid muscle which covers the lateral shoulder prominence and the upper portion of the arm. The examiner stands in front of the patient and exerts moderate pressure over this area with three or four fingers. The examiner is looking for swelling , tenderness and heat.

27. Palpation of acromioclavicular joints

To locate the acromioclavicular joint , the examiner should run his fingers along one collarbone toward the shoulder. The joint is palpated where the clavicle (collarbone) meets the acromion process , the bony projection of the scapula. This is called the acromioclavicular joint. It may be tender or swollen. To palpate the acromioclavicular joints , the examiner stands in front of the patient. He presses firmly on the joints with his finger tips , comparing one with the other. He can determine if there is any tenderness or pain , and if so. locate the site of the pain. The acromioclavicular joints are immobile.

Range of motion

Motion of the shoulder is measured in a plane relative to the anatomical position. The examiner stands in back of the patient. He should fix the inferior angle of scapula with his fingers and test the patient's active and passive motion. The neutral position of shoulder (0 degree) is that in which the upper extremity hangs down naturally with the antecubital fossa forward.

28. Flexion of the shoulder

The examiner has the patient move his arm forward, then over the patient's head. The patient should be asked to perform the same maneuver with the opposite arm and compare the movement on both sides. Full forward flexion of a normal shoulder allows about 135 degrees of movement.

29. Extension of shoulder

The examiner has the patient move his arm backward (in the opposite direction of flexion). Normal range of extension is about 45 degrees from the neutral position.

30. Abduction (movement away from body) of the shoulder

Abduction of the shoulder is the movement of the patient's arm out from his body laterally. Full abduction of a normal shoulder allows about 90 degrees of movement while stabilizing the scapula. Beyond 90 degrees the movement may involve rotation of scapula.

31. Adduction (movement towards the body)

The examiner has the patient bring his arm across the front of his body to check how far the arm can be brought across the patient's midline. Full adduction of a normal shoulder allows about 45 degrees of movement.

32. Internal rotation of the shoulder

The shoulder can be rotated both internally and externally. The examiner can check the rotation of the shoulder by using the forearm as an indicator of motion. The patient's shoulder should be kept at abduction with elbow flexed and maintained at shoulder height, and palm downward. The patient should be asked to move his lower arm down and back as far as it will go. Normal internal rotation is approximately 135 degrees. If the patient experiences pain during these maneuvers, the examiner should compare passive and active motion.

33. External rotation of the shoulder

To test external rotation, the examiner asks the patient to keep his shoulder in abduction and bend his elbow 90 degrees with forearm forward and palm downward. The patient raises the lower arm upward and backward as far as it will go while keeping his shoulder in abduction and elbow bent. Normal external rotation is approximately 75 degrees.

34. Check for proximal muscle strength of arms

To check the proximal muscle strength of the shoulder, ask the patient to lift both arms laterally to shoulder level, then try to push both arms down.

35. Dugas sign

When the patient has his elbow fixed on the side of the chest wall, examiner asks him to touch the opposite shoulder with hand. A positive finding of pain in the shoulder indicates injury. The patient with shoulder dislocation cannot reach his opposite shoulder.

36. Measure the length of upper extremities

The examiner uses a soft ruler to measure the length from the acromion to radial process while keeping the two arms in the same anatomical position.

B. Lower limbs

B-1. Exposure and inspection of lower limbs

37. Exposure of lower limbs

The examiner examines the patient's lower extremities with outer clothing removed and with proper draping.

38. Inspect the lower limbs

The examiner inspects both limbs from the groin to the toes noting length, degree of thickness, symmetry, shape of feet and toes, nail beds, color and texture of skin, hair distribution on legs, pigmentation, rashes, ulcers, scars, venous pattern and edema.

39. Measurement of the length of legs; two methods can be used to measure the leg's length:

A. Measure the leg's length directly: before measurement the patient must be positioned with pelvis and trunk in vertical alignment. The examiner uses bony landmarks such as anterior superior iliac spine, adductor tubercle and inside edge of tibia.

B. Measure the leg's length indirectly: patient's affected leg stands on some books or board and the examiner increases or decreases the books or boards until both anterior superior iliac spines are at same level. Then measure the height of books or boards; this length is equal to the difference in length between the two legs.

40. Percuss the greater trochanter

The examiner percusses the greater trochanter with his fist to check for any pain.

41. Pelvic bone squeeze and separate test

In a fracture of pelvic bone, lightly squeezing or separating the pelvic bone will cause pain at the place of fracture.

42. Shoemaker sign

The elongated line from the greater trochanter to anterior superior iliac spine crosses the midline at or above the umbilicus. Any upward dislocation of the greater trochanter will make the crossing point below the umbilicus. (Fig 3-31).

43. Measure the Bryant triangle

The vertical distance from the greater trochanter to a line drawn through the anterior superior iliac spine is about 5 cm. Dislocation of the greater trochanter will change the distance. Compare with opposite side. (Fig 3-32).

B-2. Hips

44. Palpate the hip joints

The hip is a weight-bearing, ball and socket joint with powerful muscles that pass over the joint. Before beginning to palpate, the examiner should ask the patient if he experiences any pain or tenderness in the hip. True hip joint pain is perceived in groin area (anteriorly). Examiner should palpate the muscles, bursa and soft tissue around the hip. Special attention should be paid to the trochanteric bursa by palpating over the lateral prominence of the femur.

45. Rolling test

The examiner places one hand on the patient's thigh and rolls the thigh toward the inside and then outside. The patient who suffers from acute arthritis of the hip may feel pain and have limitation of hip movement.

46. "4" shape test

The patient flexes knee and hip, thigh is placed in abduction and external rotation. The examiner lifts the patient's leg crosswise on to the other thigh. The two legs then form the shape of the number "four". Normally, the thigh being examined can make contact with the surface of the bed. The patient with hip joint disease will have limitation of hip movement.

47. Flexion of hips

The patient's knee should be gently bent while the knee moves toward the patient's chest as far as possible without hurting the patient. The examiner notes the number of degrees from the supine position that each hip can be flexed. Normal hip flexion is about 150 degrees.

48. Thomas sign

The patient flexes the hip and knee on one side as far as possible from the supine position. Both of the patient's hands hold the knee. Normally both the patient's waist and the opposite leg can have contact with the surface of the bed. If there is deformity of the hip, the leg won't touch the bed. This elevated angle is called the angle of deformity.

49. Sciatic stretch test (Lasegue's test)

The examiner lifts the patient's leg and asks the patient to keep his knee straight. The hip should flex more than 70 degrees without pain. Both legs should be examined separately. A positive Lasegue's sign indicates compression on the sciatic nerve, for example in dislocation of the intervertebral disc. An enhanced Lasegue's sign involves lowering the leg slightly after pain appears to release the pain, then dorsiflexing the patient's ankle passively. If the pain comes again, it is caused by sciatic stretch.

50. Extension of hips

The examiner may have the patient turn over on his abdomen and bend knee slightly to relax the muscles. The examiner should stabilize the patient's pelvis by placing one hand over the patient's lower spine, the other hand should be placed under the patient's thigh to lift leg backward. Normal hip extension is about 10-30degrees. If the patient feels pain while extending hip, it indicates hip joint disease.

51. Abduction of hips

Abduction is movement away from the midline of the body. The patient is lying supine with legs straight and parallel to each other. The examiner supports the patient's leg while moving it away from the midline of the body. Measurement of abduction is made from the angle formed by an imaginary line through the middle of the patient's body and axis of leg. As the leg reaches maximum abduction, the patient's pelvis will begin to move or rotate. The examiner may objectively measure abduction by measuring the distance between the medial malleoli of the ankles when both legs are abducted. Normally, the abduction of hip is about 45 degrees. The abduction also can be measured separately for each leg by measuring the deviation from midline.

52. Adduction of hips

Adduction is movement toward the midline of the body. Beginning again with the patient's legs together and straight, the examiner supports one leg and crosses it over the patient's other leg. This movement is limited by the patient's opposite thigh but normal adduction is about 20-30 degrees. Both hips are tested for adduction and are compared.

53. Internal rotation

The examiner bends the patient's knee gently to a 90 degree angle while flexing hip to 90 degrees so that the patient's knee is pointed upward. The examiner swings the patient's foot outward (internal rotation of the hip). The hip normally rotates both internally and externally about 40 degrees.

54. External rotation

Examiner swings the patient's foot inward (external rotation of the hip). Normal external rotation is about 60 degrees.

55. Check proximal muscle strength

The examiner tests proximal muscle strength by asking the patient to flex hip against the resistance offered by the examiner's hand against the patient's thigh muscles. Both sides must be tested and compared. Besides flexion, the muscle strength of abduction and adduction also can be checked.

B-3. Knees

The bones of the knee are stabilized by articulare ligaments, the medial and lateral collateral ligaments and the cruciate ligaments. The medial and the lateral menisci are disks of cartilage which also help stabilize the knee. The examiner observes the patient's knees for evidence of deformity. This can best be done while the patient is lying down. Two of the more common deformities of knee joints are valgus (knock-knees) and varus (bow legs). Normally, the two knees and medial malleoli can make contact with each other while the patient's feet are together. In valgus, when the patient has his knees together, there is separation of the two medial malleoli. In varus, when the patient has his medial malleoli together, there is separation of the two knees. These kinds of deformities may be caused by rickets.

56. Palpate the knees

To palpate, the examiner uses both hands, with the fingers curved to fit the posterior popliteal area. The thumbs are placed on the anterior portion of the knee in the soft tissue depressions found on either side of the midline tendon. The examiner uses both thumbs and a downward pressure to palpate the ridge formed by the tibial plateau, moving out from the midpoint to either side of the joint. The examiner is looking for tenderness or irregularities in the bony surface.

57. Ballottement for a floating patella

The patient is in a supine position with leg straight and muscles relaxed. Examiner firmly grasps the thigh just above the superior margin of the patella and slides his hand downward along the sides of the femur. This maneuver forces fluid out of the superior portion of the joint space into the space behind the patella. Then the examiner pushes the patella sharply back against the femur with the index and middle fingers of other hand while maintaining pressure on the suprapatellar pouch. In the presence of an effusion, a palpable tap and a transmitted impulse will be felt.

58. Check for the movement of patella

This is best examined with the patient lying down, knee extended. The examiner asks the patient to relax the knee. The examiner can palpate the patella (knee cap) and then move it up and down. Any pain, tenderness, or grating of the patella against the underlying bones is noted. Normal movement of the patella is smooth and gliding. If grinding or grating is noted as the patella moves over the femoral epicondyles, it indicates softening of the patellar cartilage.

59. Check for the flexion of the knees

This motion is simply bending the knee. The examiner gently bends the patient's knee toward the patient's thigh as far as possible. Normally, the knee can be flexed about 130 degrees.

60. Check for extension of knees

The examiner supports the patient's knee and ankle from underneath and then extends it as far as possible. Normally the knee can be straightened into a straight line or even an additional 5-10 degrees beyond (hyperextension).

The stability of the ligaments of the knee are assessed by using 2 maneuvers. They are best done with the patient in a supine position.

61. Check for collateral ligaments

The collateral ligaments are located on either side of the knee. They are strong, fibrous cords that stabilize the bones of the knee. The examiner gently extends the patient's knee and grasps the end of the patient's thigh bone from underneath with one hand. With the other hand gently grasping the patient's ankle, the examiner rocks the leg medially and laterally at the knee. Normally, there is little or no motion around the collateral ligaments.

62. Check for cruciate ligaments

The cruciate ligaments are located inside the knee joint. To examine their stability, the examiner asks the patient to bend his knee about 90 degrees. The examiner grasps the patient's lower leg just below the knee and tries to pull it forward and push it backward. If the knee's forward and backward movements are in excess of the normal range, this indicates anterior and posterior ligamentous rupture respectively.

63. McMurray test for meniscals injury (perform if RoM of the knee is painful)

A torn meniscus can cause pain or tenderness in the knee. To test for meniscals injury, the examiner first fully flexes the knee of the supine patient so that the foot is close to the buttock. The examiner then grasps the knee and heel to rotate the foot and lower leg laterally by using both hands and forearms. While keeping the foot in rotation, the examiner extends the knee to a right angle. If there is torn lateral meniscus, a click can be felt and elicited in lateral rotation. The torn medial meniscus may cause a click when the foot is in medial rotation.

64. Check for distal muscle strength of lower extremities

The examiner tests muscle strength by asking the patient to extend his knee against resistance exerted by the examiner's hand against the patient's leg below the knee.

B-4. Ankles and Feet

65. Palpation of malleoli and tendon

The examiner asks the patient to remove his shoes and socks and observes the patient's ankle for swelling and deformity. The examiner palpates the ankle bones and Achilles tendon (behind ankle) for tenderness.

66. Check for motion of ankle joint (dorsiflexionplantar flexion)

The examiner supports the patient's heel from underneath with one hand and pushes the foot upward then downward. Normal dorsiflexion (upward) is about 20 degrees. Normal plantar flexion (downward) is about 45 degrees.

67. Check for motion of sub talar joint (eversion-inversion) The examiner supports the patient's ankle with one hand, placing the other hand under the patient's foot and moves ankle from side to side (medially and laterally). Eversion is movement away from the body. Inversion is movement toward the body. In deformity of inversion, the patient's foot is permanently held in inversion and adduction. In deformity of eversion, the patient's foot is permanently held in eversion and abduction. This sign occurs in patients with congenital deformity and is also a sign of poliomyelitis.

68. Palpation of metatarsal phalangeal joints

The examiner palpates the patient's foot for pain, tenderness, and swelling. The examiner presses each of these joints between his thumb and index fingers to determine the presence of subluxation.

69. Midfoot abduction and adduction

The examiner tests the ROM by stabilizing the heel with one hand while moving the

forefoot medially and laterally with the other hand. This ROM is difficult to measure as it is a very narrow one, but it can be felt. The examiner is looking for tenderness and limited ROM.

70. Flexion of toe

To assess the range of motion of the toes, the examiner asks the patient to curl toes.

71. Extension of toe

Ask the patient to straighten toes.

72. Check the muscle strength of foot

To test the tibialis anterior muscle, dorsiflex the patient's ankle. To test the gastrocnemius muscle, plantar flex the ankle. Ask the patient to push against the resistance offered by the examiner at the top and bottom of the patient's foot.

C. Spine

73. Inspect spine

With the patient in a standing position, carefully inspect the spine for any postural abnormalities. Three basic types of abnormalities are generally recognized.

①A lateral curvature of the spine is known as scoliosis. It is a sign of poliomyelitis and rickets.

②Kyphosis is the term used to describe backward curvature of the spine. It can be seen in the patient with tuberculosis, fracture or tumor of vertebra, and ankylosing spondylitis.

③Lordosis refers to a forward curvature of the spine. It may be seen in patients with a large amount of ascites, tumors of the abdominal cavity and tuberculosis of the hip joint. The normal concave curvature of the lumbar spine is called lumbar lordosis.

To check for abnormalities, the examiner presses his index and middle finger on the patient's spinous process from top to bottom rapidly. The skin shows a red line. This can indicate lateral curvature of the spine.

74. Check for tenderness of spine to palpation

The patient with organic spinal disease including diseases of the lumbar, thoracic and cervical vertebra may have obvious tenderness and percussion pain. Tenderness-the examiner presses firmly on the patient's spinous process with his thumb from top to bottom. Normally the spine exhibits no tenderness. In the patient with tuberculosis, fracture of vertebra, or protrusion of the intervertebral disc, there will be obvious tenderness. If the spinous process or paraspinal muscles exhibit tenderness, this indicates that the patient has acute strain or injury of the muscles of the back.

75. Check for indirect percussion pain

Indirect percussion-the patient is in a seated position. The examiner places the patient's left hand on top of the patient's head and makes a partial fist to percuss on the patient's left hand with hypothenar eminence and notes the patient's painful appearance.

76. Check for direct percussion

The examiner directly percusses every spinous process with a percussion hammer or finger. This method mainly is used in examination of the lumbar and thoracic vertebra. Normal individuals have no percussion pain while the patient with TB or fracture of the lumbar spine has obvious percussion pain.

77. Check for cervical spine motion: flexion

The normal concave curvature of the cervical spine is called cervical lordosis. Straightening of this should be noted. The examiner instructs the patient to touch his chin to his chest. The examiner is estimating the number of degrees the patient can move his neck from the erect position. This motion is performed only actively (moving neck without assistance). Examiner should never push down on the patient's head, trying to see if patient can go any further. Normal flexion of the cervical spine is about 35 degrees. Decreased flexion may be seen in patients with rheumatoid arthritis.

78. Extension

The examiner asks the patient to tip his head backward as far as possible, or look up at the ceiling. The normal cervical spine can be extended backward about 40 degrees.

79. Lateral bending

The examiner asks the patient to touch his right ear to his right shoulder, then his left ear to his left shoulder. The occurrence of pain on the side opposite to which the patient is bending suggests muscle pain. Normal lateral bending allows about 40 degrees to each side.

80. Rotation

To test the rotation of a patient's neck, the examiner asks the patient to touch his chin to each shoulder without raising his shoulder to meet the chin. Normal rotation allows about 60-80 degrees of movement in each direction.

81. Test rotation of patient's head against resistance

Test the muscles of the patient's neck (sternocleidomastoid muscle) by asking the patient to bring his chin to his shoulder against the resistance exerted by the examiner. Both sides should be checked.

82. Brachial plexus tightening test

The examiner holds the patient's hand, abducts the upper extremity, while pushing the patient's head to opposite side (ear to shoulder) to stretch the patient's upper limb. Pain indicates compression of the cervical spine nerve roots.

83. Lumbar flexion

The examiner asks the patient to bend forward at the waist and attempt to touch his toes and notes the degree of flexion. Normally, the entire spine flexes about 45° from an upright position. The examiner should note the presence of sharp, abnormal angulation of the spine.

84. Picking up thing test

If the patient has a demonstrated limited movement of the lumbar spine as he bends for-

ward, the examiner asks the patient to pick up something which has already been placed on the ground. Normally, individuals can bend from the waist to pick up the material. This is called negative picking up thing test. In the patient with spinal disease, the patient's sacrospinalis is spastic and the patient can't bend from the waist. He then flexes hips and knees and keeps the lumbar spine straight. The patient places one hand on his own knee and carefully picks up the object with the other hand. This kind of behavior is called positive picking up thing test.

85. Extension

To test extension, the examiner asks the patient to bend backward as far as possible. The examiner can stabilize the patient's hips and pelvis by standing behind the patient, holding the patient's pelvis on either side. Normal extension is usually about 30 degrees from the upright position.

86. Lateral bending

lateral motion of the spine is sideways bending. The examiner can stabilize the patient's hips in the manner described above, asking the patient to bend at the waist to his right, then to his left. Normally, the spine bends about 30° in each direction from the upright position.

87. Rotation

The examiner stabilizes the patient's hips and pelvis as described above, and has the patient turn his shoulder to the right, and then to the left. Normally, the trunk can rotate about 30 degrees to either side when the pelvis is stabilized. Rotation of the trunk includes both lumbar and thoracic spine movements.

附：骨骼肌肉系统检查纲要

A. 上肢

1. 双上肢的暴露
2. 上肢的望诊检查
3. 近指间关节和远指间关节的触诊
4. 掌指关节的触诊
5. 要求病人伸直手指
6. 要求病人屈曲近指间关节和远指间关节（做爪状）
7. 要求病人握拳
8. 要求病人的拇指去碰触小指（拇对掌），而小指保持不动
9. 屈指深肌的检查
10. 手的肌力检查
11. 腕部的触诊
12. 腕关节屈曲功能检查
13. 腕关节伸展功能检查

14. 腕关节的外展和内收
15. 掌骨远端的叩诊
16. 腕部肌力检查
17. Finkelstein 试验
18. 肱骨踝、尺骨鹰嘴滑囊及周围结构的触诊
19. 肘关节屈曲
20. 肘关节伸直
21. 前臂旋前旋后
22. 肱二头肌腱触诊
23. 前臂肌力检查
24. Mills 试验
25. 胸锁关节的触诊
26. 三角肌下滑囊的触诊
27. 肩锁关节触诊
28. 肩关节屈曲
29. 肩关节伸展
30. 肩关节外展（离开躯干的活动）
31. 内收（向躯干中线活动）
32. 肩关节内旋
33. 肩关节外旋
34. 检查上肢近端肌力
35. 杜加氏征
36. 上肢长度的测量

B. 下肢

37. 暴露双下肢
38. 双下肢的望诊
39. 双下肢长度测量
40. 大粗隆的叩诊
41. 骨盆挤压及分离试验
42. Shoemaker's 征
43. Bryant 三角测量
44. 髋关节触诊
45. 滚动试验
46. “4”字试验
47. 髋屈曲活动
48. Thomas 征
49. 直腿抬高试验
50. 髋关节的过伸
51. 髋外展

- 52. 髁内收
- 53. 髁内旋
- 54. 髁外旋
- 55. 检查髁关节近端的肌力
- 56. 膝部触诊
- 57. 浮髌试验
- 58. 髌骨运动检查
- 59. 检查膝关节屈曲度
- 60. 检查膝关节伸直度
- 61. 检查侧副韧带
- 62. 检查交叉韧带
- 63. Mc Murray's 试验 (半月板损伤在本试验中出现疼痛)
- 64. 下肢远端肌力的检查
- 65. 踝与足跟的触诊
- 66. 检查距关节活动 (背屈和跖屈)
- 67. 跟距关节运动 (距下关节) 检查 (足外翻和足内翻)
- 68. 跖趾关节的触诊
- 69. 跖跗关节的内收和外展
- 70. 足趾的屈曲
- 71. 足趾伸直
- 72. 检查足部肌力

C. 脊柱

- 73. 脊柱的显露与外观
- 74. 触诊检查压痛
- 75. 间接叩痛检查
- 76. 直接叩痛检查
- 77. 颈部活动度的检查
- 78. 伸展
- 79. 侧方屈曲
- 80. 旋转
- 81. 阻力下头的旋转试验
- 82. 臂丛神经牵接试验
- 83. 腰椎屈曲
- 84. 拾物试验
- 85. 伸展
- 86. 侧屈
- 87. 旋转

APPENDIX:
CHECKLIST FOR THE MUSCULOSKELETAL EXAMINATION

A. Upper limbs

1. Expose both arms and hands
2. Inspect both arms and hands
3. Palpation of interphalangeal joints
4. Palpation of metacarpophalangeal joints (MCP's)
5. Ask patient to extend his fingers in full range
6. Ask patient to bend his fingers at PIP and DIP (make a claw)
7. Ask patient to make a fist
8. Ask patient to make his thumb meet the fifth finger
9. Check muscle strength of flexor digitorum profundus
10. Check for muscle strength of hands
11. Palpation of both wrists
12. Check for flexion of the wrists
13. Check for extension of both wrists
14. Check lateral and medial movements of wrists
15. Percussion of the distal end of metacarpals
16. Check the muscle strength around the wrists
17. Finkelstein test
18. Palpation of epicondyles, olecranon bursa and surrounding areas
19. Flexion of elbows
20. Extension of elbows
21. Supination-pronation of the elbows
22. Palpation of bicipital tendons
23. Check for muscle strength of both forearms
24. Mills test
25. Palpation of sternoclavicular joints
26. Palpation of subdeltoid bursa
27. Palpation of acromioclavicular joints
28. Flexion of the shoulders
29. Extension of the shoulders
30. Abduction (movement away from body) of the shoulders
31. Adduction (movement towards the body) of the shoulder
32. Internal rotation of the shoulders.
33. External rotation of the shoulders
34. Check for proximal muscle strength of arms
35. Dugas sign

36. Measure the length of upper extremities

B. Lower limbs

37. Expose lower limbs

38. Inspect lower limbs

39. Measurement of the length of legs

40. Percuss the great trochanter

41. Pelvic bone squeeze and separate test

42. Shoemaker sign

43. Measure the Bryant triangle

44. Palpate the hip joints

45. Rolling test

46. "4" shape test

47. Flexion of hip

48. Thomas sign

49. Sciatic stretch test (Lasegue's test)

50. Extension of hips

51. Abduction of hips

52. Adduction of hips

53. Internal rotation

54. External rotation

55. Check proximal muscle strength of lower extremities

56. Palpate the knees

57. Floating patellar test

58. Check for the movement of patella

59. Check for the flexion of the knees

60. Check for extension of knees

61. Check for collateral ligaments

62. Check for cruciate ligaments

63. McMurray test for meniscals injury (if pain on motion)

64. Check for distal muscle strength of lower extremities

65. Palpation of malleoli and Achilles tendons

66. Check for motion of tibiale-talar joints

67. Check for motion of sub talar joints (eversion-inversion)

68. Palpation of metatarsal phalangeal joints

69. Midfoot abduction and adduction

70. Flexion of toes

71. Extension of toes

72. Check the muscle strength of teet

C. Spine

73. Expose and inspect spine
74. Check for tenderness of spine to palpation
75. Check for indirect percussion pain
76. Check for direct percussion
77. Check for cervical spine motion: flexion
78. Extension
79. Lateral bending
80. Rotation
81. Test rotation of patient's head against resistance
82. Brachial plexus tightening test
83. Lumbar flexion
84. Picking up thing test
85. Extension
86. Lateral bending
87. Rotation

神经系统检查方法

神经系统检查包括五个方面的内容，即，一般检查、脑神经检查、运动神经检查、感觉神经检查和反射检查。

A. 一般检查（主要检查意识状态）

该检查主要通过与客户交谈并检查客户对外界刺激的反应而评价。

意识状态可分为 4 类：

(1) 清醒状态：客户对自身及周围环境的认识能力良好，应包括正确的时间定向、地点定向和人物定向，当问诊者问及姓名、年龄、地点、时刻等问题时，客户能作出正确回答。

(2) 嗜睡状态：意味着清醒度的下降，也是意识障碍的早期表现，客户没精神，持续地处于睡眠状态，能被重复的刺激所唤醒，并能回答一些简单的提问，一旦刺激停止，则客户又入睡了。

(3) 浅昏迷：是一种比较严重的意识障碍，客户不能被外界刺激所唤醒，但对光反射和角膜反射仍存在，压眶时，客户有逃避反应。

(4) 深昏迷：是最严重的意识障碍，客户没有任何自主运动，对光反射、角膜反射及压眶反射均消失。

1. 检查客户的定向
2. 检查客户对外界刺激的反应

B. 脑神经检查（顺序检查 12 对脑神经）

嗅神经（I）

第 I 对脑神经是嗅神经，负责嗅觉功能。

3. 检查嗅觉 用三个分别装有不同气味的无刺激性液体的瓶子，嘱客户闭目，塞住一个鼻孔，依次嗅这三种液体，然后问客户嗅出是什么液体。一侧嗅完后，测试另一侧，注意二

侧比较。若有嗅觉功能的下降或消失，应该区分是由于鼻腔病变还是嗅神经病变所致。

视神经（Ⅰ）

第Ⅰ对脑神经是视神经，应主要检查视力，视野和眼底。

4. 检查视力 检查视力，主要是检查黄斑视力，神经科通常用近视力表来检测。检查前，先观察一下有无影响视力的外眼病变然后分别检查双眼，眼与近视力表的距离约30厘米，如果视力低于1.0，则称视力减退。如果病人不能看清近视力表，则改用指数检测，即辨认医生在他眼前所示的指数。如不能辨认指数，则改用指动检测，即病人能否分辨医生的手指是否在动。如仍不能辨认，则检测病人的光感是否存在，如光感消失，则称之为失明，即视力完全丧失。

5. 检查视野 视野是指病人向前平视时所能看到的最大范围。临床上，常用手试法测定视野是否正常。如不正常，再继续用视野计测定。正常的视野范围约为颞侧90°，鼻侧60°，上方60°，下方70°。检测方法是：医生和病人相对而坐，相隔约60cm；检查左眼时，嘱病人闭上右眼，医生则闭上左眼，反之亦然；然后让病人直视对侧医生的眼睛，当医生的手指从上、下、左、右四个方向从外侧向内侧移动时，让病人看到手指就告诉医生；医生以自己的视野与之比较，判断病人的视野是否正常。视路病变可有多种视野缺损。

6. 检查眼底 用检眼镜检查眼底，正常者视神经盘边界清晰，可见血管搏动。两种最常见的神经科眼底异常是视神经盘水肿和视神经萎缩。视神经盘水肿首先表现为边界不清，逐渐进展为边界消失，然后隆起于周围视网膜。视神经萎缩表现视神经盘苍白。

动眼神经（Ⅲ）、滑车神经（Ⅳ）、外展神经（Ⅵ）

第Ⅲ、Ⅳ、Ⅵ对脑神经支配眼球活动的肌肉，常作为一个整体检查。动眼神经功能障碍表现为瞳孔扩大，眼球外斜视，上睑下垂，复视，光反射和调节反射消失，眼球上、下活动受限。单独的滑车神经麻痹少见，此时眼球内旋活动较小，患眼向下向外运动减弱，并有复视。外展神经麻痹表现为眼球内斜视（外直肌无力）和复视，眼球外展活动受限。

7. 瞳孔大小及对光反射 观察瞳孔大小，双侧对比。观察对光反射：用光照射一侧瞳孔，观察被照侧瞳孔收缩（直接光反射）及对侧瞳孔收缩（间接对光反射）是否存在，正常人双侧瞳孔均快速收缩。

8. 调节辐辏反射 嘱病人双眼看着医生的手指，手指从1米远快速移动至距病人鼻前数厘米处。正常人应出现双眼内聚和瞳孔缩小反应。

9. 眼外肌功能 嘱病人头部不动，双眼注视医生手指，并随之向左右、左上、左下、右上、右下方向移动；在每个方向的极点都停留片刻以观察有否眼震和眼球活动受限。并问病人有否复视，在那个方向复视最明显。

三叉神经（Ⅴ）

三叉神经有三个分支，第一支，即眼神经，传导头上部及眼睛的感觉；第二支，即上颌神经，传导脸中部和鼻孔的感觉；第三支，即下颌神经，传导下颌部位的感觉，其中的运动纤维支配咀嚼肌运动。

10. 检查面部触觉痛觉 检查这三支分布区的触觉（棉花）、痛觉（针刺）并作双侧对比。

11. 检查面部温度觉 检查温度觉（冷或热水）并作双侧对比。

12. 角膜反射 嘱病人注视被检眼的对侧，医生用一末棉花轻轻地触及其角膜，注意要从外侧接近角膜，尽量不要让病人看到棉花束。正常反应是瞬目。

13. 检查咬肌及颞肌有否萎缩及肌力（三叉神经运动支） 嘱病人咬紧牙关或咀嚼，医

生触摸其咬肌及颞肌，判断其有无萎缩。再让病人用力咬住压舌板，不让医生抽出，据此判断其肌力。

14. 观察下颌的位置 观察张嘴时有无下颌偏斜。一侧三叉神经运动支损伤时张口，下颌偏向患侧。

面神经 (VII)

中枢性面瘫 (上运动神经元损害) 表现为对侧下半部分面肌无力，该侧鼻唇沟变浅，口角下垂，而皱额和闭眼功能则无明显影响。周围性面瘫 (下运动神经元损害) 则表现为病灶同侧的所有面肌的无力，病人鼻唇沟变浅，不能皱额、闭眼。

15. 观察眼裂大小，嘱病人皱前额、闭眼 观察其眼裂的宽度和对称性，请病人皱前额，扬眉和闭眼抵抗阻力。

16. 观察鼻唇沟、口角、露齿、鼓腮、吹口哨 观察鼻唇沟的深浅和对称性，嘱病人露齿，鼓腮及吹口哨，观察口角有无漏气。

17. 味觉检查 嘱病人伸舌，先用纱布轻拭舌面，用棉棒沾取糖或盐水，轻轻地抹在舌一侧的前 2/3 区域，然后让病人鉴别什么味道。一侧查完后查另一侧。

前庭蜗神经 (VIII)

前庭蜗神经由前庭神经和蜗神经组成。

18. 检查听觉 医生主要用音叉来检查病人的听力，以自己的正常听力为标准作比较，若发现病人的听力下降，则接下去做以下的二个试验。

19. 林纳试验 检查者将震动着的音叉 (512Hz) 的柄放在病人的乳突上 (耳后的骨突点) 直到他不能听到声音时，立即把仍在振动的音叉放在距耳道 1cm 处，问他是否能听到声音。在试验中，应用音叉分别测定二侧耳的骨传导和气传导。正常人听到的气导时间长于骨导时间，称为试验“阳性”。在中耳病变时，气导与骨导的比例缩小，换句话说，在中度的传导性聋，气导与骨的传导时间相仿。在严重的传导性耳聋时，气导甚至短于骨导时间，这称为试验“阴性”。感音神经性耳聋的病人气导大于骨导，呈“阳性”结果，但是二者的时间均缩短。换句话说，它们保持正常的气/骨导比例，但实际时间二者均缩短。

20. 韦伯试验 将震动着的音叉放在病人头顶、前额或上唇正中处，传导性聋时，声音偏向病耳。声音偏向健耳提示病耳系感音神经性聋。

舌咽神经 (IX)，迷走神经 (X)

这二对脑神经常合并检查。

21. 当病人说“啊”时观察其软腭和悬雍垂的位置 注意病人的声音和吞咽能力。嘱其张口说“啊—”观察静息及发声时的软腭和悬雍垂的位置。如果有一侧的第 IX、X 脑神经麻痹，在发声时软腭的悬雍垂就会偏向健侧。麻痹侧的腭弓在静息状态时要比正常侧低。

22. 咽反射 用压舌板，分别轻触二侧的咽后壁，观察咽肌的收缩和软腭的升高。

副神经 (XI)

23. 检查胸锁乳突肌肌力 嘱病人把头转向一侧抵抗检查者放在他腮上的手的反向力，记录下被测肌 (胸锁乳突肌) 的肌力；并观察该肌有无萎缩。

24. 检查斜方肌肌力 嘱病人耸肩抵抗检查者双手施予的压力，记录下被测肌 (斜方肌) 的肌力；并观察该肌有无萎缩。

舌下神经 (XII)

25. 伸舌，观察有无舌尖偏向和舌的形态 嘱病人伸舌，观察有无偏向、舌肌萎缩或颤动。在下运动神经元麻痹时，舌偏向病侧，同时有舌肌的萎缩和颤动。单侧舌下神经中枢损害时引起对侧上运动神经元麻痹，舌向中枢病灶的对侧偏斜，无舌肌萎缩和颤动。

C. 运动系统检查

(包括 6 个方面：肌营养、不自主运动、肌张力、肌力、共济运动、姿势和步态)

肌营养

26. 观察肌形态 观察病人的肌肉形态(萎缩或肥大)。如怀疑有肌萎缩存在，应同时测量双侧肢体的周径，并记录测量点。

不自主运动

27. 观察不自主运动是否存在

静止性震颤(每秒 4—6 次)：以手部最明显，但也可见于上肢，头面部、舌头和腿部。

意向性震颤：见于小脑病变，在执行有目的运动时出现，如见于指鼻试验时。

舞蹈样动作：不规则的、不自主的、自发的动作，常牵涉多个关节。

肌张力

28. 检查上肢的肌张力 嘱病人尽可能地放松上肢，触摸其肌肉的硬度。肌张力增高时肌肉变硬，肌张力降低时肌肉松软。被动曲伸肘、腕、肩关节，检查被动活动时的肌肉阻力。肌张力增高时阻力增高，肌张力减低时阻力下降。在前角细胞病变、周围神经疾病和小脑疾病时，肌张力降低。上运动神经元疾病(锥体系)肌张力增高。

29. 检查下肢的肌张力 被动曲伸膝、踝关节检查肌张力。

检查肌力

嘱病人抵抗检查者给予的反向阻力而执行各关节的伸、屈运动，注意二侧及远、近端肌力的比较，病人主诉乏力的区域尤其要给予重视。筛选检查应包括脚的背屈和跖屈，腕部和肘的伸、屈，肩部外展。

30. 三角肌肌力 让病人尽力外展上肢，检查者则给予阻力。

31. 肱二头肌肌力 嘱病人屈肘，检查者尽力使之伸展。

32. 肱三头肌肌力 嘱病人伸肘，检查者尽力使之屈曲。

33. 腕屈肌和腕伸肌肌力 嘱病人伸、屈腕部，检查者给予反向阻力。

34. 指屈肌肌力 嘱病人握拳，检查者将其掰开而测试其肌力。

35. 骨间掌侧肌肌力 嘱病人尽力用手指夹住一张纸，而检查者则尽力要把纸拉出来。

36. 骨间背侧肌肌力 嘱病人尽量伸展五指，而检查者则反向施力欲使之并拢。

37. 髂腰肌肌力 嘱病人尽力屈曲髋关节，而检查者用力欲使之伸直。

38. 股四头肌肌力 嘱病人尽力伸直下肢，而检查者用力欲使膝屈曲。

39. 股后肌群肌力 嘱病人尽力屈膝，检查者用力欲将膝拉至伸直位置。

40. 胫骨前肌肌力 嘱病人尽力背屈踝关节，检查者反方向用力。

41. 腓肠肌肌力 嘱病人尽力跖屈踝关节，检查者反方向用力。

42. 拇长、短伸肌肌力 嘱病人尽力背屈大拇趾，检查者反方向用力。

43. 拇长、短屈肌肌力 嘱病人尽力跖屈大拇趾，检查者反方向用力。

共济运动(检查小脑功能)

44. 指鼻试验 嘱病人以示指触及他的鼻尖，以不同速度重复数次，先睁眼，后闭眼。在

检查中病人应充分外展上肢。正常人能精确地完成运动而不会有震颤或错过目标。小脑共济失调的病人睁眼闭眼时均会失误并伴有震颤。感觉性共济失调的病人仅睁眼时能完成动作。

45. 快复运动 嘱病人快速、重复地以同样的幅度和节律轻拍大腿、台面或检查者的手掌。正常人能正确无误地完成这个动作,但有小脑病变的病人则表现为病侧快慢轻重不一,笨拙而不协调和幅度不一致。

46. 轮替动作 嘱病人以手掌、手背轮替拍击大腿、台面或检查者的手掌。正常人能以同样的节律、幅度和速度完成这个动作,而小脑有病变的病人则表现为节律、幅度和速度均不一致。

47. 跟-膝-胫试验

指导病人用脚跟去触及对侧的膝盖并沿着胫骨前皮肤慢慢滑到足背。正常人能准确地完成这个动作而无摇晃或震颤。

48. 回击试验(反弹试验) 嘱病人握拳、屈肘距胸部约30cm,检查者用力向外拉其前臂,并突然松手,正常人的前臂则会迅速终止其回缩,而小脑有病变的病人则会回击到他自己胸部上。

49. 闭目难立试验 嘱病人双脚并拢直立,双手向前平举,在睁眼和闭眼二种情形下,观察病人保持直立姿势的能力。小脑病变的病人,睁眼闭眼均难以保持该姿势;而有深感觉障碍的病人,则闭眼时更难以保持该姿势。

50. 直线行走试验 嘱病人以一只脚的脚尖贴着另一脚的后跟,沿一直线行走。正常人能正确地完成这个动作,而小脑病变的病人则不能直线行走或走不稳。

51. 步态检查 嘱病人起步走,转弯,往回走,停步,观察其姿势和手臂、腿的协调运动。检查时,不要让病人双手僵贴在身体二侧或叉着手臂。

前冲步态:病人的头、肩和躯干向前倾,全身肌张力增高。当病人开始起步时,下肢的挪动很慢。一旦开始行走时,则表现为身体前倾,步伐越来越快,但步距较短,几成跑步状态,两臂前后摆动协调关系减弱或消失,所以称为前冲步态(或慌张步态)。见于震颤麻痹病人。

摇摆步态:肌营养不良时,骨盆带肌肉的无力导致行走时臀部摇摆,形如鸭步。

跨阈步态:足下垂的病人行走时常将受累下肢抬得较常人高,状如跨越门槛。

痉挛性偏瘫步态:受累肢体由于肌张力增高,关节自由活动障碍。病侧上肢内收、旋前、屈曲,无正常摆动。下肢伸直。举步时骨盆提高,足尖拖地,向外旋转呈圆弧状移向前方,又称划圈样步态。系锥体束损伤所致。

D. 感觉系统(分为浅感觉、深感觉和复合感觉的检查)

检查感觉时,嘱病人闭眼,注意双侧比较及远、近端比较。

浅感觉

52. 痛觉检查 用一枚尖针轻触躯干及四肢并问病人各处的感觉是否相同,对病人主诉感觉缺失的区域更要作系统的检查。让病人定量表达疼痛程度是有帮助的。

53. 温度觉检查 以一支装满热水的试管和一支装满冰水的试管作工具,交替接触皮肤,问病人哪支是热的,哪支是冷的。

54. 触觉检查 以一支棉签触及患者的躯干及四肢皮肤,让病人说出有无棉花碰触感。

深感觉

55. 运动觉检查 嘱病人闭眼,检查者执着病人一个手指或足趾的两侧上下移动,并问

病人是否有指（趾）在动。

56. 位置觉检查 嘱病人闭眼，检查者执病人一个手指或足趾的两侧轻轻向上或向下移动，然后问病人指（趾）位置向上还是向下。注意检查者必须执指（趾）的二侧而不是上、下二面。

57. 振动觉检查 将一个振动的音叉（128Hz）按序放在指、趾的骨突起处以检查病人能否感觉到振动。如果下肢的振动觉消失，则将音叉放在身体各骨突处由下往上移动直到病人能感到振动为止。

复合感觉

58. 二点辨别觉 检查者使用一个张开双脚的小圆规，接触病人的皮肤，如病人感觉到是二点，则缩短双脚间的距离，再接触其皮肤，直到病人感觉到一个刺激点为止。身体不同部位辨别二点距离的能力是不同的，要注意双侧对比。

59. 对点刺激单感觉 检查者用针同时及分别刺双侧肢体，并问病人感觉到是单侧还是双侧受到刺激。正常人能正确地予以分辨。病态的反应是：分别刺激时能正确地分辨，但双侧同时刺激时则只能感觉到一侧刺激。

60. 形体觉 嘱病人闭上眼睛，触摸辨认置于一手中的物体，如硬币、钥匙等。

E. 反射系统

反射程度可如下表示之：

（一）表示反射消失；

（+）表示反射存在，但无相应关节活动，为反射减弱，可为正常或病理状况；

（++）表示肌肉收缩并导致关节活动，为正常反射状态；

（+++）反射增强，可为正常或病理状况；

（++++）反射增强并伴有非持续性的阵挛；

（+++++）反射明显增强并伴有持续性的阵挛。

深反射

61. 肱二头肌反射 病人曲肘90°，手掌朝下，检查者将其手指或大拇指放在二头肌腱上，并用叩诊锤叩击之，反应是前臂的屈曲。

62. 肱三头肌反射 托住病人离开身体、屈曲肘部的手臂，用叩诊锤叩击鹰咀上方的三头肌肌腱，反应是前臂的伸展。

63. 桡骨膜反射 病人的手臂应放在腹上或膝上，掌心向下，检查者用叩诊锤叩击桡骨茎突上的肌腱，反应是前臂的屈曲和旋前（手掌向下移动）。

64. 膝反射 病人取仰卧位时，检查者从膝后托住病人的双腿，用叩诊锤叩击膝下的股四头肌腱，反应是小腿前伸。

病人取坐位时，病人屈膝成90°，检查者叩击其股四头肌肌腱。

65. 踝反射 病人取仰卧位时，检查者嘱病人部分屈曲并外侧旋转大腿及背屈小腿，检查者以左手托住病人的前脚掌，右手执叩诊锤，叩击跟腱，反应是足跖屈。

下述膝阵挛、踝阵挛原列为病理反射，现被认为是一种过度增强的深反射。阵挛如为持久者，是重要的锥体束征。

66. 膝阵挛 病人取仰卧位，伸直下肢，检查者将一手放在膝下，另一手以拇指和示指执腓骨的上缘，并突然将其往下推压，持续用力，髌骨即出现一系列规则的向上和向下的运动。

67. 踝阵挛 检查者以左手在膝下托住患者的腿,并使其髁、膝关节微曲,以右手抓住病人足的前部,然后突然背屈其足,并保持这个姿势,其表现是跟腱的节律性收缩。

浅反射

68. 腹壁反射 病人取仰卧位,检查者用一根竹签,分别于肋下(T7-8)、脐部(T9-10)及腹股沟上水平(T11-12)轻轻地由外侧向内侧轻轻划击腹部皮肤,反应是腹壁肌肉的收缩。

69. 提睾反射 病人取仰卧位,大腿轻微外展,检查者用一根竹签由上向下轻划大腿的内侧部分,反应是该侧睾丸的上提。

病理反射

病理反射是中枢神经系统病变病人出现的异常反射。

70. 霍夫曼反射 检查者以示指和中指夹住病人中指的中间指骨,病人的腕部背屈,检查者用大拇指向下弹击病人中指的指甲,反射表现为大拇指和其他手指的屈曲。它由锥体束病变引起。

71. 巴彬斯基反射 检查方法用竹签在病人足底外侧缘自跟部往前划至划小趾根部,然后转向内侧,正常跖反射应各脚趾跖曲。如大拇趾背屈、其余足趾扇形展开,即称为巴彬斯基征阳性。它也由锥体束病变引起。

以下 72、73、74 各项检查的阳性表现同此。

72. 夏达克征 沿外踝下方足外侧之皮肤向前轻划。

73. 奥本海默征 检查者用食指和拇指,从膝下开始,推压胫前皮肤,慢慢滑向踝部。

74. 古登征 检查者把拇指和其余四指放在病人的腓肠肌上,并用适当的力量挤压之。

脑膜刺激征

脑膜刺激征可发生在脑膜受刺激时,如脑膜炎症,蛛网膜下腔出血时。

75. 颈项强直 病人取仰卧位,检查者以左手托住病人的头并朝胸壁屈曲其颈以观察其抵抗力。

76. 克匿格征 病人取仰卧位,屈曲髁部和膝部成 90°角,然后检查者将病人的小腿上抬以伸展膝部。正常情况下,膝部能被伸展到 135°,阳性时伸展小于该角度并有脘或腰部疼痛。

77. 布鲁登斯基征 病人取仰卧位,双下肢伸展、放松,被动屈曲其头颈,观察有无屈髁和膝。如有则称为布鲁登斯基征阳性。

TRAINING MANUAL FOR THE NEUROLOGICAL EXAMINATION

The examination of the neurological system includes five main sections: General Examination, Cranial Nerve Examination, Motor System Examination, Sensory System Examination, Reflex Examination

A. General Examination

It mainly check the state of consciousness

This is done mainly by talking with the patient and by checking the patient's reaction to external stimuli. The state of consciousness can be divided into 4 categories:

1) Alertness-means the patient has a good awareness of himself and the world around

him. This includes the correct orientation to time, place and person; the correct responses when the interviewer asks patient his name, age, location, time of day.

2) Drowsiness-means a decrease of alertness; it is also an early manifestation of disorder of consciousness. The patient has a low spirit and often continues in a state of sleeping but can be roused with repeated external stimuli, then the patient is able to answer simple questions. Once the external stimuli are removed, the patient falls asleep again.

3) Superficial Coma-is a manifestation of a more severe disorder of consciousness. The patient cannot be roused by using external stimuli, but patient will react to light and the corneal reflex is still present. If doctor presses on the eye orbit, patient will react with voluntary movement.

4) Deep Coma-is the most severe manifestation of a disorder of consciousness. The patient will not have any voluntary movement. There is no reaction to light, no corneal reflex, or reaction to pressure on the eye orbit.

1. Check the patient's orientation
2. Check the patient's reaction to external stimuli

B. Cranial Nerve Examination

(It checks the 12 cranial nerves in sequence)

B-1. Olfactory Nerve(I)

Cranial Nerve I is the olfactory nerve. It is responsible for olfactory functions.

3. Check the olfactory sense

Use 3 bottles that contain different liquids which have different smells and are not irritating. Ask patient to close eyes, completely occlude one nostril and ask patient to sniff 3 unknown substances, which the doctor will hold underneath the patient's nose, in succession. Ask the patient what he smells each time. Repeat this procedure for the opposite nostril and compare the two. If there is a decrease or disappearance of olfactory function, we should distinguish whether it is caused by a lesion of the nasal cavity or by a lesion of the olfactory nerve.

B-2. Optic Nerve(II)

Cranial Nerve II is the optic nerve. There are 3 main aspects to this nerve: visual acuity, visual fields, and fundi opticus.

4. Check visual acuity

When we check visual acuity, we are really checking the vision of the macula lutea (the yellow spot). Usually we use the nearsighted test (printed material) in neurology. Before examination, we should look to see if there are any abnormalities in the external structures of the eye that could effect vision. Then we test each eye separately. The distance of the patient's eye from the printed material should be about 30 cm. If the vision is below 1.0, the patient is considered to have a decrease in vision. If the patient cannot see the printed material, the doctor will use his fingers to test the patient's vision. The patient should be able to distinguish how many fingers the doctor is holding up. If he can-

not, the patient will be asked to tell the doctor if he can distinguish if the fingers are moving. If patient cannot distinguish movement of the fingers, then the doctor will test to see if the patient can react to light. If he cannot, the patient is considered to be blind, with a total loss of vision.

5. Check visual fields

A visual field is the maximum scope of vision when the patient is looking straight ahead. In clinics we usually use gross testing to see if the patient's visual fields are within normal parameters. If not, we continue to test using a perimeter. Normal visual fields are about 90° temporally, 60° nasally, 60° superiorly, and 70° inferiorly. The testing method is; examiner and patient sit opposite each other with a distance of about 60cm between them. When checking patient's left eye, occlude patient's right eye and close your own left eye. and vice versa when checking patient's right eye, and ask patient to look straight at doctor's opposite eye. This is assuming that the examiner has a normal scope of vision. The examiner should move his finger laterally to medially and have the patient identify when he can see it while comparing with the visual field of the examiner. In this way the examiner can judge if the patient has a normal scope of vision. There are different visual field deficiencies in disorders of the visual pathway.

6. Check the optic fundi

The optic fundi should be examined with an ophthalmoscope. The presence of a sharp disc outline and of spontaneous pulsation of the veins on the disc are important normal signs and of particular interest from a neurologic standpoint. The two most common fundoscopic abnormalities of concern during neurologic testing are swelling or edema of the optic disc and optic atrophy. Papilledema first appears as a loss of distinctness of the disc margins that progresses until all evidence of the margins disappear. It then may become raised above the surrounding retina. Optic atrophy is usually manifested by pallor of the lateral aspect of the disc.

B-3. Oculomotor Nerve(Ⅲ), Trochlear Nerve(Ⅳ) and Abducens Nerve(Ⅵ)

Cranial Nerves Ⅲ, Ⅳ and Ⅵ supply the muscles of eye movement and are tested as a unit. Loss of function of Cranial Nerve Ⅲ results in a dilated pupil, external deviation of the eyeball, ptosis of the upper lid, double vision, loss of light reflex and accommodation reflex and limitation of the eye's upward and downward movement. Loss of function of Cranial Nerve Ⅳ is rare. There is weakness of internal rotation of the eyeball, of gaze downward and inward and double vision. Paralysis of Cranial Nerve Ⅵ results in the eye's deviation inward (lateral rectus muscle weakness) and double vision. The lateral movement of eyeball is decreased.

7. Pupillary size and reaction to light

The size of the pupils are compared with each other. The reaction to light is tested by swinging the light beam from the patient's side onto the pupil and watching for pupillary constriction in the eye being tested (direct light reflex) and in the other eye (consensual

light reflex). Normally the pupils constrict quickly both directly and consensually.

8. Pupillary reaction to convergence and accommodation

This is the convergence and accommodation reflex. Ask the patient to look at your finger and bring your finger in from a distance of 1 meter to within a few centimeters of the patient's nose. The eyes should converge and the pupils constrict in a normal person.

9. Extraocular muscle function

Ask the patient to follow an object such as a fingertip, keeping his head motionless. Move the object laterally from side to side, vertically up and down, left up and left down, right up and right down when lateral gaze is reached. Test elevation and depression with the eyes in the mid position also. Pause for a moment at each end point and inspect for nystagmus and limitation in eye movement. Ask if the patient has double vision and determine in which direction the diplopia is most evident.

B-4. Trigeminal Nerve(V)

Trigeminal nerve is divided into three divisions: The first division, ophthalmic nerve, conducts sensation from the forehead and eye. The second division, maxillary nerve, conducts sensation from the middle portion of the face and nostrils. The third division, mandibular nerve, carries sensation from the lower jaw.

10. Check for sensation of touch and pain in the face

Test each area supplied by the three divisions for sensitivity to light touch (cotton), pain (pinprick), comparing bilaterally.

11. Check for sense of temperature in the face

Test each area supplied by the three divisions for sensitivity to temperature (cold and hot water), comparing bilaterally.

12. Corneal reflex

Ask the patient to look to one side while you touch the cornea gently with a wisp of cotton, approaching the cornea laterally so the cotton is not seen. The response is a blink.

13. Check muscle strength of masseter (motor fibers of trigeminal)

Palpate the masseter and temporalis muscles with the patient clenching his jaw or chewing. Check the strength of jaw closure by asking the patient to grip a tongue blade with his teeth on each side while you try to extract the blade.

14. Observe the position of the jaw

Observe if there is deviation of the jaw on opening the mouth of the patient. In a patient with damage to the motor fibers of the trigeminal nerve, the jaw deviates to the damaged side.

B-5. Facial Nerve(VII)

In a "central" (upper motor neuron) weakness of the face, there is moderate to marked weakness of the opposite lower facial muscles. The patient has a shallow nasolabial sulcus and the corner of his mouth droops on the side opposite the lesion. The patient's ability to close his eyes and wrinkle his forehead are not influenced. In peripheral facial

paralysis (lower motor neuron lesion) there is weakness of all parts of the face on the side of the lesion. The patient has a shallow nasolabial sulcus and is unable to wrinkle his forehead, close his eyes, or show his teeth.

15. Observe the palpebral fissure, ask patient to wrinkle forehead and close eyes

Observe the width and symmetry of the palpebral fissures of the patient. Ask the patient to wrinkle his forehead and elevate his eyebrows, and then close his eye against resistance.

16. Observe the nasolabial sulcus, the angle of the mouth

Observe and judge the depth and symmetry of nasolabial sulcus, and the symmetry of both angles of the mouth. Ask the patient to show his teeth and smile, and blow the cheeks out and purse the lips.

17. Sense of taste

Ask patient to protrude tongue, then wipe patient's tongue gently with gauze. Taste is examined with sugar or sodium chloride. A small amount of the solution (on wet cotton swab) is gently rubbed on one side of the anterior two-thirds of the tongue and then ask patient to identify the taste. Test each side of the tongue separately.

B-6. Vestibulocochlear Nerve(VIII)

Vestibulocochlear Nerve contains vestibular nerve and cochlear nerve.

18. Check auditory acuity

Doctor will mainly examine the patient's auditory acuity with a tuning fork and use his own auditory acuity as comparison criteria. If the patient's auditory acuity is decreased, the following tests must be done.

19. Rinne's test

The examiner should place the base of a lightly vibrating tuning fork (512Hz) on the mastoid process (bony point behind the ear) until the patient no longer hears the sound. Then the examiner should quickly place the vibrating fork near the ear canal (1 cm) and ascertain whether the patient perceives the sound. In this test, the tuning fork is presented to one ear alternately by bone conduction and air conduction. The examiner should mark both transmitting times. The normal ear hears twice as long by air conduction as bone conduction. This is called a "positive" test. In middle ear disease the ratio between air and bone conduction changes in favor of bone conduction. In other words, in moderate conductive loss the patient hears about as long by bone conduction as by air conduction; in severe conductive loss he hears even longer by bone conduction than by air conduction. This is called a "negative" test. The patient with a sensorineural loss hears longer by air conduction than bone conduction, that is "positive". But he hears poorly either way. In other words, the normal ratio is maintained but hearing is reduced by both routes.

20. Weber's test

This test is accomplished by placing the vibrating tuning fork on the vertex, forehead,

or middle of the upper lip. With a conductive loss the sound lateralizes to the diseased ear. The lateralization of the sound or vibrations to the better hearing ear signifies sensorineural hearing loss in the poorer-hearing ear.

B-7. Glossopharyngeal Nerve(IX), Vagus Nerve(X)

These two nerves are tested together.

21. Observe the position of the soft palate and uvula when the patient says "ah"

Note the quality of the patient's voice and his ability to swallow. Ask him to open his mouth and say "ah". Observe the position of the soft palate and uvula at rest and with phonation. If there is unilateral paralysis of cranial nerves IX and X, the palate and uvula will deviate to the unparalyzed side during phonation. The arch of the palate at rest on the paralyzed side will droop lower than on the normal side.

22. Test gag reflex

With a tongue blade, touch each side of the posterior pharyngeal wall of the patient separately. Observe the contraction of pharyngeal muscle and elevation of the palate.

B-8. Accessory Nerve(XI)

23. Test the sternocleidomastoid muscle strength

Ask patient to turn head to each side pushing against examiner's hand placed on patient's cheek (sternocleidomastoid muscle strength). Note the strength of the muscles being tested, and examine if the muscles are atrophy.

24. Test the trapezius muscle strength

Ask patient to shrug shoulders upward against examiner's hands (trapezius muscle strength). Note the strength of the muscles being tested, and examine if the muscles are atrophy.

B-9. Hypoglossal Nerve(XII)

25. Stick out tongue and observe midline protrusion and the shape of the tongue

Ask the patient to protrude his tongue in the midline and observe any deviation or atrophy and fasciculation. In lower motor neuron paralysis, the tongue deviates toward the side of the lesion with atrophy and fasciculation. If the patient has upper motor nerve paralysis of the hypoglossal nerve, the tongue deviates toward the opposite side of the central lesion without atrophy and fasciculation. In patient with bilateral paralysis of the nerve, the tongue cannot be protruded completely.

C. Motor System Examination

This includes 6 aspects: myotrophy, involuntary movement, muscle tone, muscle strength, coordination, gesture and gait

C-1. Myotrophy

26. Observe muscle size

Observe the patient's muscle size (atrophy or hypertrophy). If atrophy is present or is suspected, the circumference of limbs should be measured bilaterally; record the point at which the measurement is taken.

C-2. Involuntary movement

27. Observe if there is any involuntary movement

Resting tremor (4 to 6 per second) -it is more evident in the hands, but is also found in the arms, head, face, tongue and legs.

Kinetic (intention) tremor-it is found in the diseases of cerebellum and is brought out with purposeful movement such as the finger-to-nose test.

Choreic movements-are irregular, involuntary, spontaneous movements usually involving more than one joint.

C-3. Muscle tone

28. Examine the muscle tone of the upper limbs

Ask the patient to relax as much as possible, judge the muscle tone according to the hardness of the muscle. Check muscle resistance to passive movement of the upper limbs by flexion and extension at the elbows, wrists, and shoulders. Palpate muscle tone. Muscle tone is decreased in diseases of the anterior horn cells and peripheral nerves and in diseases of the cerebellum. An increase in muscle tone is found in upper motor neuron diseases (pyramidal tract).

29. Examine the muscle tone of the lower limbs

Check muscle resistance to passive movement of knees and ankles, and palpate muscle tone.

C-4. Examine Muscle Strength;

Ask the patient to perform flexion and extension of every joint against resistance given by examiner. Pay particular attention to the relative strength of the both sides and the differences between proximal and distal groups. Special attention should be paid to any area that the patient considers weak. A screening examination would logically include testing the strength of dorsiflexion and plantar flexion of the feet, extension and flexion of the wrist and forearm, and abduction of the shoulders.

30. Musculus triangularis strength

Let the patient abduct the upper arm and the examiner presses against it.

31. Biceps strength

Let the patient flex his elbow and the examiner tries to extend the forearm.

32. Triceps strength

Let the patient extend his elbow-and the examiner tries to flex the forearm.

33. Flexor carpi muscles and extensor carpi muscles strength

Let the patient flex and extend the wrist and the examiner presses against it.

34. Strength of the flexor muscles of the fingers

Let the patient make a fist and the examiner tests the strength by trying to open it.

35. Strength of the palmar intercostales musculi

Let the patient try to grip a piece of paper between two fingers while examiner tries to pull it away.

36. Strength of the dorsal intercostales musculi

Let the patient abduct the fingers and the examiner tests the strength by trying to push the fingers together.

37. Strength of the musculus iliopsoas

Let the patient flex the hip joint and the examiner tries to extend it.

38. Strength of the musculus quadriceps

Let the patient extend the lower limbs straight out and the examiner tests the strength by trying to flex the knees.

39. Strength of the musculus femoris posterior

Let the patient flex the knees and the examiner tests the strength by trying to pull the knees to an extended position.

40. Strength of the musculus tibialis anterior

Let the patient dorsiflex the ankle joint and the examiner tests it by trying to plantar flex it.

41. Strength of the musculus gastrocnemius

Let the patient plantar flex the ankle and the examiner tests it by trying to dorsiflex it.

42. Strength of the musculus extensor halluc

Let the patient dorsiflex the big toe and the examiner tests it by trying to plantar flex it.

43. Strength of the musculus flexor halluc

Let the patient plantar flex the big toe and the examiner tests it by trying to dorsiflex it.

C-5. Coordination

This examines cerebella function.

44. Finger-to-nose test

Ask patient to touch the index finger to his nose and repeat this procedure several times from various directions and at various speeds, first with eyes open and then with eyes closed. The patient should fully abduct the arm during this maneuver. Normally this should be performed accurately without tremor and without missing the target. The patient with cerebella incoordination may miss the target and exhibit a tremor with eyes both opened and closed. But the patient with sensory incoordination can do the maneuver with his eyes opened.

45. Rapid and repeated movements

Ask the patient to gently pat his lap, or the table tip, or the examiner's palm rapidly and repeatedly with the same amplitude and rhythm. A normal patient can do this correctly, but the patient with a cerebella lesion shows irregular speed, amplitude, awkward and incoordinative.

46. Alternating movement

Let the patient pat his lap, or table top, or the examiner's palm with his hand alternating from the palmar to the dorsal side of his hand. The normal patient will be able to do this with a regular rhythm, amplitude and speed. The patient with a cerebella lesion will

have an irregular rhythm, amplitude and speed.

47. Heel-to-knee-to-shin

Direct the patient to touch one heel to the opposite extended knee and run it slowly down his shin to the big toe. These maneuvers should be performed rapidly without any wavering or tremor in a normal patient.

48. Rebound test

Let the patient make a fist and flex his biceps muscle. While the patient holds this position at about 30 cm from his chest, the examiner tries to push against him and then releases the force suddenly. The forearm of a normal patient will have only a slight rebound reaction to this sudden change in force. In a patient with a cerebella lesion, the forearm will rebound all the way to his chest when the examiner's resistance is released.

49. Romberg test

Ask patient to stand erect with feet together and arms extended forward. Observe the patient's ability to maintain an upright posture, at first with the patient's eyes open and then with the eyes closed. In cerebella disorders, the patient cannot maintain the upright posture whether his eyes are open or not. In the patient with a deep sensory disorder, it is more difficult to maintain the upright posture when his eyes are closed.

50. Tandem gait test

Examiner asks patient to walk heel-to-toe in a straight line. The heel of one foot should touch the toes of the other. Normal patients can do this with no errors, but the patient with a cerebella lesion cannot walk in a straight line or will do so unsteadily.

C-6. Gait

51. Gait

Ask the patient to walk across the room, turn, and return and observe the patient's posture and coordination of patient's arm and leg movements. Examiner should not allow patient to hold arms stiffly at sides or fold arms.

Propulsive gait:

The patient's stoops forward with his head, shoulders and trunk. This is accompanied by increased muscle tone of whole body. At the beginning of his walk, the movement of his lower extremities may be quite slow. As though in an effort to "get going", he may lean forward causing him to hurry his steps but with very short steps. This results in a rapid shifting of his feet without normal swinging of both upper limbs until he is almost running, so-called forward gait or propulsive gait. It is found in Parkinson's disease.

Waddling gait:

In patient with muscular dystrophy, weakness of the trunk and pelvic girdle muscles result in a sway-backed and potbellied posture and a waddling gait.

Steppage gait:

The patient who has a foot drop tends to lift the affected lower limb higher than normal in order to avoid dragging or stubbing the toe, resemble that of a high-stepping gate.

Spastic hemiplegic gait:

The affected limb is moved forward with difficulty due to the lack of freedom of movement in all of the joints, and the toe of the shoe is dragged and may be noticeably worn on the outer aspect. During walking, the involved upper limb is fixed in an adducted, pronated, flexed position without normal movement. The involved lower limb is extended and externally rotated and the pelvis is lifted and the toe is dragged with rotation outward and forward. It also can be called a circumduction gait and is caused by unilateral pyramidal tract damage.

D. Sensory System

This can be divided into examination of superficial sensation, deep sensation and combined sensation)

Sensory testing is usually done with the patient's eyes closed. Compare the sensation of the two sides and the differences between proximal and distal areas.

D-1. Superficial sensation

52. Examine pain sensation

Test pin prick sensation by touching the trunk and all four limbs lightly with a sharp pin and ask the patient to say whether the pin prick feels equally sharp in all limbs. Test more systematically any area in which the patient complains of sensory loss. It may be helpful to ask the patient to quantitate the degree of sharpness.

53. Examine temperature sensation

Fill one test tube with warm water and another with ice water. As the patient's skin is touched with each one in turn, ask the patient to identify which one is warm and which one is cold.

54. Examine sensation of touch

Touch the skin of the trunk and all limbs with a wisp of cotton. Note if there is a decrease or absence of touch sensation.

D-2. Deep Sensation

55. Examine motion sensation

With the patient's eyes closed, the examiner grasps one toe or finger or each of the four extremities and moves it. Then examiner asks patient whether the toe or finger is being moved.

56. Examine position sensation

With the patient's eyes closed, test position sense by grasping one toe or finger of each of the four extremities and moving it briskly upward or downward. Ask the patient to tell you whether the digit was moved up or down. Grasp the digit by the sides rather than by the top and bottom.

57. Examine vibration sensation

Apply a vibrating tuning fork (128 cycles/sec) in succession to the tip of a finger on each hand and to the great toe of each foot, and determine whether the patient can feel the vi-

bration. If vibration sense is lost in the lower extremities, "walk" up the body with the tuning fork, moving from bony prominence to bony prominence until the patient feels the vibration.

D-3. Combined Sensation

58. Two point distinction (discrimination)

The examiner separates the two legs of a small pair of calipers and touches the patient's skin. When the patient feels the two points, the examiner decreases the distance between the caliper's legs and touches the patient's skin again until the patient feels only one point. Different regions of the body vary markedly in their capacity to distinguish two separate points. Be sure to compare bilaterally.

59. One point sensation of two opposite stimuli (Bilateral simultaneous stimulation)

The examiner touches the two limbs simultaneously as well as separately and asks the patient to identify which limb is being touched. The normal patient can distinguish correctly. The abnormal patient can give the correct answer when stimulated separately but feels unilateral stimuli when stimulated simultaneously.

60. Stereognosis

Ask the patient to close his eyes and identify objects placed in his hands by moving them around and feeling them with his fingers. Any convenient objects such as coin or key can be used.

E. Reflex System

Reflexes are graded as follows:

(—) absence of the reflex

(+) hypoactive without movement of the joint; may be normal or abnormal

(++) physiological or normal

(+++) hyperactive without clonus, may be normal or abnormal

(++++) hyperactive with transient clonus

(+++++) markedly hyperactive with sustained clonus; it is pathological, e. g. ankle clonus and patellar clonus

E-1. Deep Reflex

61. Biceps reflex

The patient bends his elbow at about 90° with the palm down. Examiner places finger or thumb on the biceps tendon and taps it with the reflex hammer. The reaction is rapid flexion of the forearm.

62. Triceps reflex

Hold the patient's arm flexed at the elbow away from the body and with a reflex hammer percuss the tendon of the triceps above the olecranon. The reaction is extension of the forearm.

63. Brachioradialis reflex

The patient's arm should rest on his abdomen or in his lap with palm down. The exam-

iner strikes the tendon overlying the radius with a reflex hammer. The reaction is flexion and pronation (moving the palm downward) of the forearm.

64. Patellar reflex (knee jerk)

Patient in supine position: The examiner holds the patient's leg below the knee, and taps the quadriceps femoris muscle tendon below the patella with a reflex hammer. The reaction is extension of the knee.

Patient in sitting position: The patient flexes his knee to about 90°. Examiner taps patient's quadriceps femoris muscle tendon.

65. Achilles tendon reflex (ankle jerk)

Patient in supine position: The examiner asks the patient to partially flex and externally rotate the thigh and dorsiflex the ankle. Examiner grasps the patient's forefoot with left hand and with reflex hammer in right hand, taps the Achilles tendon. The reaction is plantar flexion of the ankle.

(The following two tests were initially thought to be pathological reflexes. In fact, they are hyperactive deep tendon reflex. If the clonus is sustained, it is a important sign of disease of the pyramidal tracts.)

66. Patellar clonus

The patient is in supine position with hip and knee extended. The examiner places one hand under the knee and holds the upper edge of the patellar with the thumb and index finger of the other hand, pushes it down suddenly and maintains constant downward force. The patellar shows a series of regular upward and downward movements.

67. Ankle clonus

With slightly bended patient's hip and knee joints. The examiner supports the leg under the knee with his left hand and grasps the front part of the patient's foot with his right hand and dorsiflexes the foot suddenly and maintains it in that position. The reaction is the regular contraction of the Achilles tendon.

E-2. Superficial reflex

68. Abdominal reflex

The patient is in the supine position. With a bamboo pick, the examiner lightly strokes the abdomen moving from lateral to medial portion at costal margin (T_{7-8}), level of umbilicus (T_{9-10}) and above groin (T_{11-12}). The reflex is contraction of the abdominal muscles.

69. Cremasteric reflex

The patient is in the supine position with his thighs slightly abducted. With a bamboo pick, the examiner strokes the inner aspect of the patient's thigh downward. The reflex is elevation of the testicle.

E-3. Pathologic Reflex

Pathologic reflexes are abnormal and only occur in the patient with central nervous system damage.

70. Hoffman reflex

Patient's middle phalanx of the middle finger is supported by examiner's index and middle finger. Patient's wrist is in dorsiflexion. The examiner taps the nail of patient's middle finger with thumb. The reflex is flexion of thumb and other fingers. It results from disease of the pyramidal tract.

71. Babinski reflex

The lateral aspect of the sole is stroked with a bamboo stick from the heel to the ball of the foot and curved medially across the head of the metatarsal bones. The positive sign is that the big toe shows dorsiflexion and the other toes show fanning (abduction). It is called Babinski's reflex and results from pyramidal tract disease. The following tests described in items 72—74 have the same positive sign but are less sensitive.

72. Chaddock sign

Stroke the skin along the outside aspect of the foot from the heel to the toes below the external malleolus.

73. Oppenheimer sign

With index and middle finger, the examiner strokes the skin along the medial side of the tibia beginning just below the knee and carries the stimulus rather slowly downward to the ankle.

74. Gordon sign

Place thumb and other fingers on patient's gastrocnemius muscle and pinch and compress it with proper strength.

E-4. Meningeal Stimulation Sign

The meningeal signs will occur in patients with stimulation of the meninges, e. g. infection (meningitis) or blood (as in subarachnoid hemorrhage)

75. Neck rigidity

The patient is in a supine position. Examiner supports patient's head with left hand and flexes the patient's neck toward the chest wall to observe the resistance.

76. Kernig sign

The patient is in a supine position with flexed hip and knee at about 90°, then the examiner elevates the patient's leg. Normally the knee can be extended to about 135°. The positive response is less than 135° accompanied by pain.

77. Brudzinski sign

The patient is in supine position with both legs extended and relaxed. The patient's neck is flexed passively and the examiner observes if the patient flexes his hips and knees. If so, we call it a positive Brudzinski sign.

附：神经系统检查纲要

神经系统检查包括五个方面：

- A. 一般检查
- B. 颅神经检查
- C. 运动系统检查
- D. 感觉系统检查
- E. 反射检查

A. 一般检查（主要是意识状态的检查）

- 1. 检查病人的定向
- 2. 检查病人对外界刺激的反应

B. 颅神经检查（顺序检查 12 对颅神经）

- 3. 检查嗅觉
- 4. 检查视力
- 5. 检查视野
- 6. 检查眼底
- 7. 瞳孔大小及对光反射
- 8. 调节辐辏反射
- 9. 眼外肌功能
- 10. 检查面部触觉及痛觉
- 11. 检查面部温度觉
- 12. 角膜反射
- 13. 检查咬肌及颞肌有否萎缩及肌力
- 14. 观察下颌位置
- 15. 观察眼裂大小，嘱病人皱前额及闭眼
- 16. 观察鼻唇沟、咀角对称性、嘱病人露齿、鼓腮、吹哨
- 17. 检查味觉
- 18. 检查听觉
- 19. 林纳氏试验
- 20. 韦伯氏试验
- 21. 观察软腭和悬雍垂的位置
- 22. 咽反射
- 23. 检查胸锁乳突肌肌力
- 24. 检查斜方肌肌力
- 25. 观察有无舌尖偏向及舌形态

C. 运动系统检查

（包括六个方面：肌营养、不自主运动、肌张力、肌力、共济运动及姿势和步态）

- 26. 观察肌肉形态
- 27. 观察不自主运动有无存在
- 28. 检查上肢的肌张力
- 29. 检查下肢的肌张力
- 30. 三角肌肌力

31. 二头肌肌力
32. 三头肌肌力
33. 屈腕肌、伸腕肌肌力
34. 指屈肌肌力
35. 掌侧骨间肌肌力
36. 背侧骨间肌肌力
37. 髂腰肌肌力
38. 股四头肌肌力
39. 股后肌群肌力
40. 胫骨前肌肌力
41. 腓肠肌肌力
42. 趾伸肌肌力
43. 趾屈肌肌力
44. 指鼻试验
45. 快复运动
46. 轮替运动
47. 跟膝胫试验
48. 回击试验
49. 闭目难立试验
50. 直线行走试验
51. 让病人起步、止步、转弯

D. 感觉系统（分为浅感觉、深感觉和复合感觉的检查）

52. 检查痛觉
53. 检查温度觉
54. 检查触觉
55. 检查运动觉
56. 检查位置觉
57. 检查振动觉
58. 二点辨别觉
59. 对点刺激单感觉
60. 形体觉

E. 反射检查（分为深反射、浅反射、病理反射、脑膜刺激征）

61. 二头肌反射
62. 三头肌反射
63. 桡骨模反射
64. 膝反射
65. 跟腱反射
66. 膝阵挛
67. 踝阵挛

- 68. 腹壁反射
- 69. 提睾反射
- 70. 霍夫复反射
- 71. 巴彬斯基反射
- 72. 夏达克氏征
- 73. 奥本海默氏征
- 74. 古登氏征
- 75. 颈项强直
- 76. 克匿格氏征
- 77. 布罗登斯基氏征

APPENDIX

CHECKLIST FOR THE NEUROLOGICAL EXAMINATION

The examination of the neurological system includes five main aspects:

- 1) General Examination
- 2) Cranial Nerve Examination
- 3) Motor System Examination
- 4) Sensory System Examination
- 5) Reflex Examination

A. General Examination

- 1. Check the patient's orientation
- 2. Check the patient's reaction to external stimuli

B. Cranial Nerve Examination

- 3. Check the olfactory sense
- 4. Check visual acuity
- 5. Check visual fields
- 6. Check the optic fundi
- 7. Pupillary reaction to light
- 8. Pupillary reaction to convergence
- 9. Extraocular muscle function
- 10. Check for sense of pain in the face
- 11. Check for sense of temperature in the face
- 12. Corneal reflex
- 13. Check muscle strength of masseter
- 14. Observe the position of the jaw
- 15. Observe the palpebral fissure, ask patient to wrinkle forehead and close eyes
- 16. Observe the nasolabial sulcus, the angle of the mouth, show teeth, blow the cheeks out, purse the lips

17. Sense of taste
18. Check the auditory acuity
19. Rinne's test
20. Weber's test
21. Observe the position of the soft palate and uvula when the patient says "ah"
22. Test gag reflex
23. Test the sternocleidomastoid muscle strength
24. Test the trapezius muscle strength
25. Stick out tongue and observe midline protrusion and the shape of the tongue

C. Motor System Examination

26. Observe muscle size
27. Observe if involuntary movements are present
28. Examine the muscle tone of the upper limbs
29. Examine the muscle tone of the lower limbs
30. Musculus triangularis strength
31. Biceps strength
32. Triceps strength
33. Flexor carpi muscles and extensor carpi muscles strength
34. Strength of the flexor muscles of the finger
35. Strength of the palmar intercostales musculi
36. Strength of the dorsal intercostales musculi
37. Strength of the musculus iliopsoas
38. Strength of the musculus quadriceps
39. Strength of the musculus temporis posterior
40. Strength of the musculus tibialis anterior
41. Strength of the musculus gastrocnemius
42. Strength of the musculus extensor pollicis
43. Strength of the musculus flexor pollicis
44. Finger-to-nose test
45. Rapid and repeated movement
46. Alternating movement
47. Feel-to-knee-to-shin
48. Rebound test
49. Romberg test
50. Tandem gait test
51. Let the patient start to go, stop, and turn around

D. Sensory System

52. Examine pain sense
53. Examine temperature sense

54. Examine touch sense
55. Examine motion sense
56. Examine position sense
57. Examine vibration sense
58. Two point distinction
59. One point sense of two opposite stimuli
60. Stereognosis

E. Reflex System

61. Biceps reflex
62. Triceps reflex
63. Brachioradialis reflex
64. Patellar reflex (knee jerk)
65. Achilles reflex (ankle jerk)
66. Abdominal reflex
67. Cremasteric reflex
68. Hoffman reflex
69. Babinski reflex
70. Haddock's sign
71. Oppenheimer's sign
72. Gordon's sign
73. Patellar clonus
74. Ankle clonus
75. Neck rigidity
76. Kernig's sign
77. Brudzinski's sign

男性生殖系统及直肠检查方法

本节将学习全面的男性生殖系统及直肠的视、触、叩检查方法，学习与病人交流的技巧，有利于促进医患关系的发展，还应强调自查睾丸的重要性，鼓励病人定期自查。检查分为三个主要部分：①病人取卧位，检查外生殖器；②病人取站位，检查阴囊、精索、疝等；③病人取站位或侧卧位，检查直肠。

A. 准备

1. 向病人作自我介绍
2. 告诉病人检查前排尿以减少不适。因检查前列腺时，患者常有尿意，充盈的膀胱可能导致遗尿之窘境。
3. 向病人解释检查的目的，用正确的交流技巧增加其信心和依从性，鼓励病人提出问题。力求得到病人的理解和合作。
4. 检查者应当当着病人之面洗手。多数检查者喜先单手戴手套，如有异常再立即戴手套。

对性生活史中有溃疡或其他病损史者，则应戴手套检查，以降低被感染或传播疾病的机会。

5. 保护病人的隐私消除其顾虑

B. 病人仰卧位

6. 覆盖下腹部，暴露外生殖器，叩诊膀胱上限（耻骨联合至脐） 检查者确定病人处于舒适状态后，覆盖病人下腹部和大腿中份以下的区域，充分暴露外生殖器，叩诊膀胱上限（耻骨联合至脐）。

7. 视诊耻骨区 观察皮肤及阴毛的分布和年龄发育的关系，注意有无溃疡、斑痕、损伤、水肿、结节，皮肤颜色的改变及感染等。

8. 视诊阴茎 观察阴茎发育和年龄的关系，注意有无包皮过长、包茎等。

9. 触诊阴茎龟头，观察冠状沟内面（如果有包皮过长） 观察有无溃疡、新生物、红斑及肿胀，注意异常的部位、大小，有分泌物时记录其性状。

10. 视诊尿道 视诊尿道外口的位置，有无移位或狭窄，有无红肿、溃疡。注意尿道外口有无分泌物及其颜色、数量、粘度和气味。用拇指压迫阴茎下段及龟头两侧，以充分观察尿道口，龟头部分检查完毕应将包皮复位，以免发生包皮嵌顿。

11. 触诊阴茎体，包括阴茎和尿道海绵体 从根部到末端依次触诊阴茎，包括阴茎和尿道海绵体，前后及两侧。正常阴茎内不应扪及任何结节无压痛，如有则描述其位置和大小。

12. 依次压迫阴茎根部到尿道外口，观察有无分泌物流出

13. 检查分泌物

有分泌物时应作涂片及革兰氏染色检查

C. 病人站立位

14. 视诊阴囊颜色、皮肤皱褶、阴毛分布、外形等 视诊阴囊颜色、皮肤皱褶、阴毛分布、外形、水肿、静脉曲张、瘰管等。托起阴囊，观察阴囊背面皮肤。如病人虚弱，此项检查应在卧位时进行。

15. 触诊阴囊及内容物，注意有无结节、触痛、水肿等

16. 触诊睾丸 正常睾丸为长约4.5厘米、坚韧的椭圆形结构。为了扪清整个睾丸，应先将睾丸轻轻推至阴囊下份，此处血管组织少，易于扪清。首先确定阴囊内是否有两个睾丸，轻轻触诊每个睾丸，以免引起剧烈的内脏痛。轻轻地牵拉滑动紧贴睾丸表面皮肤，可以很好地扪清整个睾丸的表面，注意其质地、形状、大小、有无结节、触痛及肿块。

17. 定位并触诊附睾 附睾呈逗号状附着在睾丸的后外侧。正常的附睾，通常难以触及，仔细触诊仅能感到在睾丸上有一个凹凸不平的结构。再触诊另一侧，如两侧大小、部位相似，才能确定是触到附睾。应用上述手法触诊，注意其质地、形状、大小、有无压痛、结节及其和睾丸的关系。

18. 触诊精索 输精管在阴囊内从附睾尾向上延伸至外环，经腹股沟管进入盆腔。精索由输精管及血管、神经、肌纤维和鞘膜组成精索。触摸精索有几种方法：一种是一手轻轻地向下滑拉睾丸，另一手从阴囊后方轻轻用拇指和示指滑动触摸，直至触及一卷曲状结构；另一种是示指从阴茎根部外侧套入皮内在耻骨上滚动，可能在某处辗滚至精索上，千万别挤压指下的精索。

19. 检查精索静脉有无曲张 精索静脉曲张为一沿精索走行的蚯蚓状蟠曲的柔软的团块，阴囊提起后曲张的静脉会逐渐塌陷。当疑有静脉曲张时，应以站立位观察，因为一旦病人平

卧，曲张静脉会立即消失。

20. 确定阴囊内包块 如果发现阴囊内有包块，首先应确定它是源于阴囊内容物，还是下腹包块下降所致。任何阴囊包块均应进行透光试验以区别包块是囊性还是实质性。透光试验的方法是，在两指间固定包块，用电筒从侧面紧贴包块，并正对检查者的视线，打开光源进行观察。注意，此检查应在暗室进行。

21. 疝的检查 病人取站立位，检查者站于将检查的同侧，用右手检查右侧，左手检查左侧。以一手置于病人的腰背部，另一手的手臂和示指大致和被检查者的腹股沟韧带平行，用示指向上外方向插入阴囊皮肤以检查外环，注意外环的大小和张力及黑氏三角区的腹壁肌张力，然后检查咳嗽冲击感。嘱病人头偏向对侧并咳嗽，如手指感到咳嗽冲击感，则为阳性，并提示疝的存在。

22. 鉴别斜疝与直疝 如病人站立时腹股沟区或阴囊区出现包块，应作包块还纳试验，以一手置于病人背部，另一手的手掌置于腹股沟区并和腹股沟韧带平行对着包块轻柔而又持续加压，如包块缩回，此时可将手指轻轻地滑向内环方向（腹股沟韧带的中点）压住此点，如包块不再出现，或仅用力时感到冲动感，则为斜疝；如不能控制包块或仍从腹前壁突出，则为直疝。

23. 教会病人自查睾丸 此项宣传十分重要，可早期发现睾丸癌。自查宜在热水浴时或其后进行，此时阴囊最为松弛而易于检查；淋浴时亦便于用肥皂润滑，减少检查不适。以拇指在前，其他指在后握住睾丸，在手指间向上、下、侧方旋转睾丸，感觉阴囊内有否肿块或结节出现。自查应每月1次，如有可疑情况应立即到医院就诊。亦同时检查包皮及龟头，以便发现任何早期病变。

24. 病人站立弯腰俯向检查台，两腿伸直并分开，肘部或前臂靠在检查台上。亦可左侧卧，臀部靠床边、左腿伸直，右腿屈曲，检查直肠。

25. 视诊肛门、肛周、会阴及骶后区，注意有无结节、瘘管、肛裂、炎症、皮疹、疤痕及痔，检查者可能需要两手分开两侧臀部，以便观察。

26. 告诉病人检查即将开始，有轻度的肛门不适，但无危险。简单交谈，消除紧张及误解。

27. 戴上手套，在示指尖涂以润滑油，用示指指垫轻轻地朝前压向外括约肌，嘱患者作排便动作，在括约肌松弛的间歇中，轻轻地插入手指，并向深部推进。

28. 触诊前列腺，注意其左、右叶和中间沟等结构，以及前列腺的大小、硬度、外形、表面情况及有无结节、压痛等。

29. 继续触诊直肠各壁，然后以旋转方式退出示指，注意括约肌张力。

30. 观察指套尖有无血迹、脓液及分泌物，注意其性质和颜色，必要时将指套上的附着物涂片作隐血试验。

TRAINING MANUAL FOR THE MALE GENITO RECTAL EXAMINATION

The Male Genito Rectal Examination will teach the inspection, palpation and percussion technique of a complete male genital examination. Communication and teaching skills

will be covered to help promote the development of rapport between examiner and patient. It is important that the examiner emphasize the significance of testicular self-examination and encourage the patient to perform this examination on a regular basis.

The examination is divided into three major components:

1. Patient supine-external genitalia
2. Patient standing-hernia examination, scrotum, spermatic cord, etc.
3. Rectal examination

A. Preparation:

1. The examiner should introduce himself to the patient
2. The examiner should ensure that the patient has voided recently to decrease any discomfort.

This discomfort occurs primarily during palpation of the prostate because the patient feels the sensation of having to urinate. A full bladder merely increases the likelihood of an embarrassing accident.

3. Explain the purpose of the examination and use correct communication skills to increase the confidence and compliance from the patient. Encourage questions throughout. Be sure that the patient understand and will be cooperative during the examination.
4. Before the examination, the examiner should wash his hands in the patient's presence. This will reassure the patient regarding sanitary conditions during the examination. Most examiners choose to use a single glove. The use If abnormalities are discovered on examination, bare hands should be gloved immediately. In an actual examination, the examiner would also take a sexual history including questions regarding lesions, infections, etc. This history might indicate the necessity of using gloves throughout the examination to reduce the chance of infection or transmissions of disease.
5. Ensure the patient's privacy and avoid uneasiness

B. Patient Supine

6. Redrapes lower abdomen and exposes genitalia. Percusses upper limit of bladder (symphysis pubis to umbilicus).

Examiner should ascertain that the patient is comfortable. Start by adjusting the drapes so that the lower abdomen and legs from the mid thigh are covered and expose the genital area.

Percuss upper limit of bladder (symphysis pubic to umbilicus).

7. Inspects pubic area
Checking skin and hair distribution relative to patient's age and general development. Observe for ulcers, lesions, scars, edema, nodules, color change of skin, and signs of infestation.
8. Inspects penis.
Check the development of the penis relative to the patient's age, noting redundant foreskin, phimosis, etc.

9. Palpates the glans penis. Inspects under the coronal ridge (retracting prepuce or foreskin if present).

Check the glans for ulcer, neoplasm, redness and swelling, noting the location and size of any abnormal findings and describe the character of any discharge.

10. Inspects urethral meatus.

Inspects the external urethral meatus, checking for location, noting if there is any displacement or stenosis, redness, swelling, ulceration, discharge. If discharge is present, note color, amount, density, smell. The examiner places thumb on either side of the glans and finger on distal penis, exposing the urethral meatus completely. The foreskin should be replaced when you finish the glans examination in order to avoid paraphimosis.

11. Palpates shaft of penis including both corpora cavernosa and corpus spongiosum.

Palpates shaft of penis from base to glans slowly including both corpora cavernosa and corpora spongiosum. Palpate the anterior and posterior sides of the penis as well as laterally. Normally there is no tenderness. If any nodules are present, note the position and size.

12. Spreads urethral meatus then compresses gently to check for discharge.

13. Orders smear of discharge.

Orders smear and gram stain of discharge if any is present.

C. Patient Standing

14. Inspects scrotum, checking for proper coloration, rugation, hair distribution, contour, etc.

Examiner should check for proper coloration, rugation, hair distribution, contour, symmetry, swelling, varicocele, fistula, etc. Lift scrotum to observe posterior surface. Examination should be done in supine position if the patient is weak.

15. Palpate the scrotum and its contents. Check for nodules, tenderness, etc. Note evidence of swelling.

Check for nodules, tenderness, etc. Note evidence of swelling

16. Isolates and palpates each testis (immobilizes within scrotum).

The testes are ovoid, somewhat rubbery structures, about 4.5 cm long in the adult. The left usually lies somewhat lower than the right within the scrotum. In order to thoroughly examine the testis, draw it to the lower portion of the scrotum where there are less vascular structures to interfere. Use caution when isolating the testis, for excess pressure causes deep visceral pain. Gently pull the skin of the scrotum firmly around the testis and palpate the entire surface of the structure by gently moving the scrotal skin. Check for consistency, shape, size, nodules, tenderness and masses.

17. Locates and palpates each epididymis.

On the posterolateral surface of each testis is the softer, comma-shaped epididymis. It is most prominent along the superior margin of the testis. It is often difficult to palpate in the asymptomatic patient but if done carefully may be accomplished. The structure may

feel like a mere bump on the testis. If the epididymis feels like this, palpate the other one. If both "bumps" are similar in size and locations you have found the epididymis. Palpate it with the above maneuvers for consistency, shape, size, tenderness, nodules, and relationship to testes.

18. Identify each spermatic cord.

The vas deferens, a cord like structure, begins at the tail of the epididymis, ascends within the scrotal sac, and passes through the external inguinal ring on its way into the abdomen and pelvis. In its course through the scrotum, the vas is closely associated with blood vessels, nerves, and muscle fibers, with which it makes up the spermatic cord. There are a number of techniques for locating this structure. First, try reaching behind the scrotum as illustrated and gently compress the tissue between your thumb and fingers until you isolate this convoluted structure. Otherwise, you may invaginate the skin lateral to the base of the penis with your forefinger and roll your finger across the pubic bone where at some point it will "roll-over" the cord. Use care not to crush the cord beneath your finger. Note masses, nodules, tenderness, and enlargement.

19. Checks for varicocele of cord.

A varicocele, which is varicose veins of the spermatic cord, often feels like a soft "bag of worms". As the scrotum is elevated, the varicocele will slowly collapse. If present, it is usually visible only while the patient is standing and will disappear in the supine position.

20. Checks for mass within scrotum.

First check if the mass is in the scrotum or comes from the lower abdomen. If a scrotal mass is detected, transillumination is necessary to differentiate solids from cystic structures. In a darkened room, fix the mass between two fingers, shine a flashlight through the mass and observe the shadow from the opposite direction.

21. Checks for hernia (finger flattened over external inguinal ring). Increases intra-abdominal pressure by asking patient to bear down or cough.

Examiner stands beside the patient's thigh and uses right hand for right inguinal hernia examination and left hand for examining a left sides hernia. The examiner's other hand may be put on the patient's back for better support. The examiner keeps his index finger the arm parallel with the inguinal ligament. The examiner places his right index finger into the scrotal sac outside of the testes to reach the external inguinal ring. Pay attention to the size and tenseness of the ring, and the tenseness of the surrounding muscles at Hey's triangle. Ask the patient to turn his head to the side and to cough or bear down. If there is a hernia, a sudden impulse against either the tip or the pad of the index finger will be felt.

22. Check for indirect inguinal hernia. Increases intra-abdominal pressure by asking patient to bear down or cough differentiating indirect hernia, from direct hernia and from mass. If a large mass is found in the scrotal or inguinal region, the examiner should try to re-

duce the mass. As the mass disappears, put the index finger into the internal inguinal ring which is located at about the mid-point of the inguinal ligament and press. If the mass disappears or only touches the examiner's fingers when the patient bears down, it is probably an indirect inguinal hernia. If the mass appears the same as before or protrudes from the lower abdominal wall, a direct inguinal hernia is suspected.

23. Teaches patient testicular self-exam and its relevance.

It is important to take the time to learn the techniques of self-examination and commit oneself to perform the examination monthly. It is the best hope for early detection of testicular cancer. The self-examination should be performed during or after a warm bath or shower, when the scrotal skin is most relaxed. Doing the examination in the shower also allows you to use soap to lubricate the region and reduce discomfort from pulling groin hair or pinching skin. Roll each testicle gently between the thumb and fingers of both hands. If you find any hard lumps or nodules or experience unusual sensitivity, consult your doctor promptly. Optionally, the shaft and head of the penis may also be palpated, again noting any abnormalities. By performing this examination monthly, the patient can prevent any abnormality from becoming far advanced when treatment and prognosis are poorer.

24. Patient bends forward over table in correct position for rectal examination.

Patient stands and bends forward over table with legs separated about shoulder's width. The patient can and rest on his elbows and lower arms. An alternate technique is the left lateral lying position (patient lying on left side, buttocks close to the edge of the table, ask him to straighten his lower leg and flex his top leg at the hip and knee).

25. Inspects anus, sacrococcygeal and perineal regions using both hands or fingers to separate the buttocks.

Examiner should be checking for abnormalities such as nodules, fissures, inflammation, rashes, scars, hemorrhoids, etc. (The examiner may need to use one hand to spread the buttocks apart.)

26. Alerts patient that the examination is about to begin and provides some explanation.

Before inserting digit into the rectum, examiner alerts patient that the examination is about to begin, explains that there may be a little discomfort, and carries on a short conversation to decrease patient nervousness and misunderstanding.

27. Inserts index finger with gentle pressure, after placing lubricant on finger.

After putting on a glove and placing lubricant on index finger, the examiner exerts pressure anteriorly over external sphincter with pad of index finger. Ask patient to bear down, pause for sphincter to relax, and gently insert finger, aiming toward umbilicus.

28. Palpates prostate, left and right lobes and medium sulcus.

Pay attention to the size, configuration, density, surface, nodules, and any tenderness.

29. Palpates remaining surface of rectum, including right lateral, posterior and left lateral areas, by rotating finger through an arc.

The sphincter tone should also be assessed throughout the examination.

30. Observes the tip of the gloved index finger for slin, pus or blood. Performs guaiac (hemoccult) test on stool for occult blood if necessary.

附：男性生殖系统及直肠检查纲要

A. 准备

1. 向病人作自我介绍
2. 嘱病人排尿，以减轻检查中的不适
3. 解释检查的目的及主要步骤，鼓励病人任何时候均可提问
4. 检查前当病人之面洗手，或戴手套
5. 保护病人隐私，消除其顾虑

B. 病人仰卧位

6. 正确暴露外阴，使病人处于舒适状态，叩诊膀胱上限
7. 视诊耻骨区，观察皮肤及阴毛的分布
8. 视诊阴茎
9. 视诊冠状沟、龟头及包皮内面
10. 视诊尿道外口的位置和大小，触诊冠状沟、龟头及包皮内面
11. 触诊阴茎体，包括阴茎和尿道海绵体
12. 分开尿道外口，轻轻加压，注意有无红肿、溃疡、分泌物
13. 检查分泌物

C. 病人站立位

14. 视诊阴囊，注意颜色、皮肤皱褶、阴毛分布、外形等
15. 触诊阴囊及内容物，注意有无结节、触痛、水肿等
16. 分别触诊两侧睾丸
17. 定位并触诊附睾
18. 触诊精索
19. 检查精索静脉曲张
20. 确定阴囊内包块
21. 检查疝，示指与腹股沟管方向平行，嘱病人增加腹内压
22. 检查斜疝，增加腹内压，鉴别直、斜疝或其他包块
23. 教会病人自查睾丸
24. 病人保持于适当站立位，直肠检查
25. 视诊肛门、肛周、会阴及骶后区，双手或两手指分开臀部，注意结节、裂肛、炎症、皮疹等
26. 告诉病人检查将开始，并予解释
27. 戴上手套，涂上润滑油，示指轻轻插入直肠
28. 触诊前列腺，左、右叶及中央沟
29. 触诊直肠各壁，旋转退出手指

30. 观察指套有否分泌物，必要时作隐血试验。

APPENDIX

CHECKLIST FOR MALE GENITO RECTAL EXAMINATION

A. Preparation

1. Introduces self to patient.
2. Ensures patient has voided recently to decrease discomfort during the examination.
3. Explains purpose and main steps of examination, encourages patient to ask questions now or at any time during the examination.
4. Washes hands in presence of patient before beginning examination.
5. Ensure the patients privacy and avoid uneasiness.

B. Patient Supine

6. Redrapes lower abdomen and exposes genitalia. Percusses upper limit of bladder (symphysis pubis to umbilicus).
7. Inspects pubic area
8. Inspects penis.
9. Palpates the glans penis. Inspects under the coronal ridge.
10. Inspects urethral meatus.
11. Palpates shaft of penis including both corpora cavernosa and corpus spongiosum.
12. Spreads urethral meatus then compresses gently to check for discharge.
13. Orders smear of discharge.

C. Patient Standing

14. Inspects scrotum, checking for proper coloration, rugation, hair distribution, contour, etc.
15. Palpates the scrotum and its contents. Check for nodules, tenderness, etc. Note evidence of swelling.
16. Isolates and palpates each testis (immobilizes within scrotum).
17. Locates and palpates each epididymis.
18. Identifies each spermatic cord.
19. Checks for varicocele of cord.
20. Checks for mass within scrotum.
21. Checks for hernia (finger flattened over external inguinal ring). Increases intra-abdominal pressure by asking patient to bear down or cough.
22. Check for indirect inguinal hernia. Increases intra-abdominal pressure by asking patient to bear down or cough differentiating indirect hernia, from direct hernia, from mass.
23. Teaches patient testicular self-exam and its relevance.
24. Patient bends forward over table in correct position for rectal examination.

25. Inspects anus, sacrococcygeal and perineal regions using both hands or fingers to separate the buttocks (checking for abnormalities such as nodules, fissures, inflammation, rashes, etc.)
26. Alerts patient that the examination is about to begin and provides some explanation.
27. Inserts index finger with gentle pressure, after placing lubricant on finger.
28. Palpates prostate, left and right lobes and medium sulcus.
29. Palpates remaining surface of rectum, including right lateral, posterior and left lateral areas, by rotating finger through an arc.
30. Observes the glove for abnormal secretions and performs guaiac test on stool for occult blood.

女性乳房及盆腔检查方法

A. 准备

1. 自我介绍 检查者自我介绍姓名及职务，以利于融洽医患关系。
2. 解释检查的目的与主要步骤 乳房与盆腔检查是女性生殖系统疾病基本的和重要的诊断方法。通过检查，不仅可以获得有助于诊断的信息，而且还可以给病人一些简单的健康宣教。然而，成功的检查取决于检查者正确的步骤、技巧及与病人的合作。简单的自我介绍和解释检查，有助于医患交流和取得病人的合作。
3. 检查前要求病人排空膀胱，必要时应予导尿 排空膀胱有利于盆腔检查，并减少病人的不适。膀胱充盈时作盆腔检查可造成误诊，例如，有时会误诊充盈的膀胱为盆腔囊性包块。对尿潴留病人必要时应予导尿。
4. 在检查前与检查中鼓励病人提问题，和病人讨论有助于使病人放松，并取得一些反馈信息。检查者应鼓励病人提问题，请病人诉说不适、疼痛及其他问题。
5. 检查器械 盆腔检查的各种器具包括检查床、立灯、消毒手套、窥阴器、棉签、宫颈刮片、玻片、试管、固定液、润滑剂、生理盐水等。所有这些器具在盆腔检查前应一一检查。
6. 在检查前应当着病人的面洗手。

B. 乳房检查

7. 完全暴露两侧乳房（双肩应该放平） 告诉病人乳房检查有助于发现一些早期乳癌及其他内分泌疾病，暴露范围应包括颈部、前胸、双侧上臂，双肩应在同一水平。
8. 坐位望诊双侧乳房 检查者面对患者，双眼在病人双乳头水平上10cm。检查者应同时注意乳房的位置、大小与形态。如有不对称情况，提示有病变。局限的红肿，提示乳房炎症，而局限性凹陷提示肿块可能。一侧乳房的浅表性静脉曲张是晚期乳癌的常见体征。检查者应注意乳房皮肤的溃疡、色素改变、疤痕，以及双侧乳头的对称性、位置及有无内陷。妊娠时，乳头颜色变深，周围有小结节。如果乳房较大且下垂，应让病人托起乳房以视诊乳房下部。正常女性乳房的大小、形状及质地差异很大。
9. 前倾位望诊双乳房
10. 病人双手上举时望诊双乳房
11. 病人双手用力叉腰耸肩时望诊双乳房 在体位及双臂位置改变时注意双乳头及乳房

的改变。

扣诊右侧乳房

12. 使用右手扣诊右侧乳房 乳房扣诊可以取坐位或仰卧位，但位于肋间隙处的小肿块在仰卧位时难以扣及。乳房的形状质地随年龄而改变，随月经周期也有周期性改变。

13. 按内上、外上、尾部、内下、外下象限扣诊右侧乳房 检查者应用手指掌面轻压乳房并转动触诊，不要抓捏。正常乳房以乳头为中心分为四个象限（内上、外上、内下、外下）及尾部。扣诊时应注意有无肿块、质地改变、压痛、弹性改变等。先轻后重，以摸到肋骨但不疼痛为宜。注意不要遗漏任何一个区域。大乳房可用一手托起乳房以扣诊乳房下半部。

14. 扣诊乳头及乳晕，注意有无分泌物 检查者用拇指和示指扣诊乳头及乳晕，注意有无分泌物，如有，应逐点扣诊以明确其来源并注意性状，如血性、脓性或乳/汁、黄色等，并作涂片检查。

扣诊左侧乳房

15. 用左手检查左侧乳房

16. 按内上、外上、尾部、内下、外下象限的顺序扣诊左侧乳房

17. 扣诊乳头、乳晕，挤压乳头并注意分泌物

18. 乳房自我检查宣教 乳房检查后，检查者应告诉病人自我检查乳房的方法及重要性。

C. 腋下淋巴结检查

腋下淋巴结检查分为五组：尖组位于腋窝顶，引流其他各组淋巴结；前组位于腋窝前壁，胸大肌背后；后组位于腋窝后壁；中间组位于腋窝中央，最易扣及；外侧组沿肱骨上部能扣及。

19. 望诊右腋窝

握住病人右腕，抬高上臂，观察右侧腋窝。

20. 扣诊腋下五组淋巴结 用左手插入病人右侧腋窝顶，然后放松其右臂使肌肉完全松弛。先扣诊尖组，然后向前转扣诊前组，再转向胸壁扣诊中间组，抬高上臂后扣诊后组，最后检查外侧组。

21. 望诊左侧腋窝

22. 依次扣诊左侧五组腋下淋巴结

D. 盆腔检查

D-1. 外阴检查

23. 放置干净床单于检查台，请病人上检查台 盆腔检查时应防止医源性传染，每次检查后更换床单。

24. 帮助病人放好体位（常用膀胱截石位），并放松 膀胱截石位是盆腔检查的常用位置。检查者帮助患者仰卧位，弯曲膝关节，外展双腿，双脚置于检查台脚蹬，移动臂部于检查台边缘，并放松。病人头部应垫高，保持视线交流。良好的体位和放松是盆腔检查的关键，并问病人是否舒适。垂危病人可在病床上检查。

25. 检查者立于病人两腿之间，面对病人，照明会阴。

26. 戴无菌手套

27. 提醒病人检查开始

28. 外阴望诊与扣诊

阴阜：望与扪诊
大阴唇：望与扪诊
大阴唇：望与扪诊
阴蒂与包皮：常望诊
尿道口区与阴道口：望诊
尿道旁腺：望与扪诊
巴氏腺：望与扪诊
会阴体：望与扪诊
肛门：望诊

检查者应逐步观察，注意外阴的发育、阴毛的分布、外阴皮肤的色素、炎症、疤痕、静脉曲张、外伤、肿瘤等，注意阴蒂有无肥大，用拇指与示指分开两侧阴唇，暴露前庭望诊。观察尿道口和阴道口。未婚妇女处女膜仅有一小孔，已婚妇女可插入两指，经产妇女处女膜仅残留痕迹。应注意有无处女膜闭锁。用拇指和示指扪诊尿道旁腺和巴氏腺，正常时不能扪及。感染时可扪及巴氏腺囊肿或脓肿。尿道感染时，用示指从阴道内挤压可见尿道口有脓性分泌物。

29. 如果病人有子宫脱垂或阴道前后壁膨出病史，可让病人屏气或咳嗽，以增加腹压检查盆壁和阴道张力。

D-2. 用窥阴器检查

对未婚者不进行阴道窥器和阴道双合诊检查。如有必要则需取得患者及有关家属的同意。在行经期及近期阴道手术后病人也不行上述检查。如有必要则要消毒外阴后进行。

30. 选择适当的窥阴器，检查其机械性能及温度，并向病人演示 检查应根据患者情况选择适当大小的窥阴器，检查前应检查其机械性能及温度。在冬天，通常置于 40~50℃ 温水加温，如果需要取标本检查，不能用润滑剂，必要时可用生理盐水。

31. 提醒检查开始 检查前提醒病人，有助于病人放松和理解。

32. 戴上手套用两指分开阴唇

33. 另一手持窥阴器以 45° 角送入阴道口

34. 沿阴道后壁插入，向下压后壁，边插边转平

35. 打开窥阴器，暴露宫颈，固定螺丝 用窥阴器检查时可引起疼痛与不适，甚至损伤小阴唇、宫颈。检查者应轻轻平稳地操作，避免暴力。插入过程中间螺丝始终松弛。打开窥阴器时稍离开宫颈以免损伤。如宫颈暴露不理想，可调节中间螺丝并固定见图 3-33。

36. 宫颈望诊

观察宫颈大小、颜色、外口形态，注意有无糜烂、囊肿、息肉、肿瘤等。

正常宫颈光滑、粉红色，未产妇外口呈圆形，经产妇呈横裂。检查时应注意有无接触性出血。早孕时呈蓝色。

37. 采集标本（在标准化病人可不施行，可讨论和演示）

(1) 后穹窿取阴道白带；

(2) 宫颈刮片，用刮棒在宫颈上转刮 360° 一周；

(3) 轻轻插棉签于宫颈管，转动并停留片刻，取出宫颈粘液作内分泌检查或细菌培养；

(4) 阴道细胞学检查：用刮片取阴道侧壁中上 1/3 处标本，作内分泌检查；

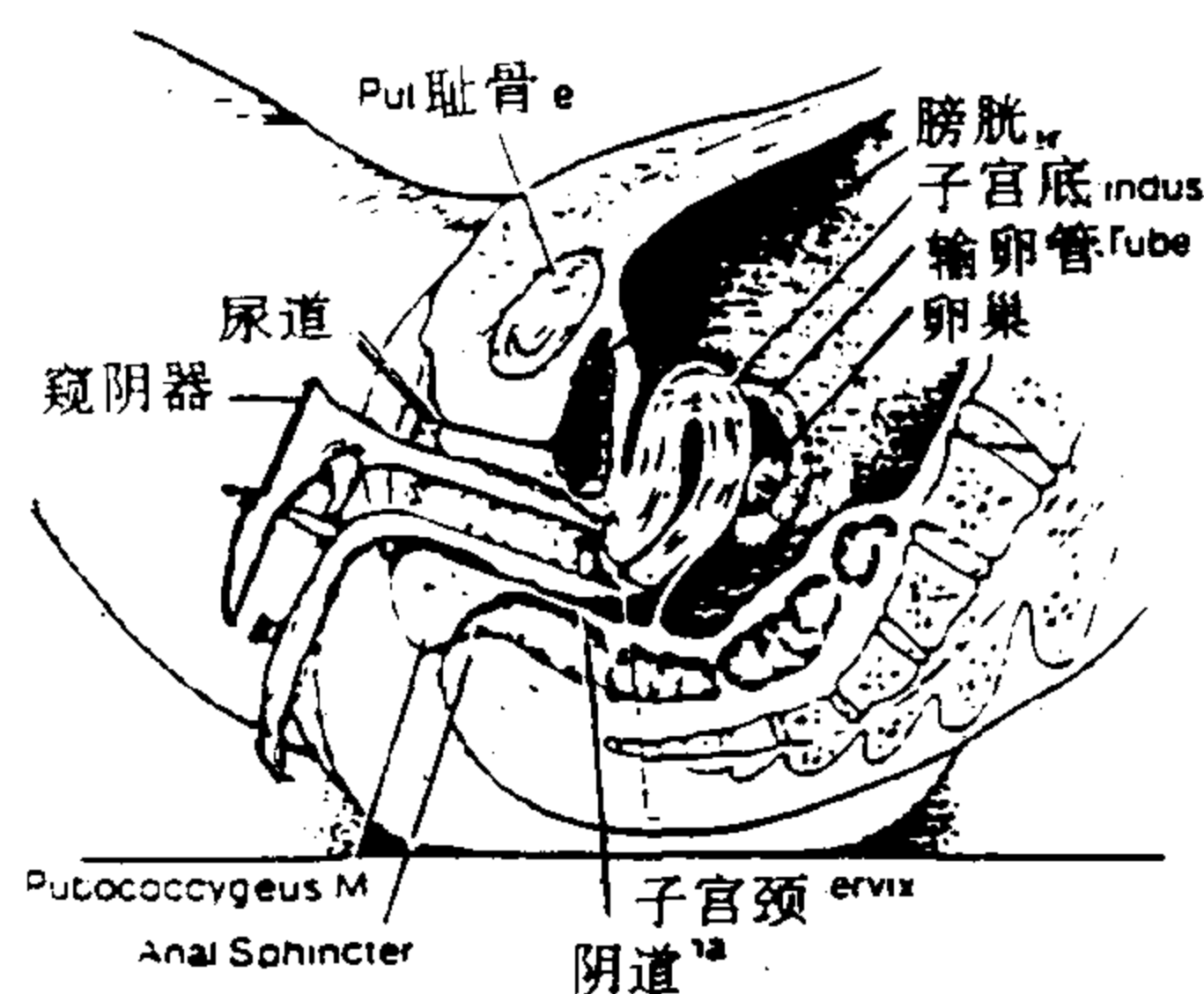


图 3-33 暴露宫颈

(5) 正确处理标本。

收集标本是重要的诊断方法,通过检查阴道分泌物可诊断各种阴道炎症和性传染疾病。宫颈刮片是早期发现宫颈癌的重要方法(图 3-34)。宫颈粘液可用于内分泌疾病的诊断。收集的标本应立即正确处理。

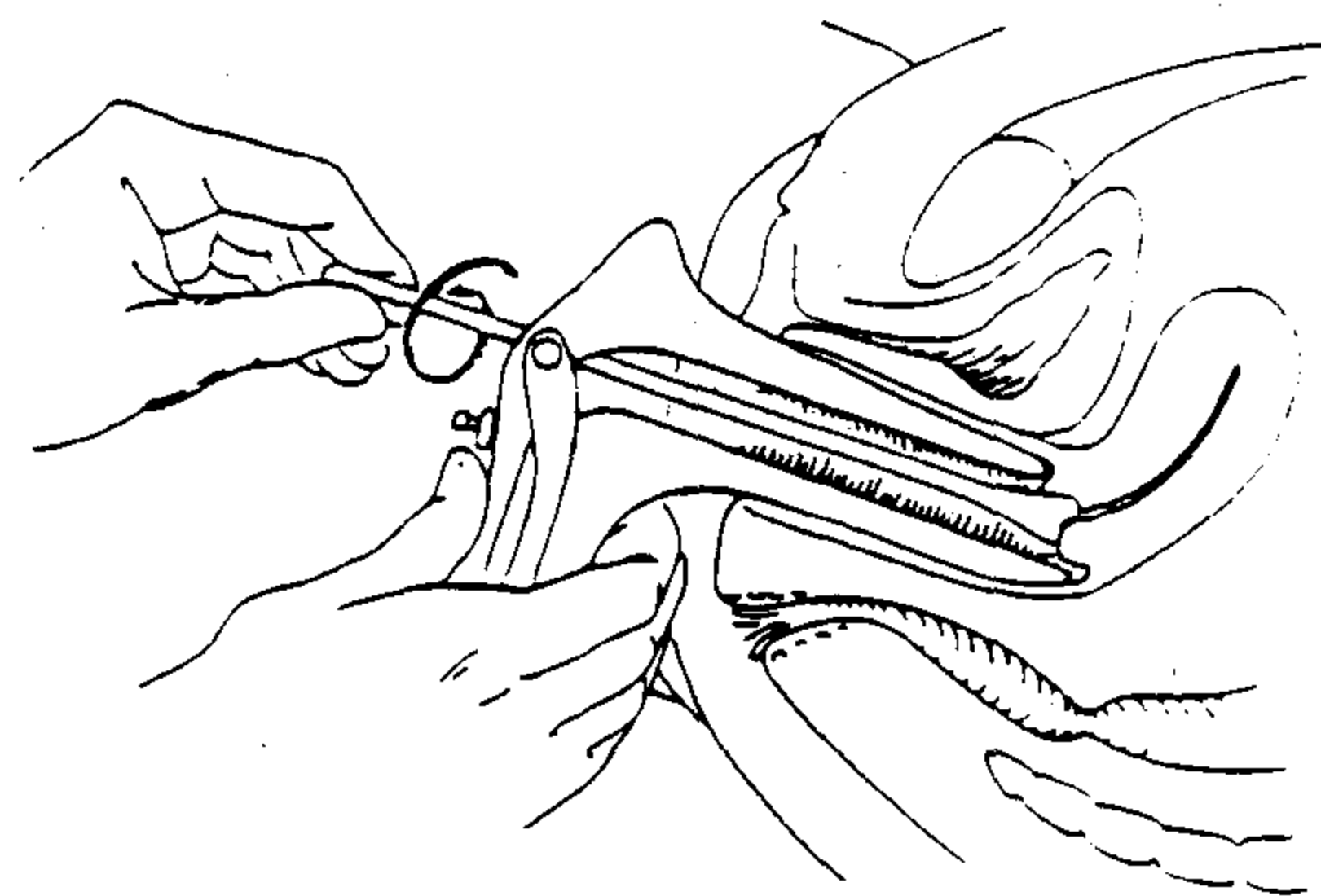


图 3-34 宫颈刮片

38. 放松螺丝,继续使窥阴器呈打开状态,轻轻退出少许离开宫颈,部分闭合 抽出窥阴器时,也可损伤宫颈,应小心操作。

39. 阴道望诊 在抽出窥阴器时使其保持部分张开,同时转动窥阴器,观察阴道前后壁,注意阴道皱襞、有无充血、溃疡或肿瘤,注意阴道分泌物量、颜色与特征。生育期妇女皱襞较绝经期妇女明显。正常阴道分泌物为白色、无臭味;粘液、泡沫状或脓性分泌物均提示有阴道炎或宫颈炎。血性分泌物有时可能为宫颈或宫体癌。

40. 抽出窥阴器,自然闭合

D-3. 双合诊检查(图 3-35)。



图 3-35 双合诊检查

41. 戴手套的中、示指涂上润滑剂

42. 提醒病人双合诊开始

43. 引入中、示指，应用放松技巧 放松技巧包括：引入末节中指于阴道，嘱病人作屏气样动作，收缩阴道，放松、压阴道后壁插入示指，重复收缩与放松动作。绝经后病人有时仅能插入示指。

44. 插入双指 插入双指，手掌转向上，伸直拇指，弯曲无名指和环指于掌心

45. 阴道壁扪诊 注意阴道皱襞、深度、畸形、疤痕、囊肿等。

46. 宫颈扪诊 注意大小、方向、形状、质地及有无举痛。

47. 请病人深呼吸并放松腹部肌肉

48. 子宫扪诊，注意大小、方向、形状、活动度、质地及有无压痛 检查者手指置于宫颈后方，向上抬举子宫，另一手置于下腹部耻骨联合上方，四指掌面平放，向下压腹壁，通过一压一抬，扪触子宫特征。正常子宫位置前倾轻度前屈。前或后倾指子宫及身体长轴间角度，而前屈与后屈指子宫体与颈之间角度。正常子宫活动度好，质地中等，无压痛。如子宫均匀性增大，质地变软，提示妊娠可能。任何不对称性子宫增大或结节突起，均提示异常。

49. 扪诊双侧卵巢与宫旁组织 移动阴道内手指于侧穹窿，另一手于一侧下腹部，扪诊双侧卵巢与宫旁组织，注意有无盆腔包块与宫旁组织增厚。多数情况下卵巢不能扪及，如扪及时，应注意大小、形状、活动度、位置及有无压痛。卵巢较敏感，被触时病人有不适感觉。输卵管正常时不能扪及。正常宫旁组织柔软、弹性好、无压痛。盆腔包块及宫旁组织增厚时提示有异常的可能。注意包块的大小、形状、活动度、质地及有无压痛及其与子宫的关系。注意宫旁组织增厚的程度、范围及有无压痛。

D-4. 三合诊检查（图 3-36）。

50. 从阴道抽出中指，或重新更换手套，润滑示指、中指 在三合诊前更换手套，可避免将阴道血混入直肠，以引起隐血试验假阳性。

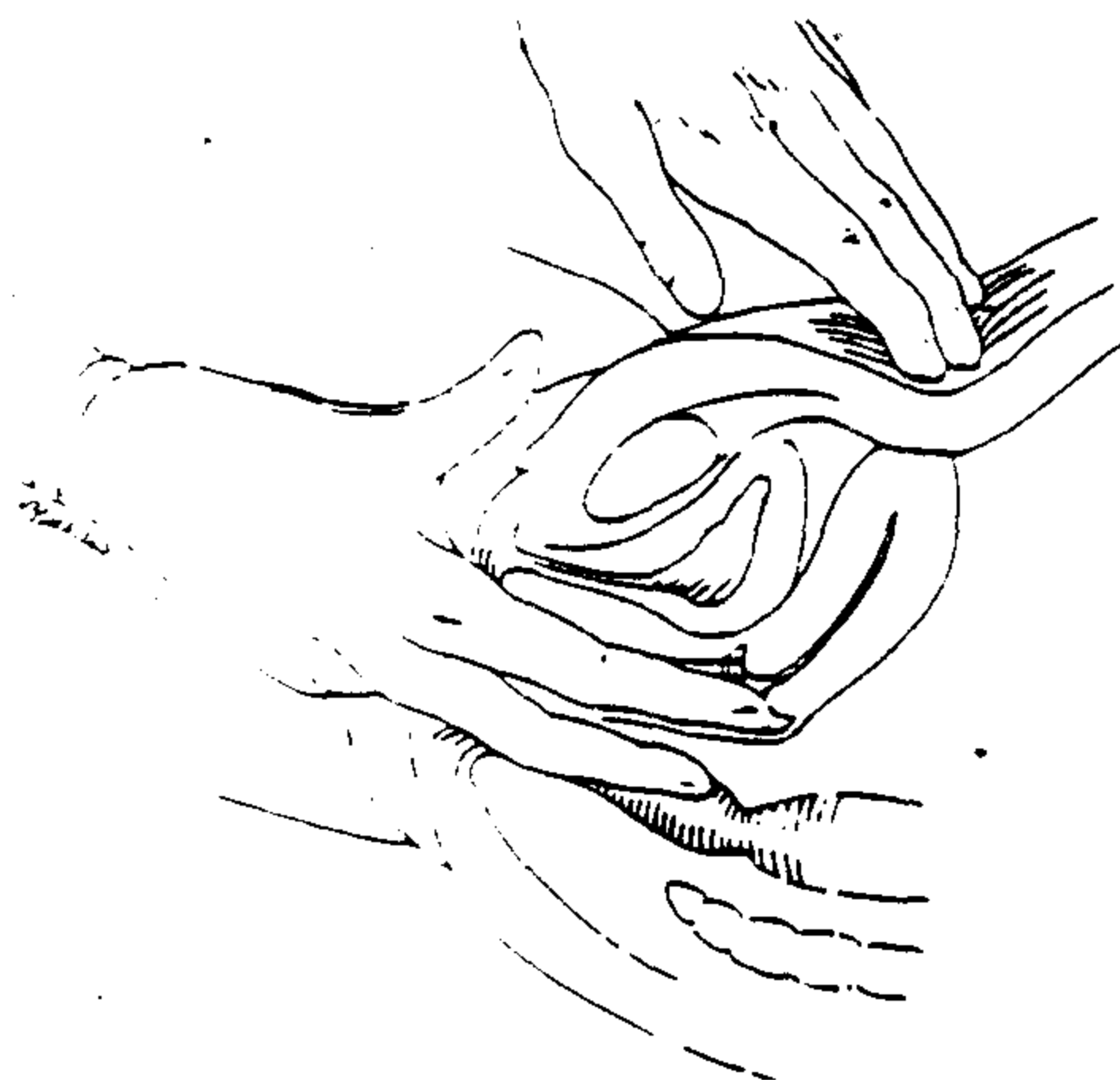


图 3-36 三合诊检查

51. 提醒病人开始检查
52. 引中指入直肠，示指入阴道
53. 应用肛门括约肌放松技巧 引入中指时，嘱病人作解大便样动作，然后轻轻插入肛门或在插入前压向会阴体以压迫肛门括约肌，然后轻轻地插入肛门。
54. 从后方重新扪诊宫颈、子宫、卵巢及宫旁组织
55. 扪诊盆腔后壁 中指沿直肠后壁缓慢滑动扪诊盆腔后壁。正常盆腔应光滑、无结节、无组织粘连，否则提示有异常可能。
56. 扪诊阴道直肠间隔
57. 轻轻抽出手指
58. 直肠分泌物涂片作大便隐血试验
- D-5. 肛腹诊检查
59. 作简短的健康宣教 宣教内容包括经期、孕期、更年期卫生及计划生育等。
60. 肛腹诊 未婚女性、阴道闭锁或阴道出血等不宜作阴道检查，可行肛腹诊。
 - (1) 带手套，润滑示指；(2) 提醒病人开始检查；(3) 应用肛门括约肌放松技巧（同前），引示指入直肠；(4) 从后方扪诊宫颈，子宫、卵巢、宫旁组织、盆腔后壁；(5) 轻轻抽出示指；(6) 直肠分泌物涂片作隐血试验。

TRAINING MANUAL FOR BREAST AND PELVIC EXAMINATION

A. Preparation

1. Introduces self to patient.

Introducing yourself by your last name and stating your role will help to establish a rela-

tionship with the patient.

2. Explains purpose and main steps of the examination

The breast and pelvic exam is an essential and important way to diagnose female reproductive system disease. The examiner will not only obtain diagnostic information about the patient from the examination, but also give some basic health education to patient during examination. However, the success of this examination derives from accurate steps and skills of the examiner and cooperation of the patient. A brief self-introduction and explanation will help the examiner to communicate with the patient and help the patient cooperate with the examiner.

3. Asks patient to empty her bladder before examination

Pelvic examination is much easier for both the examiner and patient when the bladder is empty. A full bladder may give false information to the examiner, e. g. the examiner could mistake a full bladder for a cystic mass in the pelvis. Catheterization is sometimes necessary for a patient with urinary retention.

4. Invites patient to ask questions now or at any time during the examination

Discussion between the examiner and the patient helps relax the patient and provides feedback from the patient. The examiner should encourage the patient to ask questions and complain about problems such as embarrassment, discomfort, pain and misunderstanding.

5. Checks all articles and equipment for examination

Articles and equipment for pelvic examination include examining table, light source, sterile gloves, lubricant, speculums, cotton swabs, Pap spatula, glass slides, test tubes, fixative, normal saline solution, etc. All of these should be available and checked before beginning the examination.

6. Washes hands in presence of patient before beginning examination

B. Breast Examination

7. Exposes both breasts completely

Tell the patient the purpose of the breast exam. Physical examination of the breasts will give the patient the opportunity to detect early asymptomatic cancer and other endocrine system disorders. Both breasts should be exposed simultaneously including the neck, anterior chest wall, and upper parts of both arms. Make sure that the patient's shoulders are at the same level.

8. Inspects both breasts symmetrically in sitting position

Stand opposite the patient and face her directly. The level of the patient's nipples should be about 10 cm below your eyes. The examiner should inspect the location, size, shape of the breasts and check for symmetry. If asymmetry exists, it is possible that there is a lesion in the breast. If the examiner detects a regional or local prominence, with flushed skin color, it may be inflammation of the breast. If there is a local excavation, it is likely to be a tumor which underlies the skin. Superficial venectasia of one breast is commonly

a sign of late stages of breast cancer. The examiner should also observe whether there are ulcers, pigment changes, or keloids on the skin. Attention should be paid to determine if the nipples are symmetric, dislocated or retracted. In pregnancy, the nipples are a deeper color and there are nodules in the areola. If the breasts are big and droop, the examiner should ask the patient to lift her breast so that the lower part of each breast can be inspected. The normal female breast varies considerably in size, shape, and consistency.

9. Inspects both breasts symmetrically with patient leaning forward
10. Inspects both breasts symmetrically with arms above head
11. Inspects both breasts symmetrically with hands on hips and squeeze

When inspecting the breasts with the patient elevating her arms, note the shift of both nipples, dimpling of the skin, and movement of one breast as compared to the other.

Palpates patient's right breast:

12. Uses right hand to palpate the patient's right breast with pads of fingers and palm, apply gentle pressure

Breast palpation can be performed with the patient in the sitting or supine position but small masses may be missed in the supine position if they drop into the intercostal spaces. In addition to the shape changes in the breast which occur with age, there are varying degrees of fullness and thickness in the normal breast. The cyclical changes which accompany menstruation can be detected on physical examination as a granular consistency. Marked changes are abnormal.

13. Palpates right breast; super internal, superlateral, tail, infer internal, infer lateral

The examiner places his palm and fingers on the breast and uses a rotary motion with gentle pressure for palpation, avoiding scratching. The breast can be divided into five parts, including the tail, by horizontal and vertical lines through her nipples. The palpation is done to detect any masses, thickness, change in consistency, tenderness, and elasticity. First gently palpate the breast using the palmar aspect of the fingertips with a rotary or to and from motion. The pressure on the breast should be enough to feel the rib but should not cause the patient any pain. Then each section should be more deeply explored. With large or drooping breasts, it may be necessary to use the other hand to lift the breast for palpation of the lower parts of the breast.

14. Palpates nipples, areola, attempt to express discharge from nipple

The examiner palpates the patient's areola and nipple with the thumb and index finger and then attempts to express material from the nipple by using the two fingers to simultaneously exert gently pressure on opposite sides of the nipple. The examiner should not squeeze the nipple. If any discharge appears, then the examiner should use one finger to press the areola circumferentially point by point to determine the place that presses the discharge out and describe it as a clock face. If any discharge appears, its character such as bloody, yellow, pus, milky should be noted. A slide should touch the nipple and a smear for pathological examination should be made.

Palpates patient's left breast;

15. Uses left hand to palpate patient's left breast with pads of fingers and palm, apply gentle pressure
16. Palpates left breast; super internal, superlateral, tail, infer internal, infer lateral
17. Palpates nipples, areola; attempt to express discharge from nipple
18. Teaches patient breast self-examination

After the examiner completes the breast examination, he should teach the patient how to do breast self-examination.

C. Axillary Examination

Axillary lymphatic nodes can be divided into 5 groups:

The top (apex) group is located at the top of the axilla and gets drainage from the other axillary lymph nodes.

The anterior (pectoral) nodes are located within the anterior axillary fold, behind the pectoral muscles.

The posterior (sub scapular) nodes are felt in the posterior axillary fold.

The medial nodes are located in the center of the axilla and are the most frequently palpable.

The lateral nodes are felt along the upper portion of the humerus.

19. Inspect the patient's right axilla

Hold the patient's right wrist and raise her arm up with your right hand to inspect the right axilla.

20. Palpate 5 chains of lymph nodes on right

Rest the patient's right arm on your examining arm and put your left hand to the very top of the axilla to feel the top group. Then turn your palm forward to feel the anterior group. Then turn your hand towards the chest wall and gently move down to feel the middle group. Then raise the patient's arm again. This time turn your hand backwards to feel the posterior group. Then feel the lateral group along the upper humerus.

21. Inspect the patient's left axilla

22. Palpates five chains of lymph nodes on left: top, medial, anterior, posterior, and lateral

D. Pelvic Examination

D-1 External Examination

23. Puts a new clean sheet on the examining table and asks the patient to lie on the table

Care must be taken that there is no transmission of disease during the pelvic examination. Using a new clean sheet after each examination should be done by the examiner.

24. Assists patient in positioning herself (lithotomy position) and asks patient to relax

The lithotomy position is preferable for the pelvic examination. Examiner assists patient in lying on the examining table, bending her knees, placing feet in stirrups, moving legs apart and positioning buttocks to the end of the table. The patient's head should be elevated so she can maintain eye contact with the doctor. Examiner should ask patient to re-

lax herself without any discomfort. A correct position and relaxation are the keys to a successful examination. A critically ill patient may be examined on the bed.

25. Faces patient's perineum, while standing between her legs, and illuminates her perineum brightly
26. Wears sterile gloves
27. Alerts patient that the examination is about to begin
28. Inspects and palpates external structures including:
 - mons pubis: inspects and palpates
 - labia majora: inspects and palpates
 - labia minora: inspects and palpates
 - prepuce and clitoris: usually only inspected
 - urethral meatus and introitus: inspects
 - Skene's gland: inspects and palpates
 - Bartholin's gland: inspects and palpates
 - perineal body: inspects and palpates
 - perineal body: inspects and palpates
 - anus: inspects

Examiner should remain aware of external genital structures and examine them step by step; notes development of external genitalia and distribution of hair on mons pubis and checks skin of vulva for discoloration, inflammation, scar, ulcer, varicosity, trauma, tumor. etc.; observes whether clitoris is enlarged; separates labia minora with thumb and forefinger to expose vestibule, observes urethral meatus, vaginal introitus and hymen and notes whether there is any redness or swelling. Virginal hymen has a small opening, married hymen can hold two fingers, and multipara hymen only leaves vestige on vaginal wall. Hymen imperforation is not common. Vaginal introitus may become slightly blue in early pregnancy. Normal Skene's gland and Bartholin's gland are not palpable. If infected, purulent secretion can be compressed by vaginal finger and a Bartholin cyst or abscess can be palpable between thumb on vulva and forefinger in introitus.

29. Asks patient to bear down or cough, and visually inspects for hysteroptosis, systocele or rectocele if indicated by patient's history (optional if indicated)

The strength of the vaginal wall is evaluated by asking patient to bear down or cough to increase intra-abdominal pressure. When this is done, a cystocele, rectocele, or hysteroptosis usually becomes apparent if indicated by the patient's history.

D-2 Speculum Examination

Speculum and bimanual examination is not performed on a patient who is a virgin. If necessary, examiner should get an agreement from the patient and her family. During the menstrual period and for a short time after vaginal operations, speculum and bimanual examinations are also not done. If these are medically necessary, then external genitalia should be swabbed with alcohol or other antiseptic solutions.

30. Chooses the proper sized speculum, checks it (both mechanically and to make sure that it is not too cold) and shows it to patient

Examiner chooses a proper sized speculum for each patient in order to expose patient discomfort. Before beginning examination, examiner should check that the temperature of the speculum is proper. (If too cold, speculum can be warmed in water at 40-50 degrees Celsius.) The mechanical function of the speculum should also be tested. Lubricant is not used if specimens from vagina and cervix are to be obtained; Otherwise, normal saline should be used.

31. Alerts patient that speculum examination is about to begin

Before inserting speculum, examiner alerts patient that the examination is about to begin, to decrease patient nervousness and misunderstanding.

32. Separates labia minora with two fingers of one gloved hand

33. Introduce speculum into the vaginal introitus.

Holds speculum, at a 45 degree angle, with other hand and introduces it into vaginal introitus keeping it away from urethral meatus area

34. Inserts speculum slowly into vagina along posterior vaginal wall, depressing perineal body, and rotates it to a flat position

35. Opens speculum after inserting it fully; exposes cervix and tightens screw on speculum
Inserting the speculum into vagina may cause patient pain and discomfort, and even injure the mucosa of vagina and labia minora. Examiner should operate it gently and smoothly. Any violent pressure must be avoided. The middle screw should always remain untightened until the cervix is exposed. During the opening of the speculum, tip of blades should be taken away slightly from cervix to avoid injury to it. After opening the speculum, the middle screw may be adjusted if cervix and vagina are not well exposed.

(Figure 3-33. Technique for inspecting the cervix)

36. Cervical inspection; observes cervical size, color and outer os configuration and notes any erosion, cyst, polyp, tumor, eversion, etc.

Normal cervix appears to have a smooth surface and slightly red color. Outer os of nullipara cervix is a round opening while that of a multipara cervix looks like a horizontal cleft. Erosions of the cervix are common in married women. Contact bleeding is a sign of cervical cancer should be noted. A blue colored cervix may be seen in early pregnancy.

37. Obtains specimen (this procedure will be discussed with and reviewed by the simulated patient but will not actually be performed)

a) vaginal; brushes posterior fornix wall with cotton swab for laboratory examination

b) cervical; inserts long, narrow end of spatula into cervical os and rotates it 360 degrees for pap smear

c) endocervical; inserts swab slightly into endocervix, rotates it and waits a moment. This is done for endocrinological examination or routine culture

d) handles specimens correctly

Obtaining specimens from the vagina and cervix is an important way to diagnose many gynecological diseases. Vaginal discharge is usually used to diagnose different types of vaginitis and some sexually transmitted diseases. A Pap smear is a very essential way to screen for early cervical cancer and endocervical secretion is helpful to diagnose endocrinological disorders and infectious diseases. Examiner must remember that all obtained specimens should be handled immediately, including preparation of a smear, fixation, or sending them to a laboratory as soon as possible.

(Figure 3-34. Obtaining a specimen)

38. Releases screws while holding blades open; withdraws speculum slightly until free of cervix and closes speculum partially

Withdrawing the speculum from the vagina also may injure the cervix and vagina, so gentle and smooth operation is necessary.

39. Vaginal inspection;

Rotates speculum while withdrawing to observe anterior and posterior vaginal walls, noting vaginal rugae, bleeding, ulcer and/or tumor, also noting discharge including amount, character and color, if any.

Vaginal rugae are more pronounced in reproductive age women than post menopausal women. A white, mucoid and non-odorous vaginal discharge is apt to be normal. A frothy and purulent exudate suggests vaginitis or cervicitis. Bloody discharge sometimes indicates cancer of the cervix and uterus.

40. Allows speculum to close completely as it is withdrawn

D-3 Bimanual Pelvic Examination (Figure 3-35)

41. Applies lubricant to fore and middle finger of gloved hand
42. Alerts patient that bimanual examination is about to begin
43. Introduces distal segment of middle and fore fingers into vagina, uses pubococcygeal relaxation technique and presses down on the perineal body

The examiner introduces distal segment of middle finger into vagina, asks patient to squeeze vagina and then relax it. Examiner exerts pressure posteriorly on the vaginal wall to perineal body and introduces forefinger into vagina along with the middle finger. Asks patient to squeeze and relax vagina repeatedly. By this method, the vagina is often relaxed. Sometimes, such as post-menopausal women, only one forefinger is inserted.

44. Inserts both fingers slightly into vagina and turns hand to palm up position; hyper extends thumb and flexes fourth and fifth fingers toward the palm

45. Palpates vaginal rugae

Checks for depth, deformity, scarring, cyst, etc.

46. Palpates cervix

Checks for size, direction, configuration, consistency and tenderness

47. Asks patient to take a deep breath and then relax her abdominal muscles

Relaxation of abdominal muscles is also very important to the bimanual examination.

48. Palpates uterine body between vaginal hand and abdominal hand

Notes uterine position, size, configuration, mobility, consistency, sensitivity. Examiner pushes cervix with corpus uteri upward from back of cervix with vaginal fingers, while presses abdomen downward suprapubically with four fingers of abdominal hand. By this method, characteristics of the uterus can be determined. Normal position of the uterus is anteverted and a little ante flexed. Ante version and retroversion refer to the angle between corpus and cervix uteri. Normally, the uterus is freely movable, moderately firm, and insensitive. If it is soft and symmetrically enlarged, pregnancy is suspected. Any non-symmetrical enlargement or nodular or tender uterus is apt to be abnormal.

49. Moves vaginal fingers into lateral fornix and abdominal hand to lateral lower quadrants of abdomen and attempts to palpate both ovaries and parametrial tissues notes thickness of parametrial tissues as well, and notes whether there are any pelvic masses

More often, normal ovaries cannot be clearly palpable. If located, the size, sensitivity, shape, consistency, mobility, and position are noted. The ovary is the most sensitive structure in the normal pelvis. If it is palpable, the patient feels a slight discomfort. Normal fallopian tubes are not palpable. Normal parametrium is soft, pliable and insensitive. Any mass in the pelvis or thickness in parametrial region may suggest abnormality. If so, examiner should note, size, shape, consistency, mobility, tenderness of mass, relation of the uterus to the mass, and extent, degree, and tenderness of thickness of parametrial tissue.

D-4 Recto vaginal Bimanual Examination (Fig3-36).

50. Withdraws middle finger from vagina or changes gloves and applies lubricant to fore and middle fingers

Changing to a new glove before recto vaginal bimanual examination can avoid the possibility of introducing any vaginal blood into the rectum causing a false positive result of an occult blood test.

51. Alerts patient that examination is about to begin

52. Introduces middle finger into rectum and fore finger into vagina

53. Uses anal sphincter relaxation technique by asking patient to bear down as finger is inserted

Anal sphincter relaxation technique is usually used. The examiner asks the patient to bear down as finger is inserted or exerts pressure on anterior aspect of external sphincter towards perineal body.

54. Repeats the palpation and characterization of the cervix, uterus, ovaries and parametrial tissues from the posterior position

55. Palpates posterior pelvic wall with rectal finger

Examiner uses sweeping motion of rectal finger on posterior pelvic wall.

Normal pelvic wall is smooth and no nodules or adhesion of tissues are felt. If so, abnormality is suspected.

56. Palpates recto vaginal septum between fingers while withdrawing internal hand
57. Withdraws fingers smoothly
58. Smears a glass slide with rectal secretion for occult blood test
59. Gives patient some basic health education

Examiner should teach patient some health knowledge and hygiene during menstruation, pregnancy and sexual activity

D-5 Rectal Bimanual Examination

In the patient who is a virgin, who is menstruating, or who has an imperforate hymen, the rectal bimanual examination can be performed instead of the vaginal bimanual examination.

60. Rectal Bimanual Examination

- 1) Applies lubricant to forefinger of gloved hand
- 2) Alerts patient that rectal examination is about to begin
- 3) Introduces distal segment of forefinger into vagina while asks patient to use relaxation technique as mentioned above
- 4) Palpates cervix, uterus, ovaries and parauterine tissues from posterior aspect with bimanual technique as mentioned above
- 5) Withdraws finger smoothly
- 6) Smears glass slide with rectal secretions for occult blood test

附：女性乳房、盆腔检查纲要

A. 准备

1. 自我介绍
2. 解释检查的目的与主要步骤
3. 检查前要求病人排空膀胱，必要时应予导尿
4. 在检查前与过程中鼓励病人提问题
5. 检查器械
6. 在检查前应当病人的面洗手

B. 乳房检查

7. 完全暴露两侧乳房（双肩应该放平）
8. 坐位望诊双侧乳房
9. 前倾位望诊双乳房
10. 双手上举望诊双乳房
11. 双手用力叉腰耸肩望诊双乳房
12. 使用右手扪诊右侧乳房
13. 扪诊右侧乳房可按以下顺序内上、外上、尾部、内下、外下象限
14. 扪诊乳头及乳晕，注意有无分泌物
15. 用左手检查左侧乳房

16. 按顺序扪诊左侧乳房，内上、外上、尾部、内下、外下象限
17. 扪诊乳头、乳晕，挤压乳头注意分泌物
18. 乳房自我检查宣教

C. 腋窝检查

19. 望诊右腋窝
20. 扪诊五组淋巴结，尖组、中间组、前组、后组、外侧组
21. 望诊左侧腋窝
22. 依次扪诊左五组淋巴结

D. 盆腔检查

23. 放置干净床单于检查台，请病人上检查台
24. 帮助病人放好体位，并放松。（常用膀胱截石位）
25. 立于病人两腿之间，面对病人，照明会阴
26. 戴无菌手套
27. 提醒病人检查开始
28. 外阴望诊与扪诊
29. 增加腹压检查盆壁和阴道张力
在未婚者不进行阴道窥器和阴道合诊检查。
30. 选择适合窥器，检查机械性能及温度，并向病人演示
31. 提醒检查开始
32. 用带手套手两指分开阴唇
33. 另一手持窥器以 45°引入阴道口
34. 沿阴道后壁插入，向下压后壁边插边转平
35. 打开窥器，暴露宫颈，固定螺丝
36. 宫颈望诊
37. 采集标本（在标准病人可不施行，可讨论和演示）
38. 放松螺丝，继续使窥器打开状态，轻轻退出少许离开宫颈，部分闭合
39. 阴道望诊
40. 抽出窥器，自然闭合
41. 戴手套的中、示指涂上润滑剂
42. 提醒病人双合诊开始
43. 引入中、示指，应用放松技巧
44. 插入双指
45. 阴道壁扪诊
46. 宫颈扪诊
47. 请病人深呼吸并放松腹部肌肉
48. 扪诊双侧卵巢与宫旁组织
49. 子宫扪诊，注意大小、方向、形状、活动度、质地及有无压痛
50. 从阴道抽出中指，或重新更换手套，润滑食指、中指
51. 提醒病人开始检查

52. 引中指于直肠，食指于阴道
53. 应用肛门括约肌放松技巧
54. 从后方重新扣诊宫颈、子宫、卵巢、及宫旁组织
55. 扣诊盆腔后壁
56. 扣诊阴道直肠间隔
57. 轻轻抽出手指
58. 作直肠分泌物作涂片大便隐血试验
59. 作简短的健康宣教
60. 肛腹诊

APPENDIX: CHECKLIST FOR BREAST AND PELVIC EXAMINATION

A. Preparation

1. Introduces self to patient
2. Explains purpose and main steps of the examination
3. Asks patient to empty her bladder before examination
4. Invites patient to ask questions now or at any time during the examination
5. Checks all articles and equipment for examination
6. Washes hands in presence of patient before beginning examination

B. Breast Examination

7. Exposes both breasts completely
8. Inspects both breasts symmetrically in sitting position
9. Inspects both breasts symmetrically with patient leaning forward
10. Inspects both breasts symmetrically with arms above head
11. Inspects both breasts symmetrically with hands on hips and squeeze
12. Uses right hand to palpate the patient's right breast with pads of fingers and palm, apply gentle pressure
13. Palpates right breast; superinternal, superlateral, tail, inferinternal, inferlateral
14. Palpates nipples, areola, attempt to express discharge from nipple
15. Uses left hand to palpate patient's left breast with pads of fingers and palm, apply gentle pressure
16. Palpates left breast, superinternal, superlateral, tail, inferinternal, inferlateral
17. Palpates nipples, areola, attempt to express discharge from nipple
18. Teaches patient breast self-examination

C. Axillary Examination

19. Inspects the patient's right axilla
20. Palpates 5 chains of lymph nodes on right: top, medial, anterior, posterior, lateral
21. Inspects the patient's left axilla
22. Palpates five chains of lymph nodes on left: top, medial, anterior, posterior, and lateral

D. Pelvic Examination

23. Puts a new sheet on examining table and asks patient to lie on table
24. Assist patient in positioning herself (lithotomy position and asks patient to relax)
25. Faces patient's perineum, while standing between her legs, and illuminates her perineum brightly
26. Wears sterile gloves
27. Alerts patient that the examination is about to begin
28. Inspects and palpates external structures
29. Inspects for hysteroptosis, cystocele or rectocele if indicated by patient's history (optional if indicated)
30. Chooses the proper sized speculum, checks it (both mechanically and to make sure that it is not too cold) and shows it to patient
31. Alerts patient that speculum examination is about to begin
32. Separates labia minora with two fingers of one gloved hand
33. Introduces speculum into vaginal introitus
34. Inserts speculum slowly into vagina along posterior vaginal wall
35. Opens speculum after inserting it fully; exposes cervix and tightens screw on speculum
36. Cervical inspection
37. Obtains specimen (this procedure will be discussed with and reviewed by the simulated patient but will not actually be performed)
38. Releases screws while holding blades open; withdraws speculum slightly until free of cervix and closes speculum partially
39. Vaginal inspection
40. Allows speculum to close completely as it is withdrawn
41. Applies lubricant to fore and middle finger of gloved hand
42. Alerts patient that bimanual examination is about to begin
43. Introduces distal segment of middle and fore fingers into vagina, uses pubococcygeal relaxation technique and presses down on the perineal body
44. Inserts both fingers slightly into vagina and turns hand to palm up position; hyperextends thumb and flexes fourth and fifth fingers toward the palm
45. Palpates vaginal rugae
46. Palpates cervix
47. Asks patient to take a deep breath and then relax her abdominal muscles
48. Palpates uterine body between vaginal hand and abdominal hand
49. Moves vaginal fingers into lateral fornix and abdominal hand to lateral lower quadrants of abdomen and attempts to palpate both ovaries and parametrial tissues
50. Withdraws middle finger from vagina, regloves and applies lubricant to fore and middle fingers
51. Alerts patient that examination is about to begin

52. Introduces middle finger into rectum and fore finger into vagina
53. Uses anal sphincter relaxation technique by asking patient to bear down as finger is inserted.
54. Repeats the palpation and characterization of the cervix, uterus, ovaries and parametrial tissues from the posterior position
55. Palpates posterior pelvic wall with rectal finger
56. Palpates rectovaginal septum between fingers while withdrawing internal hand
57. Withdraws fingers smoothly
58. Smears a glass slide with rectal secretion to test for occult blood
59. Gives patient some basic health education
60. Rectal Bimanual Examination

第四章 某些特殊情况的问诊和体格检查

儿科问诊纲要

A. 引言

问诊者作自我介绍

说明自己的身份和作用

称呼病史陈述者为“某先生”、“某太太”、“某女士”或其他合适的称呼

问诊前和病史陈述者或病人作简单交谈,使对方轻松自在并与自己合作

病人姓名

性别

年龄 岁、月(新生儿:天、甚至小时)

民族

出生地(省、市或县)

家长姓名

家庭详细地址(包括邮政编码和电话号码)

病史陈述者和病人的关系

病史可靠程度

B. 主诉

用陈述者的话概括病人的主要症状或体征及其发生的时间。问诊时先用通俗易懂的一般性问题提问,如:“你的孩子哪里不好?”

C. 现病史

详细记录病人目前的主要问题:

起病情况和患病时间

主要症状的特点,包括出现的部位、性质、发作的频率、持续时间、程度、缓解或加剧的因素
病因和诱因

病情的发展、演变(按时间顺序记录,包括主要症状的发生、发展和出现的其他症状)

伴随症状

有临床意义的阴性症状

治疗经过(药物、剂量和疗效)

病后一般情况(精神、食欲、体重、睡眠和大、小便等)

小结、解释和核实

用过渡语言转入个人史的问诊

D. 个人史

胎儿期 母亲孕次、产次、流产史(包括自然流产和人工流产)。对新生儿患者应详细询问

母亲妊娠期情况,包括疾病、饮食、医疗监护情况、用药、意外事故、X 线照射、出血、羊水过多、高血压、蛋白尿、血尿、糖尿、血型等。

出生史和新生儿期情况 出生史应包括胎龄、产程、分娩方式、接生地点(指出生场所:家庭、医院或转运途中等);分娩前后母亲用药情况(如镇静剂、麻醉剂);新生儿出生时情况(如哭声、复苏、Apgar 评分)。新生儿期情况包括出生体重、身长、头围、产伤、畸形、呼吸困难、青紫、皮疹、黄疸、惊厥、出血、吸吮和喂养问题、第一次胎便和小便时间、住院时间、体重增减等。

喂养和营养 母乳喂养、人工喂养或混合喂养;维生素和辅食的添加;食欲以及喜爱和厌恶的食物;有无呕吐和腹泻的情况。

生长发育 运动发育:抬头、独坐、爬、站立、行走;语言发育:叫爸爸、妈妈和说简单句子;对人与社会环境的反应力:笑、大小便的控制情况;体重、身长的增长;乳牙萌出时间。学龄儿童应询问其学习成绩,女性年长儿还应询问月经初潮年龄。

习惯和行为 进食、睡眠、体格锻炼、牙的护理等习惯,注意询问有无不良习惯或行为障碍。

小结、解释和核实

用过渡语言转入过去史的问诊

E. 过去史

既往健康情况

既往疾病 指感染性疾病、传染病和其它与现病史有关的疾病

预防接种 项目、接种年龄和反应

意外事故、外伤和手术情况

过敏史(药物、食物及环境因素等) 湿疹、荨麻疹、哮喘等

小结、解释和核实

用过渡语言转入系统回顾的问诊

F. 系统回顾

该部分问诊允许学生使用儿科系统回顾问诊纲要,见附录。

一般情况

皮肤

造血系统

头

眼

耳

鼻

口

咽喉

乳房

呼吸系统

心血管系统

消化系统

泌尿系统

生殖系统(包括月经史)

内分泌系统

运动系统

神经系统

精神科情况

小结、解释和核实

用过渡语言转入家族史的问诊

G. 家族史

父母、兄弟姐妹和祖父母的年龄及健康情况,注意父母是否近亲结婚,祖父母是否与患儿居住在一起。如有遗传性疾病家族史,应画出完整的家族遗传谱系图。

家族成员中有否下列疾病的发生:结核病、肝炎、先天畸形、精神或神经疾病、风湿热、过敏性疾病、出血性疾病、免疫缺陷病、癌(瘤)、癫痫、糖尿病等。

家族中已死亡的小儿,注明死亡的年龄和原因,包括死胎。

小结、解释和核实

用过渡语言转入社会史的问诊

H. 社会史

父母婚姻状况、文化程度、职业和经济收入

环境卫生情况;病儿有无传染病的接触史(如保姆、邻居或亲戚)

当地流行病或地方病

健康保险或医疗费用来源

小结、解释和核实

I. 结束语

询问病史陈述者对病儿疾病的看法

讨论病史陈述者提出的问题

讲明医生和病史陈述者以及病人下一步应做的事情

Chapter 4

INTERVIEW AND PHYSICAL EXAMINATIONS FOR SOME SPECIAL SITUATIONS

OUTLINE FOR PEDIATRIC INTERVIEW

A. Introduction

Introduce yourself

Define role and position

Address informant as "Mr. ", "Miss", "Mrs. " or other suitable name

Talk a little to get interview started and to put informant or patient at ease and to gain co-

operation with the interview

Name of patient

Sex

Age: years and months (newborn: days, even hours)

Race

Place of birth (city, county or province)

Name of parents

Address (in detail, including post code, phone number)

Informant's relationship with patient

Reliability of history

B. Chief Complaint

Briefly state chief symptoms or signs and duration in the informant's own words. Use open-ended questions to begin interview, e. g. "What seems to be the problem with your child?"

C. History of the Present Illness (HPI)

Detailed documentation of patient's chief problem:

Onset and duration

Features of chief symptoms, including location, quality, frequency, duration, intensity, alleviating or aggravating factors

Causes and inducements of illness

Progression (chronology of the illness, including the development of main symptoms and appearance of other symptoms)

Associated symptoms

Significant negative symptoms

Treatments (medication, dose and curative effect)

General condition after illness (mental status, appetite, body weight, sleeping, urine, and bowel movement, etc.)

Summarize, clarify and verify

Transitional statement into personal history

D. Personal History

Fetal Period: gravida, para, abortion (including artificial and natural), * mother's health during pregnancy, including diseases, diet, medical supervision, medications, accidents, exposure to X-ray, bleeding, polyhydramnious, hypertension, proteinuria, hematuria, glycosuria, and blood type, etc.

Natal and Neonatal Status: gestational age, duration of labor, type of delivery, place of delivery (indicating location of actual delivery: home, hospital, or in transit), prenatal maternal medications, (e. g. sedatives, anesthetics), status of baby at birth (e. g. first cry, resuscitation, Apgar score) and newborn period (birth weight, length, head circumference, birth injury, abnormalities, dyspnea, cyanosis, rashes, jaundice, convulsion, hemorrhage, suck-

ing and feeding problems). The date of first meconium and urine, days in hospital, body weight gain or loss, etc.

Feeding and nutrition; breast, formula, or mixed feeding, supplementary vitamins and foods, appetite, food likes or dislikes, vomiting and diarrhea.

Growth and development; list a few major gross motor milestones (age of first raising head, sitting alone, climbing, standing, walking); language milestones (age of saying mama or papa, simple sentences), personal social milestones (age of smiling, urinary continence, and control of bowel movement); body weight, length (height), deciduous teeth eruption. For elder child, school performance should be asked; for elder girl, first menstruation should also be included.

Habits and behavior; eating, sleeping, tooth care and physical exercise, attention focused on habit variations or unusual behavior problems.

Summarize, clarify and verify.

Transitional statement into past medical history.

E. Past Medical History

Past health status

Past illness: mainly indicate infections, contagious diseases and any other diseases which may be relevant to present illness.

Immunitization; types, age given and reactions.

Accidents, injuries and operations.

Allergies (drugs, foods, environment agents); eczema, hives, asthma, etc.

Summarize, clarify and verify.

Transitional statement into review of system.

F. Review of Systems

(student is permitted to use a copy of the review of systems for this section)

General Condition

Skin

Haematopoietic

Head

Eyes

Ears

Nose

Mouth

Pharynx and larynx

Breasts

Respiratory System

Cardiovascular System

Gastrointestinal System

Urinary System

Genital System (including menstrual history)

Endocrine System

Motor System

Nervous System

Psychiatric State

Summarize, clarify and verify

Transitional statement into family history

G. Family History

Ages and health status of the parents, siblings and the grandparents, note whether the parents marriage is consanguineous and whether the grandparents live with the child. If there is a positive genetic history, a complete family tree should be drawn.

Other illness that runs in the family: T. B., hepatitis, congenital abnormalities, mental or nervous diseases, rheumatic fever, allergy, hemorrhagic diseases, immune deficiency, cancer, epilepsy, diabetes, etc.

Any family history of early childhood deaths; note the age and cause of the death, including stillbirth.

Summarize, clarify and verify.

Transitional statement into social history.

H. Social History

Parental marital status, parental educational background, occupation and income.

Hygienic conditions of the environment. Whether the child has been in contact with people who suffered from contagious diseases (e. g. babysitter, neighbor, or relatives).

Epidemic diseases in local area.

Health insurance or source of medical payment.

Summarize, clarify and verify.

I. Closure

Ask the informant how he or she views the problem of the patient.

Discuss any questions which the informant asked.

State what the pediatrician and informant as well as the patient will do next.

婴幼儿体格检查方法

医学生应该掌握儿科体格检查的基本功。学龄儿童和年长儿的体检基本和成人相同,但是新生儿和婴幼儿,由于年龄、体检时不合作以及生理解剖特点,其体格检查与成人不同。新生儿体检的目的是获得生长发育的资料,发现危重情况(如产伤、窒息和感染等),以及遗传性疾病和先天性畸形。学龄前期小儿体检时若合作,可按成人体检进行;若不合作,则按婴幼儿体检进行。

学生应尽量按婴幼儿体检纲要完成全面的儿科体格检查。

本节中不再重复成人体检的全部基本手法,如需熟悉那些基本手法时,请参考成人体检

方法的有关部分。

A. 一般检查

1. 体检开始前，当家属面洗手。
 2. 首先，检查者应设法取得合作，开始检查前应和小儿交谈，或用玩具逗乐儿童，消除其恐惧心理和紧张情绪。
 3. 检查体位应适合小儿的年龄和病情。
 4. 检查时的顺序应灵活掌握，一般情况下，先检查易受哭闹影响的项目，如计数呼吸、脉搏、腹部触诊、心肺听诊等，而淋巴结、骨、关节等项内容不受哭闹影响，随时均能检查。对小儿刺激较大的检查，如眼、耳、鼻和口腔，特别是咽部应放在最后进行。
 5. 检查者的手和听诊器胸件应保持温暖，手法轻柔、迅速，应暴露需检查的部位，不要隔衣裤进行体检。
 6. 观察外貌并评估精神、神志、发育、营养及小儿的一般情况。当小儿在随意情况下，即应观察其体位、站立姿势或步态、面部表情、眼神、对外界的反应、活动情况以及声音大小等。
 7. 测量体温 将温度计从消毒液中取出擦干，温度计内的水银柱应在 35°C 标示下，测腋温时应擦干腋下，水银端置于腋窝，保证受检者上臂紧贴胸部，测量时间不应少于 5 分钟。儿童可测肛温，将肛温计长度的 $1/2$ 轻柔、缓慢地插入肛门中，测量时间为 3 分钟。正常小儿体温腋表为 $36\sim 37^{\circ}\text{C}$ ，肛表为 $36.5\sim 37.5^{\circ}\text{C}$ 。
 8. 触诊桡动脉搏动 触诊应在小儿安静、合作时进行，检查者将示指、中指和环指的指腹放在腕关节拇指侧的桡动脉上，压力大小以摸到搏动为宜，计数至少 60 秒，除计数脉搏频率外还应注意节律，如节律不规则，计数应延长至 2 分钟。小婴儿也可触诊颞动脉。
 9. 测量呼吸频率 在安静情况下，计数 30 秒内受检小儿胸或腹壁起伏的次数（一呼一吸计数为一次）。
- 各年龄组正常小儿的呼吸、脉搏次数见表 4-1。

表 4-1 各年龄组正常小儿的呼吸、脉搏次数（次/分钟）

年龄	呼吸	脉搏
新生儿	40~45	120~140
1 岁以下	30~40	110~130
2~3 岁	25~30	100~120
4~7 岁	20~25	80~100
8~14 岁	18~20	70~90

10. 测量血压 测量血压时，无论取坐位还是卧位，右上臂与心脏均应在同一水平，且手臂放松。血压计袖带宽度应为上臂长的 $2/3$ ，将袖带内空气排空，测压计显示为零后，将袖带缚于上臂，不可过紧或过松，袖带下缘应距肘窝 2cm，听诊器胸件应放在肱动脉上。检查者向袖带充气，待肱动脉搏动消失，再将汞柱升高约 2kPa (15mmHg)，然后放出袖带中空气，使血压计汞柱以每秒 0.4kPa (约 3mmHg) 速度缓慢下降。出现第一个动脉音时的测压计读数为收缩压，继续放气，动脉音渐强，然后突然减弱，最后消失，此时血压计读数即为舒张压。如动脉音减弱和消失之间的读数差值在 2.6kPa (20mmHg) 或以上，应同时记录 2 个读数。

测量小婴儿的血压比较困难，可用简易的潮红法测量，即小儿取仰卧位，将血压计袖带

缚于前臂腕上部，紧握袖带远端的手，使之发白，然后迅速充气到 10kPa 以上，移去局部握压，缓慢放气，当受压处皮肤由白转红时，血压计上读数为收缩压近似值。亦可用监听式超声多普勒诊断仪测量。

血压不正常时，应测量双上臂血压；双上臂血压不相同或疑为心血管疾病时应量双下肢血压。测量下肢血压时，受检者取俯卧位，袖带缚于腘窝上 3cm，方法同上。

小儿血压正常值可按下列公式计算：

$$\text{收缩压} = 80 + \text{年龄} \times 2 \text{ (mmHg)} \text{ 或 } \frac{80 + \text{年龄} \times 2}{7.5} \text{ (kPa)}$$

$$\text{舒张压} = 2/3 \text{ 收缩压}$$

11. 测量体重 衣着、饮食和大小便对体重的准确性均有影响，应予以考虑。测量前受检小儿应排大小便，脱去鞋帽和外衣，婴儿卧于磅秤秤盘中测量，其余小儿可用台秤。使用前均应校对体重计。如室温较低可连衣服称，再称衣服，总重量减去衣服重量即为小儿体重。

正常小儿体重可按下列公式计算：

$$\leq 6 \text{ 月} \quad \text{体重 (kg)} = \text{出生体重 (kg)} + \text{月龄} \times 0.7$$

$$7 \text{ 月} \sim 1 \text{ 岁} \quad \text{体重 (kg)} = \text{出生体重 (kg)} + 6 \times 0.7 + (\text{月龄} - 6) \times 0.3$$

$$2 \sim 12 \text{ 岁} \quad \text{体重 (kg)} = \text{年龄} \times 2 + 8$$

同年龄小儿体重可波动在正常值 $\pm 10\%$ 以内。

12. 测量身长（高）及上、下部量 3 岁以下的小儿用量床测量身长，受检者取卧位，头顶接触头板，检查者拉直小儿双膝部，两下肢伸直紧贴底板，移动脚板使之紧贴脚底，记录其量板数字。

3 岁以上的小儿应测身高，受检者赤脚，取直立位，使两脚跟、臀部及两肩胛角间均接触身长计立柱，脚跟靠拢，脚尖分开，两眼平视前方，进行测量。

正常小儿身长（身高）：

出生时平均身长 50cm，出生后前半年每月平均长 2.5cm，出生后 7~12 月每月平均长 1.5cm；1 岁时约为 75cm，2 岁时约为 85cm。

2 岁后按下面公式粗略推算：

$$\text{身长 (高)} = \text{年龄} \times 5 + 7.5 \text{ (cm)}$$

同年龄小儿身长低于正常的 30% 应视为异常。

上、下部量：受检小儿取卧位或立位，用软尺或硬尺测量耻骨联合上缘至足底的垂直距离，为下部量；身长或身高减去下部量即为上部量。

正常新生儿下部量：上部量为 2:3，以后比值渐增大，至 12 岁时上、下部量相等，比值达 1:1。

13. 测量头围 用左手拇指将软尺零点固定于头部右侧齐眉弓上缘，软尺从头部右侧经枕骨粗隆最高处，紧贴皮肤，左右对称而回至零点进行读数。若为长发者，应在软尺经过处，将头发向上、下分开。

头围正常值：

新生儿平均 34cm，出生后前半年增加 8~10cm，半岁~1 岁间增加 2~4cm；1 岁时平均 46cm，2 岁时平均 48cm，5 岁时平均 50cm，15 岁时接近成人，为 54~58cm。

14. 测量胸围 3 岁以下取卧位或立位，3 岁以上取立位，不取坐位。检查者用左手拇指

将软尺零点固定于右乳头下缘，右手拉软尺使其绕经右侧后背以两肩胛下角下缘为准，经左侧回至零点进行测量，取平静呼、吸气时的中间数。若女孩乳房已发育，可取胸骨中线第4肋间高度为固定点，方法同前。

胸围正常值：

新生儿约为32.4cm，1岁时约为46cm，1岁后约为（头围+年龄）cm。

15. 测量腹围 取卧位，测量婴儿时将软尺零点固定在剑突与脐连线中点，经同水平位绕背一周回至零点；儿童可平脐经水平位绕背一周进行读数。

16. 测量腹部皮下脂肪 用左手拇指和示指在腹部脐旁锁骨中线处捏起皮肤和皮下脂肪（捏前两指距3cm），用卡尺进行测量。小儿正常皮下脂肪厚度应在0.8cm以上。

17. 测量上臂围 在上臂中点（系肩峰与尺骨鹰嘴连线中点）用软尺与肱骨垂直测量上臂周径，注意软尺只需紧贴皮肤，勿压迫皮下组织。

B. 头和颈

头颅

18. 检查头颅 头颅大小在测头围时评估，应观察有无畸形。检查者用双手对称地触摸整个头颅。用手分开头发仔细观察有无畸形，注意头发的密度、色泽和分布（如枕秃）。触诊颅缝，检查有无颅骨软化和颅骨缺损。颅缝包括额缝、冠状缝、矢状缝和人字缝。出生时颅缝可稍分开，3~4个月时闭合。检查颅骨软化时，用手指加压于颞顶部或顶枕部的耳后上部，有乒乓球感时即为颅骨软化。3个月内婴儿颅缝周围有颅骨软化应视为正常。

19. 检查囟门 正确测量前囟的大小，应测量额、顶骨形成的菱形对边中点连线，见图4-1。

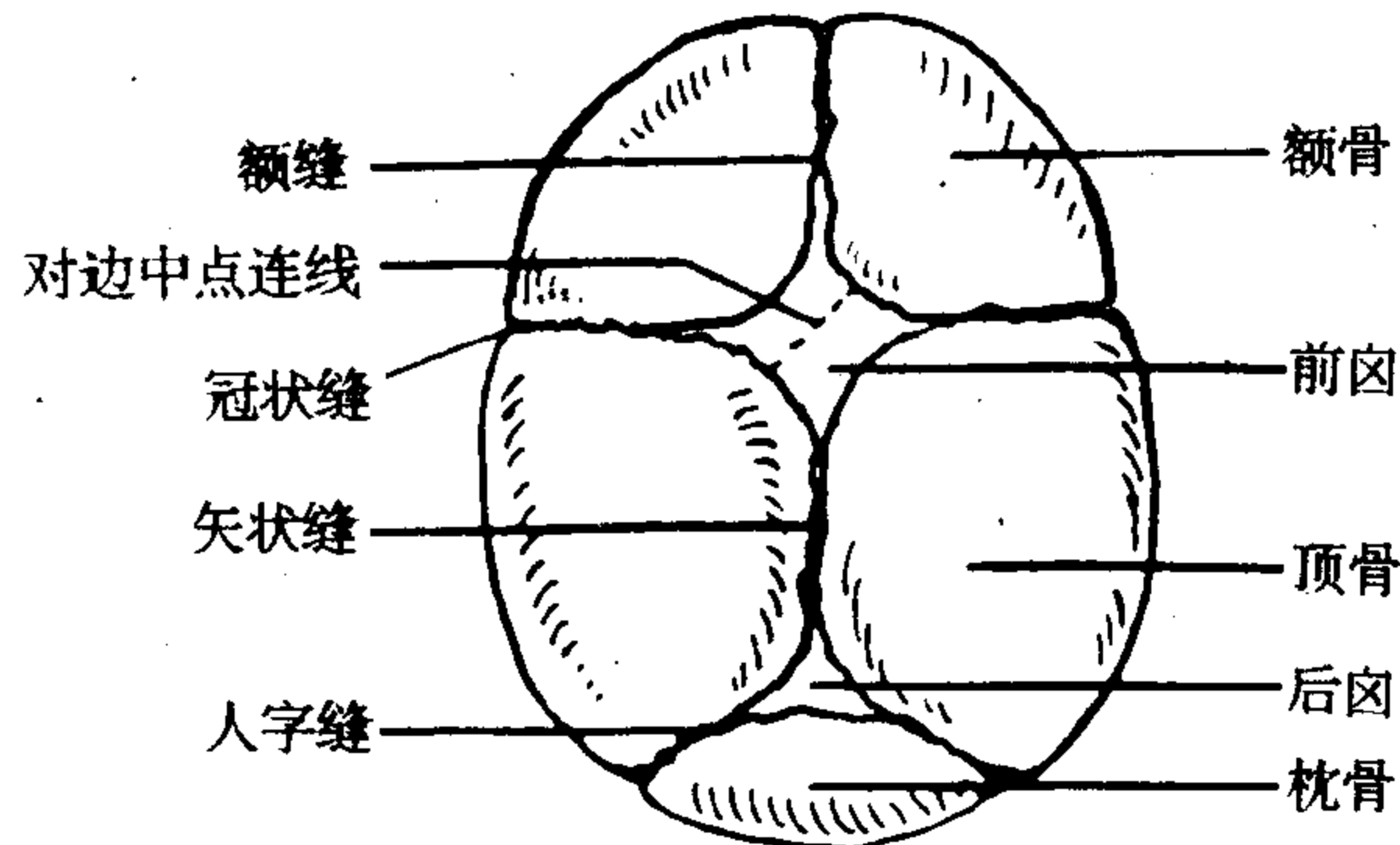


图 4-1 小儿的囟门

出生时前囟为1.5~2cm，1~1.5岁时闭合。正常前囟表面平坦，如膨隆或凹陷均为异常。出生时后囟已闭合或很小，一般在生后2月内闭合。

眼

20. 测视力 可观察婴幼儿眼球随光或玩具转动，或以手指突然接近眼部是否有瞬目反射来粗测其视力。

21. 检查有无眼睑水肿、眼球突出、斜视、结膜充血、异常渗出物、毕脱氏斑、巩膜黄疸、角膜混浊、溃疡和鼻泪管堵塞现象。

22. 观察瞳孔大小、形状、直接对光反射。
23. 检眼镜的使用, 参考成人有关检眼镜的检查。

耳

24. 观察和触摸双侧耳廓、耳前后区, 注意皮肤损伤、结节和先天畸形(如耳前瘻管、小耳、低耳位)。触诊有无压痛, 当向上牵拉耳廓或向内压耳屏时, 婴幼儿出现痛苦表情, 此时应考虑有外耳道炎的可能。

25. 观察双侧外耳道, 注意皮肤有无异常和溢液。

26. 轻压耳后乳突区, 观察有无压痛。

27. 检耳镜的使用 若怀疑为中耳炎者应作耳镜检查。检查时, 应向后上牵拉耳廓, 详细步骤可参考成人检耳镜的有关部分。

28. 病情需要时应做听力检查

<6 月 清醒时对 70dB (分贝) 声响, 熟睡时对 115dB 声响作出反应, 如眨眼、肢体抽动、眼球转动或出现一些面部表情。

6 月~2 岁 对声源可定向, 对语言有反应, 可对听阈作初步估计。

2 岁以后 可用简单语句作语言测定。

鼻

29. 观察鼻的外形, 注意有无畸形、鼻翼扇动和渗出物。

30. 鼻镜的使用, 参考成人有关鼻镜的检查。

口

31. 观察唇、颊粘膜、齿、牙龈和舌 正常小儿口唇为红润, 有光泽, 注意有无苍白、紫绀、口角糜烂、皸裂和唇裂; 正常粘膜表面光滑, 呈粉红色, 注意有无充血、糜烂、溃疡、出血、麻疹粘膜斑和鹅口疮; 注意腮腺导管口有无红肿和溢液, 其溢液的量和颜色; 乳牙是否萌出, 牙有无缺损或龋齿, 以及修补情况; 检查牙龈时, 注意有无肿胀、出血和色素沉着。检查舌时, 注意舌面、形态、运动和溃疡等。

乳牙萌出的时间:

乳牙正常在 4~10 月萌出, 2~2 岁半出齐, 2 岁内乳牙数目=月龄-(4~6) 个, 乳牙出齐应为 20 个。恒牙在 6 岁左右萌出, 7 岁始恒牙替换乳牙, 恒牙共计 32 个。

32. 检查口底和舌底部, 轻提舌尖, 观察有无异常舌系带或舌下囊肿。

33. 检查咽部 应有良好的光照条件, 一手固定其下颌, 另一手用大小合适的压舌板将舌的前 2/3 压下, 要求动作准确迅速, 避免小儿不合作而致损伤。观察软腭、悬雍垂、舌腭弓和咽后壁, 注意有无充血、疱疹、溃疡, 扁桃体有无肿大, 隐窝内有无分泌物和软腭能否正常上抬运动。

颈

34. 检查颈部外形、皮肤及活动度, 注意是否对称, 有无肿块(如淋巴结肿大、甲状腺肿大)、畸形(如先天性斜颈、短颈和颈蹼等), 观察有无皮损和颈活动受限。

35. 观察颈静脉 正常小儿立位或坐位时, 颈静脉不显露, 平卧时稍见充盈。特别是婴儿, 由于颈部较短, 脂肪丰富, 更难于观察到。如果明显可见即提示静脉压增高, 称为颈静脉怒张。

36. 检查颈肌张力, 注意有无颈部强直、角弓反张或肌无力。

37. 触摸甲状腺大小和气管的位置。

颈部淋巴结

38. 耳前淋巴结 位于耳前。

39. 耳后淋巴结 位于耳后。

40. 枕淋巴结 位于枕后。

41. 下颌下淋巴结 位于下颌角与颈部之间。

42. 颌下淋巴结 位于颌下中线处。

43. 颈前淋巴结 位于胸锁乳突肌前浅表处。

44. 颈外侧淋巴结 位于胸锁乳突肌后浅表处。

45. 锁骨上淋巴结 位于胸锁乳突肌与锁骨之间的交角处。

淋巴结如有肿大，应注意大小、数目、硬度及活动度；有无压痛、红肿、瘰管、瘢痕；淋巴结之间或与皮肤之间有无粘连。

C. 胸部

46. 观察胸部外形和对称性 正常情况下，婴儿胸部呈桶状，前后径等于横径；随着年龄增长，横径渐增且完全对称。注意儿童期可能发生的畸形，如鸡胸、漏斗胸、桶胸和郝氏沟等。

47. 检查皮肤，注意胸壁有无包块和触痛等。

48. 检查乳房，注意有无乳晕增宽和色素沉着以及乳房隆起和渗出物。

49. 检查腋毛和腋淋巴结 腋毛的出现是性征发育的证据之一。

肺脏

50. 观察呼吸运动 观察呼吸时胸廓动度和对称性，注意呼吸频率、节律和呼吸方式。小儿以腹式呼吸占优势。

51. 触诊语颤 将双手分别对称地放在胸壁两侧，当小儿啼哭或发音时，判断两侧语颤强度是否相等。

52. 叩诊肺部 从上到下，从外向里，对称地叩诊双肺野。小儿体位应摆正，医生手法应轻柔。小婴儿可使用直接叩诊法，即用1~2个手指直接叩击胸壁。正常叩诊为清音，婴儿胸壁较薄，叩诊时较成人更明显，不要误为过清音。如出现浊音、实音和过清音为异常叩诊音。肩胛骨上叩诊无意义；左侧第3、4肋间处靠近心脏，叩诊音则较右侧对称部位稍浊；右侧腋下部因受肝脏的影响，叩诊音稍浊；左腋前线下方有胃泡，叩诊时产生过清音，检查时应予注意。

53. 双侧对比听诊各肺野 从上到下、从外向里，对称性地对比听诊前肺野和后肺野。由于婴儿胸壁薄，呼吸音似较成人稍长，几乎均为支气管肺泡呼吸音，甚至有时出现支气管呼吸音，不应视为异常。小儿哭闹时影响听诊，应在哭时深吸气末进行听诊。听诊应特别注意双肺下份、腋下和肩胛间区，因为这些部分容易听到湿啰音，有助于早期肺炎的诊断。

心脏

54. 观察心前区 观察心前区有无隆起以及心尖搏动的部位、强度和是否弥散（一般不超过2~3cm），较胖的婴儿不易观察到心尖搏动。

55. 触诊心尖搏动 大多数婴儿的心尖搏动在左侧第4肋间隙乳线内。

56. 触诊胸骨左缘第2、3、4肋间隙。

57. 触诊主动脉瓣区。

58. 触诊二尖瓣区。

59. 触诊三尖瓣区 在胸骨左缘第2肋间隙触到收缩期震颤，提示肺动脉狭窄或动脉导管未闭；在胸骨左缘第3、4、5肋间隙触到收缩期震颤，提示室间隔缺损；二尖瓣区触到收缩期震颤提示二尖瓣闭锁不全，触到舒张期震颤提示二尖瓣狭窄；三尖瓣区触到较强的搏动提示右心室肥厚。

60. 叩诊相对浊音界

左界：2岁时叩诊从第4肋间心尖搏动外2cm开始，由外向内叩诊；3岁以上叩诊从第5肋间心尖搏动外2cm开始，由外向内叩诊。

右界：从肝浊音界上一肋间开始，由外向内叩诊。

叩诊小儿时动作应较成人轻，否则心脏叩诊相对浊音界会较心脏实际大小为小。叩诊婴儿以直接叩诊较为准确。测量左界时以左乳线为标志，量出心左界距该线的内或外距离，测量右界时以右胸骨旁线为标志，量出右界距该线的距离。不同年龄的小儿正常心界见表4-2。

表4-2 小儿正常心界

年龄(岁)	左 界	右 界
<1	左乳线外1~2cm	右胸骨旁线
2~5	左乳线外1cm	右胸骨旁线和右胸骨线之间
5~12	左乳线上或左乳线内0.5~1cm	接近右胸骨线
>12	左乳线内0.5~1cm	右胸骨线

心脏听诊

应使用较小的听诊器胸件，在小儿安静情况下进行。由于婴幼儿以先天性心脏病为多见，故听诊重点位置应在胸骨左缘；由于小儿心率较快，听诊者应仔细地区分第一、二心音。先用膜型胸件紧贴胸壁听诊以下部位，然后再用钟型胸件轻轻放在胸壁上按同样顺序进行听诊。

61. 沿胸骨左缘听诊第2、3、4肋间隙。

62. 听诊主动脉瓣区。

63. 听诊二尖瓣区。

64. 听诊三尖瓣区。

D. 腹部

65. 观察腹部外形、皮肤和脐部，注意腹部形状（必要时通过脐部测量腹围）。正常婴儿卧位时，腹部较胸部高。注意有无异常蠕动波、隆起、脐部分泌物、腹壁静脉扩张。

66. 婴儿哭闹时影响腹部触诊，故可用母乳喂养或吸吮奶头以尽力取得合作。

67. 触诊全腹部 触诊腹部时，从左下腹开始，按逆时针方向触诊全腹部，先浅后深地触诊。注意有无包块，通过观察小儿有无痛苦表情检查有无压痛，如有疼痛，注意检查麦氏点有无压痛和反跳痛。

68. 左上腹触诊时，注意触诊脾脏。正常婴儿肋下偶可触及脾脏。

69. 右上腹触诊时，注意触诊肝脏。正常婴幼儿肋下可触及1~2cm。

70. 剑突下触诊肝脏 触诊肝脏时应注意质地，有无触痛和表面是否光滑。

71. 触诊双侧肾脏。

72. 从左下腹部开始按逆时针方向叩诊全腹部，正常为鼓音。

73. 在右锁骨中线上叩诊肝脏上、下界，在剑突下叩诊肝脏浊音界。
74. 检查肝脏叩击痛。
75. 如疑有腹水，应检查移动性浊音。
76. 用膜式听诊器听诊肠鸣音至少 1 分钟，如未闻及肠鸣音，应听诊 5 分钟。注意肠鸣音的频率（正常每分钟 3~5 次）、强度、音调。婴儿因肠壁较薄，有时可闻及活跃的肠鸣音。
77. 如疑有血管疾病，应用钟式听诊器听诊血管杂音，包括：主动脉（剑下与脐之间中线_上）、两侧肾动脉（脐上两侧）、两侧髂总动脉（脐下两侧）及两侧股动脉（腹股沟韧带的中点）。

E. 脊柱和四肢

78. 观察脊柱的形态，注意有无畸形：前、后、侧凸和脑脊膜膨出。
79. 检查棘突有无触痛。
80. 观察上肢的对称性，注意畸形（如手镯、多指、手蹼和小指弯曲、杵状指等）、肌外形（萎缩或假性肥大）、关节肿胀、皮疹、水肿等。
81. 触诊指骨间、掌指和腕掌关节。
82. 被动检查腕关节运动，包括背伸和掌屈。
83. 触诊肘关节。
84. 被动检查肘关节运动，包括伸和屈。
85. 触诊滑车上淋巴结。
86. 触诊肩关节。
87. 被动检查肩关节运动，包括外展、内收、前屈和后伸。
88. 被动检查上肢肌张力。
89. 观察下肢对称性，注意畸形（如多趾、足蹼、O 型腿、X 型腿、踝内翻、踝外翻、杵状趾等）、肌外形（如萎缩或假性肥大）、关节肿胀、皮疹、水肿等。
90. 如疑有血管疾病，应触诊股动脉、腘动脉和足背动脉。
91. 触诊每一个足关节。
92. 被动检查足的各关节运动，包括足趾背伸和跖屈。
93. 触诊踝关节。
94. 被动检查踝关节运动，包括背屈、跖屈、外翻和内翻。
95. 触诊膝关节。
96. 被动检查膝关节运动，包括伸和屈。
97. 被动检查髋关节运动，包括屈曲、伸展、外展和内收。
98. 被动检查下肢肌张力。
99. 指压胫前和脚背至少 5 秒钟以检查凹陷性水肿。

F. 外生殖器

100. 正确暴露检查部位，应暴露耻骨联合至会阴部，防止忽视小儿生殖器检查的倾向。
101. 观察外生殖器的发育，注意有无畸形、水肿、溃疡、损伤和感染的征象。
102. 观察阴毛是否出现，此为性征发育的证据之一。

男性

103. 检查阴茎，用拇指和示指上翻包皮，注意有无包皮过长或包茎和尿道下裂。
104. 检查尿道口，注意有无红肿和渗出。

105. 检查双侧睾丸是否下降,如未下降至阴囊内,应通过腹股沟外环检查是否在腹股沟管内。

106. 检查阴囊有无肿大,如有肿大应做透光试验:以不透光的纸片卷成圆筒,一端置于肿大部位,另一端以手电照射,被遮处阴囊如为橙红色、半透明状,多为睾丸鞘膜积液,如不透明多为睾丸肿瘤或疝。

女性

107. 检查阴蒂、阴道前庭和尿道口,分开小阴唇,暴露前庭,检查有无红肿,尿道口和阴道口有无分泌物。检查处女膜有无闭锁及损伤,小阴唇有无粘连。

108. 不做阴道检查。如病情需要应请妇科专家会诊。

G. 肛门、直肠

109. 选择适当的体位。婴幼儿多可让母亲帮助,取截石位。

110. 望诊肛门及邻近区域,注意有无出血、分泌物、红肿及直肠脱垂和外痔等。用左手拇指和示指轻轻推开两臀部,暴露整个肛门,观察有无瘻管和肛裂。

111. 必要时作直肠指诊 检查者带好手套,在小指上涂以少量的润滑油,将小指轻轻加压于肛门括约肌数秒钟,让其松弛后,轻轻地插入肛门,再以旋转动作渐向直肠深入,注意直肠有无结节、息肉,有无触痛,再以旋转方式退出肛门,注意指套上有无血、脓液及大便的性状,并将大便送常规检查。

H. 神经系统

婴幼儿主要应做如下检查:

浅反射

112. 腹壁反射 (4个月以下婴儿,该反射可为阴性)

113. 提睾反射

深反射

114. 肱二头肌反射

115. 膝腱反射

病理反射

116. 巴氏征 (2岁以下小儿,该反射可为阳性)

脑膜刺激征

117. 颈强直

118. 布氏征

119. 克氏征

由于小儿难于合作,神经系统检查一般仅作以上要求。如疑有神经系统疾病,可选择做一些成人内科的神经系统检查项目。

THE PHYSICAL EXAMINATION OF THE INFANT (EARLY CHILD)

The pediatric physical examination should be mastered by all students. The physical examination of school aged and older children is nearly the same as adults. But the physical exami-

nation of the newborn and infant (early childhood) is different from the adults' because of the age, noncooperation, physiological and anatomical characteristics. The goals of examination of the newborn are as follows: to acquire the information about growth and development; to detect the critical conditions (e. g. birth injury, asphyxia, infection, etc.), hereditary diseases, and congenital malformations. Therefore, this manual will focus on the physical examination of infants (early childhood). If the preschool child is cooperative, the examination may be finished as in the adult; if the preschool child is noncooperative, the examination may be done as that of the infant (early childhood).

The students should try to do a careful and complete pediatric physical examination according to the checklist for physical examination of the infant (early childhood).

In the training manual for the physical examination of the infant (early child), we don't repeat fundamental maneuvers of the complete physical examination for adults. If necessary, please refer to relevant parts of the training manual for the physical examination of the adult.

A. General Examination

1. Wash hands in front of the patient before starting examination.
2. First of all, the examiner should gain the cooperation of the child. Talking a little or amusing the child with toys before the examination is necessary to relieve anxiety and tension.
3. The position of the child should be appropriate for his age and condition.
4. The order of examination should be flexible for ease of examination. Generally, items which are influenced by emotional changes of the child should be performed at first, e. g. counting the respiration rate and pulse rate, palpation of the abdomen, auscultation of the heart and the lung, etc. Items like lymph nodes, bone and joints which are not influenced by emotional changes can be examined at any time. Items like eyes, ears, nose and mouth, especially the pharynx which may cause discomfort of small children, should be performed at the end of the examination.
5. The hands and stethoscope of the examiner should be kept warm. The maneuvers should be gentle and quick. The examiner should expose parts of the body which are examined and avoid doing the examination through the patient's clothes.
6. Observe appearance and evaluate psychiatric and conscious state, development, nutrition and the patient's general condition. The examination should begin before the child is aware of being examined by inspecting the body position, erect or walking posture, facial expression, reaction to environment, expression in eyes, activity, and voice.
7. Taking temperature:

Take the thermometer from the sterilizing solution, dry it and bring the mercury column below 35°C. When the axillary temperature is to be taken, wipe the armpit dry, put the mercury end of the thermometer in axilla, and ensure the upper arm of the patient is pressing close to his chest. The time for measurement should not be less than 5 minutes. For children, rectal temperature can be used. Insert the thermometer slowly and gently

to at least one half the length of the thermometer, three minutes is necessary for measurement. The normal axillary temperature for a child is between $36^{\circ}\text{--}37^{\circ}\text{C}$, while rectal temperature is between $36.5^{\circ}\text{--}37.5^{\circ}\text{C}$.

8. Palpate radial pulse:

The palpation should be performed when the child is quiet and cooperative. Place the pads of the index, middle and ring fingers together over the thumb (radial) side of the wrist joint. Palpate the radial pulse with proper pressure, feeling the pulsation for at least 60 seconds. The rhythm as well as the frequency of the pulse should be noted. If there appears to be any irregular pulse, the time for palpation should be prolonged to 2 minutes. The temporal artery may also be used in infants.

9. Measure respiratory rate:

The respiratory rate is measured by observing the number of times there is fluctuation of chest or abdomen (one time includes inhalation and exhalation) during 30 seconds. Respiratory and pulse rate for children of different ages are listed in the table 4-1.

Table 4-1 Respiratory And Pulse Rate (per minute) For Children Of Different Ages

Ages	Respiratory	Pulse
newborn	40-45	120-140
<1 years	30-40	110-130
2-3 years	25-30	100-120
4-7 years	20-25	80-100
8-14 years	18-20	70-90

10. Measure blood pressure:

When blood pressure is taken, the right upper arm should be placed at the heart level no matter if the patient is in sitting or supine position. The arm should be relaxed. The width of the blood pressure cuff should be $2/3$ of the length of the upper arm. Remove the air from the cuff. Calibrate the manometer dial with the pointer at "0". Wrap the pressure cuff snugly over the upper arm with the lower edge 2cm above the antecubital crease. Place the stethoscope over the brachial artery rather than under the cuff. Inflate the cuff up to the disappearance of the pulsation of the brachial artery and then let the mercury column rise an additional 2kPa (15mmHg); then deflate the cuff slowly at a rate of 0.26kPa (about 2mmHg) per second. When the first sound is heard, the reading of the manometer is recorded as systolic pressure. The artery sound becomes stronger while deflating continues, and then becomes weak suddenly and disappears at last. The reading of the manometer where the pulse sound disappears is regarded as diastolic pressure. If the difference between weakness and disappearance of the sound is 2.6kPa (20mmHg) or greater, both readings of manometer should be recorded as diastolic pressure.

It is rather difficult to measure the blood pressure in small infants. The simplified flush method can be applied for such cases. Let the child lie in a supine position, and apply the pressure cuff to the forearm above the wrist. Hold the hand distal to the cuff tightly un-

til it becomes pale. Then rapidly inflate the manometer above 10kPa and release the hand. Gradually deflate the cuff and note the point at which the arm distal to the cuff is flushed pink. The reading on the manometer is the approximate value of the systolic pressure. The method is not exact, and the monitoring Doppler's echo instrument should be used if possible.

When the reading on the manometer is abnormal, the blood pressure of both upper arms should be measured. When the blood pressure of the upper arms is abnormal or cardiovascular disease is suspected, the blood pressure of both lower limbs should be taken. The prone position should be used when blood pressure of the lower limbs is measured. Apply the cuff 3cm above the popliteal fossa. The method of measurement is the same as in the sitting position.

The normal value of the blood pressure for children can be calculated according to the following formula:

$$\text{Systolic pressure} = 80 + \text{age} \times 2 \text{ (mmHg)} \text{ or } \frac{80 + \text{age} \times 2}{7.5} \text{ (kPa)}$$

$$\text{Diastolic pressure} = 2/3 \text{ systolic pressure}$$

11. Measure body weight:

Clothing, food, and excretion of urine and stool are influential factors for the accurate measurement of weight. The child should be emptied of urine and stool. Hat, shoes, and external clothes should be taken off. The infant is measured with a scale. A platform balance is applied for older children. The balance should be calibrated before measurement. If the room temperature is rather low, the child can be measured with clothes on and the clothes are measured later. The weight of the child then equals the total weight minus the weight of the clothes.

The normal weight for children can be calculated according to the following formula:
 ≤ 6 months:

$$\text{weight (kg)} = \text{birth weight (kg)} + \text{age (mo)} \times 0.7$$

7-12 months:

$$\text{weight (kg)} = \text{birth weight (kg)} + 6 \times 0.7 + [\text{age (mo)} - 6] \times 0.3$$

2-12 years:

$$\text{weight (kg)} = \text{age (yr)} \times 2 + 8$$

The weight of children with the same age may fluctuate within 10% of the normal value.

12. Measure total length (height) plus length of upper and lower parts of the body. Length can be measured with a measuring table for children below 3 years of age. The child lies flat on the table with the vertex of the head touching the head plate, the knees being pressed straight, and the soles closely contacting the bottom plate. Move the foot plate and hold it firmly against the sole of the feet. Record the reading. For the child older than 3 years of age, height rather than length is measured. The child stands erect on the plat-

form of the scale, barefooted, with the heels, buttocks, upper part of the back and occiput against a vertical upright. The two heels should be close together, the tips of the feet set apart and the two eyes looking forward. Then begin the reading.

The normal average length (height) for children at birth is 50cm. The average increment during the first half year of life is 2.5cm per month.

The average increment during the second half year of life is 1.5cm per month

At 1 year: 75cm

At 2 years: 85cm

After 2 years, the value can be calculated approximately by the formula:

Length (height) = Age $\times$ 5 + 75 (cm)

A length 30% lower than the normal value for that age is considered abnormal shortness.

Upper part and lower part measurement:

The lower part measurement is the distance from the upper border of pubic symphysis to the sole of the feet measured by a soft or hard ruler with the patient in a supine or erect position. The upper part measurement is obtained by deducting the lower part measurement from the height.

The normal ratio of the lower and upper part measurement for a newborn is 2 : 3. The ratio will become greater with age and finally reaches 1 : 1 at 12 years of age.

13. Measure head circumference:

Fix the "0" point of the tape against the right supraorbital ridge with the left thumb when applying the tape firmly and symmetrically around the head over the two occipital protuberances posteriorly and left supraorbital ridge anteriorly and then return to the "0" point. Record the reading. Separate the hair up and down for the long-haired child to let the tape pass.

Normal head circumference:

Newborn: 34cm on the average

The increment during the first half year of life is 8-10cm

The increment during the second half year of life is 2-4cm

At 1 year: 46cm

At 2 years: 48cm

At 5 years: 50cm

At 15 years 54~58cm (approximately the same as an adult)

14. Measure chest circumference:

Supine or erect position is used for the child under 3 years of age. Erect and not sitting position is used for the child above 3 years of age. Fix the "0" point of the tape firmly just below the right nipple with the left thumb, apply the tape around the chest wall posteriorly through the lower edge of the lower angles of the scapulae and anteriorly through the left nipple. Then return to the "0" point. Record the reading in mid-respira-

tion. If breast development has begun in girls, then fix the "0" point of the tape over the 4th intercostal space at midclavicular line. The rest of the procedure is the same as mentioned above.

The normal chest circumference is as follows:

Newborn: 32.4cm

At 1 year: 46cm

After 1 year: head circumference + age (yr) (cm)

15. Measure abdominal circumference:

Supine position is used. Fit the "0" point of the tape firmly through the mid point between the xiphoid and umbilicus and apply the tape around the back horizontally for the infant. For the child, use the "0" point as the umbilicus and apply the tape around the back horizontally.

16. Measure skinfold thickness of abdomen:

Grasp the skin and subcutaneous tissue with thumb and index finger of the left hand at a position that crosses the mid-clavicular line at the level of the umbilicus. The distance between the two fingers is 3cm before grasp. The grasped skin fold is measured by skinfold calipers. The normal skinfold thickness for children is greater than 0.8cm.

17. Measure circumference of upper arm:

Apply the tape around the upper arm through the mid point of upper arm (the mid point between the acromion and olecranon). Pay attention that the tape contacts the skin tightly without pressing the subcutaneous tissue.

B. Head and neck

Skull

18. Examine skull:

The size of the skull is determined by measuring the head circumference as described. Any malformation of the skull should be noted.

The examiner palpates the entire scalp using both hands and examines symmetrical areas. The examiner parts the hair to observe deformities and the density, color, lustre and distribution of the hair (e. g., occiput baldness). He palpates the cranial sutures and checks for craniotabes and defects of the skull.

The cranial sutures include frontal, coronal, sagittal and lambdoid sutures. They are felt as ridges until 3-4 months of age.

Craniotabes is best found by pressing the scalp firmly just behind and above the ears in the temporoparietal or parieto-occipital region. The elicitation of a ping-pong ball snapping sensation indicates craniotabes. Craniotabes around the cranial sutures is normal if the baby is less than 3 months.

19. Examine fontanelles:

To measure the size of the anterior fontanelle correctly, measure the length of the line connecting the two midpoints of the opposite sides of the rhombus formed by the frontal

and parietal bones, as illustrated (see Figure 4-1).

The size of the anterior fontanelle is 1.5-2cm. It is closed by 1 to 1.5 years of age.

The surface of the anterior fontanelle is normally flat. Any bulging or depression indicates abnormality.

The posterior fontanelle is small or closed at birth. It is usually closed by the second month.

EYES

20. Estimate visual acuity. Vision can be tested roughly in infants or very young children by noting the eyeball movement in response to a light source or a rotating toy, or by observing the appearance of blinking when a quick movement of fingers is made toward the eyes.
21. Inspect eyelids, proptosis of eyeballs, squint, congestion of conjunctiva, abnormal exudate, Bitot's spot, jaundice of sclera, cloudiness and ulcer of cornea, and obstruction of nasolacrimal duct.
22. Observe pupillary size, shape, and direct reflex to light.
23. Ophthalmoscopic examination; refer to relevant parts of the manual for adults.

Ears

24. Observe and palpate the auricles, preauricular and post-auricular areas, noting skin lesions, nodules, various congenital deformities (e. g. pre-auricular fistula, micro-ear and low-set ear); palpate for tenderness. When pulling the auricles upward or pressing the tragus inward, the child may have a painful expression. In this case, otitis externa should be considered.
25. Observe the aural canals bilaterally noting any abnormalities of the skin and any discharge.
26. Gently press mastoid area bilaterally for tenderness.
27. Otoscopic examination; if you suspect otitis media, otoscopic examination should be done. The auricles should be pulled downward. For details of the examination, refer to relevant parts of the manual for adults.
28. Estimate hearing when necessary:
 - <6 months; the child can show a response to the noise of 70 db during wakefulness and 115 db during sleep. The response includes; blinking, spasm of extremities, movement of eyeballs and some facial expression.
 - 6 months-2 years; the child can locate the source of sound and respond to language. The hearing ability can be roughly estimated.
 - After 2 years; language hearing tests can be performed with some simple words.

Nose

29. Observe nasal shape noting malformation, flaring of alae nasi, and exudate.
30. Nasoscopic examination; refer to relevant parts of the manual for adults.

Mouth

31. Observe lips, buccal mucosa, teeth, gums and tongue. The lips of a normal child are pink and lustrous. Note pallor, cyanosis, angular erosion, rimose and clefts. Normal mucosa has a smooth surface and is pink. Note congestion, erosion, ulcer, bleeding, Koplik's spots, and thrush. Note swelling and discharge at the parotid ducts, and the quantity, color, and arrangement of primary teeth. Identify defects of caries and dental repairs. Check gums, noting any swelling, bleeding and pigmentation. Check tongue, noting the appearance, shape, movement, ulcers, etc.

The chronology of the eruption of primary teeth is as follows:

The eruption starts from 4-10 months and finishes by 2-2 1/2 years of age. The number of primary teeth under 2 years = age (months) - (4-6). The total is 20. The eruption of permanent teeth starts at the age of 6. The loss of primary teeth for permanent teeth starts at the age of 7. The number of permanent teeth is 32.

32. Inspect floor of mouth and base of tongue. Lift the tip of tongue, observe for anomalies of lingual frenulum or sublingual cysts.

33. Inspect pharynx

Under a satisfactory light, the pharynx is examined by pressing the anterior two thirds of the tongue with a proper depressor while the chin is fixed by another hand. The examination should be accurate and quick to avoid the resistance resulting in injury to the child. Inspect soft palate, uvula, glossopalatine folds, and posterior pharyngeal wall for any congestion, swelling, or ulcers. Check for enlargement of tonsils and any secretions in crypts and upward lifting motion of the soft palate.

Neck

34. Inspect shape, skin, and check the motion of the neck noting symmetry, mass (e. g. lymphadenopathy, goiter), deformity (i. e. congenital torticollis, short neck and webbing of the neck etc.), observe for skin lesions and limitation of the neck motion.

35. Observe neck veins

Normally the jugular vein is not obvious with the patient in the erect or sitting position and is only slightly prominent in supine position. Especially in infants, it is difficult to observe because of the short neck and abundant fat. If it is obvious, it suggests high pressure of veins, i. e. distension of jugular vein.

36. Check for muscle tone; noting stiff neck, opisthotonos or mytonia.

37. Palpate the size of thyroid and the position of trachea.

Lymph nodes of the neck;

38. Preauricular nodes: situated anterior to ears

39. Postauricular nodes: situated posterior to ears

40. Occipital nodes: situated in occipital region

41. Submaxillary nodes: situated between mandibular angle and the chin

42. Submental nodes: situated at the middle line of the chin

43. Anterior cervical nodes: situated superficially and anterior to sternomastoid muscle

44. Posterior cervical nodes: situated superficially and posterior to sternomastoid muscle
45. Supraclavicular nodes: situated in the angle formed by sternomastoid muscle and the clavicle. Note the size, number, hardness and mobility of any enlarged lymph nodes. Note also tenderness, redness and swelling, fistulae, scars and adhesions between the lymph nodes or between the skin and the lymph nodes.

C. Chest

46. Inspect the shape and symmetry of the chest. Normally, the chest of infants is barrel shaped, the anterior-posterior diameter equalling the transverse diameter. As the child grows older, the chest expands in the transverse diameter symmetrically. Notice any malformation of the chest in childhood, e. g. pigeon breast, funnel-shaped chest, barrel chest and Harrison's groove, etc.
47. Check skin and palpate the chest wall for masses and tenderness, etc.
48. Examine breasts noting any widening and pigmentation of areola, breast buds and exudate.
49. Examine axillary hair and axillary lymph nodes. The appearance of axillary hair is also evidence of the development of sexual characteristics.

Lungs

50. Observe the respiratory movement. Inspect the range of thoracic expansion and symmetry of movement during breathing. Pay attention to the frequency, rhythm and pattern of respiration. Abdominal respiration is predominant in children
51. Palpate for vocal fremitus. Place one hand on each side of the chest wall symmetrically when the child cries or makes a voice to judge the symmetry.
52. Percuss lung fields bilaterally and symmetrically in all areas. From top to bottom and from side to center, percuss the lung fields bilaterally and symmetrically. The child's position must be symmetrical, the maneuver should be gentle. For small infants you may use the direct method, i. e. 1-2 fingers percuss the chest wall directly. Normally, the percussion is resonant, but the chest of infants seems more resonant than adults; don't confuse this with hyperresonance. Any dullness, flatness and hyperresonance are abnormal. Percussion over the scapula is insignificant. The left third and fourth intercostal space is close to the heart so the percussion sound may be duller than the symmetrical position on the right. Also pay attention to the dullness over the surface of the liver in the right lower axillary area and the hyperresonance over the gastric air bubble in the left lower anterior axillary area.
53. Auscultate lung fields bilaterally and symmetrically in all areas. From the top to the bottom, from side to center and from posterior to anterior, auscultate the lungs comparatively and symmetrically. Because of the thinness of the chest wall, breath sounds may seem much longer in infants than in adults. Breath sounds in a child are almost all bronchovesicular or even bronchial. It is not considered abnormal. The child's crying affects the auscultation. The auscultation should be done during deep inspiration after crying.

The key positions focus on the lower area of the lungs, lateral lung fields and between scapula, because it is easy to hear moist rales in these positions which help to diagnose early pneumonia.

Heart

54. Inspect precordium.

Inspect precordium for protuberance and visible cardiac impulses. Note location, intensity and diffuseness (generally $<2-3\text{cm}$). The cardiac impulse is not easy to observe in a fat infant.

55. Palpate apical impulse.

The apical impulse of most infants is inside the left breast line of the 4th intercostal space.

56. Palpate 2, 3, 4 intercostal space along the left border of the sternum.

57. Palpate aortic area.

58. Palpate mitral area.

59. Palpate tricuspid area.

A systolic thrill at 2nd intercostal space of the left border of the sternum suggests pulmonary stenosis or patent ductus arteriosus; a systolic thrill at 3, 4, 5 intercostal space of the left border of sternum suggests ventricular septal defect; a systolic thrill at the mitral area suggests mitral insufficiency; a diastolic thrill suggests mitral stenosis; a strong impulse at tricuspid area suggests right ventricular hypertrophy.

60. Percuss relative cardiac dullness.

Left border: Start percussion 2cm external to apical impulse in the 4th intercostal space from side to centre for the child 2 years of age, and in the 5th intercostal space for the child above 3 years of age.

Right border: Start percussion from side to centre in the intercostal space above the dullness of liver.

The percussion in a child must be more gentle than in adults, or heart size may seem smaller than the real heart size. In infants, percussion using the direct method is more exact. The recording may be standardized at the breast line on the left and at the right sternal line on the right. Normal heart size for children of different ages is listed in the table 4-2.

Table 4-2 Normal Heart Size For Different Ages

Ages	Left Border	Right Border
<1 year	1-2cm outside left breast line	parasternal line
2-5 years	1cm outside left breast line	between parasternal line and midsternal line
5-12 years	on or 0.5cm inside left breast line	near midsternal line
>12 years	0.5-1cm inside left breast line	midsternal line

Heart auscultation

The chest piece of the stethoscope should be small and the auscultation should be done

with the child in a quiet state. The key position is the left border of the sternum because of congenital heart disease. An examiner needs to differentiate the 1st sound and the 2nd sound carefully because of the fast heart rate.

Use diaphragmatic chest piece to auscultate with firm pressure at first, and then use bell-type chest piece to auscultate with light pressure in following areas:

61. Auscultate 2, 3, 4 intercostal space along the left border of the sternum.
62. Auscultate aortic area.
63. Auscultate mitral area.
64. Auscultate tricuspid area.

D. Abdomen

65. Observe abdominal shape, skin, and umbilicus. Pay attention to the contour (measure the abdominal circumference through the umbilicus if necessary). Normally, the abdomen is higher than the chest of the infant in supine position. Observe abnormal peristalsis, protrusion and discharge from umbilicus, abdominal vein distension.
66. Try to get cooperation from the child because the child's crying affects the palpation. Allowing the child to breast feed or suck a nipple may be helpful.
67. Palpate the entire abdomen. Start from the left lower abdomen, perform the palpation of the whole abdomen according to anti clockwise direction, first with a gentle pressure and then with deep palpation in all areas. Pay attention to any masses. Check any tenderness by observing painful expressions of the child. If there is pain, McBurney's point must be examined and checked for rebound tenderness.
68. Left upper abdomen: Palpate for spleen.
Occasionally, the spleen can be palpated below the costal margin in normal infants.
69. Right upper abdomen: Palpate for liver.
Normally in infants, the liver can be palpated 1-2cm below the right costal margin.
70. Liver palpation under xiphoid.
Pay attention to hardness, tenderness and smoothness.
71. Palpate kidneys bilaterally.
72. Percuss the whole abdomen from left lower abdomen according to anti clockwise direction. Normally it is tympanitic.
73. Percuss upper and lower border of dullness of the liver through right midclavicular line.
Percuss dullness of the liver below the xiphoid.
74. Check for percussion tenderness over the liver.
75. Check for shifting dullness if suspect ascites.
76. Auscultate bowel sounds with diaphragmatic head for at least 1 minute. If no sound is heard, listen for at least 5 minutes. Pay attention to the frequency (3-5/min. in normal child), intensity, pitch. Sometimes the bowel sounds may be hyperactive in infants because of a thin abdominal wall.
77. Auscultate for vascular murmurs with bell-type chest piece if suspect vascular disease,

including:

Aorta:	in the midline between xiphoid and umbilicus
Renal arteries:	both sides above umbilicus
Iliac arteries:	both sides below umbilicus
Femoral arteries:	at the midpoint of inguinale ligament

E. Spine and extremities

78. Observe spinal curvatures, check the spine for deformities, i. e. lordosis, kyphosis, scoliosis and encephalomyelocoele.
79. Palpate for tenderness of the spinous processes.
80. Observe symmetry of the upper limbs. Pay attention to deformities (e. g. bracelet, polydactyly, webbing, Curvature of the little finger, clubbing of the fingers, etc.), contour of muscles (e. g. atrophy or pseudohypertrophy), swelling of the joints, skin rash, edema, etc.
81. Palpate the interphalangeal, metacarpophalangeal and carpometacarpal joints.
82. Examine the motion of each wrist passively. The motion includes: extension and flexion.
83. Palpate the elbow joints.
84. Examine the motion of the elbows passively. The motion includes: flexion and extension
85. Palpate epitrochlear lymph nodes.
86. Palpate the shoulder joints.
87. Examine the motion of the shoulders passively. The motion includes: abduction, adduction, flexion and extension.
88. Examine the muscle tone of the upper limbs.
89. Observe symmetry of the lower limbs. Pay attention to deformities (e. g. polydactyly, webbing, bow-leg, knock-knee, ankle vara, ankle valga, clubbing of toes etc.). contour of muscles (e. g. atrophy or pseudohypertrophy), swelling of the joints, skin rash, edema, etc.
90. Palpate the femoral, popliteal, and dorsalis pedis arterial pulses if suspect vascular disease.
91. Palpate each joint of the foot.
92. Examine the motion of the foot joints passively. The motion includes: extension and flexion of toes.
93. Palpate ankle joints.
94. Examine the motion of the ankles passively. The motion includes: dorsiflexion and plantar flexion.
95. Palpare knee joints.
96. Examine the motion of the knees passively. The motion includes extension and flexion.
97. Examine the motion of the hips passively. The motion includes: flexion, extension, abduction and adduction.

98. Examine the muscle tone of the lower limbs.
99. Check for peripheral pitting edema by pressing on the front part of the tibia and instep for at least 5 seconds.

F. External Genitalia

100. Correctly expose the genitalia for examination. Expose the area from pubic symphysis to the perineum to the anus. Avoid the tendency to omit the examination of genitalia in children.
101. Observe the development of external genitalia. Pay attention to any malformations, swelling, ulcer, injury and signs of infection.
102. Observe the appearance of pubic hair which is one indication of the development of sexual characteristics.

Male

103. Check penis; retract the prepuce with the thumb and index finger to check for redundant prepuce or phimosis and hypospadias.
104. Check urethral meatus for any redness, swelling and discharge.
105. Check testes for descent. If testes is not in scrotum, search through external inguinal ring along inguinal canal for the retracted testis.
106. Check scrotum for swelling and enlargement. Transillumination test should be done for any enlargement of scrotum; roll an opaque film into a cylinder. Place one end of it over the enlarged part, shine a flashlight at the other end. A hydrocele usually transilluminates showing an orange-red color while a tumor or hernia in scrotum usually does not transilluminate.

Female

107. Check clitoris, vestibule and urethral meatus. Separate labia minora to expose vestibule. Check for any redness, swelling and discharge from urethral meatus and vaginal introitus. Inspect the hymen for imperforation and any injury or adhesion of labia minora.
108. Vaginal examination should be avoided. Consult the gynecologist if necessary.

G. Anus and Rectum

109. Choose a proper position. It may require the dorsolithotomy position. Employ the help of the mother.
110. Inspect anus and the surrounding area for any bleeding, discharge, redness, swelling, prolapse of rectum, external hemorrhoids, etc. Separate the buttocks slightly with thumb and index finger of the left hand to expose anus completely and inspect for anal fistulae and anal fissures.

111. Rectal examination if necessary:

A small amount of lubricant is placed on the gloved small finger which is then applied to the anal sphincter with gentle but steady pressure. After a few seconds, there will be relaxation of the sphincter, then the finger will painlessly enter the anus. Insert the finger gradually with rotating movement towards the direction of the umbilicus. Pay at-

tention to any nodules, polyps, tenderness of the rectum. Withdraw the finger with the same method. Check for blood, pus and character of stool clinging to the glove. The feces on the glove should be sent for routine tests.

H. Nervous System

The key items to be checked in the infant's nervous system are the following:

Superficial reflexes:

112. Abdominal wall reflex-the infant under 4 months may be negative.

113. Cremasteric reflex

Deep tendon reflexes:

114. Biceps' reflex

115. Knee reflex

Pathologic reflex:

116. Babinski sign-the infant under 2 years may have a positive reflex.

Signs of meningeal irritation:

117. Nuchal rigidity

118. Brudzinski sign

119. Kernig sign

The routine neurologic examination is shortened in infant (early child) because of lack of co-operation. If neurologic disease is suspected, some items which are included in the adult neurologic examination should be performed.

附：婴幼儿体格检查纲要

学生应按照以下要求，完成儿科体格检查

A. 一般检查

1. 体检开始前洗手
2. 体检时应设法取得小儿合作
3. 体位应适合于年龄和病情
4. 检查顺序灵活掌握，以便检查顺利进行
5. 检查时应避免小儿不适（注意手和听诊器胸件保持温暖，手法轻柔）
6. 观察外貌，评估精神、神志、发育、营养及小儿的一般情况
7. 测量体温
8. 触诊桡动脉搏动至少60秒
9. 测量呼吸频率30秒并判断有无异常
10. 测量血压
11. 测量体重
12. 测量身长（高）及上、下部量
13. 测量头围
14. 测量胸围

15. 测量腹围
16. 测量腹部皮下脂肪
17. 测量上臂围

B. 头和颈

头颅

18. 检查头颅（观察头发，触诊颅缝、颅骨软化等）
19. 检查囟门（正确测量前囟大小）

眼

20. 测视力
21. 检查眼睑、眼球、结膜、巩膜、角膜等
22. 观察瞳孔大小和直接对光反射
23. 必要时，应作检眼镜检查

耳

24. 观察和触摸双侧耳廓、耳前后区
25. 观察双侧外耳道
26. 触诊双侧乳突区
27. 如有指征，完成检耳镜检查
28. 必要时，应作听力检查

鼻

29. 观察鼻的外形和异常情况
30. 必要时，应作鼻镜检查

口

31. 观察唇、颊粘膜、齿、牙龈和舌
32. 检查口底和舌底部
33. 检查咽部

颈

34. 观察颈部外形和活动度
35. 观察颈静脉
36. 检查颈肌张力
37. 触摸甲状腺大小和气管的位置

颈部淋巴结

38. 耳前淋巴结
39. 耳后淋巴结
40. 枕淋巴结
41. 下颌下淋巴结
42. 颏下淋巴结
43. 颈前淋巴结
44. 颈外侧淋巴结
45. 锁骨上淋巴结

C. 胸部

- 46. 观察胸部外形和对称性
- 47. 检查皮肤，注意胸壁有无包块和触痛
- 48. 检查乳房
- 49. 检查腋毛和腋淋巴结

肺脏

- 50. 观察呼吸运动
- 51. 触诊语颤
- 52. 对称地叩诊双侧肺部（包括前胸、后背和侧胸）
- 53. 对称地听诊双侧肺部（包括前胸、后背和侧胸）

心脏

- 54. 观察心前区
- 55. 触诊心尖搏动
- 56. 触诊胸骨左缘第2、3、4肋间隙
- 57. 触诊主动脉瓣区
- 58. 触诊二尖瓣区
- 59. 触诊三尖瓣区
- 60. 叩诊相对浊音界
- 61. 沿胸骨左缘听诊第2、3、4肋间隙
- 62. 听诊主动脉瓣区
- 63. 听诊二尖瓣区
- 64. 听诊三尖瓣区

D. 腹部

- 65. 观察腹部外形、皮肤和脐部
- 66. 尽力让小儿合作
- 67. 触诊全腹部
- 68. 左肋缘下触诊脾脏
- 69. 右肋缘下触诊肝脏
- 70. 剑突下触诊肝脏
- 71. 触诊双侧肾脏
- 72. 叩诊全腹部
- 73. 叩诊肝脏的上、下界，在剑突下叩诊肝下界
- 74. 检查肝脏叩击痛
- 75. 如疑有腹水，应检查移动性浊音
- 76. 在脐部周围听诊肠鸣应至少1分钟
- 77. 必要时，应听诊血管杂音

E. 脊柱和四肢

- 78. 观察脊柱的弯曲度和畸形
- 79. 检查棘突有无压痛

80. 观察上肢对称性
81. 触诊指间、掌指和腕掌关节
82. 被动检查腕关节运动（背伸和屈曲）
83. 触诊肘关节
84. 被动检查肘关节运动（背伸和屈曲）
85. 触诊滑车上淋巴结
86. 触诊肩关节
87. 被动检查肩关节运动（外展、内收、前曲和背伸）
88. 被动检查上肢肌张力
89. 观察下肢对称性（包括畸形和肌肉外形）
90. 如疑有血管疾病，应触诊股动脉、腘动脉和足背动脉
91. 触诊每一个足关节
92. 被动检查足的各关节运动（足趾的屈曲和伸展）
93. 触诊踝关节
94. 被动检查踝关节运动（背曲、跖曲、外翻和内翻）
95. 触诊膝关节
96. 被动检查膝关节运动（背伸和屈曲）
97. 被动检查髋关节运动（伸展、屈曲、外展和内收）
98. 被动检查下肢肌张力
99. 检查外周凹陷性水肿

F. 外生殖器

100. 正确暴露检查部位
101. 观察外生殖器的发育
102. 观察阴毛是否出现

男性

103. 检查阴茎
104. 检查尿道口
105. 检查睾丸
106. 检查阴囊

女性

107. 检查阴蒂、阴道前庭和尿道口
108. 应避免作阴道检查。如病情所需，应请妇科专家会诊。

G. 肛门、直肠

109. 选择适当的体位
110. 望诊肛门及邻近区域
111. 必要时作直肠指诊

H. 神经系统

浅反射

112. 腹壁反射

- 113. 提舉反射
- 深反射
- 114. 肱二頭肌反射
- 115. 膝腱反射
- 病理反射
- 116. 巴氏征
- 腦膜刺激征
- 117. 頸強直
- 118. 布氏征
- 119. 克氏征

APPENDIX

CHECKLIST FOR INFANT (EARLY CHILDHOOD)

PHYSICAL EXAMINATION

The student should complete the Pediatric physical examination according to the following checklist:

A. General Examination

1. Wash hands before starting examination
2. Examiner should gain cooperation of the child
3. Position of child for examination should be appropriate for the age and condition of the child
4. Order of the examination should be flexible for ease of examination
5. Examiner should not make the child feel uncomfortable (i. e. keep hands and stethoscope warm, maneuvers should be gentle, etc.)
6. Observe appearance, psychiatric and conscious state, development, nutrition and the patient's general condition.
7. Take temperature
8. Palpate radial pulse for at least 60 seconds
9. Measure respiratory rate for 30 seconds and judge whether it is normal or not
10. Measure blood pressure
11. Measure body weight
12. Measure length (height) plus length of upper and lower parts of the body
13. Measure head circumference
14. Measure chest circumference
15. Measure abdominal circumference
16. Measure skin fold thickness of abdomen
17. Measure circumference of upper arm

B. Head and Neck

skull

18. Examine skull (observe hair, palpate cranial sutures, craniotables, etc.)
19. Examine fontanelles (measure the size of anterior fontanelle correctly)

Eyes

20. Estimate visual acuity
21. Inspect eyelids, eyeball, conjunctiva, sclera, cornea, etc.
22. Observe pupillary size and direct response to light
23. Perform ophthalmoscopic examination, if indicated

Ears

24. Observe and palpate the auricles, preauricular and postauricular regions bilaterally
25. Observe the aural canals bilaterally
26. Palpate mastoid area bilaterally for tenderness
27. Perform otoscopic examination
28. Estimate hearing, if necessary

Nose

29. Observe nasal shape and abnormal conditions
30. Perform nasoscopic examination, if necessary

Mouth

31. Observe lips, buccal mucosa, teeth, gums, tongue
32. Inspect floor of mouth and base of tongue
33. Inspect pharynx

Neck

34. Inspect appearance and check the motion of neck
35. Observe neck veins
36. Check for muscle tone
37. Palpate size of thyroid and position of trachea

Cervical Lymph Nodes

38. Preauricular nodes
39. Postauricular nodes
40. Occipital nodes
41. Submaxillary nodes
42. Submental nodes
43. Anterior cervical nodes
44. Posterior cervical nodes
45. Supraclavicular nodes

C. Chest

46. Inspect shape and symmetry of the chest

47. Check skin and palpate chest wall for masses and tenderness

48. Examine breasts

49. Examine for axillary hair and axillary lymph nodes

Lungs

50. Observe respiratory movement

51. Palpate for vocal fremitus

52. Percuss anterior, posterior and lateral lung fields bilaterally and symmetrically in all areas

53. Auscultate anterior, posterior and lateral lung fields bilaterally and symmetrically in all areas

Heart

54. Inspect precordium

55. Palpate apical impulse

56. Palpate 2, 3, 4 intercostal spaces along the left border of the sternum

57. Palpate aortic area

58. Palpate mitral area

59. Palpate tricuspid area

60. Percuss relative cardiac dullness

61. Auscultate 2, 3, 4 intercostal spaces along left border of sternum

62. Auscultate aortic area

63. Auscultate mitral area

64. Auscultate tricuspid area

D. Abdomen

65. Observe abdominal shape, skin and umbilicus

66. Try to get cooperation from the child

67. Palpate entire abdomen----4 quadrants and epigastrium

68. Palpate for spleen below the left costal margin

69. Palpate for liver below the right costal margin

70. Palpate for liver under xiphoid

71. Palpate for kidneys bilaterally

72. Percuss whole abdomen

73. Percuss upper and lower border of dullness of liver and percuss dullness of liver below xiphoid

74. Check for percussion tenderness of liver

75. Check for shifting dullness when suspect ascites

76. Auscultate bowel sounds around umbilicus for at least one minute

77. Auscultate for vascular murmur, if necessary

E. Spine and Extremities

78. Observe spine curvatures and deformities

79. Palpate tenderness of the spinous processes
80. Observe symmetry of upper limbs
81. Palpate interphalangeal, metacarpophalangeal and carpometacarpal joints
82. Examine motion of each of the wrists passively (extension and flexion)
83. Palpate elbow joints
84. Examine motion of the elbows passively (extension and flexion)
85. Palpate epitrochlear lymph nodes
86. Palpate shoulder joints
87. Examine motion of shoulders passively (abduction, adduction, flexion and extension)
88. Examine muscle tone of upper limbs passively
89. Observe symmetry of lower limbs (including deformities, contour of muscles, etc.)
90. Palpate femoral pulses, popliteal pulses, and dorsalis pedis pulses if suspect vascular disease
91. Palpate each of the joints of the feet
92. Examine motion of each of the joint of the foot passively (extension and flexion of toes)
93. Palpate ankle joints
94. Examine motion of ankles passively (dorsiflexion - - plantar flexion, eversion - - - inversion)
95. Palpate knee joints
96. Examine motion of knees passively (extension and flexion)
97. Examine motion of hips passively (extension, flexion, abduction and adduction)
98. Examine muscle tone of lower limbs passively
99. Check for peripheral pitting edema

F. External genitalia

100. Expose patient correctly for examination
101. Observe development of external genitalia
102. Observe appearance of pubic hair

Male

103. Check penis
104. Check urethral meatus
105. Check testis
106. Check scrotum

Female

107. Check clitoris, vestibule and urethral meatus
108. Vaginal examination should be avoided. Consult the gynecologist, when necessary

G. Anus and Rectum

109. Choose a proper position for patient
110. Inspect anus and surrounding area
111. Rectal examination, if necessary

H. Nervous System

Superficial Reflex

112. Abdominal wall reflex

113. Cremasteric reflex

Deep Tendon Reflexes

114. Biceps reflex

115. Knee reflex

Pathologic Reflex

116. Babinski sign

Signs of Meningeal Irritation

117. Nuchal rigidity

118. Brudzinski sign

119. Kernig sign

新生儿体格检查方法

本节中不再重复儿科的基本手法，必要时可参考婴幼儿体格检查方法。

A. 一般检查

1. 检查者应严格的洗手并保持双手温暖，必要时就戴上口罩（如检查者患上呼吸道感染等）。

2. 小儿取仰卧位。

3. 检查时应让小儿安静，必要时可用母乳喂哺或吸吮奶头，以保持安静，最好首先检查胸、腹部。

4. 检查裸露小儿时，室温应保持在 25~30℃，或不要让其裸露过长的时间，以防小儿寒颤。

5. 新生儿体检应使用较小的器械并保持其温暖。

6. 检查动作应轻柔和迅速。

7. 观察外貌，注意神志、反应、发育和营养以及仰卧位时的体位。正常新生儿哭声响亮，有良好的反应（如对声、光、疼痛刺激等反应）。足月新生儿胎毛少，耳壳软骨发育良好，乳晕清楚，乳头突起，乳房可扪到结节，四肢屈曲，整个足底有较深的足纹。男婴睾丸下降，女婴大阴唇遮盖小阴唇。营养状况可根据体重和皮下脂肪评估。仰卧时四肢屈曲而颈部紧贴桌面。

8. 观察全身皮肤 新生儿皮肤红润，注意有无黄疸、皮疹、瘀点、瘀斑、皮下坏疽、深部脓肿和颈部、腋下和腹股沟部位的糜烂。鼻部粟粒疹和胎记应视为正常。

9. 测量体温（皮温或肛温）

10. 触诊脉搏（在桡动脉或足背动脉上）至少 60 秒。安静状态下，新生儿正常脉搏为 120~140 次/分。

11. 测量呼吸频率 观察 30 秒钟内腹部起伏的次数，正常呼吸频率为 40~45 次/分。新生儿呼吸有 5~10 秒短暂停顿，属正常。如呼吸停止 20 秒以上伴心率减慢（<100 次/分）或

发绀应视为异常。

12. 测量血压 可应用监听式超声多普勒诊断仪或简易潮红法测量。

13. 测量体重

14. 测量身长

15. 测量头围

16. 测量胸围

B. 头和颈

头颅

17. 检查头颅大小和形状 观察有无水肿、血肿和损伤。触摸颅缝，包括额缝、冠状缝、矢状缝和人字缝。注意有无颅缝重叠或颅缝分开、颅骨软化或颅骨缺损。

18. 检查前囟的大小和张力

眼

19. 让新生儿自然睁眼，如果哭闹或闭眼，可轻摇小儿头部。

20. 通过新生儿眼球随光源或检查者运动来粗略估计视力。

21. 观察眼的大小，双眼的距离，有无斜视、结膜充血、巩膜黄疸、角膜混浊、分泌物。

22. 新生儿3周以上可做直接对光反射。

耳

23. 检查耳廓，注意有无先天性畸形，耳道处有无脓性分泌物。

24. 粗略估计听力 新生儿对声音可有眨眼或转头的表现，对击掌可有较强的反应。

鼻

25. 观察鼻的外形，注意有无畸形、鼻翼扇动、渗出物、呼吸受阻（用口呼吸）。

口

26. 检查有无唇裂、早萌牙、上皮珠、鹅口疮、溃疡、腭裂。检查舌的大小、位置和咽部。

颈

27. 正确暴露颈部。仰卧位时，新生儿颈部不易观察，可放一手在上背后面，轻轻地让头下垂，让颈部充分暴露。

28. 检查颈部异常情况：包块、斜颈和运动受限。

29. 检查颈部抗力

30. 坐位时检查颈部肌力 握住婴儿双肩部，让其从卧位到坐位，正常婴儿头、颈和躯干应在一条线上保持1秒钟以上。

31. 触诊气管的位置

32. 触诊颈部淋巴结（其部位同婴幼儿体检）

C. 胸部

33. 观察胸部有无畸形 新生儿为桶状胸，注意是否对称，有无凹陷。注意有无乳房增大、乳汁分泌和乳晕色素沉着，由于受来自母体雌激素的影响，以上现象应视为正常。

34. 触诊心前区 正常新生儿偶可触及心前区搏动，但疑有心脏疾病时，应注意触诊下列部位：胸骨左缘第2、3、4肋间隙、主动脉瓣区和心尖区。

35. 对称性叩诊双肺前、后和侧肺野

36. 叩诊心脏相对浊音界 新生儿的心脏叩诊较难,通常用中指在第4肋间隙左乳线外2cm开始由外向内直接叩诊。

37. 对称性听诊双肺前、后和侧肺野 新生儿胸壁较薄,故呼吸音较成人强,新生儿呼吸音多是支气管呼吸音。新生儿出生时无呼吸困难的表现而闻及少量湿性啰音,应视为正常。

38. 听诊心脏 新生儿心脏听诊同婴幼儿,包括胸骨左缘第2、3、4肋间隙、主动脉瓣区、二尖瓣区和三尖瓣区,心率为120~140次/分,可有短时减慢或加快。如出生后1~2天闻及心脏杂音,接着即消失,不应视为先天性心脏病。应注意右胸部的听诊,以免遗漏右位心的诊断。

D. 腹部

39. 观察腹部外形和对称性、肠蠕动波、脐带脱落、脐疝、脐部渗出物和性质、脐轮红肿。

40. 轻柔触诊全腹部,注意有无包块。由于新生儿腹壁较薄,浅触诊较深触诊更易触及肝脏和脾脏,肝脏在右肋下2cm,脾脏在左肋下1cm处触及均应视为正常。

41. 叩诊全腹部

42. 听诊腹部,注意肠鸣音是否活跃或减弱。

E. 脊柱和四肢

脊柱和四肢的体位在一般检查中已述,重点检查如下。

43. 检查有无脑脊膜膨出

44. 检查四肢有无畸形,如多指(趾)等。

45. 检查有无先天性髋关节脱位 如下肢不对称,且外展运动受限,应疑为先天性髋关节脱位。

46. 检查上肢肌张力(前臂回缩) 新生儿于仰卧位,检查者用手拉直自然弯曲的前臂,然后放手,若新生儿前臂立刻回复到先前弯曲的位置,即为正常。

47. 检查下肢肌张力(胭角) 新生儿于仰卧位,其骶骨接触检查台面,髋关节屈曲,检查者一手握住新生儿的两小腿,上提并测量大腿与小腿之间的角度(胭角),正常为80~90度。

F. 外生殖器

48. 观察外生殖器的发育,注意有无畸形、肿胀、损伤或感染。

男性

49. 检查有无包茎和尿道下裂

50. 检查睾丸是否下降

51. 检查阴囊有无肿大

女性

49. 检查大小阴唇,大阴唇应遮盖小阴唇。

50. 检查处女膜有无畸形和损伤。

51. 检查阴道前庭有无分泌物。

G. 肛门

52. 检查肛门和肛周围区,注意有无肛门闭锁、肛痿、肛裂或肛周脓肿。

H. 神经系统

新生儿的体位和肌张力前已述及。肌力可通过观察对称性的自主运动来评估。肌力与肌

张力有关。

新生儿神经系统检查重点如下：

53. 觅食反射 当刺激颊部时即引出该反射，婴儿张嘴转向刺激方向。

54. 吸吮反射 当奶头放入口腔内即引出该反射，婴儿开始吸吮。

55. 握持反射 当检查者将手指触及婴儿手掌时，婴儿即握住检查者手指。

56. 拥抱反射 将婴儿仰卧在检查台，头部伸出台边并用手托住，然后将婴儿头部突然下降几个厘米，新生儿会出现躯干伸直，双上肢对称性外展，手指张开，双腿轻微屈曲，然后双上肢收回胸前呈现拥抱动作。该反射也可通过拍击近头部的床垫而引出。

57. 颈张力反射 迅速将仰卧的婴儿头转向一侧，此时面部所向一侧的手臂和小腿即展开，另一侧的臂腿呈现屈曲状态。

58. 踏步反射 将婴儿扶为直立位，并让足底接触检查台面，身体略向前倾，此时表现踏步动作。

THE PHYSICAL EXAMINATION OF THE NEWBORN

In the training manual of the newborn, we don't repeat the fundamental maneuvers of pediatrics. Please refer to the infant (Early Childhood) training manual if necessary.

A. General Examination.

1. Wash hands thoroughly and keep hands warm. Put on a mask if necessary (e. g. the examinee is suffering from upper respiratory infection).
2. The patient should be in the supine position.
3. In a quiet state, it is best to examine the chest and abdomen first. Quiet a crying baby with a breast feeding or a nipple.
4. When examining a naked baby, keep the room warm (25—30℃) or try not to keep the baby uncovered for a long time to prevent the baby from chilling.
5. The instruments used in the newborn examination should be small and they should be made warm.
6. The examination should be gentle and quick.
7. Observe the appearance, pay attention to the consciousness, reaction, development, nutrition, and the posture in supine position. A normal newborn's crying is loud; they have a good response to any irritation (e. g. sound, light, and pain, etc.). The full term newborn has little lanugo, good development of the auricles, clear areola, protruding nipples, breast buds, flexed limbs, deep creases on the full sole, descent of testis in the male, labia majora covering labia minora in the female. Nutrition may be evaluated by the body weight and subcutaneous fat. There is no space between the baby's neck and the table when he lies supine with flexed extremities.
8. Inspect skin of the whole body. Newborn's skin is ruddy. Pay attention to jaundice, rash, petechia, ecchymosis, subcutaneous gangrene and deep abscesses and erosions on the neck,

subaxillary area and groin. The milium of the nose and fetal mark should be considered normal.

9. Take the body temperature (skin or rectal temperature).
10. Palpate pulse (over radial artery or artery of dorsalis pedis) for at least 60 seconds. Normal pulse is 120-140/per minute in quiet state.
11. Measure respiratory rate. It is counted by observing the number of times the abdominal wall goes up and down in 30 seconds. The normal respiratory rate is 40-45/per minute. A short period of 5-10 seconds without breathing is normal. If it lasts for more than 20 seconds and is associated with bradycardia ($<100/\text{min}$) or cyanosis, it is abnormal.
12. Take blood pressure. The monitoring Doppler's echo instrument or the simplified flush method can be applied.
13. Measure weight.
14. Measure length.
15. Measure head circumference.
16. Measure chest circumference.

B. Head and Neck

Skull

17. Inspect the size and shape of the skull. Observe edema, hematoma and injury. Palpate the cranial sutures including frontal, coronal, sagittal, and lambdoid sutures. Pay attention to the overlap or over-separation, craniotabes or skull defects.
18. Examine the size and tension of fontanelles

Eyes

19. Let the newborn open his eyes naturally. If the infant is crying or keeps his eyes shut, gently rock his head.
20. Inspect the movement of the eyes as the infant follows the light or examiner to estimate visual acuity.
21. Inspect the size of the eyes, the distance between the two eyes, squinting, congestion of the conjunctiva, jaundice of sclera, cloudiness of cornea, discharge from eyes.
22. Observe the direct pupillary reflex to light if the baby is more than 3 weeks old.

Ears

23. Inspect the auricles. Pay attention to congenital deformities, pus, discharge.
24. Estimate hearing. The baby shows eye blinking with sound or turns his head to the sound. The baby shows a greater response to a clap.

Nose

25. Observe nasal shape, noting deformity, flaring of alae nasi, exudate, respiratory obstruction (mouth respiration).

Mouth

26. Check for cleft lip, early teeth, epithelial bead, thrush, ulcer, cleft palate. Note tongue size and position, and pharynx.

Neck

27. Expose the neck. In the supine position the newborn's neck is generally not easily observed. Bring the neck into full vision by placing one hand behind the upper back and let the head fall gently into extension.
28. Check for abnormal conditions: mass, torticollis and limitation of movement.
29. Note neck resistance.
30. Check muscular strength by placing the infant in a sitting position. Hold the shoulders of the baby and make the baby sit from the supine position. The baby's head, neck and trunk should be in the same line for more than 1 second.
31. Palpate the position of the trachea.
32. Palpate the cervical lymph nodes (the location of the lymph nodes is the same in newborn as in infant).

C. Chest

33. Observe the chest for deformities. The chest is usually almost circular in the newborn. Note symmetry, sinking, enlarged breasts, milky secretions and the extent of pigmentation of areola. All of these should be considered normal because of maternal hormones.
34. Palpate precordium. The impulse of normal newborns is rarely palpated but when you suspect heart disease, pay attention to the following areas: the 2, 3, 4 intercostal space along the left border of the sternum, aortic area and the apical area.
35. Percuss anterior, posterior and lateral lung fields bilaterally, symmetrically.
36. Percuss relative cardiac dullness. It's not easy to percuss the size of the newborn's heart. Use direct percussion with the middle finger from side to center starting 2 cm outside the breast line in the 4th intercostal space.
37. Auscultate lung fields bilaterally and symmetrically in all areas. The chest wall of the newborn is thinner, so respiratory sound is louder than in the adult. Breath sounds in the newborn are almost bronchial. It is normal to hear a few moist rales at birth without evidence of respiratory difficulty.
38. Heart auscultation-the location of auscultation is the same as the infant's including 2, 3, 4 intercostal space along the left border of the sternum, aortic area, the mitral area and tricuspid area. The heart rate is 120-140/per minute. It may be slower or faster for a short time. If there is a murmur at 1-2 days after birth and then the murmur disappears, we should not consider congenital heart disease. In the newborn, we should listen to the right chest to avoid missing the diagnosis of dextrocardia.

D. Abdomen

39. Observe the shape and symmetry, peristaltic waves, umbilical cord shedding, omphalocele, omphalorrhea, and quality, redness and swelling of the umbilical ring.
40. Palpate the entire abdomen gently noting masses. With shallow palpation it is easier to palpate the liver and spleen than with deep palpation because of the thin abdominal wall of the newborn. It is normal that the liver is palpated 2 cm below the right costal margin

and the spleen is palpated 1 cm below the left costal margin.

41. Percuss the entire abdomen.
42. Auscultate the abdomen, noting hyperactive or decreased gurgling sounds.

E. Spine and Extremities

The posture of the spine and the normal position of the extremities have been described in the general examination. The key examination areas are as follows:

43. Check for encephalomyelocele.
44. Check for the deformities of the extremities. (e. g. polydactyly, etc.)
45. Check for congenital dislocation of the hip joint. If the lower limbs are not symmetrical and the motion of abduction is limited, it is suspected.
46. Examine muscle tone of the upper limbs (the retraction of forearms). With the newborn in a supine position, pull naturally flexed forearms straight then release them. The forearms of the newborn will immediately return to their previous flexed position.
47. Examine the muscle tone of the lower limbs. Place the newborn in a supine position with sacrum touching the surface of the examination table and the hip joints flexed. Hold the two lower legs with one hand and measure the angle between the thighs and the lower leg (popliteal angle). It is normally 80-90 degrees.

F. External Genitalia

48. Observe development of external genitalia. Pay attention to any malformation, swelling, injury or infection.

Male

49. Check the penis for phimosis and hypospadias.
50. Check if testes are descended.
51. Check scrotum for swelling and enlargement.

Female

49. Check labia majora and labia minora. The former should cover the latter.
50. Check hymen for malformation and any injury.
51. Check vaginal introitus for any discharge.

G. Anus

52. Check anus and surrounding area for imperforate anus, anal fistula, anal fissure, or perianal abscess.

H. Nervous System

The muscle tone and the posture of the newborn have been described above. The muscle strength can be estimated by observing spontaneous motion including symmetry. The muscle strength of the newborn is related to the muscle tone.

The neurologic examination of the newborn focuses on the following aspects:

53. Rooting reflex-the reflex is initiated by stroking the cheek of the newborn. The baby will turn the mouth openly toward the stimulus.
54. Sucking reflex-this reflex is initiated by inducing a nipple into the mouth of the newborn.

The newborn begins to suck.

55. Grasping reflex-the reflex is elicited by light pressure on the baby's palms with the examiner's finger. The newborn will grasp the finger.
56. Moro reflex-the reflex is elicited by placing the infant supine upon the examination table, with his head out over the edge supported by examiner's hand, and letting the head fall back a few centimeters. The infant will show extension of the trunk and symmetric abduction of the upper arms with the extension of the fingers, and slight flexion of legs. The arms then return forward over the baby in a clasp maneuver. It is also elicited by tapping the mattress near the baby's head.
57. Tonic neck reflex-the reflex is elicited by rapidly turning the head of the supine infant to one side. The response consists of extension of the arm and leg on the side to which the face is turned and flexion of the arm and leg on the opposite side.
58. Stepping reflex-the reflex consists of movements of progressive walking which are elicited when the infant is held upright and inclined forward with soles of feet touching a flat surface.

附：新生儿体格检查纲要

A. 一般检查

1. 检查者应严格地洗手并保持双手温暖，必要时戴口罩
2. 小儿为仰卧位
3. 检查时应让小儿安静
4. 保持室温温暖（25~30℃）
5. 应使用较小的器械并保持温暖
6. 检查动作应轻柔和迅速
7. 观察外貌，注意神志、反应、发育、营养和仰卧时的姿势
8. 观察全身皮肤
9. 测量体温
10. 触诊脉搏 60 秒或以上
11. 测量呼吸频率 30 秒
12. 测量血压
13. 测量体重
14. 测量身长
15. 测量头围
16. 测量胸围

B. 头和颈

头颅

17. 检查头颅大小和形状
18. 检查前囟的大小和张力

眼

19. 让新生儿自然睁眼
20. 粗略估计视力
21. 检查眼睑、眼球、结膜、巩膜、角膜等
22. 新生儿 3 周以上可做直接对光反射

耳

23. 检查耳廓
24. 粗略估计听力

鼻

25. 观察鼻外形和异常情况

口

26. 观察唇、颊粘膜、早萌牙、牙龈、舌和咽部

颈

27. 完全暴露颈部
28. 检查颈部活动和异常情况
29. 检查颈部抗力
30. 检查颈部肌力
31. 触诊气管的位置
32. 触诊颈部淋巴结

C. 胸部

33. 观察胸部外形和对称性，包括乳房检查
34. 触诊心前区
35. 对称性叩诊双肺前、后和侧肺野
36. 叩诊心脏相对浊音界
37. 对称性的听诊双侧前、后和侧肺野
38. 听诊心脏

D. 腹部

39. 观察外形、对称性和脐部
40. 触诊全腹部，包括肝、脾
41. 叩诊全腹部
42. 听诊全腹部

E. 脊柱和四肢

43. 检查有无脑脊膜膨出
44. 检查四肢有无畸形
45. 检查有无先天性髋关节脱位
46. 检查上肢肌张力
47. 检查下肢肌张力

F. 外生殖器

48. 观察外生殖器的发育

男性

49. 检查阴茎

50. 检查睾丸

51. 检查阴囊

女性

49. 检查大、小阴唇

50. 检查处女膜

51. 检查阴道前庭

G. 肛门

52. 检查肛门和肛周围区

H. 神经系统

53. 觅食反射

54. 吸吮反射

55. 握持反射

56. 拥抱反射

57. 颈张力反射

58. 踏步反射

APPENDIX

CHECKLIST FOR NEWBORN PHYSICAL EXAMINATION

A. General Examination

1. Wash hands carefully and keep hands warm (put on a mask, when necessary)
2. Baby should be in supine position
3. Quiet baby for examination
4. Keep the room warm (25°—30℃)
5. Instruments should be small and warm
6. Examination should be gentle and quick
7. Observe the appearance, consciousness, reaction, development, nutrition and posture in supine position
8. Inspect skin of the whole body
9. Take temperature
10. Palpate pulse for at least 60 seconds
11. Measure respiratory rate for 30 seconds
12. Take blood pressure
13. Measure body weight
14. Measure length (height)
15. Measure head circumference
16. Measure chest circumference

B. Head and Neck

Skull

17. Examine size and shape of skull and palpate cranial sutures
18. Examine size and tension of fontanelles

Eyes

19. Let newborn open his eyes naturally
20. Estimate approximate visual acuity
21. Inspect eyelids, eyeball, conjunctiva, sclera, cornea, etc
22. Observe pupillary direct response to light when the baby is more than 3 weeks old

Ears

23. Inspect auricles
24. Estimate hearing

Nose

25. Observe nasal shape and abnormal conditions

Mouth

26. Observe lips, buccal mucosa, teeth, gums, tongue and pharynx

Neck

27. Expose neck completely
28. Check for motion of the neck and abnormal conditions
29. Check neck resistance
30. Check muscular strength
31. Palpate position of trachea
32. Palpate neck lymph nodes

C. Chest

33. Observe shape and symmetry of the chest, including breasts
34. Palpate precordium
35. Percuss anterior, posterior and lateral lung fields bilaterally and symmetrically
36. Percuss relative cardiac dullness in the 4th intercostal space
37. Auscultate anterior, posterior and lateral lung fields bilaterally and symmetrically
38. Heart auscultation

D. Abdomen

39. Observe shape, symmetry and umbilicus
40. Palpate whole abdomen, including liver and spleen
41. Percuss whole abdomen
42. Auscultate whole abdomen

E. Spine and Extremities

43. Check for encephalomyelocele
44. Check for deformities of extremities
45. Check for congenital dislocation of hip joint

46. Examine muscle tone of upper limbs

47. Examine muscle tone of lower limbs

F. External Genitalia

48. Observe development of external genitalia

Male

49. Check penis

50. Check testes

51. Check scrotum

Female

49. Check labia majora and labia minora

50. Check hymen

51. Check vagina introitus

G. Anus

52. Check anus and surrounding area

H. Nervous Systems

53. Rooting reflex

54. Sucking reflex

55. Grasping reflex

56. Moro reflex

57. Tonic neck reflex

58. Stepping reflex

精神科问诊及精神检查方法

精神科问诊与其他学科不同。总的来说，完整的精神问诊应包括二大部分内容：一是病史采集，二是精神检查。有关前者，学生需问供史者的具体条目详见第一章，在此，仅补充精神问诊有别于其它医学科目之处，即精神问诊和精神检查往往合并在一起进行。关于后者，也就是本节的主要部分，着重介绍精神检查的内容，学生在临床上可能碰到的困难和处理技巧，以及按精神检查顺序，介绍与之有关的重要概念，并对每个概念都给予定义或例子以便于理解。

病 史 采 集

精神科病史采集有别于其他医学科目之处：

一、精神病的病史应该从一个或多个病人的亲属中获取，这是十分重要的，因为病人大多对自己的疾病缺乏自知力，有些甚至不认为自己有精神障碍。所以，我们应尽可能地从知情的亲戚或其他人处了解病况。

二、问诊者应注意疾病是如何开始发展的，了解使病情好转或加重的因素，并注意作发病前后的比较。

三、问诊者不仅仅是采集病史，而且要获取具体的临床征象。因此，有些重要的例子应该具体地记录下来，以便理解分析。

四、尽管直言问病人一些与病史有关的问题是必要的，但有时候要有意给病人一些机会让其自发地谈，因为有些意想不到的材料会从这里发现。

五、问诊者首先要明确症状的性质，然后才问发生的时间和使之好转或加剧的因素。

六、在问诊过程中，医生（问诊者）的任务是让供史者或病人围绕与病史有关的话题进行，如果他（她）说得太远，我们就要将其引导回来，这时，问诊者就应该问一些简短的引导句或局限句（引导句往往提示问题的结果，局限句仅仅让你在是或非中作选择），这样就可以避免他们不着边际地漫谈。

七、问诊应该在安静的、不受打扰的房间里进行。

八、精神检查有时还要收集病人的书信或日记，从中发现重要的病史和检查材料。

九、在问诊的同时，精神检查还要观察病人的情绪反应、语气、面部表情和行为，这在问诊不合作的病人尤其重要。

上述条目同样适用于病人的精神检查时。

精神检查

精神检查中碰到的困难和处理办法：

一、有敌意的病人 刚开始谈话时，病人会有些敌意，这或许是由于他不愿意接受问诊。比如：他是因为他的配偶极力劝说才来的，或许他根本不认为自己有病。这时，问诊者就应该对病人说明，问诊完全于他有利，为他好。

二、缄默的病人 对这类病人，如果问诊者作一些非语言的关心的表示如以一种关心的姿态稍微前倾坐一些，病人通常会自然地开口说话。但是，在我们确认该病人缄默以前，问诊者应该给病人留足够的时间来问答，并应设法变换一些话题以试探病人是否对其中的一些感兴趣。

三、过分啰嗦的病人 对这类病人，要想抑制他的话语是不容易的。这时，问诊者就要等他讲话自然停顿的时候插入说明，由于时间有限，医生有责任在必要的时候打断病人的话，以便能集中解决那些对病人治疗至关重要的问题。

四、过分多动的病人 病人动作过多、坐立不安，会使系统的问诊发生困难。此时问诊不得不将问话局限在几个至关重要的方面，并且主要通过观察病人的行为和自发言语来下结论。

与精神检查有关的重要概念

A. 一般状况

1. 意识状态 意识是对自身状况及环境的认识能力。有关意识障碍的描述很多，如嗜睡、意识模糊、昏睡、朦胧状态、谵妄、昏迷等。精神检查时，主要通过定向来判断意识状况。

定向：询问病人对时间、地点及人物的认识情况。

2. 时间定向

3. 地点定向

4. 人物定向

对环境的反应：包括以下几方面。

5. 对环境的注意程度

6. 与他人主动或被动接触的程度 病人与医生或其他人的接触主动还是被动。

7. 合作程度 病人在被问诊及体格检查时与医生合作是否良好。

外表和行为：尽管精神检查主要关心病人说些什么，但是从观察病人的外表和行为我们也可获得不少资料。

8. 服饰、面部表现及姿势

一般情况：体貌，有否衣冠不整，服饰是否入时。

面部表现：开心、易激惹、发怒、焦虑、抑郁、面具脸。

姿势动作：颤抖、坐立不安、过分多动。

9. 自发的言语和行为

有无自发言语

行为：过分多动，冲动性，退缩、木僵或其他不常见的障碍（违拗、作态和蜡样屈曲）。

B. 认知障碍

10. 错觉 对外界刺激的错误知觉，如晚上常见的错觉是把树丛的外形当作人形。

11. 幻觉 幻觉指没有外在刺激作用于感觉器官而出现的虚假知觉。例如：听幻觉是没有声源的情况下所听到的声音。其它类型的幻觉有：视幻觉、味幻觉、嗅幻觉、触幻觉和深感觉幻觉。

12. 幻觉内容

例如：听幻觉时听到的声音是否为人语声；如是，属于评论性、争论性或命令性？

13. 幻觉出现频率

感知综合障碍：

病人能感知客观存在的事物，但对其形状、大小、颜色、距离等产生歪曲的认识。

14. 感知综合障碍类型

视物变形症：空间感知综合障碍；非真实感：病人感到周围的事物缺乏真实感；体像感知综合障碍：对自身的大小和形状的歪曲认知。

15. 感知综合障碍出现频率

C. 思维障碍

16. 思维联想障碍 包括思维速度和量的变化

思维迟缓：病人的思维速度和讲话速度很慢，语言量减少，声音低，不能较快回答问题，病人有脑子变笨的感觉。

思维云集：思维大量涌现，概念一个接一个，快速出现，快速消失。

思维贫乏：病人联想数量减少，概念贫乏，思维极缓慢。

思维中断：讲话时突然停顿，反复出现，病人将其描述为大脑中突然出现一片空白。

思维奔逸：病人的思维及谈话速度很快，一个话题还没讲完就迅速移到下一个话题，但其间的联系是可以理解的。

17. 思维的联贯性和逻辑性障碍

思维松散：讲话含义不清，缺乏逻辑，重复追问仍然不清楚或者表现为整体松散缺乏一条连贯的逻辑线。

思维破裂：病人的表述尽管每个单句的语法结构是正确的，但句与句之间的联系有障碍。

语词新作：病人自己创造词汇或句子，并赋予特殊含义。问诊者应该记录下具体的例子并询问病人其含义为何。

其他：词的杂拌、病理象征性思维。

异常的信念

妄想：妄想是一种与事实相悖，与病人的教育及文化背景不符合而病人深信不疑的信念。询问者对妄想不能直言相问，因为病人并不认为其是不正常的思维。通常通过询问病人对他自己描述的其他症状或不愉快经历的解释而获知。

18. 妄想的内容 妄想的内容很多，可据此命名，如被害妄想源于病人有被害的感觉而命名。

19. 原发性或继发性妄想

原发性妄想：出现突然，病人深信不疑，无精神因素可归咎。如：一个精神分裂症病人在事先从没有想过，也没有其他先期事件作背景时，突然完全相信他的性别正在转变。

继发性妄想：在病态的体验为前提。如某人听到声音便认为被人跟踪了。以下是几种常见的并且对诊断精神分裂症很重要的妄想。

思维播散：病人深信尽管他没有把他的思想讲出来，可是大家已经知道他在想些什么了。

思维被插入：病人感觉他脑子中的一些思想不是他自己的，而是由外界插入的。

思维被控制感：病人感到他的行为受到外界某人或某物控制。

思维被夺：病人觉得他的思想都已被他人从脑子中抽走了。

其他：被害妄想、牵连妄想、夸大妄想、罪恶感等。

强迫观念

20. 强迫观念的内容 强迫观念是一种虽然病人努力地要排除，但仍然反复出现在脑海中的观念，病人把它看成是自己脑子中产生的，而不是由其他某人或某物硬塞进来的。通常伴随强迫行为。

21. 是否有伴随强迫行为 强迫行为是一种反复的，似乎有目的的行为。由病人刻板地执行，并伴随一种主观上的想抗拒但又不得不执行的感觉。

D. 注意力

注意力是病人排除各种外来或内在刺激干扰，集中精力于某一事物的能力。注意力的判定是各项精神检查的基础。它可通过上述各项检查的施行得到判断。有注意力障碍的病人常不能有效地和检查者配合完成问诊和精神检查。常见的注意力障碍有：

随境转移：病人的注意力极易被很小的外界或内在刺激所分散，例如隔壁的声音、街上的汽车等。病人的被动注意力极易从一个目标转向另一目标。

注意力增强：病人的主动注意力过分地集中于某目标，不易被转移至其他刺激上。例如，病人过分注意自己的身体内在情况或反复询问同一问题。

注意涣散：病人不能集中注意力于某一事物，即使在医生的要求下也不能集中讨论某一问题，病人常抱怨脑子不工作了，医生提问时，常需反复数次才能得到回答。

注意力减退：病人无论有无外来刺激均无注意力。他可能在问诊时入睡或根本无视检查者的存在。

22. 有无注意力障碍及其程度

E. 记忆力

23. 即刻记忆 通过让病人重复检查者缓慢说出的、应被正常人记忆的一组数字而评价，一个智能正常的人应能重复7位数。

24. 近期记忆 通过询问病人最近一两天发生的事或病人早餐或晚餐吃什么而评价。

25. 远期记忆 通过让病人回忆个人生活事件或发生于几年前的众所周知的公众事件评价。

F. 智能

智能主要通过测定常识、抽象思维、判断和计算能力而初步评价。

26. 常识。

27. 判断。

28. 抽象思维。

29. 计算能力。

30. 如怀疑有智能障碍，则采用韦氏智能量表测定。

G. 情绪障碍

31. 情绪障碍的性质 在介绍观察病人行为时已经讲了一部分情绪评价的内容，现在将更详细地讨论这个问题，以下是情绪障碍的表现。

抑郁：有一种要哭的感觉、悲观的想法。无望、罪恶感、自杀念头。

焦虑：一种无现实危险为基础的预期恐怖感。可以突发或持续状态为现象，有心理和躯体两种症状：

心理症状：要晕过去，要失去控制，要变疯的想法。

躯体症状：自主神经活动过度的症状，如心悸、口干、出汗、颤抖等。

情感高涨：过分的高兴，若同时有过分自信、过分自夸才能及不切实际的计划等表现则更符合情绪障碍。

情感淡漠：情感完全丧失，即使与自己有切身利益关系的事也无动于衷。

32. 情绪变化及是否协调

协调的：情绪的变化与周围环境及本人的思想、行为一致。

非协调的：情绪变化与周围环境及本人的思想、行为不一致。

易变性：情绪变化突然、快速、过分。

持续性：情绪持续时间，合适还是不合适，如大笑不止就不正常。

H. 意志障碍

意志是人们为达到目标而克服困难的心理度量。意志障碍常与其它精神症状相关联。意志障碍常由检查者通过交谈和病人病史加以判断。

33. 意志障碍类型

意志障碍的常见类型：

意志增强：意志增强常伴有其他精神障碍，如伴有迫害妄想的病人可以持续上告别人，伴有夸大妄想的病人可以不断地从事无效的发明。

意志减退：病人一般知道应该做的事，但就是不能去做或无法完成一件事。

意志缺乏：病人对一切活动均无欲望，严重时对人类本能（食物、性欲）的要求也丧失。

I. 行为障碍

34. 行为障碍类型

精神运动性兴奋（协调或不协调）

精神运动性抑制（木僵、蜡样屈曲、缄默）

木僵：指病人的一种不动、不言、不吃状态，意识是清楚的。

蜡样屈曲：病人的肢体可被任意摆成任何姿势并维持该姿势较长时间。病人的肌张力通常增高。

特殊运动症状（违拗、作态）

违拗：病人做与被要求的相反的事或不执行被要求做的事。

作态：反复进行具有做作色彩的动作，如敬礼等。

35. 协调性抑或不协调性（如有精神运动性兴奋存在时）

协调性精神运动性兴奋：如躁狂病人的言语行为增多是与思维活跃、情感高张及环境相一致的，具有确定的、可理解的目的性。

不协调性精神运动性兴奋：如精神分裂症病人的言语行为增多是与思维情感活动不一致的，他们的思维过程显得毫无目的及难以理解。

J. 内省力

36. 内省力 是对自身精神状况的认识能力。根据以下几条来判断：

病人是否认为他真有病，而不是被敌人所迫害。

病人如认为他有病，则认为病在躯体还是精神。

病人如认为他有病，是否有必要治疗。

THE PSYCHIATRIC INTERVIEW AND MENTAL STATUS EXAMINATION

Psychiatric interview is different from the rest of medicine. As a whole, the contents of the psychiatric interview can be divided into two parts. One part is History Taking, the other is the Mental Status Examination (MSE). For the former, the general items which the student should ask the informant have been listed detailly in chapter one. Here we will place emphasis on the way the psychiatric interview differs from the rest of medicine. which is combination of psychiatric interview and mental status examination. For the latter, as the main part of this chapter, we will introduce the contents of MSE and some difficulties students may encounter in interacting with psychiatric patients and the skills to deal with these, and the significant concepts related to the MSE. For the concepts, we will give a definition and provide examples for easy understanding.

HISTORY TAKING

The way a psychiatric interview is different from the rest of medicine is:

1. In psychiatry, interviews with one or more relatives of the patient are highly important. Because most of psychiatric patients have no insight for their symptoms psychiatric patients some don't even regard themselves as a patient with a mental disorder. So, whenever possible, the case history should be taken from close relatives or another person who knows the patient well.
2. The interviewer should pay attention to the onset and the background factors making the patient worse or better. He should compare the situation before and after the onset of the illness.

3. The interview is used not only to obtain the history but also as a way of eliciting clinical signs. So, some significant examples should be recorded for further analysis.
 4. Although it is essential to ask direct questions about specific items of information, it is equally important to give the patient an opportunity to talk spontaneously, as unexpected material may be revealed in this way.
 5. The interviewer should clearly understand the nature of the symptoms before asking about their timing and factors that make them better or worse.
 6. As the interview continues, the doctor's task is to keep the informant on relevant topics by bringing him back to the point if he strays from it. In doing this, the interviewer should use a minimum of leading or closed questions (a leading question suggests the answer, a closed question allows only a yes or no answer) thus preventing the person from volunteering information.
 7. The interview should be carried out in a room that is reasonably soundproof and free from interruptions.
 8. Sometimes the patient's diary and letters should be obtained in order to find important information about his mental illness.
 9. During interviewing, the emotion reaction, facial expression and behavior of the patient should be observed and recorded. It is particularly important in uncooperative patients.
- Note: The items listed above are also relevant to the M. S. E.

MENTAL STATUS EXAMINATION

Some difficulties in the mental status examination and the way to deal with them are:

1. Resentful patient-The patient may seem resentful when he begins to talk. This may be because the interview is taking place against his wishes. For example, his spouse may have persuaded him to attend, or he doesn't regard himself as ill. Then, the interviewer should persuade the patient that the interview is in his own best interest.
2. Taciturn patient-Taciturn patients can often be encouraged to speak more freely if the interviewer shows non-verbal expressions of concern (i. e. leaning forward a little in the chair with an expression of interest). But, before deciding that the patient is taciturn, the interviewer should allow adequate time for replies and should try a variety of topics.
3. Over-talkative patient-For an over-talkative patient, it is less easy to curb the flow of speech. This can only be done by waiting for a natural break in the flow of speech to explain that, because the time is limited, the interviewer proposes to interrupt the patient when appropriate to help him focus on the issues that are important for planning treatment.
4. Over-active patient-Some patients are so active and restless that systematic interviewing is difficult. The interviewer may have to limit his questions to a few that seem particularly important and base his conclusions mainly on observations of the patient's behavior and spontaneous utterances.

THE SIGNIFICANT CONCEPTS RELATED TO THE MENTAL STATUS EXAMINATION

A. General Condition

Level of consciousness

Consciousness is awareness of the self and the environment. Many terms have been used for states of impaired consciousness: drowsiness, clouding of consciousness, sopor, twilight state, delirium coma. It is judged mainly by orientation.

Orientation:

Ask about patient's awareness of time, place and person.

2. Time

3. Place

4. Person

Response to environment This includes following items.

5. Degree of attention to environment

6. The extent of active or passive interaction with others

Whether the patient interacts with the doctor or others actively or passively.

7. The extent of cooperation

Whether the patient cooperates well with the doctor or not in the course of the interview and physical examination.

Appearance and behavior Although the mental status examination is largely concerned with what the patient says, much can also be learned from observing his appearance and behavior.

8. Dress, facial expression, gestures

a) General appearance

Pay attention to recent weight loss, self neglect, incongruous style of dress.

b) Facial appearance

Pay attention to irritability, anger, anxiety, depression, wooden expression.

c) Posture and movement

Pay attention to tremulousness, restlessness, over activity.

9. Spontaneous utterances and behavior

a) Spontaneous Utterances

Are there any spontaneous utterances?

b) Behavior

Does the patient exhibit over activity, aggression, withdrawal, stupor, other uncommon disorders (negativism, mannerisms, and waxy flexibility)?

B. Disorders of perception

10. Type of Illusion

Misperception of external stimuli, i. e. at dusk a common illusion is to misperceive the outline of a bush as that of a man.

11. Hallucination

An apparent perception of an external object when no such object is present.

Type of hallucination

a) Auditory hallucinations The patient complains of hearing sounds or voices without resource of sounds.

b) Other types of hallucinations These can be visual, taste, smell, touch and deep bodily sensations.

12. Content of hallucination

For example: Is it human language or not? If yes, is it command, comment, or controversial?

13. Frequency

Psychosensory disturbance

The patient can perceive things which really exist, but there is a distorted awareness of size, shape, color, distance and so on.

14. Type of psychosensory disturbance

Is there any metamorphopsia, disorder of perception about space, derealization (the patient may describe things in the environment as seeming unreal). Body dysmorphic disorder distorted awareness of size and shape of himself.

15. Frequency of psychosensory disturbance

C. Disorders of Thinking

16. Disorders of the stream of thought

In disorders of the stream of thought, both the amount and the speed of thought are changed.

a) Retardation of thought

The patient's thoughts and conversation move slowly. The amount of speech is less, voice is lower, and there is a delay before responding to questions. The patient feels that he is dull.

b) Pressure of thought

Ideas appear in unusual variety and abundance and pass through the mind rapidly and forcefully. They cannot be controlled by the patient himself.

c) Poverty of thought

The patient has only a few thoughts which lack variety and richness and seem to move through the mind slowly.

d) Thought blocking

Interruptions in speech are sudden, striking and repeated, and the patient describes the experience as an abrupt and complete emptying of his mind.

e) Flight of ideas

The patient's thoughts and conversation move quickly from one topic to another so that one train of thought is not completed before another appears. These links are understandable.

17. Disorders of linking and logic of thoughts

a) Loosening of associations

It appears as a muddled and illogical conversation that cannot be clarified by further inquiry or as a general diffuseness and lack of logical thread of an idea.

b) Splitting of thoughts

There is a disruption in the connections between phrases and sentences; each the single sentence has correct grammatical structure.

c) Neologism

Words or sentences are invented by the patient himself, usually having specific meaning.

The interviewer should record the example and ask the patient what it means.

d) Others-word salad, symbolic thought.

Abnormal beliefs

Delusion

A delusion is a belief that is firmly held despite evidence to the contrary and is not a conventional belief that the person might be expected to hold according to his educational and cultural background. It is a symptom that cannot be asked about directly, because the patient does not realize it as different from other beliefs. It is useful to begin by asking for an explanation of other symptoms or unpleasant experiences that the patient has described.

18. Content of delusion

The content of a delusion varies greatly. We can give it a name according to the content of the delusion. For example, persecutory delusions come from the patient feeling he is being persecuted.

19. Primary or Secondary

There are many varieties of delusions but we divide them into 2 types: primary and secondary. The primary delusion is one that appears suddenly and with full conviction, but without any mental events leading up to it. For example, a schizophrenic patient may be suddenly and completely convinced that he is changing sex without ever having thought of it before and without any preceding ideas or events which could have led in any understandable way to this conclusion. The secondary delusion can be understood as derived from some preceding morbid experience. The latter may be of several kinds, such as: a hallucination (i. e. someone who hears voices may come to believe that he is being followed). The following delusions are common and are of importance to schizophrenia:

a) Delusion of thought broadcasting

The patient believes that other people know what he is thinking, even though he has not spoken his thoughts aloud.

b) Delusion of thought insertion

The patient feels that some of the thoughts in his mind are not his own but are put there from outside.

c) Delusion of control

The patient feels that his actions are controlled by someone or something outside himself.

d) Delusion of thought withdrawal

The patient feels that ideas are being taken out of his head.

e) Others-persecutory, delusions of reference, grandeur, sin, etc.

Obsessive ideas

An obsessive idea is something that keeps coming into the patient's mind even though he tries hard to exclude it. He accepts it as his own, and not as something implanted by someone or something else. This is usually accompanied by compulsions. Compulsions are repetitive and seemingly purposeful behaviors performed in a stereotyped way accompanied by a subjective sense that they must be carried out and by an urge to resist.

20. Content of obsessive idea

21. Accompanied behavior or not

D. Attention

Attention refers to the patient's ability to attend to a single object or a specific stimulus without being distracted by extraneous internal or external stimuli. Attention is the basis of further testing of cognitive function and is judged by the examiner while performing a number of the tasks mentioned above. A patient with deficits in attention has trouble achieving the appropriate interaction with the examiner that would permit the interview to proceed. The common deficits are:

a) Transference of attention:

The patient is repeatedly distracted by any small stimulus, like the noise in the next room, a car running on the street. The passive attention of the patient is unstable and rapidly moves from one stimulus to another.

b) Hyperprosexia:

The patient over focuses his attention to one object and cannot transfer his attention to other stimuli even if it is required by the examiner. For example, the patient pays too much attention to his health condition and keeps on asking the same question.

c) Aprosexia:

The patient cannot concentrate on a single object for a short time even without irrelevant stimuli. The patient may complain his mind was not working, The questions have to be repeated several times in the interview.

d) Hypoprosia

The patient has deficits of attention whether or not external stimuli exist. He may fall asleep as the examiner talks or practically ignore the examiner.

22. Any deficits of attention and extent

E. Memory

23. Immediate

This is assessed by asking the patient to repeat sequences of digits that have been spoken slowly enough for him to be reasonably expected to register them. A person of average intelligence should be able to repeat seven digits.

24. Recent

This is assessed by asking about news items from the last one or two days or asking the patient what he had for breakfast or dinner.

25. Remote

This is assessed by asking the patient to recall personal events or well-known public items from some years before.

F. Intelligence

This is judged by testing common knowledge, deduction, judgment and calculation.

26. Common sense

27. Judgment

28. Abstract reasoning

29. Calculation

30. Wechsler Intelligence Scale Test (if intelligence deficit is suspected)

G. Disorders of mood

31. Nature of mood

Part of the assessment of mood has been mentioned when we introduced the observations of behavior described above. Now, we will discuss it in more detail. The following are types of affect manifestations:

a) Depression

The patient has a feeling of being about to cry, pessimistic thoughts, hopelessness, guilt about the past, suicidal thoughts.

b) Anxiety

The patient has a feeling of fearful anticipation which is not attributable to real danger and occurs either in attacks or as a persisting state. He may have psychological as well as physical symptoms:

Psychological-thoughts of fainting, losing control, going mad.

physical-manifestations of autonomic over activity; palpitations, dry mouth, sweating, trembling, etc.

c) Elation

The patient is over cheerful; this is confirmed by ideas reflecting excessive self-confidence, inflated assessment of one's own abilities and extravagant plans.

d) Apathy

The patient exhibits a totally loss of emotion, even about things closely related to him.

32. How mood varies and whether it is appropriate

a) Congruent

The patient's mood varies in parallel with his circumstances and his thoughts and actions.

b) Incongruent

The patient's mood is not suited to his circumstances and his thoughts and actions.

c) Labile

The patient's emotions change in a rapid, abrupt and excessive way.

d) Persistent

The patient's mood persists duly or unduly, i. e. laughs too long.

H. Disorders of volition

Volition is a psychological willingness of people who want to overcome the difficulty in gaining control over their destiny. It is usually associated with other mental disorders. The volition is usually judged by the interviewer with the patient's history. The following are types of volition disorders:

33. Type

a) Hyperbulia

The hyperbulia is usually associated with other mental problems. The patient with persecutory delusion may keep on visiting the police station to accuse other people. The patient with grandeur delusion may keep on announcing some useless invention.

b) Hypobulia

The volition of the patient is decreased. The patient usually knows what should be done but he just cannot do it or complete tasks.

c) Abulia

The volition of the patient is totally lost. The patient does not have any desire for activity including some human instinctive behavior in serious cases (ie. eating, sex).

I. Disorders of behavior

34. Type

a) Psychomotor excitement-- (congruent, incongruent)

b) Psychomotor retardation-- (stupor, waxy flexibility, mutism)

Stupor: It refers to a condition in which the patient is immobile, mute and does not eat, but appears to be fully conscious.

Waxy flexibility: It is detected when a patient's limbs are placed in a position in which they then remain for long periods, while at the same time muscle tone is uniformly increased.

c) Specific motor symptoms-- (negativism, mannerisms)

Negativism: The patient does the opposite of what is asked and actively resists efforts to persuade him to comply.

Mannerisms: The patient keep on repeating movements that appear to have some func-

tional significance, for example saluting.

35. Congruent or incongruent (if psychomotor excitement exists)

a) Congruent psychomotor excitement

The patient who is manic will present with increased amount of speech and behavior consistent with excited thoughts, elated emotions and his environment. There is a definitive, understandable goal.

b) Incongruent psychomotor excitement

The patient who is schizophrenic will present with increased amount of speech and behavior that is inconsistent with his thoughts and emotions. The thought processes seem aimless and hard to understand.

I. Insight

36. Insight

Insight is the awareness of one's own mental condition. It can be judged according to the following items:

a) Whether the patient believes that he is ill rather than, for example, persecuted by his enemies.

b) If so, whether he thinks that the illness is physical or mental.

c) Whether he thinks that he needs treatment.

附：精神科问诊及精神检查纲要

A：一般状况

1. 意识水平
2. 时间定向
3. 地点定向
4. 人物定向
5. 对环境的注意程度
6. 与他人主动和被动接触程度
7. 合作程度
8. 服饰、面部表情及姿势
9. 自发的言语和行为

B：认知障碍

10. 错觉
11. 幻觉类型
12. 内容
13. 出现频率
14. 感知综合障碍类型
15. 出现频率

C：思维障碍

16. 思维联想障碍（速度和量）
17. 思维的联贯性和逻辑性障碍
18. 内容
19. 原发性或继发性
20. 强迫观念的内容
21. 有否伴随强迫行为

D: 注意力

22. 有无注意力障碍及其程度

E: 记忆力

23. 即刻记忆
24. 近期记忆
25. 远期记忆

F: 智能

26. 常识
27. 判断
28. 抽象思维
29. 计算能力
30. 如疑有智能障碍，则采用韦氏智能量表测定

G: 情绪障碍

31. 情绪障碍的性质
32. 情绪变化及是否协调

H: 意志障碍

33. 类型

I: 行为障碍

34. 类型
35. 协调性抑或非协调性（如有精神运动性兴奋存在时）

J: 内省力

36. 内省力

APPENDIX:
CHECKLIST FOR PSYCHIATRIC INTERVIEW
AND MENTAL STATUS EXAMINATION

A. General Condition

1. Level of consciousness
2. Time
3. Place
4. Person
5. Degree of attention to environment

6. The extent of active or passive interaction with others
7. The extent of cooperation
8. Dress, facial expression, gestures
9. Spontaneous utterances and behavior

B. Disorders of perception

10. Illusions
11. Hallucination
12. Content
13. Frequency
14. Type
15. Frequency

C. Disorders of Thinking

16. Disorders of the stream of thought (speed and amount)
17. Disorders of linking and logic of thoughts
18. Delusion content
19. Primary or secondary
20. Obsessive ideas content
21. Accompanied behavior or not

D. Attention

22. Extent

E. Memory

23. Immediate
24. Recent
25. Remote

F. Intelligence

26. Common Sense
27. Judgment
28. Abstract Reasoning
29. Calculation
30. Wechsler Intelligence Scale Test (if intelligence deficit is suspected)

G. Disorders of Mood

31. Nature of mood
32. How mood varies and whether it is appropriate

H. Disorders of Volition

33. Type

I. Disorders of Behavior

34. Type
35. Congruent or incongruent (if psychomotor excitement exists)

J. Insight

特殊情况的问诊技巧

缄默与忧伤

缄默可由多种原因引起。可能由于疾病使患者的情绪难以控制，或询问者所提的问题触及患者的敏感方面或使其伤心，对此应及时察觉，予以避免。也可能由于问题未切中要害或批评性的提问使患者沉默或不悦，或者，因询问者用过多、过快的直接提问，使病人惶惑而被动，并误认为是询问者希望这样，对此，均应避免。

患者可能因生病而伤心或哭泣，情绪低落，甚至易于激惹。询问者应予安抚、理解及等待，或提供手巾，减慢问诊速度，常可使患者镇定，并继续叙述病史。

焦虑与抑郁

生活中各种应激都可引起焦虑和抑郁。应鼓励焦虑病人讲出其感受，注意其语言的和非语言的各种异常的线索，确定问题的性质，给予宽慰和保证。但应注意分寸，如说“不用担心，一切都会好起来的”这一类话时，首先应了解病人的主要问题，确定表述的方式，以免适得其反，产生抵触情绪，使交流更为困难。

抑郁是最常见的临床问题，且易于忽略，应予特别重视。如询问患者通常情绪如何，对未来、对生活的看法，如疑及抑郁症，应请精神科会诊。这种患者用一般提问多无作用，直接提问可能导出部分答案。

多话与唠叨

常反映为一种病人优势，询问者不易插话及提问，一个问题引出一长串答案。对此，由于时间的限制及回答未得要领，常使询问者着急，甚至生气。一般性提问及保持沉默任其发挥都给病人造成机会。因此应注意以下技巧：一是降低此次问诊要求，分次进行问诊；二是给5~10分钟休息，仔细观察患者有否思维奔逸或混乱情况，掌握精神科就诊的限度；三是根据初步判断，将主要问题列出，巧妙询问，必要时打断，提问应限定在主要问题上，但应有礼貌，切勿表现得不耐心；四是限定下次问诊的内容及时间。

愤怒与敌意

由于疾病而对情绪失去控制，可能迁怒于人，或由于询问者或医务人员举止粗鲁、态度生硬或语言冲撞可使病人愤怒或怀敌意。对此类病人询问者一定不能发怒，也勿认为自己受到侮辱而耿耿于怀，应采取坦然、理解、不卑不亢的态度，发现病人发怒的原因予以说明，注意切勿使其迁怒他人或医院其他部门。提问应该缓慢而清晰，内容主要限于现病史为好，个人及家族史询问要十分谨慎，或分次进行，以免触怒病人。

多种症状并存

有的病人多种症状并存、似乎问诊提及症状俱在，尤为慢性过程又无一侧重时，在注意器质性疾病的同时，亦可能由于精神因素引起，一经核实，不必深究，必要时可建议其作精神检查。但初学者在判断机能性问题时应特别小心。

文化程度低下或语言障碍

文化程度低下一般并不妨碍其提供适当的病史，但患者理解力及医学知识贫乏可能影响回答问题及遵从医嘱。问诊时，语言应通俗易懂，减慢提问的速度，注意必要的重复及核实。

病人通常对症状耐受力较强，不易主动陈诉，但问诊时仍可应答。对医师的尊重及环境生疏，使病人通常表现得过分顺从，对问题回答“是”不过是一种礼貌和理解的表示，实际上，可能并不理解，也不一定是同意或肯定的回答，对此应特别注意。

文化程度与智力并不是同义词，可通过简单智力测验，如计算、阅读了解智力情况。

语言不通者，最好是找到翻译，对翻译应讲清勿带倾向性，应如实翻译，不应只是解释或总结。有时体语、手势加上不连贯的语言交流亦可抓住主要问题。反复的核实是很重要的。

重危、晚期病人

重危病人需要高度浓缩的病史及体检，并可同时进行。病情重危者反应变慢，甚至迟钝，不应催促病人，应予以理解、等待。经初步处理，病情稳定后，可赢得时间，详细询问病史。

临危病人每因治疗无望有拒绝、孤独、违拗、懊丧、抑郁等情绪，应特别关心，引导其作出反应。对诊断、预后等回答应力求中肯，避免造成伤害，更不要与他人回答发生矛盾。如不清楚、不理解应妥善交待或作出适当许诺，待以后详细说明。亲切的语言，真诚的关心，表示愿在床旁多呆些时间，对病人都是极大的安慰和鼓励，从而有利于获取准确而丰富的信息。

残疾病人

残疾病人在接触及提供病史上较其他人更为困难。除了需要更多的同情、关心和耐心之外，需要花更多时间收集病史。以下技巧有助获得病史资料：

对聋哑人，相互理解常有困难。可用简单明瞭的手势或体语；谈话清楚、大声、态度和蔼、友善；请病人亲属、朋友解释或代叙，同时注意患者表情。必要时作书面交流、书面提问。

盲人，语言的交流和行动上的帮助，对获取足够的病史十分重要。安慰病人、先向病人自我介绍及介绍现场情况，搀扶病人就座、保证病人舒适，有利于问诊及建立良好医患关系。告诉病人其他现场人员和室内家具或装置，仔细聆听病史叙述，及时作出语言的应答，使病人放心。

老年人

年龄一般不妨碍提供足够病史，但因体力、视力、听力的减退，以及部分病人还有思维及反应的缓慢可能对问诊有一定的影响。以下事项应予特别注意：先用简单清楚、通俗易懂的一般性问题提问；减慢问诊进度，使之有足够时间思索、回忆，必要时作适当的重复；注意病人反应，如：是否听懂，有否思维障碍、精神失常，必要时向家属及朋友收集病史；耐心仔细进行系统回顾，以便发现重要线索；仔细询问过去史及用药史，个人史中重点询问个人嗜好（如烟、酒、茶、咖啡等），饮食情况及经济情况等；注意精神状态、外貌、言行、与家庭及子女的关系，如有问题，作好系统回顾及精神检查；如精神检查有阳性发现，建议精神专科就诊。

以上各种情况问诊有一定困难，除了询问者对患者的同情、关心、耐心之外，应努力使病人清除紧张情绪，了解其特殊要求，以便获得尽可能多的信息。另外，可询问家属、单位同事和朋友，有时，可由此提供重要的线索及获得意想不到的信息。以上要点决非束缚询问者活动的镣铐，而应视为获取信息和建立医患关系的一般指南，实际工作中对不同的个体应因时、因地制宜，灵活应用。随着知识的积累、问诊技巧的提高、临床工作的熟悉，对这些特殊情况的问诊必将熟能生巧、应用自如。

INTERVIEW SKILLS FOR PATIENTS WITH SPECIAL PROBLEMS

Silence and Sadness

Silence can have many causes. Patients may be silent because they are having difficulty controlling their emotions, because the questions being asked are particularly sensitive, or because they are genuinely sad. A gentle confrontation on the part of the interviewer or avoidance of the problem subject might help. If the patient senses signs of disapproval or criticism in your manner of approach, he might also respond with silence or anger. If you ask too many direct questions in rapid sequence, the patient may also remain silent and maintain the passive role he "thinks" you expect. Try to avoid actions that will cause the patient to be silent.

The patient may be sad and cry because he is suffering from his illness. He can be in a low emotional state and irritable over "ordinary" events as well. The interviewer should always confront the patient gently, quietly accept the mindframe he is in, offer a tissue or slow down the speed of questioning. Most of the time, the patient will regain his composure and feel capable of continuing the discussion.

Anxiety and Depression

Stresses from daily life may cause anxiety and depression. The interviewer should encourage the patient to talk about his feelings and be sensitive to the verbal and nonverbal clues he observes in the patient. The interviewer should try to determine the problems the patient has and reassurance or confrontation should be considered if appropriate. Some approaches to reassurance are counterproductive e. g. "Don't worry, everything is going to be all right". You should attempt to understand the key problems the patient may have and determine the appropriate questions to ask first.

Depression is a very common problem in clinical medicine and is often ignored. Be aware of this and always ask the patient if he feels sad or "blue" in day to day life and how his outlook is for his future. Consultation to a Psychiatrist may be suggested for depression that interferes with normal daily life. Open-ended questioning is usually useless for a depressed patient, direct questioning is a better method to obtain answers to the questions the interviewer needs to ask.

Overtalking and Garrulous Behavior

The patient presents garrulous behavior and obsessive talking and does not give the interviewer a chance to interrupt and ask questions. When the interviewer does ask a question, this may produce a cluster of answers from the patient. Faced with limited time, the interviewer may grow impatient or even exasperated with this type of patient. Open-ended questions or silence may create a chance for the patient to garrulously talk.

The following skills could be helpful for the interviewer:

2 The interviewer should lower his goals in this interview and should interview the patient in more detail the next time. Secondly, give the patient a five to ten minute break and re-interview the patient. Observe his responses and his speech patterns carefully for a flight of ideas, or disorganized thoughts suggestive of a psychotic problem. Thirdly, list key points you have observed from the patient's behavior and talking. Try to focus his attention on what you believe to be the most important areas to discuss. Pay special attention to the information he has given you in those areas. Interrupt the patient if you must, but remember to do it courteously. Do not express impatience. Fourthly, limit the content and give the patient another appointment to come in and finish the interview.

Anger and Hostility

When patients experience anger and hostility, they suffer loss or lack of their accustomed control. They may direct the anger toward the interviewer. It may occur as a result of inconsiderate, inattentive questions on your part or apathetic gestures or what the patient perceives as your unsuitable, confrontative manner.

Faced with this type of patient you should not feel angry or insulted. Your understanding, frankness and moderate attitude will help you to find out the reason for the patient's anger. While questioning the patient, be careful not to make references to or repeat the comments hospital staff or people in other departments have made about the patient. Questions should be slow and clear. Pay most attention to the HPI. The rest of the interview can be continued at another time.

Patients with Multiple Symptoms

Some patients seem to have every symptom you mention to them, they may state that they have had them for a long time and without much change. It is likely that this type of patient suffers from emotional problems; however, it is also conceivable that the patient may truly suffer from multiple organic illnesses. If you determine that the symptoms are emotional, you needn't go into an in-depth interview. Refer the patient for a psychiatric consultation, stating that this might be very helpful. The beginner might have difficulties in differentiating organic and functional problems and should attempt to do this carefully.

Poor Cultural Background or Patients with Limited Intelligence

Coming from a poor cultural background will not prevent the patient from providing an adequate interview/history. However, his lack of understanding and medical knowledge may be an obstacle with your questions and instructions. Slow down your questioning and repeat questions if necessary. Avoidance of jargon is most important in this case. The patient may not be sensitive to symptoms such as fever, pain, etc., unless you ask simple, direct questions about them. This type of patient may repeat himself, be unfamiliar with the hospital and appear to be overcompliant out of respect for the Doctor. The patient may answer "yes" automatically to anything you ask but in truth does not understand what you are saying. Be aware that background and intelligence are not synonymous. If you suspect the patient lacks intelligence, perform simple intelligence testing by asking the patient to do simple mathematical

calculations or read from a book. This will help you to judge his level of intelligence. If the patient has trouble understanding the language, find a translator to interpret the patient's words. The translator should tell you word for word what the patient is trying to say and not summarize his whole story into a few words or a simple explanation. Sometimes a gesture, the patient's body language, and even broken-language could be helpful in obtaining key information points from the patient. Pay attention to the documentation in this case.

Severely Ill-End/Advanced Stage Patient

The severely ill patient needs a comprehensive history and physical examination. You can do these simultaneously. Be aware of the patient's feelings even though his responses will be slow. Do not rush the patient, be tolerant until he responds. Keep in mind that you will have plenty of time if the patient recovers for a more detailed interview.

The fatally ill patient may have denial, isolation, bargaining behavior, grief, fear or depression. Accept whatever feeling the patient has and try to get the patient to respond to your questioning. If he asks about his diagnosis or prognosis, be honest. Do not give the patient a different answer or contradict a diagnosis, prognosis, or treatment plan made by other staff members. Stay a little longer with the fatally ill patient and offer comfort, compassion, and encouragement at the bedside. This will also help you to get more information.

Handicaps: Mute, Blind, Geriatric Patients

There are some difficulties in communicating with handicapped patients. The patients may have some problems in providing accurate histories. The physician must exercise patience, provide sympathy and spend more time with this type of patient. The following suggestions might be useful for getting more information from your patient.

For Mute and Deaf Patients

Take a history using simple sign or body language, if possible. Speak appropriately, loudly, patiently, and in a friendly manner. Ask relatives about the patient's complaint but also pay close attention to the patient when you talk to the patient's relatives. Ask the patient to write down what happened if necessary. Written questionnaires are very useful.

For Blind Patients

Provide a detailed explanation of who you are and what you are going to be doing during the exam and interview to make the patient comfortable. Take the patient's hand and lead him to a seat. This will help establish a good relationship with him. Tell him whether anyone else is present and what objects are in the room. Listen to the patient carefully and give him an oral response when he speaks, so he will know that you heard what he said.

For Geriatric Patients

Because of decreased energy, visual and listening abilities, decreased thinking and response problems, the history taking of the geriatric patient may be difficult. The following suggestions might be helpful. Questions should be clear, simply stated and easy to understand. The interview should be a little slower in pace than usual. Allow the older patient enough time to complete his thinking or refresh his memory. Sometimes repetition is neces-

sary because of decreased hearing, vision problems, memory loss and/or depression. Pay more attention to the patient's responses, noting if there is any impairment of hearing, speech and mood disturbance, or apparent difficulty with the thought process. Take the medical history from family and friends if any of the above mentioned symptoms are present and use this information in addition to that obtained directly from the patient. Ask about the review of systems in detail so you can detect problems. Inquire, in detail, about the drugs the patient has been taking as well as the patient's past illnesses. In the personal history, habits (such as tea, coffee, alcohol and tobacco intake), diet, history and economic status (such as income, personal spending, support systems, etc.) are to be emphasized. A mental status evaluation (MSE) should include the examiner's observations and impressions derived from the initial interview (appearance, behavior, relationship with children). If you find a severe problem, do a more complete MSE. Refer to the psychiatric interview in the instructional guide for a review of systems and consult the manual of psychiatry. You may also recommend a psychiatric consultation if any items in the MSE are positive.

The situations mentioned above, are difficult for the interviewer and you may not be able to get the information needed from the patient. In this situation try to obtain as much data as possible and put the patient at ease. You can also try to obtain necessary information from the patient's family, colleagues or friends.

These suggestions are not iron clad rules for obtaining the necessary information from patients with special problems. They are guidelines for obtaining information and conducting an interview with this type of patient. In your daily work, you will develop skills for facing this type of patient. Being sensitive to and aware of his special needs and you will be able to deal with these types of patients effectively.

附 录

A. 系统回顾问诊方法

一、目的

1. 强调系统询问的重要作用。通过系统回顾，培养学生具有询问各系统全部病症和条理化分类记录的能力。

2. 对各系统的过去情况作一全面估计。

3. 通过二次核实，以防遗漏具有重要临床意义的有关资料。

对学生教学内容：

1. 要求阅读戚仁铎主编的《诊断学》(第三版)。

2. 以合理方式，从头至足逐一询问：

一般情况 呼吸系统

皮 肤 心血管系统

造血系统 消化系统

头 部 泌尿系统

眼 生殖系统

耳 月经、生育史

鼻 内分泌系统

口 骨骼、肌肉、关节

咽 和 喉 神经系统

乳 房 精神状态

3. 每一个系统需问 1~2 个症状，如果均为阴性，可继续问下一个系统；如为阳性，需详细询问该系统。

4. 对病症的有和无，均需记录，如有某一症状，还应详细描述起始情况、发作时间、频率、性质和部位等。如某一系统询问的两个症状均存在，需详细询问和记录该系统。

二、系统回顾的内容

(现病史、过去史中已提及的下述项目，在系统回顾中应避免重复询问下面的一般问题。)

1. 一般情况 有无发热、体重改变，睡眠情况，有无不适、疲乏或乏力，食欲状况。

一般问题：

(1) 你自觉有发热吗？(最高体温？最低体温？热型和伴随症状？)

(2) 近期你的体重有无增减？(在多长时间增加或减少了多少？最轻时多少？最重时多少？)

(3) 你有无失眠情况。(难于入睡？早醒？有多长时间了？)

2. 皮肤 有无皮损或其他异常，有无颜色、性状、湿度、温度、毛发和指甲的改变，有

无疼痛或瘙痒，既往已经诊断和治疗的皮肤疾病。

一般问题：

(1) 你皮肤有无毛病？（皮损或其他异常？有无疼痛、瘙痒？）

(2) 你以往得过皮肤病吗？诊断和治疗情况如何？（什么时间？有无病情证明？）

3. 造血系统 有无出血、肿大和触痛的淋巴结、贫血、骨痛和输血反应，有无药品、毒物或放射物质的接触史。

一般问题：

(1) 你有过出血吗？（部位？时间？自发或手术后出血？）

(2) 你自觉有肿块吗？（部位？时间？有无触痛？）

4. 头部 有无外伤、头痛、头昏、头晕、眩晕。

一般问题：

(1) 你有头痛吗？（部位、时间、发作情况；疼痛像什么样？有无伴随症状，如恶心、呕吐？）

(2) 你的头部受伤过吗？（部位、时间、伤后有无神志不清？）

5. 眼 有无视力障碍、复视、羞明、发痒、发干、流泪，既往有无青光眼和白内障。

一般问题：

(1) 你的眼睛有无不适？（疼痛？发痒？流泪？发红？）

(2) 你有无视力障碍？（开始情况：突然或渐起？能看多远？戴眼镜吗？有无头痛？）

6. 耳 有无耳聋、疼痛、分泌物、眩晕、耳鸣。

一般问题：

(1) 你有无耳聋或听力减退？（有过头部外伤吗？药物中毒史？家族史？噪音？急性炎症？）

(2) 你有无耳鸣？感觉耳内有铃声或吹口哨声？（有无心血管疾病？药物中毒史？是否伴有出汗、呕吐、站立不稳？）

7. 鼻 鼻腔有无分泌物，有无鼻衄、鼻塞、反复感冒和嗅觉改变。

一般问题：

(1) 你有无鼻塞？（有无妊娠？异物吸入？服用利血平史？）

(2) 你鼻腔有无分泌物？（分泌物的量、气味？有无脑外伤？打喷嚏或发痒？分泌物性状：水样、脓性、浆液性、血性）

8. 口 有无口舌疼痛、牙龈出血、口舌损害、味觉改变，牙齿情况。

一般问题：

(1) 谈谈你的牙齿情况。有无龋齿或义齿？

(2) 你牙龈有无出血？（出血量及出血时间？卫生习惯？伴随症状？）

(3) 你有无口舌疼痛或溃疡？（部位？时间？）

9. 咽和喉 有无咽喉炎、声音嘶哑、吞咽困难？

一般问题：

(1) 你有咽痛吗？（有无反复患扁桃体炎史？有无关节痛？）

(2) 你有无吞咽困难（吃硬东西时？软食或液体时？有无呛咳？脑部疾病？异物吸入或吞服史？）

10. 乳房 有无疼痛、肿胀、触痛、分泌物或肿块，最后一次乳房 X 线照片的结果。

一般问题：

(1) 你乳房有无肿块？(开始时间？有多久了？部位？有无疼痛？月经周期中对激素变化的反应如何？大小变化情况？如已手术切除，应问清手术类型和病理诊断)

(2) 你乳房有无分泌物？(性质？部位？与月经周期的关系。)

(3) 你是否定期做乳房自我检查？

11. 呼吸系统 有无呼吸困难、咳嗽、咯痰、咯血、胸痛、喘息、紫绀、发热、盗汗，最后一次胸透的日期和结果。

一般问题：

(1) 你有无呼吸困难？(程度？进展速度？用力时发生还是休息时发生或用力 and 休息时均可发生?)

(2) 你有无咳嗽？(干咳或有痰？发作性？金属调或高调？百日咳样吼声？痰的颜色、量、性状和异常气味)

(3) 你有无咯血？(量、是全血或痰中带血)

12. 心血管系统 有无呼吸困难、端坐呼吸、夜间阵发性呼吸困难、胸痛、水肿、心悸、晕厥，既往有无高血压或心脏病史(杂音、心脏病发作、风湿性心脏病)

一般问题：

(1) 呼吸困难：见上述。

(2) 你有无心慌、心跳感觉？(时间？伴随症状)

(3) 你有无胸痛？(部位？放射区域？程度？性质？诱发因素？缓解或加重因素？伴随症状)

(4) 你有无水肿(部位？时间？水肿情况和伴随症状)

13. 消化系统 食欲情况，有无排便习惯改变、腹泻、便秘、恶心、呕吐、呕血、腹痛、黄疸、吞咽困难、消化不良、嗝气、胀气、痔、疝、便血，以及大便性状。

一般问题：

(1) 请谈谈你的食欲情况。(量？饮食习惯改变？伴随症状。)

(2) 请谈谈你的排便情况，一天多少次？像什么样？(性状？颜色？外形？伴随症状如疼痛、发热)

(3) 你经常呕吐吗？呕吐物外观如何？(量？颜色？性状？伴随症状?)

(4) 你有无腹痛？(时间？部位？放射范围？程度？性质：钝痛、锐痛、烧灼痛？饥饿痛、刺痛、痉挛痛或绞痛？伴随症状?)

(5) 你有过黄疸吗？(程度、伴随症状)

14. 泌尿系统 有无血尿、尿频、尿痛、尿急、夜尿增多、排尿困难、滴沥或尿失禁、尿色异常、少尿、水肿。

一般问题：

(1) 你一天小便多少次？每次解多少？(白天多少次？黑夜多少次？有无夜尿增多？尿急？尿痛?)

(2) 小便颜色像什么样？(有无血尿？尿色异常？伴随症状)

(3) 你有无排尿困难？(起始困难或是滴沥状)

(4) 你有无尿痛？(部位？性质?)

15. 生殖系统 性生活习惯(满意程度、次数)、既往性病史。

一般问题:

(1) 性交时你感觉如何?(满意、不适、困难或疼痛)

(2) 你知道如何预防性病吗?

男性:生殖器损害,尿道分泌物,睾丸疼痛或肿胀,阳痿,自身检查情况。

(1) 你有无生殖器损害?

(2) 你做睾丸自身检查吗?情况如何?

女性:阴道分泌物,性交时阴道或盆腔疼痛和不适,生殖器损害,最后一次盆腔检查和阴道涂片日期和结果。

(1) 你阴道常有分泌物吗?(颜色?量?发生时间?)

(2) 请谈谈你最后一次盆腔检查和阴道涂片的日期和结果。

16. 月经和生育史 初潮的年龄,月经(周期、经期、经量和性状)。有无痛经、子宫出血、月经过多、性交后出血,妊娠情况和绝经,计划生育状况。此项也可在个人史中询问。

(1) 子宫出血:在月经间期阴道流血或血块。

(2) 性交后出血:性交后有阴道流血(量、时间)。

(3) 绝经:绝经日期,自发绝经或术后或放疗后停经,有无并发症和再出血的情况。

(4) 妊娠情况:妊娠次数、流产次数,有无并发症;应分别记录妊娠次数和分娩次数。

(5) 计划生育状况(方法、时间)

17. 内分泌系统 有无多尿、多饮、多食、怕热、怕冷、乏力、震颤、出汗、水肿,有无体重、行为、骨骼、皮肤、脸形和毛发的改变,有无头昏、饥饿感,有无外伤、手术、产后出血史,以往激素治疗情况。

一般问题:

(1) 你每天排尿多少?(如有多尿,问清尿量、排尿次数;有无多饮、多食、外阴瘙痒、皮肤感染)

(2) 你有无怕热?怕冷?(有无肌肉震颤、多汗、复视、乏力、水肿)

18. 骨骼、肌肉、关节 有无肌肉骨骼疼痛、肿胀,有无关节畸形或运动障碍,有无肌痉挛、软弱无力,以往受伤史。

一般问题:

(1) 你有关节痛吗?(单关节或多关节?多久了?有无肿胀?发红?疼痛性质?有关症状:咽痛、发热、皮疹、麻木)

(2) 你自觉有关节僵硬或运动障碍吗?(部位?时间?有无外伤?加重或减轻因素)

19. 神经系统 有无头昏、惊厥、晕厥、眩晕、感觉异常、头痛、麻木、瘫痪、轻瘫、无力、不协调、震颤、语言障碍、大小便失禁。

一般问题:

(1) 你有无肌肉强直收缩样发作?(持续或阵挛性?发作后有无意识丧失?每次发作多久?)

(2) 你有无自身旋转或周围景物转动的感觉?(有无恶心?呕吐?出汗?头痛?耳鸣或耳聋?)

(3) 你有无头昏?头重脚轻的感觉?

(4) 你有无感觉异常?

20. 精神状态 有无幻觉、定向力障碍、情绪改变、妄想，既往精神病史和治疗情况。

一般问题：

(1) 身边无人时，你觉得耳边有声音或说话声吗？（有无幻觉？）

(2) 你知道你现在在哪里？现在是什么时候？你叫什么名字？

(3) 你的情绪如何？（喜悦？抑郁？焦虑？）

(4) 你觉得你的行动受他人控制吗？你相不相信别人会知道你内心的想法？

上述4项都应该问诊。

（若有一项阳性可建议病人去精神科就诊，其余条目见精神科问诊内容）

APPENDICES

APPENDIX A

INSTRUCTIONAL GUIDE TO REVIEW OF SYSTEMS

A. Objectives

This review has three objectives:

1. To emphasize the role of the interview. Through the review of systems, the student will be capable of inquiring about all complaints referable to each system and to group symptoms in an organized manner.
2. To provide a thorough evaluation of the past status of each system.
3. To prevent omission of significant data relevant to the present illness.

The educational program for the student includes:

1. Reading those chapters in "Diagnostics: by Prof. RT. Qui (3rd. edition)"
2. Progressing in a logical manner from the head to the feet, the following order is usually observed.

general	respiratory
skin	cardiovascular system
hematopoietic	gastrointestinal system
head	urinary system
eyes	genital system
ears	menstrual-reproductive system
nose	endocrine system
mouth	bones, muscles, joints
pharynx and larynx	neurological system
breast	psychiatric

3. Several general questions should be asked about each system. If these are negative, proceed to the next system. If these are positive, ask detailed questions about that system.

4. Record the absence as well as the presence of symptoms. If any item is positive, it should be described in detail (onset, duration, frequency, character, location, etc). If two items in a single system are positive, the entire system should be described in detail.

B. Content of the Review of the System (ROS)

If any of the items mentioned below have already been included in the HPI and PMH, repetition should be avoided in this review.

1. General (ROS)

Fever, changes in body weight, sleep pattern, appetite, malaise, weakness, fatigue and loss of energy.

General questions

- (1) Have you had a fever? Maximum, minimum, pattern, accompanying symptoms.
- (2) Have you had any recent change in body weight? How much, over how many months, maximum, minimum.
- (3) Do you have any sleep difficulties? falling asleep, early morning awakening, duration of the problem.

2. Skin (ROS)

Skin lesions or other abnormal changes, changes in color, texture, moisture, temperature, pain and itching, previously diagnosed and treated skin disease.

General questions

- (1) Have you had any problem with your skin? Any skin lesions or changes in hair or nails, any pain or itching or fever.
- (2) Have you had any previously diagnosed and treated skin diseases? onset, document.

3. Hematopoietic (ROS)

Abnormal bleeding, enlarged or tender lymph nodes, anemia, bone pain, and transfusion reactions, contact with drugs, poisons, radioactive material.

General questions

- (1) Have you had any bleeding? Location, time, spontaneously or after surgery.
- (2) Do you have a mass? Location, duration, tenderness.

4. Head (ROS)

Trauma, headache, dizziness, lightheadedness, vertigo.

General questions

- (1) Do you have any headache? Tell me about the headache, site, duration, frequency, nature, associated symptoms such as nausea, vomiting, etc.
- (2) Have you had any head trauma? Location, onset, conscious or unconscious.

5. Eyes (ROS)

Disturbances of vision, diplopia, photophobia, itching, excess or decreased tearing, previous diagnosis of glaucoma or cataracts.

General questions

- (1) Do you have any eye discomfort? (pain. itching. tearing. red eye)

(2) Do you have any visual disturbance? (onset--sudden or insidious, glasses, headache)

6. Ears (ROS)

Deafness, pain, discharge, vertigo, tinnitus.

General questions

(1) Do you have any hearing loss? Head trauma, ototoxic drug, family history, exposure to excess noise, acute infectious disease.

(2) Do you hear ringing on your ears? Cardio-vascular disease, ototoxic drug, sweating, vomiting, instability in walking.

7. Nose (ROS)

Nasal discharge, epistaxis, obstruction, frequent colds, and sense of smell.

General questions

(1) Is your nose blocked? Pregnancy, foreign body, medicine (i. e. reserpine)

(2) Do you have a nasal discharge? Amount, smell, brain trauma, sneezing or itching. Nature: watery, purulent, serous, bloody.

8. Mouth (ROS)

Soreness of mouth and tongue, bleeding gums, lesions in mouth, tongue or lips, change in taste, condition of teeth.

General questions

(1) Tell me about your teeth?

(2) Have you had bleeding from your gums? Amount, onset, caries, associated symptoms.

(3) Have you had a lesion or pain in your mouth? Do you have any soreness of mouth and tongue? Location, duration.

9. Pharynx and Larynx (ROS)

Sore throat, hoarseness, dysphagia

General questions

(1) Do you have a sore throat? Recurrent tonsillitis, arthralgia.

(2) Do you have any problems with swallowing? Solid, soft or liquid food, irritative cough, brain disease, aspiration.

10. Breast (ROS)

Pain, swelling, tenderness, discharge, masses, date and result of last mammogram, self-examination pattern.

General questions

(1) Do you have any mass in your breast? Onset, duration, location, painful or painless, response to hormonal changes, spread or size change, operation and pathological diagnosis (if mass was resected).

(2) Do you have any discharge? Character, site, relationship to menstruation.

(3) Do you do breast self-examination regularly?

11. Respiratory (ROS)

Dyspnea, cough, sputum, hemoptysis, pain, wheezing, cyanosis, fever, night sweats, date

and result of last chest x-ray.

General questions

- (1) Do you have dyspnea? Degree, its rate of progression, whether it occurs on exertion, rest, or both.
- (2) Do you have a cough? Dry or productive, paroxysmal, tone (brassy, loud, high-pitched, whooplike), color, quantity, consistency, unusual odor/smell of sputum.
- (3) Do you have hemoptysis? Amount, accompanying symptoms.

12. Cardiovascular system (ROS)

Dyspnea, orthopnea, paroxysmal nocturnal dyspnea, chest pain, edema, palpitations, syncope, known hypertension or heart disease, (murmur, heart attack, rheumatic heart disease.)

General questions

- (1) Dyspnea (see above)
- (2) Do you have palpitations? Timing, accompanying symptoms.
- (3) Do you have chest pain? Location, radiation, degree, nature, precipitators, alleviating or aggravating factors, accompanying symptoms.
- (4) Do you have edema? Location, time, nature, degree, accompanying symptoms.

13. Gastrointestinal System (ROS)

Appetite, change in bowel habits, diarrhea, constipation, nausea, vomiting, hematemesis, abdominal pain, jaundice, dysphagia, indigestion, eructation, flatulence, rectal tenesmus, character of stools, hemorrhoids, hernia.

General questions

- (1) Tell me about your appetite. Any change of habits, associated symptoms.
- (2) How many motions do you have per day? What do they look like? Frequency, character, color, consistency of stool, accompanying symptoms such as pain, fever.
- (3) Do you vomit frequently? What does it look like? Amount, color, any blood, character, accompanying symptoms.
- (4) Do you have abdominal pain; onset, location, radiation, severity, character (dull, sharp, burning, gnawing, stabbing, cramping or colicky), accompanying, symptoms.
- (5) Have you ever turned yellow? Degree, accompanying symptoms.

14. Urinary system (ROS)

Hematuria, frequency, pain, urgency, nocturia, hesitancy, dribbling or incontinence, color change, oliguria, edema.

General questions

- (1) How many times a day do you urinate? How much volume do you void each time? Times of urination, number of times during the day or night, nocturia, urgency, painful urination.
- (2) What color is your urine? Color of urine (include hematuria, appearance of abnormal color), accompanied by other symptoms.
- (3) Do you have any difficulty in urination? Hesitancy, dribbling.

(4) Do you have any pain during urination? Location, character.

15. Genital system (ROS)

Sex habits, satisfaction, frequency of intercourse, deviation, recent change in pattern, previous history of venereal disease.

General questions

(1) How do you feel during intercourse? (satisfied, discomfort, troubled or painful).

(2) Do you know how to prevent yourself from becoming infected with HIV?

Male: genital lesions, ureteral discharge, testicular pain or swelling, impotence and self exam pattern.

(1) Do you have genital lesions?

(2) Do you do testicular self examination?

Female: vaginal discharge, dyspareunias, genital lesions, date and result of last Pap Smear.

(1) Do you have vaginal discharge (color, amount, time of occurrence).

(2) Date and result of last pelvic exam and Pap Smear.

16. Menstrual-reproductive (ROS)

Age of onset, menstrual flow, interval between periods, duration, amount and character of flow, dysmenorrhea, metrorrhagia, menorrhagia, postcoital bleeding, pregnancy and childbirth, menopause, and contraception.

General questions

(1) Metrorrhagia-frank bleeding, spotting of blood or irregular bleeding.

(2) Postcoital bleeding-bleeding follows sexual intercourse, amount, how long.

(3) Menopause-date, spontaneous or after surgery or radiotherapy, complications post menopause and treatment.

(4) Pregnancy-time, number, abortion, complication.

(5) Contraception-method, time.

17. Endocrine system (ROS)

Polyuria, polydipsia, polyphagia, intolerance to heat or cold, weakness, tremor, sweating, edema, change of weight, behavior, bone, skin, facial features, hair, faintness, hunger, history of bleeding, after injury, operation, or delivery, hormone therapy.

General questions

(1) How much urine do you pass each time? If there is polyuria, inquire into amount and number of times per day, polydipsia, polyphagia, vaginal discharge and itching, skin infections.

(2) Have you noticed any change of tolerance to heat or cold, tremor, sweating, double vision, weakness, edema.

18. Bones, muscles and joints (ROS)

Muscular or bone pain, swelling, deformity, or disability of any joint, cramping, weakness, and previous injuries.

General questions

(1) Do you feel pain in any joint? Is it in one joint or in many joints? Duration, swelling, redness, character, relevant symptoms such as sore throat, fever, chills, skin rash, numbness.

(1) Do you have stiffness in the joints or difficulty in movement? Location, duration, injury, aggravating or alleviating factors.

19. Neurological system (ROS)

Dizziness, convulsions, syncope, vertigo, paresthesia, headache, numbness, paralysis, paresis, ataxia, tremor, aphasia, difficulty with bladder or bowel control.

General questions

(1) Have you had episodes of muscle rigidity or contraction, tonic or clonic movements, loss of consciousness, duration.

(2) Do you have a sense of spinning yourself or spinning of the surroundings? Nausea, vomiting, sweating, headache, tinnitus or deafness.

(3) Do you have dizziness?

(4) Do you have paraesthesia?

20. Psychiatric (ROS)

Hallucinations, disorientation, mood change, delusions, previous emotional illness and treatment.

General questions

(1) Do you ever hear sounds or voices when no one else is within earshot?

(2) Do you know where you are? What time it is now? What is your name?

(3) How is your spirit? Elation, depression, anxiety, etc.

(4) Do you ever feel that your actions are controlled by some person or thing outside you? or, Do you believe that your unspoken thoughts are known to other people?

All four items should be asked of the patient. The patient should be referred to the psychiatrist if one item is positive (see manual for psychiatry).

B. 系统回顾问诊纲要

现病史、过去史中已提及的下述项目，在系统回顾中应避免重复。

1. 一般情况 有无发热、体重改变，睡眠情况，有无不适、疲乏或乏力，食欲状况。

2. 皮肤 有无皮损或其它异常，有无颜色、性状、湿度、温度、毛发和指甲的改变，有无疼痛或瘙痒，既往已经诊断和治疗的皮肤疾病。

3. 造血系统 有无出血、肿大和触痛的淋巴结、贫血、骨痛和输血反应，有无药品、毒物或放射物质的接触史。

4. 头部 有无外伤、头痛、头昏、头晕、眩晕。

5. 眼 有无视力障碍、复视、羞明、发痒、发干、流泪，既往有无青光眼和白内障。

6. 耳 有无耳聋、疼痛、分泌物、眩晕、耳鸣。

7. 鼻 鼻腔有无分泌物，有无鼻衄、鼻塞、反复感冒和嗅觉改变。

8. 口 有无口舌疼痛、牙龈出血、口舌损害、味觉改变，牙齿情况。
9. 咽和喉 有无咽喉炎、声音嘶哑、吞咽困难。
10. 乳房 有无疼痛、肿胀、触痛、分泌物或肿块，最后一次乳房 X 线照片的结果。
11. 呼吸系统 有无呼吸困难、咳嗽、咯痰、咯血、胸痛、喘息、紫绀、发热、盗汗，最后一次胸透的日期和结果。
12. 心血管系统 有无呼吸困难、端坐呼吸、夜间阵发性呼吸困难、胸痛、水肿、心悸、晕厥，既往有无高血压或心脏病史（杂音、心脏病发作、风湿性心脏病）。
13. 消化系统 食欲情况，有无排便习惯改变、腹泻、便秘、恶心、呕吐、呕血、腹痛、黄疸、吞咽困难、消化不良、嗝气、胀气、大便性状、痔、疝、便血。
14. 泌尿系统 有无血尿、尿频、尿痛、尿急、夜尿增多、排尿困难、滴沥或尿失禁、尿色异常、少尿、水肿。
15. 生殖系统 性生活习惯（满意程度、次数）、既往性病史。
男性：生殖器损害，尿道分泌物，睾丸疼痛或肿胀，阳痿，自身检查情况。
女性：阴道分泌物，性交时阴道或盆腔疼痛和不适，生殖器损害，最后一次盆腔检查和阴道涂片日期和结果。
16. 月经和生育史 初潮的年龄，月经（周期、经期、经量和性状）。有无痛经、子宫出血、月经过多，性交后出血。妊娠情况和绝经，计划生育状况。此项也可在个人史中询问。
17. 内分泌系统 有无多尿、多饮、多食、怕热、怕冷、乏力、震颤、出汗、水肿，有无体重、行为、骨骼、皮肤、脸形和毛发的改变，有无头昏、饥饿感，有无外伤、手术、产后出血史，以往激素治疗情况。
18. 骨骼、肌肉、关节 有无肌肉骨骼疼痛、肿胀，有关节畸形或运动障碍，有无肌痉挛、软弱无力，以往受伤史。
19. 神经系统 有无头昏、惊厥、晕厥、眩晕、感觉异常、头痛、麻木、瘫痪、轻瘫、无力、不协调、震颤、语言障碍、大小便失禁。
20. 精神状态 有无幻觉、定向力障碍、情绪改变、妄想，既往精神病史和治疗情况。

APPENDIX B: CHECKLIST FOR REVIEW OF SYSTEMS

1. GENERAL (ROS)

Fever, changes in body weight, sleep pattern, appetite, malaise, weakness, fatigue and loss of energy.

2. SKIN (ROS)

Skin lesions or other abnormal changes, changes in color, texture, moisture, temperature, pain and itching, previously diagnosed and treated skin disease.

3. HEMATOPOIETIC (ROS)

Abnormal bleeding, enlarged or tender lymph nodes, anemia, bone pain, and transfusion reactions, contact with drugs, poisons, radioactive material.

4. HEAD (ROS)

Trauma, headache, dizziness, lightheadedness, vertigo.

5. EYES (ROS)

Disturbances of vision, diplopia, photophobia, itching, excess or decreased tearing, previous diagnosis of glaucoma or cataracts.

6. EARS (ROS)

Deafness, pain, discharge, vertigo, tinnitus.

7. NOSE (ROS)

Nasal discharge, epistaxis, obstruction, frequent colds, and sense of smell.

8. MOUTH (ROS)

Soreness of mouth and tongue, bleeding gums, lesions in mouth, tongue or lips, change in taste, condition of teeth.

9. PHARYNX AND LARYNX (ROS)

Sore throat, hoarseness, dysphagia

10. BREAST (ROS)

Pain, swelling, tenderness, discharge, masses, date and result of last mammogram, self-examination pattern.

11. RESPIRATORY (ROS)

Dyspnea, cough, sputum, hemoptysis, pain, wheezing, cyanosis, fever, night sweats, date and result of last chest x-ray.

12. CARDIOVASCULAR SYSTEM (ROS)

Dyspnea, orthopnea, paroxysmal nocturnal dyspnea, chest pain, edema, palpitations, syncope, known hypertension or heart disease, (murmur, heart attack, rheumatic heart disease.)

13. GASTROINTESTINAL SYSTEM (ROS)

Appetite, change in bowel habits, diarrhea, constipation, nausea, vomiting, hematemesis, abdominal pain, jaundice, dysphagia, indigestion, eructation, flatulence, rectal tenesmus, character of stools, hemorrhoids, hernia.

14. URINARY SYSTEM (ROS)

Hematuria, frequency, pain, urgency, nocturia, hesitancy, dribbling or incontinence, color change, oliguria, edema.

15. GENITAL SYSTEM (ROS)

Sex habits, satisfaction, frequency of intercourse, deviation, recent change in pattern, previous history of venereal disease.

Male: genital lesions, ureteral discharge, testicular pain or swelling, impotence and self exam pattern.

Female: vaginal discharge, dyspareunias, genital lesions, date and result of last Pap Smear.

16. MENSTRUAL-REPRODUCTIVE (ROS)

Age of onset, menstrual flow, interval between periods, duration, amount and character of flow, dysmenorrhea, metrorrhagia, menorrhagia, postcoital bleeding, pregnancy and childbirth, menopause, and contraception.

17. ENDOCRINE SYSTEM (ROS)

Polyuria, polydipsia, polyphagia, intolerance to heat or cold, weakness, tremor, sweating, edema, change of weight, behavior, bone, skin, facial features, hair, faintness, hunger, history of bleeding after injury, operation, or delivery, hormone therapy.

18. BONES, MUSCLES, JOINTS (ROS)

Muscular or bone pain, swelling, deformity, or disability of any joint, cramping, weakness, and previous injuries.

19. NEUROLOGICAL SYSTEM (ROS)

Dizziness, convulsions, syncope, vertigo, paresthesia, headache, numbness, paralysis, paresis, ataxia, tremor, aphasia, difficulty with bladder or bowel control.

20. PSYCHIATRIC (ROS)

Hallucinations, disorientation, mood change, delusions, previous emotional illness and treatment.

(All four items should be asked of the patient. The patient should be referred to the psychiatrist if one item is positive).

(see manual for psychiatry)

C. 儿科系统回顾问诊方法

现病史或过去史中包括的下述内容，在系统回顾中应避免重复。

每一系统必须询问下面的一般问题。如阳性，应进一步详细询问该系统：如阴性，则过渡到下一系统。

1. 一般情况

发热：体温（最高温或最低温、热型、持续时间和伴随症状）。

体重：在多长时间增加或减少的情况。

疲乏：精神或体力。

一般问题：你的孩子曾经有发热吗？你的孩子有体重增加或减少吗？

2. 皮肤

皮肤：有无麻疹、风疹、幼儿急疹等，特点是什么？有无伴随症状，如发热等。

颜色：苍白、发红、青紫、黄疸或色素沉着。

湿度：出汗过多或干燥。

一般问题：你的孩子曾有过皮肤疾病吗？

3. 造血系统

出血：部位（鼻、牙龈或其它系统）、性质（瘀点、瘀斑、血肿）、量。

贫血：发病年龄、程度（轻、中、重）、伴随症状、（疲乏、发热、骨痛等）、输血（次数、量、反应、血型）。

一般问题：你的孩子曾发生过出血吗？

4. 头

外伤：部位、有无意识丧失。

头痛：参阅神经系统。

惊厥：参阅神经系统。

一般问题：你的孩子曾有过头部外伤吗？

5. 眼：

视力障碍：发生年龄、配戴眼镜、伴随症状（如头痛等）。

其它问题：疼痛、发红等。

一般问题：你的孩子有无视力障碍？你的孩子曾经有过眼睛的问题吗？

6. 耳

耳聋：发生年龄、家族史、过去的耳疾史（疼痛、异常分泌物，耳毒性药物如链霉素、庆大霉素、卡那霉素等的使用）。

分泌物：既往严重感染性疾病的历史（如高热、惊厥、中耳炎等）。

一般问题：你的孩子曾有过听力丧失吗？你的孩子曾有过耳朵流水吗？

7. 鼻

分泌物：质（水样、脓性或血性）、量。

阻塞：伴随症状（如喷嚏）。

一般问题：你的孩子有过流涕吗？你的孩子有过鼻塞吗？

8. 口

龋齿：阳性家族史、卫生习惯、修补、氟化物预防。

疼痛：口腔粘膜或舌溃疡。

一般问题：你的孩子有龋齿吗？你的孩子口腔有过破损吗？

9. 咽喉

咽痛：发热、咳嗽、声嘶。

一般问题：你的孩子有过咽痛或声嘶吗？

10. 乳房

肿胀：发生年龄、疼痛、服用补药或误服避孕药的历史。

11. 呼吸系统

咳嗽：发热、咳痰、胸痛、喘鸣、紫绀、卡介苗的预防注射。

呼吸困难：异物吸入史。

一般问题：你的孩子曾经有咳嗽吗？

12. 心血管系统

紫绀：发生年龄、持续性或间隙性，有否呼吸困难。

呼吸困难：水肿、端坐呼吸。

一般问题：你的孩子曾经有过口和鼻周青紫吗？

13. 消化系统

呕吐：发热、黄疸、腹泻。

腹泻：呕吐、发热、大便性状。

一般问题：你的孩子有过呕吐吗？你的孩子有过腹泻吗？

14. 泌尿系统

少尿：近期感染史、肾脏病和心脏病历史。

尿色异常：血尿（腹痛、水肿、高血压）、尿色加深（黄疸、贫血等）尿频、尿急、尿痛、尿床。

一般问题：你孩子小便量有无改变？你孩子小便颜色有无改变？

15. 生殖系统

男孩：尿道口分泌物：包茎。

睾丸肿胀：发热、疼痛。

女孩：阴道口分泌物：卫生习惯。

月经：周期、量、疼痛。

16. 内分泌系统

体重或身高改变：多尿、多饮、食欲改变、性征变化、智力减退、皮肤改变、阳性家族史等。

17. 运动系统

关节疼痛：肿胀、畸形。

肌肉无力：肌肉、外形的改变、阳性家族史。

一般问题：你的孩子有过关节疼痛吗？

18. 神经系统

惊厥：发热、出生史。

头痛：部位、程度、外伤及伴随症状（呕吐、发热等）。

一般问题：你的孩子曾有过抽风吗？你的孩子有过头痛吗？

19. 精神科情况 多动、烦躁、易怒、不合群、畏缩、忧虑。

C. TRAINING MANUAL FOR PEDIATRIC REVIEW OF SYSTEMS

If any of the items mentioned below have already been included in the HPI and PMH, repetition should be avoided in this review. The following general questions should be asked for each system. If the response is positive, conduct an in-depth questioning for that system. If the response is negative, proceed to the next system.

1. GENERAL CONDITION:

Fever-body temperature (maximum or minimum, pattern, duration, and accompanying symptoms).

Body weight-gain or loss; over how much time.

Weakness-mental or physical.

General questions-

1. Has your child had a fever?

2. Does your child have a weight gain or loss?

2. SKIN:

Lesions-history and feature about measles, rubella, roseola infantum, etc.

Associated symptoms (fever, etc.).

Color-pallor, redness, cyanosis, jaundice or pigmentation.

Moisture-excessive sweating or dryness.

General questions:

1. Has your child had any problems with his/her skin?

3. HEMATOPOIETIC SYSTEM:

Bleeding-location (nose, gum or other systems), quality (petechia, purpura, hematoma), quantity.

Anemia-age of onset, degree (slight, medium, severe), accompanying symptoms (fatigue, fever, bone pain, etc.) transfusions (times, amount, reaction, blood type).

General questions:

1. Has your child had any bleeding?

4. HEAD:

Trauma-location, consciousness or unconsciousness.

Headache (see nervous system).

Convulsion (see nervous system).

General questions:

1. Has your child had any head trauma?

5. EYES:

Disturbance of vision-age of onset, does child wear glasses, accompanying symptoms (e. g. headache, etc.).

Other problems of eye-pain, redness, etc.

General questions:

1. Has your child had any disturbance of vision?

2. Can you tell me any other eye problems that your child has?

6. EARS:

Deafness-age of onset, family history.

Past history of ear problems (pain, abnormal discharge, ototoxic drugs, i. e. Streptomycin, Gentamycin, Kanamycin, etc.).

Discharge-past history of severe infectious disease (e. g. fever, convulsion, otitis medium, etc.).

General questions:

1. Does your child have any hearing loss?

2. Has your child had any discharge from his ears?

7. NOSE:

Discharge-quality (watery, purulent, bloody) and amount.

Obstruction-accompanying symptoms (sneezing).

General questions:

1. Has your child had nasal discharge?

2. Has your child had nasal blockage?

8. MOUTH:

Caries-positive family history, hygienic habits, repair of teeth, prevention of caries with fluoride.

Pain-ulcer of mucous membrane or tongue.

General questions:

1. Does your child have any caries?
2. Has your child had any lesions in his mouth?

9. PHARYNX AND LARYNX:

Sore throat-fever, cough, hoarseness.

General questions:

1. Has your child had any problems with his pharynx?

10. BREAST:

Swelling-age of onset, pain, history of taking tonic, history of taking contraceptive medicine by mistake.

11. RESPIRATORY SYSTEM:

Cough-fever, sputum, chest pain, wheezing, cyanosis, BCG immunization. Dyspnea-history of aspirating a foreign body.

General questions:

1. Has your child had a cough?

12. CARDIOVASCULAR SYSTEM:

Cyanosis-age of onset, persistent or intermittent, accompanying dyspnea or not.

Dyspnea-edema, orthopnea.

General questions:

1. Has your child had any blue skin around the mouth and nose?

13. GASTROINTESTINAL SYSTEM:

Vomiting-amount, quality, frequency and accompanying symptoms, (fever, jaundice, diarrhea).

Diarrhea-amount, frequency, quality and accompanying symptoms, (vomiting, fever, dehydration).

General questions:

1. Has your child had any vomiting?
2. Has your child had any diarrhea?

14. URINARY SYSTEM:

Oliguria-recent history of infection, renal disease, or heart disease.

Abnormal color-hematuria (abdominal pain, edema, hypertension); dark urine (jaundice, anemia, etc.).

Frequency, urgency, dysuria, enuresis, etc.

General questions:

1. Has your child's urine had any change in amount?

2. Has your child's urine had any change in color?
15. GENITAL SYSTEM:
BOYS:
Urethral discharge-phimosis
Testis swelling-fever, pain
GIRLS:
Vaginal discharge-hygienic habits.
Abnormal menstruation-cycle, amount, pain.
16. ENDOCRINE SYSTEM:
Change of weight or height-polyuria, polydipsia, change of appetite, change of sexual signs, mental retardation, change in skin, positive family history, etc.
17. MOTOR SYSTEM:
Joint pain-swelling, deformity
Muscle weakness, change of muscle contour, positive family history, etc.
General questions:
1. Has your child had any joint pain?
18. NERVOUS SYSTEM:
Convulsion-fever, delivery history
Headache-location, severity, trauma and associated symptoms (vomiting, fever, etc.)
General questions:
1. Has your child had any convulsions?
2. Has your child had any headaches?
19. PSYCHIATRIC STATE:
Hyperactivity
Irritability
Anger
Difficulties in socialization
Withdrawal
Depression, etc.

D. 儿科系统回顾问诊纲要

1. 一般情况 发热、体重、疲乏
2. 皮肤 皮损、颜色、湿度
3. 造血系统 出血、贫血
4. 头 外伤、头痛、惊厥
5. 眼 视力障碍, 其它问题
6. 耳 耳聋、分泌物
7. 鼻 分泌物、阻塞

8. 口 龋齿、疼痛
9. 咽喉 咽痛
10. 乳房 肿胀
11. 呼吸系统 咳嗽、呼吸困难
12. 心血管系统 青紫、呼吸困难
13. 消化系统 呕吐、腹泻
14. 泌尿系统 少尿、颜色异常
15. 生殖系统 男孩：尿道分泌物、睾丸肿胀
女孩：阴道分泌物、月经
16. 内分泌系统 体重或身高的改变
17. 运动系统 关节疼痛、肌肉无力
18. 神经系统 惊厥、头痛
19. 精神科情况 多动、烦躁、易怒、不合群、畏缩、忧虑

D. CHECKLIST FOR PEDIATRIC REVIEW OF SYSTEMS

The students are permitted to use a copy of the review of systems for this section.

1. GENERAL: Fever, Bodyweight, Weakness
2. SKIN: Lesions, Color, Moisture
3. HEMATOPOIETIC SYSTEM: Bleeding, Anemia
4. HEAD: Trauma, Headache, Convulsions
5. EYES: Disturbance of vision; other problems of the eye
6. EARS: Deafness, Discharge
7. NOSE: Discharge, Obstruction
8. MOUTH: Caries, Pain
9. PHARYNX AND LARYNX: Sore Throat
10. BREAST: Swelling
11. RESPIRATORY SYSTEM: Cough, Dyspnea
12. CARDIOVASCULAR SYSTEM: Cyanosis, Dyspnea
13. GASTROINTESTINAL SYSTEM: Vomiting, Diarrhea
14. URINARY SYSTEM: Oliguria, Abnormal color
15. GENITAL SYSTEM: Boys: Urethral discharge, Testes swelling
Girls: Vaginal discharge
16. ENDOCRINE SYSTEM: Change of weight or height
17. MOTOR SYSTEM: Joint pain, Muscle weakness
18. NERVOUS SYSTEM: Convulsions, Headache
19. PSYCHIATRIC STATE: Hyperactivity, Irritability, Anger, Difficulties in Socialization, Withdrawal, Depression

E. 口述病历摘要提纲

病史:

病人全名、性别、年龄和职业

入院日期和记录日期

主诉

现病史 (详细描述病情的进展)

既往史和系统回顾中有临床意义的阳性或阴性病史

个人史, 月经、生育史中与现病史有关的病史

简明的家族史

体格检查:

有鉴别诊断意义的阳性和阴性体征

实验室检查:

有鉴别诊断意义的阳性和阴性结果

其他特殊检查:

X 线片、心电图、超声心动图、脑电图、电子计算机 X 线体层扫描等的阳性或阴性结果。

初步诊断:

诊疗计划:

APPENDIX E

OUTLINE FOR ORAL PRESENTATION OF A CASE

A. History

Patient's full name, sex, age and occupation

Date of admission, and the date of recording case report

Chief complaint

History of present illness (detailed and chronological)

Significant positives and negatives in relevant past medical history and review of systems

Personal history including marital history, menstrual and reproductive history related to present illness

Family history related to present illness

B. Physical Examination

Significant positive and negative findings

C. Lab. Exam

Significant abnormal and normal lab results

D. Other Special Exams (X-ray, ECG, UCG, CCG, CT, etc.)

Positives and negatives (that support the diagnosis)

E. Impression

F. Plans and Treatment

[G e n e r a l I n f o r m a t i o n]

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