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PART I

. MEDICAL HISTORY, GENERAL EXAMINATION.

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PART I

Theme 1. THE PATIENT INTERVIEW.

Goal: to get a notion about the patient chart (medical case report), the patient interview and its parts, the importance of this first step in diagnostic work-up.

Knowledge objectives:

to know basic components of the medical history, sequence and consecution of the patient interview.

Subject-matter:

- 1) importance of the patient interview as the first step in diagnostic work-up;
- 2) basic components of the medical history;
- 3) sequence and consecution of the patient interview.

Equipment Needed

- None

EDUCATIONAL MATERIAL

The patient interview (anamnesis – Greek., *pacnpoc* – Rus.) usually referred to as the history, is the first step in the diagnostic work-up. Taking a good history is probably the single most important task in the work-up both because of its importance in diagnosis and because the history is the portion of the work-up in which the physician-patient relationship is first established. The job of the medical student is not only to learn how to conduct a thorough interview but also to develop a professional manner that will put the patient at ease while doing so. Whether the patient regards the student as an unnecessary third party or as a vital member of the medical team often depends on the tenor and style of the initial interview.

The medical history is the foundation upon which diagnosis and treatment are made. It is the basis upon which hypotheses are built and tests ordered. Without a medical history, the clinician works in a vacuum. The medical history provides a place for the establishment of the physician—patient relationship; at the time of the history, rapport is created and trust begins.

COMPONENTS OF THE (ADULT) COMPREHENSIVE
MEDICAL HISTORY (The patient interview)

- I. Introductory information (identifying data) – **ID.**
- II. Chief complaint and its duration – **CC.**
 - A. Symptom analysis
- III. History of the present illness – **HPI.**
 - A. Review of pertinent systems
 - B. Concluding the history of the present illness
- IV. Past medical history – **PMH.**
 - A. Other medical problems
 - B. Allergies
 - C. Major childhood illnesses
 - D. Injuries, hospitalizations, and operations
 - E. Immunizations
- V. Family history – **FH.**
 - A. Family members
 - B. Specific inheritable diseases
- VI. Psychosocial history – **PSH.**
 - A. Infancy, childhood, adolescence
 - B. Lifestyle
 - C. Homelife
 - D. Occupational life
 1. Nature of work
 2. Toxic exposures
 - E. Sexual history
- VII. Medications and habits – **MH.**
 - A. Medications
 - B. Habits
- VIII. Review of systems – **ROS.**
- IX. Conclusion of the history

I. Introductory information. Begin by collecting the identifying data about a patient from both the existing medical record and the patient. This information includes the patient's name, age, sex, race, place of birth, occupation, marital status, religion, and, if the patient has been referred from elsewhere, the source and reason for the referral. The

introductory information is an important beginning from an administrative as well as diagnostic viewpoint.

II. Chief complaint and its duration. The chief complaint (CC) is traditionally defined as that problem or set of problems that makes the patient decide to seek medical attention. Questions concerning the chief complaint follow the physician’s greeting of the patient and the brief questions about introductory information; they open that portion of the interview devoted to the present illness. The chief complaint is elicited by asking an open-ended question such as “What made you to come to the hospital?”, “What brings you here today?”, or “What seems to be the trouble?”

The duration of the chief complaint provides an important temporal framework for the physician and should be inquired about and considered at this time.

A. Symptom analysis. The crux of the CC is a detailed exploration of the symptoms that constitute the chief complaint. It is during this portion of the interview that the physician begins to engage in more active questioning. Each symptom should be investigated thoroughly by first listening to the patient’s unfolding story and then questioning specifically to discover any dimensions of the symptoms that may have been omitted. One version of the specific dimensions of the symptom to be explored is detailed in Table 1.

Seven parameters of each symptom are needed to complete the CC (see 1-7 below). Often asking the patient an open-ended question, such as, “Take me from the time you noticed the back pain until today and describe what happened,” will provide the clinician with most of the parameters. Details can then be obtained by asking additional questions

Table 1. Symptom analysis

Dimension	Typical question	Synonyms and related ideas
1. Location	Where is the pain located?	Main site, region, radiation
2. Quality	What is it like?	Character
3. Quantity	How intense is it?	Severity, frequency, periodicity, degree of functional impairment

4. Chronology	When did it begin and what course has it followed?	Onset, duration, frequency, periodicity, temporal characteristics
5. Setting	Under what circumstances does the pain take place?	Relation to physiologic functions
6. Aggravating-alleviating factors	What, if anything, makes the pain worse or better?	Provocative-palliative factors
7. Associated manifestations	What other symptoms or phenomena are associated with this pain?	Effects of disease, related concerns

The secondary complaints are pertained subjective sensations, declared only presence of disease, but does not specific for certain diseases (e.g. weakness, fever and etc), or that complaints, which are connected to accompanied disease.

III. History of the present illness. The logical continuation and expansion of the chief complaint is the history of the present illness (**HPI**). The HPI is told by the patient to the interviewer who is predominantly a listener at this point of the interview, interjecting questions or phrases that may facilitate the flow of information when appropriate.

When patient did fall in disease, the disease first manifestations, possible reasons of its origin (in the opinion of the patient), how it was developed before a moment of examination. Sequence, reinforcement, weakening or disappearance earlier appeared or appearance of new disease's symptoms. Where did patient appeal, where he was examined and what treatment he was taken, what diagnoses were established, influence of treatment upon the current diseases. Description of present worsening of a patient condition (under what circumstances patient has entered at present admission)

A. Review of pertinent systems. The chief complaint and HPI usually suggest the involvement of one or more organ systems in the patient’s illness. It is useful to inquire about each Review of Systems topic that relates to the organ systems involved while discussing the present illness.

This implies that inferences about the disease process must be made during the history-taking procedure (probable organ systems involved must be identified). It is also therefore necessary to be familiar with the Review of Systems topics for the various organ systems in order to review the pertinent systems during the HPI (see Table 2). The purpose of reviewing the pertinent organ systems at this point is to accumulate further support for or evidence against diagnoses being considered by the interviewer. For example, if a patient enters with a chief complaint of “spitting blood,” the interviewer will inquire about each topic in the Respiratory Systems review. It then becomes diagnostically useful to note a recent history of TB exposure (a pertinent positive); and it is also helpful to discover that the patient does not smoke (a pertinent negative).

B. Concluding the HPI with a question that gives the patient a further chance to air concerns (e.g., “Is there anything else about these recent pains that you would like to bring up?”) completes this portion of the interview.

IV. Past medical history. The past medical history (PMH) portion of the interview logically follows the HPI. This portion of the interview is devoted to defining and describing medical problems that may be related to the present illness, problems that are active but unrelated to the HPI, and problems that existed at one time but are inactive at present. Although some patients may remember and provide much of the information during this part of the interview, portions of the past medical history are often discovered in and elaborated by the existing medical record. The past medical history includes questions about medical problems other than the present illness, allergies, childhood illnesses, immunizations, injuries, hospitalizations, and operations.

A. Other medical problems are sought by the interviewer, with a particular effort toward discovering any existing medical problems that may relate to the present illness. For instance, a 10-year history of hypertension may be of particular interest in a patient who enters complaining of chest pain. Note that these “mother medical problems” may have been identified during the review of pertinent systems. However, it is at this point of the interview that a brief summary of the patient’s problems is constructed. The interview for other problems should include questions concerning date of onset, diagnostic procedures, and major therapy for the problem in question. For each

medical problem discovered it is also important to gain an understanding of the current status of the problem. For the patient with hypertension mentioned above, it would be important to inquire about how well the hypertension has been controlled since its diagnosis and treatment 10 years ago and to ask for the most recent blood pressure measurement. In inquiring about other medical problems a list that includes both active and inactive problems will often be generated.

B. Allergies should be documented carefully. The patient should be specifically questioned about drug reactions and reactions to prior blood transfusions or hospital procedures. When a patient notes an allergy, it is extremely important to obtain a description of the specific allergic reaction. Is a penicillin allergy manifested with a rash on the upper trunk or with spasm of the larynx and difficulty breathing?

C. Major childhood illnesses such as tuberculosis, rheumatic or scarlet fever, or polio should be investigated.

D. Injuries, hospitalizations, and operations are also sought in this portion of the interview. Included is any history of auto or other accidents, broken bones, trauma, or surgery. Previous hospital admissions should be sought, and the reason for the admission, the date and year, and the hospital involved should be systematically explored.

E. Immunizations for polio, measles, mumps, diphtheria, pertussis, tetanus, and so on are inquired about in the PMH portion of the patient interview.

V. Family history (FH). The history turns to questions about the family after the patient’s medical problems have been explored. This part of the interview has two goals: to find out about the health of immediate family members, and to discover whether certain common diseases with a familial pattern exist.

A. The age and health of the patient’s parents, siblings, spouse, and children are first discussed. If a family member is deceased, the cause of death is noted.

B. The occurrence of any disease like that described in the patient’s HPI is sought in other family members. Important diseases with a strong hereditary component or tendency for family clustering are also sought, including coronary artery disease, heart disease, diabetes mellitus, high blood pressure, stroke, asthma-allergies, arthritis, anemia, cancer, kidney disease, or mental illness.

VI. Psychosocial history (PSH). Although some of the information sought in this portion of the interview emerges from simply speaking with the patient while taking the history, several goals exist for the psychosocial history. Specifically, insights into the patient's lifestyle, homelife, occupational life, and attitude toward the disease and the hospitalization are sought. This is also the portion of the interview in which many physicians choose to take the sexual history.

A. Infancy, childhood, adolescence

Birth-place, was give birth upon the terms, body mass of the child at the birth. Age of parents when giving birth patient. Development in the infancy. School period, in what age did patient go to the school, how learned. Particularities of development at a juvenile age.

B. Lifestyle. An attempt should be made to understand what constitutes a typical day for the patient, what recreation the patient engages in and what religious beliefs he or she holds. The patient's school and military experience may be inquired into at this point.

Clothes and footwear. Feeding during the whole life: character of food, periodicity of receiving a food, consumption of a big amount of liquids, cookery salt, strong tea and etc.

C. Homelife. Housing, emotional atmosphere at home, marriage and family, and significant others should be briefly explored. An attempt should be made to identify factors that have influenced the relation between the patient's disease and homelife. Such questions may range from concerns about the physical layout of the home to the impact of the disease on the family.

D. Occupational life. Two goals exist for this portion of the psychosocial history. First, the nature of the patient's occupation is explored, and second, the likelihood of a toxic exposure related to the patient's job is investigated.

1. Nature of the occupation is evaluated through asking what the patient does for work and attempting to gain insight into the relative satisfactions and dissatisfactions associated with work and the workplace.

2. Toxic exposures may be especially relevant in patients with respiratory or dermatologic disease without obvious etiology (e.g., silicosis in a cement plant worker or contact dermatitis on a surgeon's face or hands). Occupational exposures may occasionally be associated

with disease of the liver (e.g., hepatitis in a hospital worker), central nervous system (e.g., polyneuropathy in an insecticide worker), or other organ systems. Exposures may also play a role in oncologic illness (mesothelioma in a shipyard worker with brief asbestos exposure or hematologic malignancy in a worker exposed to radiation).

E. Sexual history. Either at this point in the interview or during the genitourinary portion of the Review of Systems, the sexual history may be sought. It should include an attempt to evaluate the patient's attitude toward his or her sex life and a search for current or recently emerging difficulties. The sexual history is particularly important in cases with possible venereal, gynecologic, or psychologic problems (e.g., a woman with a chronic vaginal discharge may be far more upset by the effect that her difficulties have had on her sexual life than about the disease itself). The sexual history is also relevant to patients with chronic, debilitating disease that may interfere with the normal sex life of the patient. Some male patients, for example, find that the most disturbing aspect of a chronic disease such as diabetes mellitus is the impotence sometimes associated. Although this is a traditionally difficult portion of the interview, a simple inquiry as to whether or not the patient finds his or her sexual life satisfying often suffices to initiate the discussion.

Current or recent difficulties should be sought with both a general question such as, "Does your disease [i.e., the present illness] interfere with any part of your personal or sexual life?" , and a specific inquiry into effects the patient may have noticed of medications. Medications and therapies may have a profound effect on a patient's sexual life and are probably undiagnosed as etiologic agents in sexual disorders. For example, antihypertensives such as propranolol not uncommonly induce male impotence. The patient may be reluctant to mention this side effect either because he does not associate it with the drug or because he does not wish to "displease" the physician who prescribed or advocates the medication. Menstrual function in women is inquired.

VII. Medications and habits (MH). This portion of the interview is devoted to discovering the names and dosages of all medicines presently or recently used by the patient. It also investigates smoking and drinking habits and the use of over-the-counter and under-the-counter medications on a regular basis.

A. Medications. The name, dosage, and regimen of each drug the patient is using should be discussed. Any drugs that have been recently discontinued or used intermittently should be inquired about as well.

B. Habits. Tobacco smoking should be quantitated as should ethanol intake. Also ask about the use of recreational drugs at this point. In addition, habits that may be relevant physiologically should be sought, such as coffee and tea usage, over-the-counter analgesics (aspirin, acetaminophen), laxatives, birth control pills, sleeping medication, and diet pills.

VIII. Review of systems (ROS). In this portion of the history interview, all organ systems not already discussed during the present illness are systematically reviewed. The Review of Systems (ROS) is the last portion of the interview, and it serves three purposes: (a) to provide a thorough search for further as yet undiscovered disease processes, (b) to remind the patient of possible as yet unmentioned symptoms or difficulties he or she may be experiencing, and (c) to remind the physician in a logical manner of points of inquiry that may have been inadvertently omitted. The ROS purposely contains a minor amount of redundancy in the interest of thoroughness and is a final methodic inquiry prior to the physical examination. The topics to be reviewed for each organ system are outlined in Table 2. The table contains a master list of the topics in the ROS in the left column and selected clinical points of emphasis in the right column.

Table 2 Review of systems.

System	Master list	Clinical points
Constitutional	Weight change Anorexia Fatigue Weakness Fever Sweats	Recent change important. Acute or chronic? Pattern (intermittent, remittent, sustained, or relapsing)? How documented? Night? Drenching or mild?

	Chills Insomnia Irritability	Frequency? Goose bumps vs. shaking (rigors)? Acute or chronic? When during night?
Integument	Rashes Itching H/O skin trouble Sores that do not heal Bruising Bleeding disorders?	Local or generalized? Characterize. Diffuse? Occupational? Allergic? Squamous cell carcinoma? Poor diet? Drugs (e.g., steroids)? Recent change? FHx?
Head	Headaches Loss of consciousness Seizures H/O trauma	Cardiovascular vs. neurologic? Hx crucial. Focal vs. general? Motor vs. absence? When? Sequelae?
Respiratory Upper	Frequent colds Sinus trouble Postnasal drip Nosebleeds (epistaxis) Obstruction	Trauma? Other bleeding problems? Snoring history?
Lower	Cough	Chronic? A.M.? Productive? Recent change? Smoking history?

	<p>Sore throats</p> <p>Sputum</p> <p>Shortness of breath</p> <p>Wheezing</p> <p>Hemoptysis</p> <p>H/O chest illness</p> <p>H/O smoking</p>	<p>Amount? Color?</p> <p>Character? Recent change?</p> <p>Dyspnea? Rest or exertional?</p> <p>Seasonal? Episodic?</p> <p>Known allergens?</p> <p>Oral (e.g., dental) vs. pulmonary(e.g., bronchitis) vs. cardiac (e.g., mitral stenosis).</p> <p>Frank blood vs. tinged sputum vs. pink sputum?</p> <p>TB exposure?</p> <p>Bronchitis?</p> <p>Emphysema? Asthma?</p> <p>Pneumonia(s)?</p> <p>Quantitate no. of pack-years.</p>
Lymphoreticular	<p>Increased node size</p>	<p>Tender vs. painless?</p> <p>Location?</p> <p>Reactive (infections? Systemic disease? drug?) vs. infiltrative? How first noticed?</p>
Cardiovascular	<p>Chest pain or discomfort</p> <p>Palpitations</p>	<p>Major DDx: CV vs GI vs. musculoskeletal.</p> <p>If (+), ask patient to tap out rate and rhythm.</p> <p>Syncope history?</p>

	<p>Blood pressure</p> <p>Shortness of breath</p> <p>Orthopnea</p> <p>Edema</p> <p>Leg pain, cramps</p> <p>Other cardiac Hx</p> <p>Risk factors</p> <p>Nocturia</p>	<p>Usual range? H/O↑or↓, FHx? Medications?</p> <p>Paroxysmal nocturnal dyspnea (PND)?</p> <p>Exercise tolerance?</p> <p>Exertion induced?</p> <p>No. of pillows? If (+), what happens when patient reclines without pillows?</p> <p>Location? Generalized (e.g., CHF, liver disease, nephritic syndrome)?</p> <p>Relieved by rest (intermittent claudication) vs.unremitting (muscular)?</p> <p>H/O murmur(s), thrombophlebitis, varicose veins, “large”heart. Other cardiac medications?</p> <p>Rheumatic fever?</p> <p>Smoking, hypertension, hypercholesterolemia, DM, gout, obesity, FHx?</p> <p>Quantitate.</p>
Gastrointestinal	<p>Dentures, problems with teeth, oral lesions</p> <p>Dysphagia</p>	<p>Bleeding gums, ulcers, sores</p> <p>Where? (has patient point and describe): invariably heralds organic disease.</p>

	Amenorrhea Menorrhagia (profuse)	Primary vs. secondary?
	Metrorrhagia (intermenstrui) Date last period Date last pap smear Pregnancies	Gravida__ Para__ Abortions__
Venereal disease	Vaginal discharge H/O VD	H/O vaginal infections? Itching? If (+), did patient receive Rx?
Sexual history	H/O penile discharge H/O chancre	Must be tailored to patient
Musculoskeletal Joints	Pain	Location? Acute vs. chronic? H/O trauma? H/O previous infection? Present medication? FHx? H/O gout? Morning vs. evening stiffness?
General	Weakness Cramping H/O back difficulties H/O trauma, fracture H/O endocrine disease	Low back strain, osteoarthritis, and disc disease are common causes.

	Diabetic symptoms	Weight change, polyuria, polyphagia, polydipsia
	Thyroid symptoms	Goiter, heat-cold intolerance, change in metabolic rate.
	Change in head, glove, shoe size	Acromegaly; change in head size (Paget's disease).

At the end of the ROS, it is useful to ask two questions: (1) "Is there anything else bothering you?" (2) "Is there anything you would like to bring up or ask about before I give you a physical exam?"

XI. Conclusion of the history. After the Review of Systems, the physician concludes the history by offering the patient an opportunity to question or comment with a question such as, "Is there anything else you would like to discuss before I examine you?."

Appendix 1.

Abbreviations and Acronyms

In reading patient charts, you will be confronted with a large number of abbreviations and acronyms that are an established part of the medical jargon. The following list includes some of the more common ones. If you familiarize yourself with it early in your clinical career, you will save yourself much time and aggravation.

- CC chief complaint
- CHF congestive heart failure
- COPD chronic obstructive pulmonary disease
- CP cerebral palsy; chest pain
- DM diabetes mellitus
- Dx diagnosis
- H/A headache
- Hx history
- MI myocardial infarction
- R/O rule out
- ROS review of systems
- Rx treatment

SOB	shortness of breath
Sx	symptom
U/A	urinalysis
W/U	work-up

Appendix 2

Useful Russian phrases you need

ID

1. Представьтесь, пожалуйста.
2. Как Вас зовут?
3. Сколько Вам полных лет?
4. Где Вы проживаете?
5. Укажите Ваш домашний адрес, пожалуйста
6. Где Вы работаете?
7. Кем Вы работаете?
8. Когда Вы были доставлены в больницу?
9. Как Вы были доставлены в больницу?
10. Вы были направлены участковым врачом?
11. Сколько дней Вы лежите в больнице?

СС

12. Что Вас беспокоит?
13. На что жалуетесь?

Symptom analysis

14. Опишите, пожалуйста, Вашу боль
15. При каких обстоятельствах возникает боль?
16. Покажите точно место, где болит
17. При каких обстоятельствах боль усиливается?
18. Отдает ли боль куда-нибудь?
19. Связана ли боль с физической нагрузкой?
20. Что Вы делали в момент появления боли?
21. Проходит ли боль самостоятельно?
22. В какое время суток возникает боль?
23. Как долго длится боль?
24. Чем снимается боль?
25. Связано ли возникновение боли с приемом пищи?
26. Через какое время после еды возникает боль?

27. При каком положении тела возникает боль?
 28. При каком положении тела боль усиливается?
 29. В каком положении боль проходит?
 30. При каких обстоятельствах появляется одышка?
 31. При каких обстоятельствах одышка усиливается?
 32. Делаете ли Вы остановки на лестнице при подъеме?
 33. Сколько ступеней (пролетов) Вы можете пройти по лестнице без остановки?
 34. Что Вам труднее сделать — вдох или выдох?
 35. В какое время суток возникает одышка?
 36. Что Вы делали в момент появления одышки?
 37. В каком положении возникает одышка?
 38. В каком положении одышка уменьшается?
 39. Усиливается ли одышка при физической нагрузке?
 40. Одышка развивается внезапно или постепенно?
 41. Какая у Вас сейчас температура?
 42. Какова была температура при поступлении в больницу?
 43. Ощущаете ли Вы озноб?
 44. Вас знобит?
 45. В какое время суток возникают отеки?
 46. Усиливаются ли отеки после физической нагрузки?
- НРИ**
47. С чем Вы связываете начало заболевания?
 48. Когда, по Вашему мнению, началось заболевание?
 49. Сколько раз Вы лежали в больнице по поводу Вашего заболевания?
 50. Как часто Вы ложитесь в больницу по поводу Вашего заболевания?
 51. Сколько раз в год Вы ложитесь в больницу?
 52. Чем Вы лечитесь?
 53. Какие лекарства Вы постоянно принимаете?
 54. Как Вы себя чувствовали на фоне приема назначенных Вам лекарств?
 55. Как часто у Вас возникают приступы (боли, удушья)?
 56. При каких обстоятельствах Вы легли в больницу в последний раз?
 57. Кем Вы были направлены в эту больницу и почему?

PMH - Allergies

58. Отмечалась ли у Вас когда-нибудь непереносимость лекарств?

59. Возникали ли у Вас какие-нибудь реакции в ответ на введение лекарств?

60. Имеется ли у Вас установленная аллергия на какие-нибудь лекарства?

61. Отмечали ли Вы у себя когда-нибудь внезапное появление сыпи на теле? Кожного зуда?

62. Возникла ли у Вас когда-нибудь внезапная одышка?

63. Имеется ли у Вас установленная аллергия на какие-нибудь вещества?

FN

64. Чем болели Ваши родители (братья, сестры, бабушки, дедушки)?

65. Страдали ли Ваши ближайшие родственники подобным или таким же заболеванием?

PMH

66. Какими заболеваниями Вы болели с момента рождения?

67. Перенесли ли Вы какие-нибудь операции? Когда? По поводу чего?

68. Имелись ли у Вас какие-нибудь травмы? При каких обстоятельствах?

69. Переливали ли Вам когда-нибудь чужую кровь или ее компоненты?

70. Как Вы перенесли переливание чужой крови (плазмы, эритроцитарной массы)?

71. Болели ли Вы когда-нибудь кожными, венерическими заболеваниями? Какими? Когда? Где и чем лечились? Произошло ли полное излечение?

72. Когда Вы последний раз проходили флюорографию?

73. Подозревали ли у Вас когда-нибудь туберкулез?

74. Вы состоите на учете в противотуберкулезном диспансере?

75. Болели ли Вы когда-нибудь гепатитом? Когда именно?

PSH

76. В каких условиях Вы проживаете?

77. Имеется ли в Вашем доме лифт?

78. Расскажите, как Вы обычно питаетесь?

79. Какие блюда входят в Ваш ежедневный рацион?

80. Отмечалась ли у Вас непереносимость каких-нибудь пищевых продуктов?

81. Имеется ли у Вас установленная аллергия на какие-нибудь пищевые продукты?

82. Вы женаты (замужем)?

83. Сколько у Вас детей?

MH

84. Вы курите (курили)? Сколько лет курите (курили)? Сколько сигарет в день?

85. Как часто Вы принимаете спиртные напитки? Какие спиртные напитки Вы принимаете чаще всего? Сколько лет Вы регулярно употребляете спиртные напитки?

PSH

86. Вы на пенсии? Кем Вы работали в течение жизни? Сколько лет Вы проработали на данном месте?

87. Расскажите об условиях труда на данном рабочем месте?

88. Имеется ли у Вас установленная профессиональная вредность? Какая категория?

89. Установлена ли Вам инвалидность? Какая группа? Сколько лет Вы на инвалидности?

Menstrual function

90. В каком возрасте у Вас появились менструации (месячные)?

Сколько дней продолжаются менструации? Отмечаются ли болезненные менструации? Сколь дней составляет Ваш цикл?

91. Сколько у Вас было беременностей? Сколько родов? Сколько выкидышей? Сколько абортов?

92. Во сколько лет у Вас прекратились менструации (месячные)?

PSH

93. Во сколько лет Вы пошли в школу? Как учились в школе?

94. Служили ли Вы в армии (на флоте)? В каких войсках?

95. Были ли Вы признаны негодным (ограниченно годным) к воинской службе? По поводу какого заболевания?

General examination

96. Встаньте прямо

97. Ложитесь на кушетку
98. Ложитесь на спину
99. Повернитесь на правый (левый) бок
100. Сложите руки за голову
101. Вытяните руки прямо перед собой
102. Закройте глаза
103. Дотроньтесь указательным пальцем до кончика носа
104. Согните левую ногу в коленном суставе.
105. Вытяните правую ногу.
106. Расслабьте живот.
107. Нагните голову.
108. Поверните голову направо (налево)
109. Поднимите голову
110. Сделайте глубокий вдох
111. Сделайте полный выдох
112. Задержите дыхание.
113. Вытяните руки вдоль туловища.
114. Покажите язык
115. Оскальтесь.
116. Дышите чуть глубже, чем обычно
117. Повернитесь на живот
118. Подвигайте пальцами
119. Сожмите кулак
120. Подложите правую руку под голову
121. Дышите спокойно
122. Согните оба коленных сустава под прямым углом

THEME 2. INTERVIEWING SKILLS

Goal: to get a notion about the interviewing skills, to train it at the patient's bedside.

Knowledge objectives:

- to know basic components of the medical history,
- to know sequence and consecution of the patient interview;

- to know ways and presentations of establishing a therapeutic relationship

Skill objectives:

- to train the interviewing skills at the patient's bedside.

Subject-matter:

- 1) basic components of the medical history;
- 2) sequence and consecution of the patient interview.
- 3) ways and presentations of establishing a therapeutic relationship

Equipment Needed

- plan of the medical history

EDUCATIONAL MATERIAL

I. Establishing respect and acknowledging the patient's beliefs. Clinicians should accept the beliefs of their patients even if they conflict with their own. Clinicians should respect the integrity of their patients even when the patients may contribute to their own health problems through neglect or self-abuse. The clinician's role does not include making moral judgments about patient behavior.

a. Introduction and purpose. The clinician should introduce him- or herself and provide a clear statement of the purpose of the interview, how long it will take, the types of physical examinations to be performed, and the expected outcomes.

b. Form of address. The clinician should ask each patient the name by which he or she wishes to be called.

c. Understanding the patient's perspective. The clinician should encourage each patient to express his or her beliefs about the cause of the illness and how the illness or problem has affected daily life.

d. Reinforcing and acknowledging the patient's experience. The clinician should support the experience of the patient and validate what has happened or what has been felt.

e. Providing feedback. The clinician should provide feedback to let the patient know what he or she thinks about the presenting problem. This also enables the patient to correct any misperceptions on the part of the clinician.

2. Establishing rapport with patients

a. Expressing concern for the patient. The clinician can demonstrate interest in the patient as an individual by indicating interest in the presenting problem and the patient's general life situation. This will assure the patient that the clinician identifies him or her as more than just an illness. Additionally, the clinician may learn valuable information about the effect of the illness on the patient's life and may see how the environment affects the patient's functioning.

b. Allowing the patient to speak. Open-ended questions should be used to encourage the patient to use his or her own words to describe feelings and problems. Open-ended questions let the patient tell his or her own story without assumptions being made by the clinician. For example, the statement "Please tell me about your shortness of breath" allows the patient to qualify the extent of the shortness of breath. If the clinician uses his or her own words to describe what the patient is saying, the patient may feel that it is acceptable to use only the clinician's description.

c. Offering empathy. The clinician can provide a supportive setting in which the patient can talk about anger, frustration, or loss, empathizing with the patient's feelings and reactions. Examples include: "That must have been a difficult time for you." "You must be concerned." "That sounds like a frustrating situation." Empathetic remarks are useful in helping patients continue with their story.

d. Sharing common experiences. Often personal interests and opinions are revealed in the course of the interview to which the clinician can respond to enhance rapport. However, this technique should not be used extensively because it can detract from the data collection activity.

e. Conveying genuine concern for the patient's well-being. Clinicians must express a real caring for patients. This does not mean that clinicians must like each patient, but it does mean that they must care about helping each patient. It is essential for the clinician to keep in mind the best possible outcome for each individual patient, according to the patient's defined goals.

f. Drawing the patient out. The clinician can put a patient at ease and encourage him or her to elaborate on specific points by using nonverbal cues (e.g., leaning forward, giving a questioning look) or by

direct verbal communication (e.g., asking the patient to continue talking). The clinician must try a variety of methods to obtain a complete history.

g. Validating the patient's experience. The clinician should try to understand what is happening from the patient's perspective. If the clinician does not understand the patient's perspective, the issues that are most important to the patient may not be addressed even if the "illness" is treated. If the patient's experience is acknowledged and accepted, the patient is more likely to cooperate and be satisfied with the treatment.

C. Problems in establishing a therapeutic relationship

1. Time constraints. Often the time allotted for an interview and physical examination is limited and does not allow for the exploration of all issues covered in the course of the interview. If the patient is concerned about a certain topic, the clinician should give this priority and organize the rest of the interview to ensure the collection of essential information. Detail about less relevant parts of the interview can be scheduled by another time. Most importantly, the clinician should not appear rushed and should always remain attentive to the patient's needs.

2. Environment. Busy clinics and hospital wards often do not provide an appropriate atmosphere in which to collect personal data from patients. Interruptions disrupt the flow of information and interaction, and privacy is difficult to maintain when there may be only a curtain separating the patient from others in the room. Extraneous elements should be controlled or eliminated, whenever possible, by closing doors, turning off televisions and radios, sitting close to the patient, and concentrating on the interview.

3. Cultural differences. Clinicians must be aware of different norms of behavior among cultures, including body space, manner of expression, and degree of emotionality and dependence about illness. A general respect and effort to obtain the patient's perspective will help in the initial interaction with patients from different cultural backgrounds. Seeking information about cultural norms from a community member or staff member familiar with the population is also useful.

4. Language barriers. It is very difficult to establish rapport with patients whose first language is not the same as that of the clinician. These patients are not able to describe problems easily. The clinician should become familiar with the primary foreign languages spoken in the local patient population. While it may not be possible to become fluent

in all of these languages, a few brief words of introduction and polite conversation can help to break down barriers.

II. COMMUNICATION.

Good communication refers to the exchange of information—both giving and receiving. The clinician must understand a patient's frame of reference and communication style to understand what he or she intends to say as well as to be able to relate information and phrase questions in a manner that is understandable to the patient. Techniques in both verbal and nonverbal communication are discussed below.

A. Body language. Body language is the transmission of meaning, feeling, or intent by physical act or manner.

1. Interpretation. The clinician may gain additional clues about a patient's problems, including particular physical problems and fears a patient may have about health and other areas of his or her life by observing body language. The mood of the patient may be indicated by body language, which may also aid in deciphering contributing problems.

2. Presentation. The patient interprets the clinician's body language to assess the clinician's level of comfort, confidence, and genuineness.

B. Techniques of presenting and interpreting body language

1. Posture is the way in which an individual sits, stands, and holds his or her arms and head.

a. Interpretation. The clinician should assess the body posture of the patient to determine whether the patient is feeling protective (shoulders over and arms crossed) or angry (shoulders back, arms crossed, or hands clenched) and use this information to explore further concerns. The patient should not be confronted with this interpretation, but the clinician should try to validate feelings and discuss origins. Positive feelings are evidenced by shoulders down and arms at sides or crossed casually in the lap with hands held loosely.

b. Presentation. The clinician should attend to his or her own posture, demonstrating attention and interest. The most encouraging words will lose their effect if the clinician appears fidgety or bored.

2. Position. The way in which individuals place themselves in a room relative to others may indicate their level of comfort and the nature of the relationships. A therapeutic relationship does not benefit from a

situation in which the clinician has power over the patient. The relationship should certainly include acknowledgment of the clinician's medical skill and knowledge but should not diminish the equal humanness of the clinician and patient.

a. Interpretation. The patient may sit far away from the clinician, near the door, or in a corner, indicating discomfort with the situation or the clinician.

b. Presentation. The clinician often controls the positioning in the interview and examination.

(1) Standing over a patient at a hospital bed, a wheelchair, or an examination table imposes the clinician's authority and diminishes the patient's humanness and comfort level.

(2) Clinicians who sit behind big desks may create distance between themselves and the patient.

(3) Standing near the door may communicate disinterest or lack of time for listening.

3. Eye contact. This is an area in which cultural norms play a very strong role; for example, in Native American and Latino cultures, a lack of eye contact is a sign of respect for elders and professionals. The examples below are limited to the culturally accepted behavior of Anglo-European Americans.

a. Interpretation. Patients who avert their eyes for most of the interview may be concealing information or expressing discomfort. Staring too steadily may be an expression of aggression or hostility.

b. Presentation. The clinician should establish and maintain eye contact with the patient at a level that is comfortable for both. Good eye contact helps to form connection that enhances communication. Patients who feel positively about their health care providers are more likely to be cooperative and compliant with their care.

4. Mirroring is a subtle copying of body posture in social interactions. [It may also apply to verbal communications].

a. Interpretation. The patient who mirrors the body posture of the clinician generally indicates a high level of comfort with the interaction.

b. Presentation. Clinicians can help to make the patient more comfortable by mirroring the patient's body posture (e.g., leaning forward, crossing legs) with slight variations until the patient's comfort

seems greatest. This can and should be done very subtly since obvious copying would be rude.

(1) Mirroring is most important when patients are ill at ease.

(2) Mirroring is often natural when there is already rapport.

5. Gestures are the specifics of body language, such as pointing, nodding, and arm waving.

a. Interpretation. Gestures can indicate patient's mood, expressiveness, and style of interacting. Patients who tap their fingers may be showing nervousness or fear. Patients who keep pointing away from themselves may be trying to disown their physical problems.

b. Presentation. Clinicians can help to make the patient feel at ease and indicate interest and attentiveness by such gestures as nodding affirmatively while the patient speaks. It may also be appropriate to use a reassuring gesture, such as a light touch on the hand or arm when the patient is clearly upset; however, the patient's ability to accept this type of contact must be carefully assessed.

6. Double-bind messages occur when there is incongruent behavior between verbal communication and body language.

a. Interpretation. Body language often takes precedence over spoken language when interpreting a patient's behavior. The spoken language may reflect what patients think clinicians want to hear, while the body language or gestures may indicate what they actually feel. For example, the patient may say that he or she is comfortable with what the clinician is saying, while holding his or her arms tightly across the chest.

b. Presentation. Clinicians must learn to assess the congruency of their own body language with spoken language. Verbal expressions of interest and concern can easily be undermined by a lack of eye contact or constantly checking the time.

C. Problems in interpreting and presenting body language

1. Nervousness on the part of either the clinician or the patient may mask other feelings.

a. Nervous patient. The nervousness of patients who are fearful about their well-being may inhibit a good therapeutic relationship. It is the clinician's responsibility to put the patient at ease by the techniques discussed in this chapter.

b. Nervous clinician. Nervousness in a clinician usually occurs when the clinician is inexperienced and concerned about performance.

Concentrating on the needs of the patient will help the clinician to overcome this self-consciousness.

2. Cultural norms. Accepted behaviors among cultures vary considerably, particularly body language because it is not as consciously used as spoken language. When clinicians work with patients from other cultures, they should make every effort to learn how to interpret behavior as well as how to make appropriate changes in presenting themselves in the interaction.

3. Clinician awareness of self-presentation. Videotaping can provide an excellent way for clinicians to observe how they appear to patients. If videotaping is not a reasonable option, watching tapes of others may sensitize clinicians to some of the major interactional areas on which to focus.

D. Verbal communication. Spoken language is the primary means of communicating in almost all physician-patient interactions. How questions are asked often determines the response. Specific interviewing techniques for the facilitation of data collection and furthering the therapeutic relationship are discussed below.

1. Open-ended questions. The clinician should begin each interview with open-ended questions, allowing the patient to state the problem in his or her own words. Questions such as "Tell me about your problem," "What kind of pain was it?" and "What else did you notice that was different?" are nonjudgmental and do not lead the patient in any particular direction.

2. Closed-ended questions. This type of question should be restricted to clarify information after a sufficient data base has been collected; for example, "Was it a stabbing pain or a throbbing pain?" and "Did you fall when you felt dizzy?" These questions may also be used when the patient has been unable (or unwilling) to describe something adequately or when the clinician is searching for a new direction in which to go.

3. Feedback. Clinicians should let patients know that they hear and understand what is being said by providing comforting words about difficult situations (e.g., the death of a parent, child, or spouse) and summarizing what patients have said to make sure that the information is accurate. Clinicians should not parrot everything patients say but should

summarize essential information at the end of each major portion of the interview.

4. Pacing. The interview should allow adequate time and pacing of topics to cover all the necessary data in a manner that flows smoothly and is comfortable for the patient. Silence is not always a disruption of the interview. A patient may need a moment or two to gather thoughts, and this must be respected. The clinician should make sure that the patient is not uncomfortable but merely thinking. The clinician may need to collect his or her thoughts or consider other lines of inquiry but should avoid prolonged silences.

5. Vocabulary. The level of language and terminology used must be set by the educational and cultural background of the patient. This is essential for accurate data collection and problem assessment.

a. Avoidance of jargon. Technical terminology and medical jargon should be avoided with all but patients who are clinicians. In those rare instances where the terminology is essential, it should be explained as fully and simply as possible. For example, a patient who needs a series of tests may be told the technical and appropriate names of the tests, provided a simple, nontechnical explanation of their purpose is given. Patients should not be spoken to in a condescending fashion, and they should not be expected to have the same level of knowledge as clinicians.

b. Neutrality. Terms should also be selected for their neutrality lest clinicians unintentionally appear judgmental; for example:

(1) Sexual preference and family planning are sensitive issues that must be handled accordingly. Clinicians should not assume that everyone is heterosexual or that all pregnancies are unwanted if unplanned.

(2) Assuming that all people over a certain age are no longer sexually active and that all people under a certain age have never been sexually active is naive. Judgmental words such as “yet” or “still” must not be used when inquiring about sexual activity.

6. Flexibility. If the clinician does not understand what the patient is saying, a different way of eliciting the information must be found. For example, “Have you been dizzy?” can be expanded to “Did the room spin?” “Did you lose your balance?” “Did your vision change?” or “Did you become nauseated?”

a. Repetition alone is unlikely to be helpful. “How did you get here?” may seem like a simple question, but if the patient says “by ambulance” instead of responding with the reason why he or she came to the hospital, simply repeating the question exactly the same way will not help.

b. Facilitation of interaction. Finding a new way to express something should help the clinician avoid being labeled as “incompetent” or labeling the patient as “resistant.”

7. Representational systems are identifiable styles of describing how people feel or think about things. The clinician may find it helpful to “mirror” the system used by the patient to improve rapport; for example, a patient who says, “There is a dark cloud hanging over me,” is apt to feel more rapport with a clinician who responds, “I understand that everything seems bleak, but we will work on brightening things up for you,” rather than “Yes, you have every right to feel like you are carrying more than your share of the load.”

a. Visual. People who use a visual representational system use words that express their feelings in terms of visual imagery. For example, “It is clear to me now,” “All is darkness ahead of me,” “She has a sunny disposition,” and “My heart seems to flash on and off.”

b. Kinesthetic. People who use kinesthetic language use words that have a physical nature. For example, “I feel weighed down by everything,” “I feel buoyant,” and “My heart was fluttering.”

c. Auditory. An auditory representational system is used less frequently. The words used to describe what the person feels are words used for sounds. For example, “It rings true,” or “My heart was rumbling.”

8. Paralinguistics. The tone of the interaction can affect the interpretation of what is being communicated. A kind word delivered in a harsh or abrupt style can be interpreted as uncaring because the tone overshadowed the meaning of the words.

9. Word choice. Clinicians must choose their words carefully. Qualifiers such as “just” and “only” tend to diminish the patients’ statements. For example, “So your pain only lasted 2 hours,” or “It was just a dry cough.” Patients can be put off by thoughtless terminology that contradicts the perceived severity of their problem.

III. STRUCTURED INTERVIEW.

The structured interview is one for which the clinician has a plan. There should be a sense of what needs to be accomplished and how to proceed in attaining the goal in the most useful way. The basic format should be adapted to the needs of the patients as well as with time constraints. The basic structure of comprehensive and focused clinical interviews is provided in Theme 1.

A. Purpose. Clinicians need to learn how to conduct a structured interview to ensure that all pertinent information is gathered.

B. Components of a structured interview

1. Clinicians need to monitor their own conversational habits.
2. The interview must be patient-centered.
3. The content of the interview must be focused yet maintain flexibility and rapport in the collection of information.
4. Note-taking should be minimized. Clinicians are able to listen to patients and follow nonverbal cues better if there is little or no note-taking.

5. Clinicians must have an outline and goals in mind for each interview so that the process is natural, the responses of the patient can be followed up, and the interview can be adjusted to fit the needs of the individual patient.

6. Clinicians should have a sense of the amount of time available for the interview so that the pace and content can be adjusted as needed.

7. Clinicians should inform patients of the various components or stages of the interview and give a brief statement to inform them that the topic of the interview is changing. For example, statements such as, "I am now going to ask some questions about your family's health," or "Now I would like to ask you a few questions about your past health" allow the history to be evenly paced.

C. Problems in keeping to a structured interview

1. Confused patients can disrupt the time allotted for questions.
2. Interruptions by others in the clinical setting can throw the clinician off the structure of the interview.
3. Time constraints can make it difficult to cover information logically and thoroughly. Anticipating the time constraints, however, necessitates the prioritizing of data to be collected (e.g., limiting the

amount of information, not the interactive quality, rapport, and specific data relevant to the patient's condition).

CONTROL QUESTIONS

1. Notion about the comprehensive patient interview and its parts.
2. Order and strategy of collecting interviewing data.
3. What is chief (main) and additional (secondary) patient's complaints?.
4. List 7 parameters of symptom observed in CC.
5. What parts compose the "History of present illness"?
6. What should clinician inquiry in the "Past medical history"?
7. The importance of the "Allergy" set.
8. What questions are necessary to realize in the "Family history (FH)"?
9. What should clinician inquiry in the " Psychosocial history"?

Appendix 3.

COMPONENTS OF THE (ADULT) COMPREHENSIVE MEDICAL HISTORY (The patient interview)

- I. Introductory information (identifying data) - ID
- II. Chief complaint and its duration - CC
 - A. Symptom analysis
- III. History of the present illness - HPI
 - A. Review of pertinent systems
 - B. Concluding the history of the present illness
- IV. Past medical history - PMH
 - A. Other medical problems
 - B. Allergies
 - C. Major childhood illnesses
 - D. Injuries, hospitalizations, and operations
 - E. Immunizations
- V. Family history - FH
 - A. Family members
 - B. Specific inheritable diseases
- VI. Psychosocial history - PSH
 - A. Infancy, childhood, adolescence

- B. Lifestyle
- C. Homelife
- D. Occupational life
- 1. Nature of work
 - 2. Toxic exposures
- E. Sexual history
- VII. Medications and habits - MH
 - A. Medications
 - B. Habits
- VIII. Review of systems - ROS
- IX. Conclusion of the history

Appendix 4

Table 2. Symptom analysis

Dimension	Typical question	Synonyms and related ideas
1. Location	Where is the pain located?	Main site, region, radiation
2. Quality	What is it like?	Character
3. Quantity	How intense is it?	Severity, frequency, periodicity, degree of functional impairment
4. Chronology	When did it begin and what course has it followed?	Onset, duration, frequency, periodicity, temporal characteristics
5. Setting	Under what circumstances does the pain take place?	Relation to physiologic functions
6. Aggravating-alleviating factors	What, if anything, makes the pain worse or better?	Provocative-palliative factors
7. Associated manifestations	What other symptoms or phenomena are associated with this pain?	Effects of disease, related concerns

Theme 3. PHYSICAL EXAMINATION: GENERAL INSPECTION (GENERAL EXAMINATION)

Goal: to get a notion about rules, conditions and sequence of patient general inspection.

Knowledge objectives:

- to know basic components of the patient general inspection, sequence and consecution of it.

Skill-objectives:

- to develop practical skills in patient general inspection and palpation.

Subject-matter:

1) importance of the patient general inspection as the first step of the physical examination;

2) basic components of the patient general inspection;

3) sequence and consecution of the patient general inspection

Equipment Needed

- None

EDUCATIONAL MATERIAL

A. Approach to the patient

1. Introduction. The examiner should provide the patient with his or her name and title (e.g., clinician, resident, or medical student) and begin the examination by shaking hands. Shaking hands is a socially acceptable way to initiate patient contact and is followed logically by examination of the hands and skin.

2. Hand washing. The examiner's hands should be washed before every examination, preferably in view of the patient.

3. Explanation. Each component of the examination should be explained to prepare the patient for anticipated maneuvers and discomfort.

B. Position of the examiner. Traditionally, the clinician is on the right side of the patient during the examination. While this is more conventional than truly essential, remaining in one position allows a more efficient examination and consistency of technique from patient to patient. Examining from the right is easier for right-handed individuals; left-handed examiners may find that some components of the physical

are better performed from the left. In all cases, the examiner should be comfortably stationed in relation to the patient.

C. Position of the patient

1. Ambulatory patients on examining tables. Patients should be seated comfortably at the end of the examining table with their legs hanging freely. As the examination progresses, patients are aided into the supine position with the footrest pulled out to support the legs. Certain examinations require that the backrest be adjusted from supine to various heights.

2. Patients in hospital beds. The bed should be adjusted to the appropriate height for the examiner to perform each maneuver comfortably. The degree of illness or medical devices (e.g., intravenous lines or respirators) may necessitate alterations in the usual examination procedure. Special attention to patient comfort is essential.

D. General appearance. The first observations made in the physical examination are those of the patient's overall condition. These should include objective descriptions of specific information.

General examination includes

- *estimation of general patient's status,*
- *his consciousness, position, constitution,*
- *taking temperature,*
- *defining of face expression peculiarities characteristic for certain diseases,*
- *as well as estimation of status of skin, nails, hair, observed mucous membranes, subcutaneous fat, lymph nodes, muscles, bones and joints.*

Data obtained by the clinician during general examination have a great diagnostic importance giving a possibility on one hand, to disclose characteristic (although often nonspecific) signs of disease, on the other hand, to give a preliminary estimation of pathologic process extent and functional disturbances degree.

Patient's general condition.

The idea about patient's status as

- satisfactory,

- medium gravity,
- grave

is formed by the physician during the entire patient's investigation, although in many cases such an estimation may be given at the very first glance at the patient.

Consciousness

Consciousness may be

- clear and
- confused

Level of consciousness may be described as alert, somnolent, stuporous, soporous or comatose. Level of distress is an important component. Descriptive terms such as "resting comfortably," "in no apparent pain," or "in acute distress" are used to reflect this. Patient affect should be noted. Acceptable terms are "flat," "appropriate," or "anxious."

Three grades of consciousness disturbance are distinguished: 1. *Stupor* is a state of stunning out of which the patient may be taken out for a short time by speaking to him. The patient is poorly oriented in the surrounding situation, answers the questions slowly and late; 2. *Sopor* (sleep) is more pronounced consciousness disturbance. The patient does not react to surrounding people, although sensitivity, including pain sensitivity, is preserved, does not answer questions or gives monosyllabic replies ("yes - no"), reacts to examination; 3. *Coma* - the patient is unconsciousness, does not react to speech addressed to him, to physician's examination. Decrease or disappearance of basic reflexes is marked.

Patient's physical abilities

Active, passive and forced position is distinguished.

- Active position is a possibility to move actively within the limits of hospital ward, although the patient may experience various painful sensation at that time.
- Passive position is the condition when the patient can't change given position by himself.
- Forced position is the position which to some extent releases patient's sufferings (pain, shortness of breath etc.). Sometimes forced patient's position is so characteristic for one or another disease or

syndrome that it helps to make the correct diagnosis at a distance. During a bronchial asthma attack (asthma accompanied by sharp difficulty of expiration) the patient takes forced sitting position leaning with his hands on the back of a chair, edge of a bed, his knees, etc. This position gives a possibility to fix the shoulder girdle and to switch additional respiratory musculature, specifically, muscles of the neck, back and breast enabling expiration.

During cardiac asthma attack and pulmonary edema caused by blood congestion in lesser circulation circle vessels the patient is eager to take vertical (sitting) position with legs dropped down which decreases blood inflow to the right cardiac chambers and gives a possibility to unload lesser circulation circle to some extent (orthopnea position).

Patients with pleural sheets inflammation (dry pleurisy, pleuropneumonia) and intensive pleural pains often take forced lying position or sitting position pressing the sore side of the chest with arms. Such position limits inflamed pleural sheets motions and their rubbing against each other which facilitates pain decrease.

Many patients with one-sided pulmonary diseases (pneumonia, pulmonary abscess, bronchiectasis) try to lie on the sore side. This position enables respiratory excursion of the lung as well as reduces sputum access to large bronchi causing excruciating cough.

Constitution

Signs of normosthenic, asthenic and hypersthenic constitution types (after M.V.Chernorutsky) are following:

- Normosthenic type is characterized by correct habitus with proportional parts of body, well-developed somatic musculature, correct chest shape with costal angle approaching straight angle.
- Asthenic type is differed by predominant body development in length, muscles are weakly developed, shoulders are sloping, long neck, the chest is narrow and flat (its transverse size significantly exceeds anteroposterior), epigastric angle is narrow (less than 90°). The ribs are oblique, intercostal spaces are enlarged. The scapulae do not adjoin the chest tightly.
- Hypersthenic type. People of this type are differed by predominant body development in width; medium height or lower,

enhanced nutrition, muscles are well-developed. Shoulders are wide, neck is short. The abdomen is enlarged in volume. The chest in hypersthenics is wide, its anteroposterior size is enlarged and approaches transverse. Epigastric angle is obtuse (over 90°), The ribs are located more horizontally, intercostal spaces are narrow.

Estimation of constitutional type has certain diagnostic meaning.

1. There are relatively small heart positioned vertically (hanging heart), lower diaphragm standing, borders of lungs, liver, stomach, kidneys are often lowered in asthenics. Asthenics are characterized by hypotension, decreased secretory and motoric functions of the stomach, hyperfunction of thyroid gland and hypophysis, lower level of hemoglobin, cholesterol, blood glucose. They more often suffer from duodenal ulcer, thyrotoxicosis, neuroses, tuberculosis.

2. There are relatively large sizes of heart and aorta, high diaphragm standing, inclination to higher arterial pressure level, high content of hemoglobin, cholesterol, blood glucose in hypersthenics. They more often suffer from obesity, ischemic heart disease, hypertensive disease, diabetes mellitus, metabolic-dystrophic joints diseases.

Statistics and vital signs

1. Height is measured with patient standing in stocking feet. While one recorded height is sufficient in young adults, elderly patients should be measured periodically to monitor shortening from vertebral disc space narrowing or compression fractures.

2. Weight should be measured and recorded at all encounters. The pattern of weight gain or loss can be an important indicator of wellness and disease. Medication dosage is often weight- dependent.

Body temperature

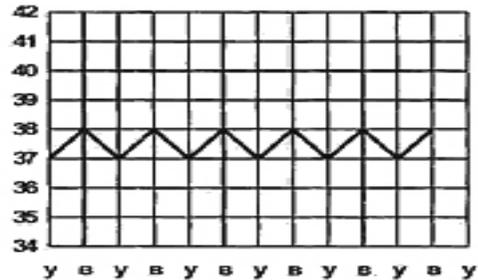
Body temperature is easily measured with electronic or mercury thermometers.

a. Rectal temperature is preferable to oral temperature. It is a more accurate reflection of core temperature and is less affected by technique (e.g., mouth breathing and ingested liquids can alter oral measurements).

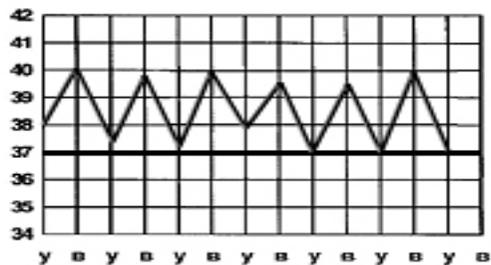
b. Electronic thermometers in common use do not record temperatures below 34° C. If hypothermia is suspected, special thermometers must be employed.

In a healthy human being body temperature fluctuates in a narrow range: from 36,4°C to 36,9°C. In dependence on diurnal body temperature fluctuations and its changes during illness several temperature curves are distinguished:

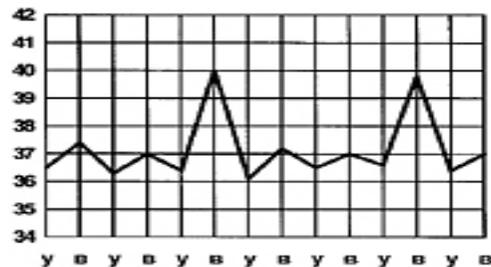
1. Continued fever (febris continua): long-term body temperature increase with diurnal fluctuations not exceeding 1°C.



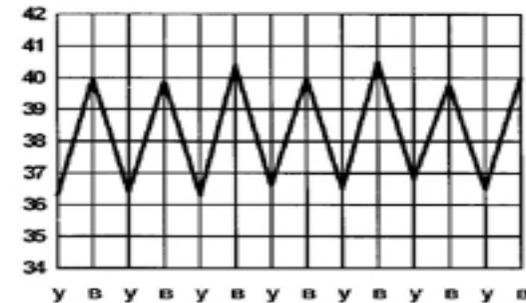
2. Remittent fever (febris remittens): long-term body temperature increase with diurnal fluctuations exceeding 1°C.



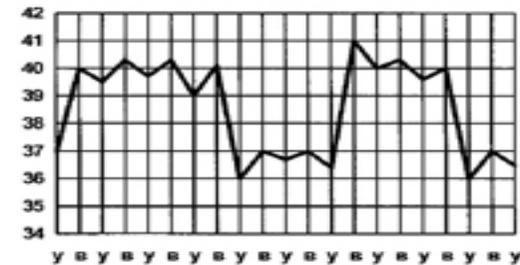
3. Intermittent fever (febris intermittens): high fever changed by normal body temperature (below 37°C) for 1-2 days and then rising again up to 38-40°C.



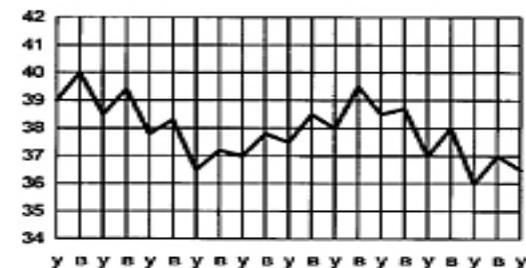
4. Hectic fever (febris hectica): sufficient temperature increase up to 39-41°C (more often by the evening) changed by normal temperature within 24 hours. Increase of temperature is accompanied by pronounced rigor, and its increase - by emaciating sweating.



5. Recurrent fever (febris reccurens): long-term fever is changed by a short period of normal body temperature, after that a new increase comes.



6. Undulant fever (febris undulans): periods of gradual body temperature increase within several days are changed with periods of its smooth decrease.



Head

1. Inspection

a. Shape and contour of the head are assessed with attention to symmetry and bony deformities.

b. The scalp is examined for skin lesions.

c. Hair distribution is noted with reference to areas of hair loss (alopecia).

d. The skin over each mastoid process is inspected for ecchymoses (Battle's sign).

2. Palpation

a. The scalp is palpated to assess for tenderness and masses, and if there is suspected trauma, to detect depressed fractures.

b. The examiner may gently tug on a few hairs to determine ease of hair removal.

Neck

1. Inspection. The examiner inspects the neck for symmetry, visible masses, and for the normal lordotic curvature of the cervical spine.

2. Range of motion is tested by asking the patient to move the head as far as possible to the left, right, backward, and forward. The chin should reach the chest on full forward flexion.

3. Palpation

Lymph nodes. Palpation of submental, submandibular, preauricular, posterior auricular, occipital, anterior cervical, posterior cervical, supraclavicular, and infraclavicular lymph nodes is done. Palpable nodes are categorized by size, shape, consistency (i.e., soft, firm, or hard), mobility, and tenderness.

4. Thyroid gland

a. Inspection. The gland may be visible in thin patients or if enlarged.

b. Palpation. The preferred method of palpating the thyroid gland is to have the examiner stand to the side or behind the patient and reach both hands around the neck with fingers forward. The patient is asked to swallow while the examiner feels the gland slide upward beneath his or her fingers. A sip of water helps the patient swallow. Parameters recorded are the size, symmetry, consistency, and the presence of nodules or masses.

Facial inspection

Patient's face often reflects many characteristic features of his disease and sometimes gives a possibility to find out approximately the main pathologic process from which the patient suffers.

Selected faces



Facies mitralis (face of a patient with mitral valve stenosis) is distinguished by expressed cyanosis of the lips, cyanotic blush on the cheeks in the shape of the so-called mitral butterfly.



Face of a female patient with systemic lupus erythematosus with characteristic erythematous or other exanthema on the back of the nose and cheeks (lupoid butterfly).

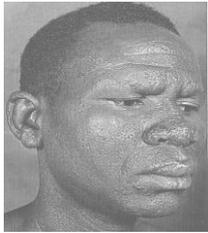


Acromegaly. The increased growth hormone of acromegaly produces enlargement of both bone and soft tissues. The head is elongated, with bony prominence of the forehead, nose, and lower jaw. Soft tissues of the nose, lips, and ears also enlarge. The facial features appear generally coarsened.



Facies nephritica (face of a patient with renal diseases) pain, puffy, with upper and lower eyelids edema, edema below the eyes.





Facies leonine (face of patient with leprosy). Skin is diffusive consolidated, particularly damaged brows, lips and nose. Brows have fall out, and on their place cutaneous fold is already formed: "lion's face" is forming. Plural tubercles and nodes have appeared on the auricles and on the nose (leprous granulomas). Nasal mucous is hyperemic and puffy.



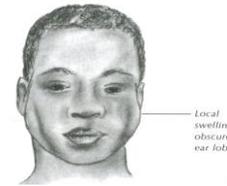
Facies Corvisari is characteristic for patients with pronounced cardiac insufficiency. The face is puffy, the skin is yellowish-pale with sufficient cyanosis of lips, tip of the nose, ears, mouth is half-opened, the eyes are glassy.



Facies micsedemica - face of a patient with thyroid gland hypofunction (myxedema). Round, puffy pale face with thickened nose and lips. Significant limiting of face mimics is characteristic, dull, sometimes vacant look making the face extremely inexpressive.. The edema, often especially pronounced around the eyes, does not pit with pressure. The hair and eyebrows are dry, coarse, and thinned. The skin is dry.

CUSHING'S SYNDROME

The increased adrenal hormone production of Cushing's syndrome produces a round or "moon" face with red cheeks. Excessive hair growth may be present in the mustache and sidebum areas and on the chin.(the lower picture was made before the disease development).



Local swelling obscures ear lobe.



Stare
Decreased Mobility



Parotid gland enlargement. Chronic bilateral asymptomatic parotid gland enlargement may be associated with obesity, diabetes, cirrhosis and other conditions. Note the swellings anterior to the ear lobes and above the angles of the jaw. Gradual unilateral enlargement suggests neoplasm. Acute enlargement is seen in mumps.

Parkinson's disease. Decreased facial mobility blunts expression. A mask-like face may result, with decreased blinking and a characteristic stare. Since the neck and upper trunk tend to flex forward, the patient seems to peer upward towards the observer. Facial skin becomes oily, and drooling may occur.

Facies Basedovica (face of a patient with thyrotoxicosis): anxious, exasperated or frightened face expression is marked, the eyes are wide open, specific glitter is characteristic, eyeballs protruding, or exophthalmos.



Face of a female patient with hirsutism developed due to excessive testosterone in the organism caused by polycystic degeneration of the ovaries. Face pilose of male type is noticed. moustache beard

Facies febris (face of a patient with fever) usually excited, the skin is hyperemic, febrile glitter in the eyes is characteristic.

Facies Hippocratica (Hippocrates' face) is characteristic for patients with diffuse peritonitis, perforated gastric or duodenal ulcer, ileus. The face is deathly-pale, hollow-cheeked, with sunken glassy eyes and sharpened nose, drops of sweat are seen on the face.

Skin

During skin investigation attention is paid to its

- color,
- humidity,
- elasticity,
- state of the hair,
- presence of exanthema, hemorrhages, vascular changes, scars,

etc.

Skin examination begins with the hands and forearms. The rest of the integument is exposed at the time that each section of the body is examined (e.g., skin of the back is viewed along with the chest and lung examination).

1. By inspection the examiner assesses:

- a. Color and pigmentation
- b. Hair distribution
- c. Lesions. Each lesion is described by its color, size, shape, distribution, and epidermal integrity.

2. By palpation the examiner determines:

- a. Surface moisture (from dry to diaphoretic)
- b. Temperature
- c. Texture
- d. Turgor or resiliency, which is determined by gently pinching the skin between thumb and forefinger
- e. Elasticity, which may be assessed concurrently
- f. Lesions, which are palpated for firmness and assessed to be raised or flat

Skin color. A practicing physician more often faces several variants of skin and visible mucous membranes color changes:

- paleness,
- hyperemia,
- cyanosis,
- jaundice and brownish (bronze) skin color.

Paleness may be caused by two main reasons:

1. anemias of any origin with a decrease of erythrocytes number and hemoglobin content per unit of blood volume;
2. peripheral circulation pathology:

a. inclination to peripheral arterioles spasm in patients with aortic cardiac defects, hypersonic crisis, certain renal diseases;

b. blood redistribution in the organism in acute vascular insufficiency (syncope, collapse) in the form of accumulation of blood in widened vessels of the abdominal cavity, skeletal muscles and, respectively, decrease of blood supply of the skin and certain visceral organs.

One should also keep in mind also constitutional peculiarities in individuals of asthenic constitutional type (deep location of the capillaries under the skin or their weak development) and individual peripheral vessels reaction (inclination to spasm) to emotions, stress, cold that may be met even in healthy people.

Red skin color (**hyperemia**) may be caused by two main reasons:

1. peripheral vessels dilation:

- a. in fevers of any origin;
- b. in excessive heat;
- c. after consumption of certain medications (nicotinic acid, nitrates) and alcohol;
- d. in local skin inflammation and burns;
- e. in psychical excitement (anger, fear, feeling of shame, etc.);

2. hemoglobin and erythrocytes increase per unit of blood volume (erythrocytosis, polycytemia). In these cases hyperemia has a specific purple tint, associating with cyanosis.

One should also keep in mind an inclination to reddish skin color in hypersthenic individuals.

Cyanosis is bluish color of the skin and seen mucous membranes caused by increase of reduced hemoglobin amount in the peripheral blood (in a limited body area or diffuse).

In accordance with main reasons three kinds of cyanosis are distinguished:

1. central cyanosis develops in result of insufficient blood oxygenation in the lungs in various respiratory organs diseases accompanied by respiratory insufficiency. It is diffuse (warm) cyanosis of face, trunk, and extremities, often having a specific grayish tint;

2. peripheral cyanosis (acrocyanosis) appears in case of slowing down of peripheral circulation, for example, in venous congestion in

patients with right ventricular cardiac insufficiency. In these cases oxygen extraction by the tissues increases which leads to increase of reduced hemoglobin content (over 40-50 g/l), predominantly in distal regions (cyanosis of fingertips and tiptoes, tip of the nose, ears, lips). The extremities are cold to the touch due to sharp slowing down of peripheral circulation;

3. limited, local cyanosis develops in result of peripheral veins congestion due to their compression with tumor, enlarged lymph nodes or in veins thrombosis (phlebothrombosis, thrombophlebitis).

Jaundice in the majority of cases is caused by skin and mucous membranes impregnation with bilirubin in case of its increased content in blood. In accordance with main reasons of hyperbilirubinemia three kinds of jaundice are distinguished:

1. parenchymal (in hepatic parenchyma lesion);
2. mechanical (in obturation of common bile duct with a concrement or its compression with a tumor);
3. hemolytic (in enhanced hemolysis of erythrocytes).

Mechanisms of hyperbilirubinemia appearance in these three kinds of jaundice will be discussed later.

Bronze (brown) skin color is usually seen in adrenal insufficiency. Brownish pigmentation usually manifests not diffusely but in the shape of spots, especially on the skin of open parts of body (face, neck, hands) and also in places subject to rubbing (in axillary fossae, in the lumbar region, on internal hips surfaces, sexual organs) and in skin folds of the palms.

Cutaneous exanthemata and lesions. Cutaneous exanthemata and hemorrhages are seen in numerous diseases of visceral organs, presenting their important diagnostic sign. Separate cutaneous exanthemata (or morphologic elements) involve different skin layers:

- epidermis,
- derma,
- subcutaneous fat,
- and in some cases also skin appendages: sudoriferous glands,
- sebaceous glands,
- hairy follicles.

Skin exanthemata sufficiently differ each other by their morphologic properties, presence and character of inflammatory reaction and other features.

Spot (macula) differs by change of skin color in a limited area, not elevated above the surrounding tissues and not different by density from healthy skin areas.

- Inflammatory spots are characterized by inflammation of epidermis dermatites, secondary syphilis and other diseases.

- Non-inflammatory spots include:

1. birthmarks, nevus;
2. vascular birthmarks, caused by incorrect development of vessels (telangiectases);
3. depigmented spots;
4. hemorrhagic spots in the form of



petechiae
(small dotted hemorrhages) and ecchymoses.

Papule (papula) is a small (from 2-3 mm to 1 cm), sharply limited dense formation, somewhat elevated above the skin and caused by inflammatory proliferation of upper dermal layers. Papules occur in

- dermatites,
- measles,
- lichen ruber planus,
- secondary syphilis
- and other diseases.

Node (nodus) is a sharply limited and elevated above the skin formation of a round shape and large enough size (over 3-4 cm), arising from deep dermal layers and subcutaneous fat. A physician often faces various non-inflammatory nodes caused by cutaneous neoplasms:

- cutaneous fibroma,
- lipoma,

- reticulosarcoma.

Blister (urtica) is an elevated above the skin surface formation without a cavity, of a variable, sometimes quaint shape, with a size of 3-4 mm to 10 cm and more. Urticarial elements appearing in acute inflammation of superficial papillary dermal layer are extremely characteristic for urticaria, allergic dermatitis, etc. Appearance of blisters



is, as a rule, accompanied by strong cutaneous itch.

Vesicle (vesicula) is a superficial hollow formation somewhat elevated above the surrounding skin, from 1 to 5 mm in size, arising from epidermis. The vesicle cavity usually contains serous inflammatory



liquid. Vesicles occur in herpes zoster, dermatites, eczema and other diseases.

Cyst (bulla) is a superficial hollow morphologic element similar to vesicle but of a bigger size (up to 3-5 cm), containing serous, hemorrhagic or purulent liquid. Bullous cysts on the skin occur in toxic-allergic dermatites, burns of II-III degree, pemphigus, streptococcal impetigo, etc.

Pustule (pustula) is an acute inflammatory round formation 1 to 10 mm in size, with purulent content, usually located in the region of hairy follicles. In these cases the pustule is called follicular pustule (folliculitis).

Furuncle (furunculus) is acute purulent-necrotic inflammation of a hairy follicle spreading on the surrounding tissues (derma, subcutaneous fat). Furuncle is a dense, painful formation protruding above the skin surface. At opening of the furuncle rejection of necrotic core and often scar formation occurs.

Carbuncle (carbunculus) is the most severe form of purulent-necrotic inflammation of the skin and subcutaneous fat usually developing from several furuncles merged together. Significant swelling, painfulness and skin hyperemia above the carbuncle are marked, and in

its maturation thick yellowish-green pus is secreted, often with blood admixture.

Hidradenitis (hidradenitis) is an acute suppurative inflammation of sudoriferous glands and surrounding tissues located in axillary region. Its clinical manifestations resemble a furuncle very much - it is a dense painful formation with sufficient skin reddening above it. After opening of hidradenitis pus is secreted and later on a scar may develop.

Erosion (erosio) is a superficial skin defect within the limits of epidermis.

Excoriation (excoriatio) is a linear skin defect within the limits of epidermis and derma.

Ulcer (ulcus) is a deeper and more spread integrity lesion of skin (epidermis and derma), subcutaneous fat, muscles, sometimes reaching the bones. Ulcers often appear due to circulation disturbances (in varicosis, thrombophlebitis, as well as in atherosclerotic stenotic lesions of lower extremities arteries).

Deep and spread ulcers (**decubitus**) appear in weak patients with acute or chronic circulation lesion, trophic disturbances in lesions of the brain and spinal cord. Decubitus is usually located in skin areas subject to constant pressure (sacrum, buttocks, scapulae, calcaneal bone, etc.).

Skin elasticity (turgor). For defining of skin elasticity (turgor) the skin together with subcutaneous fat is grasped with two fingers and a fold is formed. Normal skin elasticity is characterized by quick unfolding of the cutaneous fold after the physician's fingers are released. In case of decreased skin elasticity the fold persists for some time after the fingers are released.

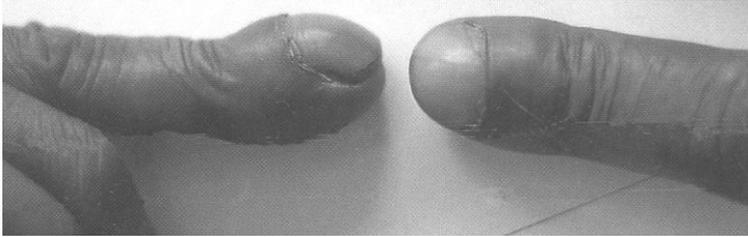
Nails

In numerous diseases of visceral organs various nails changes appear in result of trophic and other lesions, more often in the form of transverse or longitudinal striation, excessive fragility, etc. Some of these changes are as characteristic that they give a possibility to suspect one or another disease.

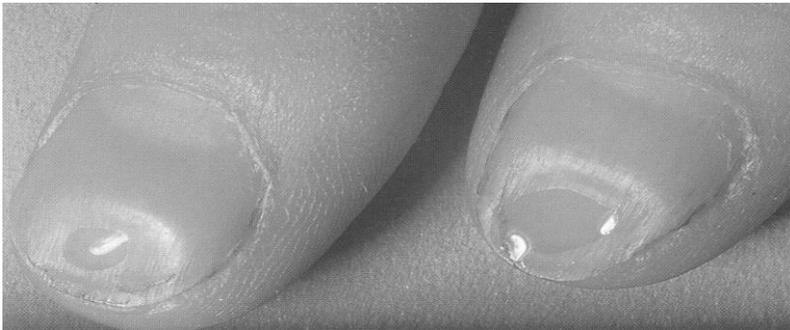
Hands and nails

1. Dorsal and palmer surfaces of each hand should be observed with attention to color, muscular integrity, joint deformities, and skin lesions.

2. Finger nails are observed for color and deformities. Vascular integrity is assessed by gently compressing the nail and releasing, then noting the rapidity of capillary filling.



Watch-glasses symptom. The nails in this symptom acquire significant convexity, in the majority of cases combined with thickening of distal fingers and toes phalanges in the shape of drumsticks that appears in result of distal phalanges soft tissues proliferation.



Koilonychiae are spoon-shaped impressions of nails combined with their striation. Koilonychiae more often occur in pronounced sideropenic syndrome (iron deficiency in the organism), for example, in patients with chronic iron-deficiency anemias.

Thimble symptom - dotted excavations on the surface of nail plate appearing in patients with psoriasis. The nails become opaque, acquire transverse or longitudinal striation, become thin and atrophic (onycholysis with dystrophic nails changes).

Dotted hemorrhages beneath the nail matrix occur in pronounced lesion of vascular permeability, for example, in patients with vasculitis.

Hypodermic adipose cellular tissue

During investigation of subcutaneous fat attention is paid to the degree of its development, places of biggest fat deposition and presence of edema. Excessive development of subcutaneous fat (obesity) may be caused by different reasons.

They distinguish

primary (exogenous-constitutional, or alimentary-metabolic) obesity based on energetic imbalance (absolute or relative increase of energy income with food or decrease of its waste due to hypodinamia), and secondary (or neuroendocrinic) obesity which is only a syndrome of other diseases caused by lesion of central nervous and endocrinic systems (adiposogenital dystrophy, Icenko-Cushing disease, hypothyrosis, cerebral injuries and tumors, etc.).

The most often reasons of subcutaneous fat layer decrease (getting thin) are:

1. starving leading to alimentary dystrophy development;
2. digestion organs diseases accompanied by disturbance of appetite and processes of food digestion and absorption (gastritis, peptic ulcer of the stomach and duodenum, enterites, pancreatitis, hepatitis, hepatic cirrhosis, etc.);
3. long-term intoxications and chronic infectious diseases;
4. malignant neoplasms when getting thin may reach the degree of cachexia.

Edemas are a very important symptom of various visceral organs diseases. The extent of edematic syndrome may vary from slight subcutaneous fat puffiness to anasarca with pronounced edemas and accumulation of liquid in serous cavities (ascites, hydrothorax, etc.).

The following methods are used for disclosure of peripheral edemas:

1. palpation method - pressing with a thumb to the skin and subcutaneous fat in the regions of ankles, crura, sacrum, sternum, etc.. In presence of edema in these places pits occur after pressure;
2. follow-up of body mass dynamics;
3. measuring of consumed liquid and excreted urine amounts (diuresis). The latter two methods are most applicable for disclosure of occult edemas.

Local edemas are most often caused by:

1. regional lesion of venous outflow (phlebothrombosis, thrombophlebitis) or lymphatic outflow (elephantiasis);
2. acute inflammatory reaction of skin and subcutaneous fat;
3. local cutaneous allergic reaction, Quincke's edema.

Diffuse edemas in cardiac, renal and other visceral organs diseases are, as a rule, caused by combination of lesions of numerous mechanisms taking part in water-electrolytic balance in the organism, as well as mechanisms ensuring liquid retaining in the vascular bed:

1. hydrostatic pressure increase in the venous bed of the greater circulation circle (for example, in right ventricle cardiac insufficiency);
2. activation of renal renin-angiotensin-aldosterone system that facilitates sodium and water retain in the organism;
3. decrease of oncotic plasma pressure in hypoproteinemia (nephrotic syndrome, severe hepatic diseases);
4. sharp decrease of renal filtration (renal insufficiency, uremia);
5. vascular permeability lesion (glomerulonephritis, vasculites, etc.).

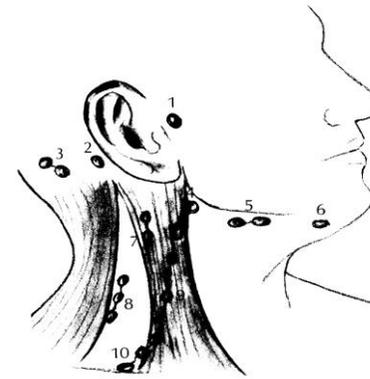
In every particular case 1-2 mechanisms of edematous syndrome have the prevailing meaning in edemas formation.

Lymph nodes

Investigation of peripheral lymph nodes located in subcutaneous fat has a great meaning for diagnostics of certain visceral organs diseases (blood system diseases, malignant neoplasms, tuberculosis, infectious and inflammatory diseases).

Lymph nodes carry on barrier-filtration and immune functions. Lymph flowing along the sinuses of lymph nodes is filtered through reticular tissue loops: here small foreign particles got into the lymphatic system from the tissues (bacterial bodies, tumor cells, etc.) are retained and lymphocytes formed in lymph nodes lymphatic tissue enter lymph.

Normally peripheral lymph nodes present round or oval formations from 5 to 20 mm in size. They are not elevated above the skin level and that is why not disclosed during examination. Nevertheless, some of



lymph nodes may be palpated even in a healthy individual (submandibular, axillary, inguinal). They have relatively small size, soft consistency, not adhered to each other and to the skin. There exists an opinion that palpable lymph nodes in a healthy human being are a consequence of local inflammatory processes experienced in the past. There are: 1. Pre-auricular—in front of the ear 2. Posterior auricular—superficial to the mastoid process 3. Occipital—at the base

of the skull posteriorly

4. Tonsillar—at the angle of the mandible 5. Submaxillary—halfway between the angle and the tip of the mandible 6. Submental—in the midline behind the tip of the mandible

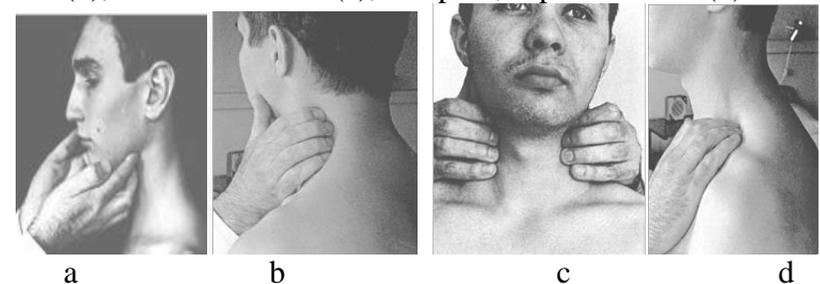
7. Superficial cervical—superficial to the sternomastoid

8. Posterior cervical chain—along the anterior edge of the trapezius

9. Deep cervical chain—deep to the sternomastoid and often inaccessible to examination. Hook your thumb and fingers around either side of the sternomastoid muscle to find them.

10. Supraclavicular—deep in the angle formed by the clavicle and the sternomastoid on the neck.

Fig. presents the palpation technique of submandibular (a), posterior cervical (b), anterior cervical (c), occipital, supraclavicular(d)



axillary, anconal and inguinal lymph nodes. Lymph nodes are palpated with sliding circular motions of the fingertips in the region of suggested location of this group of lymph nodes, pressing them to more dense formations (bones, muscles).

During axillary lymph nodes palpation patient's arm is first abducted and half-bent investigator's fingers are placed in the axillary region. Then patient's arm is adducted and the physician tries to feel the lymph nodes with one sliding motion of the hand from top to bottom. During lymph nodes palpation attention is paid to their size, shape, consistency, painfulness, motility, adhesions with each other and surrounding tissues, condition of the skin above the lymph nodes.

In practice a physician may face two types of lymph nodes changes:

1. diffuse, systemic lymph nodes lesion that may be caused by their inflammatory changes (for example, in certain infections) as well as by changes associated with tumor proliferation in certain blood diseases; 2. local enlargement of regional lymph nodes of inflammatory (local suppurative processes) as well as neoplastic character (cancer metastases). For correct interpretation of local lymph nodes enlargement it is necessary to know well typical pathways of lymphatic outflow from different body regions.

Lymph nodes of the angle of the mandible, sublingual and submandibular lymph nodes are enlarged in local pathologic processes (inflammation, cancer) in the tonsils, oral cavity, parotid nodes and nodes behind the ear - in lesions of outer and middle ear, occipital - in pathologic processes of hairy part of the head and of the neck, cervical lymph nodes - in lesion of larynx and thyroid gland (cancer, thyroiditis), left supraclavicular lymph nodes - in metastases of gastric cancer (Virchow's gland), etc.

Antecubital lymph nodes collect the lymph from III, IV and V fingers, axillary - from I, II and III fingers as well as from the mammary gland region (cancer, mastitis). Special diagnostic meaning belongs to pulmonary cancer metastases to axillary lymph nodes. In inflammatory lesions of the said location subclavicular and even supraclavicular lymph nodes may be involved in the pathologic process.

Inflammatory or tumoral lesion of mammary glands is often accompanied by enlargement of axillary, subclavicular, supraclavicular and parasternal lymph nodes.

Inguinal lymph nodes collect the lymph from sexual and pelvic organs, as well as from lower extremities tissues, popliteal lymph nodes - predominantly from posterior crural surfaces.

Muscles

During muscles investigation the degree of skeletal musculature, muscular tonus, as well as painfulness during palpation are estimated.

Musculoskeletal examination

1. The musculature of the upper and lower extremities is inspected with reference to size, contour, and symmetry. Muscle strength is conventionally tested as part of the neurologic examination.

2. All joints are inspected for deformities, edema, erythema, or warmth.

3. Passive range of motion is tested by the examiner actively moving each joint in all possible directions with only the patient's "passive" cooperation. The extent of movement is recorded. Restriction is recorded by degrees of movement.

4. Muscle strength

a. Each muscle group must be tested individually and compared in strength to its contralateral counterpart.

b. Muscle groups to be tested include: shoulder (flexion, extension, abduction, and adduction); biceps, triceps, and wrist (flexion and extension); interosseous muscles in the hand and grip strength; hips (flexion and extension); quadriceps, hamstrings, and ankle (flexion and extension); and toe (flexion and extension).

c. This technique is best accomplished with the patient supine. The examiner provides active resistance against the patient's movements.

d. Strength is recorded using a 5 + system.

Muscular atrophies often appear in weak patients suffering from certain nervous system diseases accompanied by palsy or paresis of the extremities, as well as in chronic joints lesions.

During investigation of muscles it is also important to characterize correctly involuntary muscles contractions - convulsions - that sometimes occur. They distinguish: 1. tetanic convulsions - comparatively long-lasting (from a few minutes till a few hours) spastic muscular contractions (meningitis, rabies, tetanus); 2. clonic convulsions - rapidly following one another spastic muscular convulsions (for example, in epileptic attacks).

Bones

Shape of bones, presence of deformations, painfulness during palpation and percussion and other symptoms are defined. In certain blood system diseases (leukemias, myeloma, B12-deficiency anemia and other pathology) it is important to define painfulness of bones during percussion as well as presence of pathologic fractures of bones.

Deformations of the vertebral column are the most often pathologic deformations of bones. They distinguish:

1. kyphosis - curvature of the vertebral column with protuberance faced backward, often with formation of a humpback (gibbus);
2. lordosis - curvature of the vertebral column faced forward;
3. scoliosis - lateral curvatures of the vertebral column.



Often a combination of kyphosis and scoliosis is found (**kyphoscoliosis**). In patients with ankylosing spondylarthritis (Bechterev's disease) a combination of cervical hyperlordosis and thoracic kyphosis is noticed that leads to very be behindhand characteristic changes of patient's posture in the form of an asker's posture.

Joints

During objective investigation of joints their configuration, swelling, painfulness during palpation and motions, range of active and passive motions in the joints and changes of skin and subcutaneous fat in the region of joints are defined.

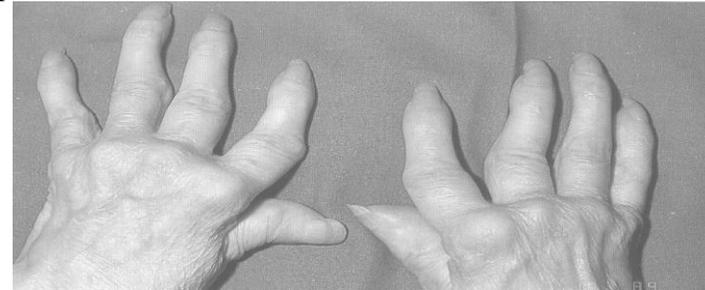
1. Configuration of joints. Changes of joints configuration may be caused by different reasons. In inflammatory joints diseases (arthritis), as a rule, their increase in volume, smoothing of contours and swelling are seen. Such defiguration of the joints is associated with acute inflammatory edema of the synovial membrane and soft tissues surrounding the joint (periarticular edema) as well as with presence of exudate in the joint cavity.

In these cases the skin above the diseased joint is often hyperemic, its temperature is elevated. These changes of joints shape usually

disappear completely in case of timely and effective anti-inflammatory treatment.

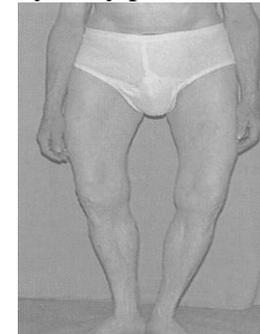
Joints deformation is more stable change of joints shape caused by destruction of cartilage and articular ends of bones, development of ankyloses, bony proliferations, lesions of muscular-ligament apparatus and joints subluxations. Numerous diseases manifest themselves by characteristic joints deformations.

Thus, **in rheumatoid arthritis** the hands acquire the shape of flippers of a walrus



A characteristic ulnar deviation of the hand is marked - deviation of III, IV and V fingers towards the ulnar bone caused by subluxations in metacarpophalangeal joints with protruding of metacarpal bones heads, as well as radial deviation of radiocarpal articulation.

In osteoarthritis subluxation in metacarpophalangeal joints and lateral deviation (radial or ulnar) of distal interphalangeal joints, dense nodules in dorsolateral parts of distal interphalangeal joints (Geberden's nodules) and proximal interphalangeal joints (Bouchard's joints) caused by bony proliferations (osteophytes) are seen.



In patients with diffuse osteoarthritis during investigation in vertical position (weight load) characteristic deformations of knee joints are often seen. Varus deformation of knee joints - genu varus, or **bow legs** - witness predominant lesion of medial parts of joints (loss of cartilage).

Valgus deformation of knee joint - genu valgus, baker's feet is associated with cartilage lesion in all the parts of knee joint.

In the region of articulations other deformations caused by periarticular tissues lesion may be found.

Dupuytren's contracture is a typical example of stable deformation and motility limitation of joints caused by periarticular tissues lesion.



It is a chronic inflammatory disease of aponeurosis palmaris and tendons of IV and V fingers leading to scarring, contraction of the skin and fixed flexion contracture in metacarpophalangeal and proximal interphalangeal joints.

Local swelling around the tip of olecranon is seen in bursitis – local inflammation of the elbow articulation serous bag. In patients with gout deposition of urates crystals beneath the skin with formation of dense podagric nodes (tofi) is characteristic. Locating in the region of elbow and knee joints and around interphalangeal and metacarpophalangeal joints of the hand, the tofi may create an impression of their pronounced deformation. Appearance of tofi on floors of the auricles is very characteristic for gout.

Subcutaneous rheumatoid nodules are dense, round, painless connective tissue formations more often located on the extensor side of the forearm near the cubital joint. Rheumatoid nodules are a characteristic sign of rheumatoid arthritis.

2. Changes of skin above the affected joints more often manifest themselves in the form of hyperemia and hyperthermia, witnessing acute inflammatory process in the joint and periarticular tissues.

It is better to estimate the skin temperature in the joint region by applying the back of investigator's hand for a very short time (not more

than 0.5 -1.0 sec), as more long touch may equal the skin temperature of the patient and the investigator.

3. Motility and painfulness of joints. Range of active and passive motions in the joints are defined. Active motions are performed voluntarily by the patient himself. Passive motions in the investigated joints are performed by the physician in patient's complete muscular relaxation.

Independently of lesion character of the joint or periarticular tissues the range of active motions is usually decreased. For estimation of joints motility limitation extent one should keep in mind certain indices of normal motility function.

During objective investigation of the joints it is important to solve the question about character of lesion of joints themselves and periarticular tissues (muscles, tendons, nerves, etc.). The following manipulations are helpful in this aspect:

1. Defining of joints painfulness during their palpation. Painfulness defined along the articulation slit in the majority of cases witnesses

lesion of the joint itself or presence of intraarticular pathology (for example, rupture of knee joint meniscus). Painfulness limited by periarticular points is usually associated with extraarticular pathology (for example, with bursitis development).

2. Defining of character of pain appearing during motions in the joints. For synovial membrane inflammation appearance of the so-called stress pain during motions is characteristic (insufficient pain during motions of medium amplitude which sharply increases in extreme points of flexion and extension). Pain of equal intensity within all the motion range is more often associated with mechanical joint changes (destruction of cartilage or bone).

3. Defining of painfulness during resistive active (isometric) motions in the joints is an important sign of periarticular tissues lesion. The investigation is performed as follows. The physician tries to make a motion in the joint, and the patient at this time performs active resistance to the motion, bracing the corresponding muscles.

4. Defining of active and passive motions range. In the majority of cases in synovial membrane inflammation the same limitation of active and passive motions in the joints is seen.

5. Defining of crepitation (crunching) during motions. Crepitation is defined by palpation within the entire range of flexion or extension of the affected joint. Slight, hardly noted crepitation usually witnesses inflammation of synovial membrane, bag or tendon sheath. Rough crepitation indicates lesion of cartilage or bone.

Crepitation should be differed from loud single tendon clicks sometimes appearing during motions of large articulations (humeral, knee, hip, etc.), and clicks associated with artificial stretching of articulations, for example, fingers articulations. In the last case the clicks are more often caused by formation of intraarticular gas bubbles.

It is also important to estimate the status of muscles in joints regions. Joints lesions are characterized by weakness and atrophy of muscles attached to them.

CONTROL QUESTIONS

1. Rules, conditions and sequence of patient general inspection.
2. Condition of consciousness and grades of its disturbances.
3. Patient's behaviour, his position in bed, bearing, gait.
4. Physique, types of constitution, anthropometric data.
5. Fever, its types; techniques of taking temperature and putting it in chart.
6. Data revealed by the general examination of head; particularities of face, neck (thyroid gland).
7. Data revealed by the general examination and palpation of skin.
8. Data revealed by the general examination of hypodermic adipose cellular tissue, determination of edemas.
9. Data of lymph nodes examination.
10. Data of muscles, bones, joints examination.

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