

**Ministry of Healthcare of Ukraine**

**Microbiology, virology, immunology, epidemiology department**

**with the course of infectious diseases and phtysiatry**

**Medical faculty**

**Uzhgorod National University**

# **PATIENT'S HISTORY GUIDE**

**Methodological recommendations  
for students 5-th course**

**Uzhgorod**

**2024**

Patient's history (guide): methodological recommendations for students of V course / comp. V.V. Vysochanska, A.I. Kohutych, A.A. Halamba, G.M. Koval. – Uzhgorod: UzhNU, 2024.

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## **Structure of Patient's history:**

### **Identifying Data**

**Identifying data**— such as age, gender, occupation, marital status

**Source of the history**—usually the patient, but can be family member, friend, letter of referral, or the medical record

If appropriate, establish source of referral, since a written report may be needed.

### **Reliability**

Varies according to the patient's memory, trust, and mood

### **Chief Complaint(s)**

The one or more symptoms or concerns causing the patient to seek care

### **Present Illness**

Amplifies the Chief Complaint, describes how each symptom developed Includes patient's thoughts and feelings about the illness.

Pulls in relevant portions of the Review of Systems.

May include medications, allergies, habits of smoking and alcohol, since these are frequently pertinent to the present illness

### **Past History**

Lists childhood illnesses

Lists adult illnesses with dates for at least four categories: medical; surgical; obstetric/gynecologic; and psychiatric

Includes health maintenance practices such as: immunizations, screening tests, lifestyle issues, and home safety

### **Family History**

Outlines or diagrams of age and health, or age and cause of death of siblings, parents and grandparents

Documents presence or absence of specific illnesses in family, such as hypertension, coronary artery disease, etc.

### **Personal and Social History**

Describes educational level, family of origin, current household, personal interests, and lifestyle

### **Review of Systems**

Documents presence or absence of common symptoms related to each major body system

## **Getting Started:**

Always introduce yourself to the patient. Then try to make the environment as private and free of distractions as possible. Do the best that you can and feel free to be creative. If the room is crowded, it's OK to try and find alternate sites for the interview. It's also acceptable to politely ask visitors to leave so that you can have some privacy.

If possible, sit down next to the patient while conducting the interview. Remove any physical barriers that stand between yourself and the interviewee (e.g. put down the side rail so that your view of one another is unimpeded... though make sure to put it back up at the conclusion of the interview). These simple maneuvers help to put you and the patient on equal footing. Furthermore, they enhance the notion that you are completely focused on them. You can either disarm or build walls through the speech, posture and body language that you adopt. Recognize the power of these cues and the impact that they can have on the interview. While there is no way of creating instant intimacy and rapport, paying attention to what may seem like rather small details as well as always showing kindness and respect can go a long way towards creating an environment that will facilitate the exchange of useful information.

## **Initial Question(s):**

Ideally, you would like to hear the patient describe the problem in their own words. Open ended questions are a good way to get the ball rolling. These include: "What brings you here? How can I help you? What seems to be the problem?" Push them to be as descriptive as possible. While it's simplest to focus on a single, dominant problem, patients occasionally identify more than one issue that they wish to address. When this occurs, explore each one individually using the strategy described below.

## **Follow-up Questions:**

There is no single best way to question a patient. Successful interviewing requires that you avoid medical terminology and make use of a descriptive language that is familiar to them. There are several broad questions which are applicable to any complaint. These include:

**Duration:** How long has this condition lasted? Is it similar to a past problem? If so, what was done at that time?

**Severity/Character:** How bothersome is this problem? Does it interfere with your daily activities? Does it keep you up at night? Try to have them objectively rate the problem. If they are describing pain, ask them to rate it from 1 to 10 with 10 being the worse pain of their life, though first find out what that was so you know what they are using for comparison (e.g. childbirth, a broken limb, etc.). Furthermore, ask them to describe the symptom in terms with which they are already familiar. When describing pain, ask if it's like anything else that they've felt in the past. Knife-like? A sensation of pressure? A toothache? If it affects their activity level, determine to what degree this occurs. For example, if they complain of shortness of breath with walking, how many blocks can they walk? How does this compare with 6 months ago?

**Location/Radiation:** Is the symptom (e.g. pain) located in a specific place? Has this changed over time? If the symptom is not focal, does it radiate to a specific area of the body? Have they tried any therapeutic maneuvers?: If so, what's made it better (or worse)?

**Pace of illness:** Is the problem getting better, worse, or staying the same? If it is changing, what has been the rate of change?

Are there any associated symptoms? Often times the patient notices other things that have popped up around the same time as the dominant problem. These tend to be related.

What do they think the problem is and/or what are they worried it might be?

**Why today?:** This is particularly relevant when a patient chooses to make mention of symptoms/complaints that appear to be long standing. Is there something new/different today as opposed to every other day when this problem has been present? Does this relate to a gradual worsening of the symptom itself? Has the patient developed a new perception of its relative importance (e.g. a friend told them they should get it checked out)? Do they have a specific agenda for the patient-provider encounter?

For those who favor mnemonics, the 8 dimensions of a medical problem can be easily recalled using OLD CARTS (Onset, Location/radiation, Duration, Character, Aggravating factors, Relieving factors, Timing and Severity).

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**Medical faculty,**  
**Uzhgorod National University**

Teacher (name and title):

**CASE HISTORY**

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(full name of the patient)

Diagnosis at admission:

Main diagnosis:

Complications:

Concomitant diseases:

Student:

(Name, year, group)

Date of submission:

Grade:

**I. GENERAL INFORMATION:**

**1. PATIENT DETAILS.**

**Name:**

**Age (date of birth):**

**Gender:**

**Marital status:**

**Occupation:**

**Home address:**

**Date of admission:**

***Note!** The source of history or referral can be a family member or friend, an officer, a consultant, or the medical record in this case it is called heteroanamnesis.*

## **2. COMPLAINTS**

**Chief complaints (CC):**

*Make sure you distinguish complaints from symptoms! Keep in mind, that patients do not have medical education and even if they name some of the symptoms and their details, most probably those are false. Focus on complaints like pain, it's radiation, character, periodicity and frequency, change over time, duration, exacerbating and relieving factors, associated manifestations, rather than believe to statements "Doctor, I have gastritis").*

**Secondary complaints:**

*(complaints, that are not related to the main disease but are important for consideration to diagnose the complications or concomitant diseases).*

The chief complaints are the major health problems or concerns of the patient. The medically relevant complaints reported by the patient are referred to symptoms which eventually group into syndromes, which manifest with particular clinical signs and are revealed by direct examination.

After talking about the chief complaints, you should perform a brief screen of the other body systems. The review of systems may reveal problems that the patient has missed, particularly in areas unrelated to the present illness.

**Secondary complaints** are based on the review of systems.

Ask the patient if they have any of the following symptoms:

**General symptoms**

Weight change (loss or gain), change in appetite (loss or gain), fever, lethargy, malaise.

**Respiratory symptoms**

Cough, sputum, hemoptysis, shortness of breath, wheeze, chest pain.

**Cardiovascular symptoms**

Shortness of breath on exertion, paroxysmal nocturnal dyspnea, chest pain, palpitations, ankle swelling, orthopnea, claudication.

**Gastrointestinal symptoms**

Indigestion, abdominal pain, nausea, vomiting, a change in bowel habit, constipation, diarrhea, PR blood-loss, dysphagia.

**Genito-urinary symptoms**

Urinary frequency, polyuria, dysuria, haematuria, nocturia, menstrual problems, impotence.

**Neurological symptoms**

Headaches, dizziness, tingling, weakness, tremor, fits, faints, black-outs, sphincter disturbance.

**Locomotor symptoms**

Aches, pains, stiffness, and swelling.

**Skin symptoms**

Lumps, bumps, ulcers, rashes, itch.

### 3. HISTORY OF PRESENT ILLNESS (Anamnesis morbi)

Obtaining an accurate history is the critical first step in determining the etiology of a patient's problem. A large percentage of the time, you will actually be able to make a diagnosis based on the history alone. The value of the history, of course, will depend on your ability to collect relevant information.

Your sense of what constitutes important data will grow exponentially in the coming years as you gain a greater understanding of the pathophysiology of disease through increased exposure to patients and illness. However, you are already in possession of the tools that will enable you to obtain a good history. That is, an ability to listen and ask common-sense questions that help define the nature of a particular problem. It does not take a vast, sophisticated fund of knowledge to successfully interview a patient. In fact seasoned physicians often lose site of this important point, placing too much emphasis on the use of testing while failing to take the time to listen to their patients. Successful interviewing is for the most part dependent upon your already well developed communication skills.

What follows is a framework for approaching patient complaints in a problem oriented fashion. The patient initiates this process by describing a symptom. It falls to you to take that information and

use it as a springboard for additional questioning that will help to identify the root cause of the problem. Note that this is different from trying to identify disease states which might exist yet do not generate overt symptoms. To uncover these issues requires an extensive "Review Of Systems" (ROS). Generally, this consists of a list of questions grouped according to organ system and designed to identify disease within that area. For example, a review of systems for respiratory illnesses would include: Do you have a cough? If so, is it productive of sputum? Do you feel short of breath when you walk? etc. In a practical sense, it is not necessary to memorize an extensive ROS question list. Rather, you will have an opportunity to learn the relevant questions that uncover organ dysfunction when you review the physical exam for each system individually. In this way, the ROS will be given some context, increasing the likelihood that you will actually remember the relevant questions.

Each principal symptom should be well-characterized, with descriptions of (1) location; (2) quality; (3) quantity or severity; (4) timing, including onset, duration, and frequency; (5) the setting in which it occurs; (6) factors that have aggravated or relieved the symptom; and (7) associated manifestations.

Other information is frequently relevant, such as risk factors for coronary artery disease in patients with chest pain, or current medications in patients with syncope.

The present illness should reveal the patient's responses to his or her symptoms and what effect the illness has had on the patient's life.. Patients often have more than one symptom or concern. Each symptom merits its own paragraph and a full description.

Medications should be noted, including name, dose, route, and frequency of use. Also list home remedies, nonprescription drugs, vitamins, mineral or herbal supplements, oral contraceptives, and medicines borrowed from family members or friends. Ask patients to bring in all their medications so you can see exactly what they take.

Allergies, including specific reactions to each medication, such as rash or nausea, must be recorded, as well as allergies to foods, insects, or environmental factors.

Alcohol, tobacco, and drug use, including the type. If someone has quit, note for how long.

#### **4. PERSONAL HISTORY (anamnesis vitae)**

##### **Family history:**

Family history details: make up of the current family, including the age and gender of parents, siblings, children, and extended family as relevant. The health of the family. You should ask about any diagnosed conditions in other living family members. You should also document the age of death and cause of death for all deceased first degree relatives and other family members if you feel it is appropriate and related to diagnosis.

##### **Social history:**

Social history is your chance to document the details of the patient's personal life which are relevant to the working diagnosis, the patient's general well- being and recovery/convalescence. It will help to understand the impact of the illness on the patient's functional status. Establish marital status and occupation (or previous occupations if retired). You should establish the exact nature of the job if it is unclear (does it involve sitting at a desk, carrying heavy loads, travelling?); other people who live at the same address; the type of accommodation (e.g. house, flat and on what floor).

##### **Epidemiological anamnesis:**



An epidemiological anamnesis includes a set of information about the patient, the team, which he associated with its activities, and the areas where there could be infection. This information is used for the diagnosis, determine the sources of infection and ways of its transmission and the choice of measures, excluding its further spread.

An epidemiological anamnesis gathering in the infectious diseases hospital, and in the process of epidemiological survey of the hearth. Along with the patient to identify conditions intrusion poll relatives and other people around the patient.

The collection of information starting with the definition of the date of onset. If you set it difficult, you see, day by day period, adjacent to the expected date. Next, find out the possibility of introduction of infection to patients, relatives, persons who stayed overnight or leisure, etc., Then reveal the possibility of infection in the family, relatives, friends and other persons If necessary, the information specify by records in outpatient cards and other documents. Find out the profession of the patient and his side, and stay in tours, Hiking, hunting, fishing, participation in domestic and religious rituals, etc. In some cases there is a need to establish the nature of the supply and use of products, not included permanently in the diet, in obtaining information about the quality of water for drinking and hygienic purposes, about being in public places, the acquisition of animal raw materials, objects, used, and so on, there is Often a need to figuring out what kinds of animals in contact sick, whether there was evidence of arthropod bites, etc. In each case, gather information about previously infectious diseases, wounds and injuries, preventive inoculations used serotherapy, the prescription of antibiotics and chemotherapeutic drugs.

When gathering information about the team pay attention to the condition of infectious diseases and other conditions that can contribute to infection, as well as on the quality of medical care.

The collection of information about the area start from the territory, which was ill (village, city, area outside the settlements and so on). Next, establish a presence in this territory domestic and wild animals, arthropods, infectious diseases among people and animals, field sanitation, enterprises processing animal raw materials, and other objects of interest in the San.-the disease. respect for this disease. In the case of low awareness of the patient and persons from the environment information obtained from the medico-geographical description of the area. The results of epidemiological history reflects the history and the map of epidemiological survey.

### **Past medical history:**

Past medical history is based on obtain detailed information about past illness and surgical procedures. Ensure you get dates and location for each event. There are some conditions which you should specifically ask patients about and these are shown below. For each condition, ask: when was it diagnosed? how was it diagnosed? how has it been treated? Ask specifically about: diabetes, hepatitis, tuberculosis, hypertension, myocardial infarction, stroke, asthma, blood transfusions.

Comments

## II. PHYSICAL EXAMINATION

### GENERAL EXAMINATION

General condition \_\_\_\_\_, body temperature \_\_\_\_\_ °C.

Patient's posture \_\_\_\_\_,

Level (degree) of consciousness \_\_\_\_\_

Face expression \_\_\_\_\_

Constitutional type \_\_\_\_\_. Height \_\_\_\_\_ m, weight \_\_\_\_\_ kg,

BMI \_\_\_\_\_ kg/m<sup>2</sup>.

(Calculation formula:  $\text{weight(kg)} / \text{height(m)}^2$ )

Gait and bearing abnormalities \_\_\_\_\_

Skin \_\_\_\_\_ Hair \_\_\_\_\_ Nails \_\_\_\_\_

Visible mucous membranes \_\_\_\_\_ Subcutaneous fat \_\_\_\_\_

Presence of edema \_\_\_\_\_

Lymph nodes \_\_\_\_\_

Muscles \_\_\_\_\_ Bones \_\_\_\_\_ Joints \_\_\_\_\_

#### Comments:

Physical examination is the process by which a doctor investigates the body of a patient for signs of disease.

**General examination.** A systematic examination generally starts with the head and finishes with the extremities. Data obtained by the clinician during general examination has a great diagnostic importance giving a possibility to disclose characteristic (although often non-specific) signs of disease. General examination includes estimation of:

- general patient's status (examples – acutely or chronically ill, frail, or fit and robust);
- body temperature;
- posture (examples – active, passive, forced)
- patient's consciousness (examples – alertness, lethargy, obtundation, stupor, coma);
- defining of face expression (examples of abnormalities – the stare of hyperthyroidism; the immobile face of parkinsonism; the flat or sad affect of depression);
- constitutional type (examples – normosthenic, asthenic, hypersthenic),
- gait and bearing abnormalities (examples of abnormalities – preference for sitting up in left-sided heart failure, and for leaning forward with arms braced in chronic obstructive pulmonary disease; fast, frequent movements of hyperthyroidism; slowed activity of hypothyroidism; tremors or other involuntary movements);
- skin color (examples – physiologic, pale, cyanosis, hyperemia, icterus, other changes), moisture and elasticity, presence of scars;
- hair (distribution, alopecia, hair overgrowth);
- nails (shape, brittleness);
- visible mucous membranes (examples – physiologic, pale, cyanosis, hyperemia, icterus, other changes);
- subcutaneous fat: (degree of its development and distribution);
- presence of edema (if positive – estimation of the level of edema);
- lymph nodes (size, shape, consistency, motility tenderness, adhesions with each other and surrounding tissues);

- muscles (general development, strength, muscular tone, tenderness, tremor, convulsions);
- bones (proportionality, tenderness and deformations);
- joints (swelling, deformity, limitation of movements).

## RESPIRATORY SYSTEM

Surface markings \_\_\_\_\_ Chest \_\_\_\_\_  
 Shape \_\_\_\_\_  
 Breathing pattern \_\_\_\_\_ Chest movements \_\_\_\_\_  
 Palpation findings: \_\_\_\_\_  
 Abnormalities of chest wall \_\_\_\_\_  
 Chest elasticity \_\_\_\_\_ Chest expansion \_\_\_\_\_  
 Tactile vocal fremitus \_\_\_\_\_  
 Comparative percussion: \_\_\_\_\_  
 Topographical percussion (margins)

Left Lung

Right lung

Breath sounds \_\_\_\_\_  
 Additional findings (rales, sounds) \_\_\_\_\_  
 Vocal resonance \_\_\_\_\_

### **Comments:**

Examination includes 4 parts inspection, palpation, percussion, and auscultation.

### ***Inspection.***

General inspection.

Look at:

- shape and movement of the chest up-close. Surface markings (scars, lesions, prominent surface veins);
- chest shape (examples of abnormalities – deformity, barrel chest, pigeon chest, funnel chest, surgical subcutaneous emphysema);
- breathing pattern (respiratory rate, tachypnea, expiratory or inspiratory dyspnea, Kussmaul's respiration, Cheyne-Stokes breathing);
- chest movements (asymmetry, abnormal retraction of the interspaces during inspiration).

### **Palpation**

- assessment of any observed abnormalities of chest wall (masses); identification of tender areas (carefully palpate any area where pain has been reported or where lesions or bruises are evident);
- chest elasticity (carefully compress the chest along anterior-posterior and lateral axis);
- chest expansion (examples of abnormalities – causes of unilateral decrease or delay in chest expansion include chronic fibrosis of the underlying lung or pleura, pleural effusion, lobar pneumonia, pleural pain with associated splinting, and unilateral bronchial obstruction.)
- tactile vocal fremitus (examples of abnormalities – fremitus is decreased or absent when the voice is soft or when the transmission of vibrations from the larynx to the surface of the chest is impeded. Causes include a very thick chest wall; an obstructed bronchus; COPD; separation of the pleural surfaces by fluid (pleural effusion), fibrosis (pleural thickening), air (pneumothorax), or an infiltrating tumor).

### **Percussion.**

On comparative percussion, you are testing mainly for pleural effusion, pneumothorax and lobar pneumonia fibrous tissue, or tumor. The sound will be resonant in healthy lungs, tympanic if there is a pneumothorax, dull if there is lobar pneumonia and flat if there is a large pleural effusion.

Topographical percussion describes the margins of both lungs.

### **Auscultation.**

Auscultation is the most important examination technique for assessing air flow through the tracheobronchial tree. Together with percussion, it also helps the clinician assess the condition of the surrounding lungs and pleural space. Auscultation involves (1) listening to the sounds generated by breathing, (2) listening for any adventitious (added) sounds, and (3) if abnormalities are suspected, listening to the sounds of the patient's spoken or whispered voice as they are transmitted through the chest wall.

Breathing sounds:

vesicular sound – normal, reduced sound – effusion, tumour, pneumothorax, pneumonia or lung collapse, if global reduced sound – chronic obstructive pulmonary disease or asthma, bronchial sound – pneumonia, lung abscess at the chest wall, dense fibrosis and also heard at the upper border of a pleural effusion).

Additional sounds:

crackles (rales) are caused by pneumonia, fibrosis, early congestive heart failure; wheeze (rhonchi) – musical whistling sounds caused by narrowed airways due to asthma, COPD, or bronchitis; rub – creaking sound likened to the bending of new leather or the creak of a footstep in fresh snow, heard at the height of inspiration and caused by inflamed pleural surfaces rubbing against each other (pneumonia, pulmonary embolism with infarction);

**Vocal resonance (transmitted voice sounds):** auscultatory equivalent of vocal fremitus. Louder, clearer voice sounds are called bronchophony. The changes are the same as those for vocal fremitus.

### **CARDIOVASCULAR SYSTEM**

Visible pulsations on the neck \_\_\_\_\_

visible apex beat \_\_\_\_\_

other findings \_\_\_\_\_

### **Palpation.**

Pulse \_\_\_\_\_

Blood pressure on the left arm \_\_\_\_\_ mm\Hg, on the right arm \_\_\_\_\_ mm\Hg Examining the precordium \_\_\_\_\_

### **Percussion.**

Borders of relative cardiac dullness:

Right \_\_\_\_\_ upper \_\_\_\_\_ left \_\_\_\_\_ bottom \_\_\_\_\_

### **Auscultation.**

Borders of absolute cardiac dullness:

Right \_\_\_\_\_ upper \_\_\_\_\_ left \_\_\_\_\_ bottom \_\_\_\_\_

Heart sounds \_\_\_\_\_ Heart murmurs \_\_\_\_\_

Additional sounds \_\_\_\_\_

### **Comments**

Examination includes 4 parts of inspection, palpation, percussion, and auscultation.

### **Inspection.**

Inspect the neck for increased jugular venous pressure or abnormal waves. Then inspect the precordium for: visible pulsations, apical impulse (apex beat), masses, scars, lesions, signs of trauma and previous surgery (e.g. median sternotomy), permanent pacemaker, precordial bulge. Varicose veins  
Palpation.

**Pulse.**

Examination of peripheral pulse on radial artery, brachial artery, carotid artery, femoral artery, popliteal artery, posterior tibial artery, dorsalis pedis. Pulse rate should be expressed in beats per minute. A rate <60 bpm is called bradycardia whilst tachycardia is a pulse >100 bpm. Rhythm can be regular or irregular.

Examination of the precordium.

The valve areas are palpated for abnormal pulsations (known as thrills) and precordial movements (known as heaves). Heaves are best felt with the heel of the hand at the sternal border. The apex beat is typically palpable in the left fifth intercostal space and 1 cm medial to the mid-clavicular line. It is not palpable in some patients due to obesity or emphysema. To accurately determine the location of an apex beat which can be felt across a large area, feel for the most lateral and inferior position of pulsation. An apex beat in the axilla would indicate cardiomegaly or mediastinal shift.

**Percussion.**

Percussion of the heart allows to define borders of relative cardiac dullness and to get information about the heart configuration and its diameter.

**Auscultation.**

Listen to the heart with your stethoscope in 4 areas, starting at either the base or apex:

Mitral: 5th intercostal space in the mid-axillary line (the apex).

Tricuspid: 5th intercostal space at the left sternal edge.

Pulmonary: 2nd intercostal space at the left sternal edge.

Aortic: 2nd intercostal space at the right sternal edge.

Use anatomical location rather than valve area to describe where murmurs and sounds are best heard.

**Heart sounds.****1st heart sound (S1).**

Mitral valve closure is the main component of S1 and the volume depends on the force with which it closes.

Loud: forceful closing (mitral stenosis, tricuspid stenosis, tachycardia).

Soft: prolonged ventricular filling or delayed systole (left bundle branch block, aortic stenosis, aortic regurgitation).

Variable: variable ventricular filling (atrial fibrillation, complete heart block).

**2nd heart sound (S2).**

Soft: immobility of aortic valve (aortic stenosis) or if leaflets fail to close properly (aortic regurgitation).

Loud: aortic component loud in hypertension or congenital aortic stenosis (here the valve is narrowed but mobile). Pulmonary component loud in pulmonary hypertension.

**Splitting of S2**

Exaggerated normal splitting: caused by a delay in right ventricular emptying (right bundle branch block, pulmonary stenosis, ventricular septal defect, or mitral regurgitation).

Fixed splitting: no difference in the extent of splitting between inspiration and expiration. Usually due to atrial septal defect.

Reversed splitting: i.e. the pulmonary component of S2 comes before the aortic component. Caused by a delay in left ventricular emptying (left bundle branch block, aortic stenosis, aortic coarctation).

**3rd heart sound**

This is a low frequency (can just be heard with the bell) sound occurring just after S2. Described as a triple or gallop rhythm. Occurs at the end of rapid ventricular filling, early in diastole and is caused by tautening of the papillary muscles or ventricular distension.

Physiological: soft sound heard only at the apex, normal in children and fit adults up to the age of 30.

Pathological: indicates some impairment of left ventricular function or rapid ventricular filling (dilated cardiomyopathy, aortic regurgitation, mitral regurgitation, or constrictive pericarditis). May be associated with a high-pitched pericardial knock.

#### **4th heart sound**

A late diastolic sound (just before S1) caused by decreased compliance or increased stiffness of the ventricular myocardium. Coincides with abnormally forceful atrial contraction and raised end diastolic pressure in the left ventricle.

Never physiological.

Causes include hypertrophic cardiomyopathy and systemic hypertension.

#### **Heart murmurs.**

These are musical humming sounds produced by the turbulent flow of blood. For each murmur heard, you should determine:

The timing.

The site and radiation. The loudness and pitch.

The relationship to posture and respiration.

The timing of the murmur is particularly essential in establishing the sound's origin. You must decide whether the noise occurs in systole or diastole (you should feel the patient's pulse at the carotid artery to be sure) and then when, within that period, it occurs.

#### **Systolic murmurs.**

Pansystolic: this is a murmur that lasts for the whole of systole and tends to be due to backflow of blood from a ventricle to an atrium (tricuspid regurgitation, mitral regurgitation). A ventricular septal defect will also cause a pansystolic murmur.

Ejection systolic: these start quietly at the beginning of systole, quickly rise to a crescendo and decrescendo creating a whoosh sound. Caused by turbulent flow of blood out of a ventricle (pulmonary stenosis, aortic stenosis, hypertrophic cardiomyopathy). Also found if flow is particularly fast (fever, fit young adults).

Late systolic: audible gap between S1 and the start of the murmur which then continues until S2. Typically due to tricuspid or mitral regurgitation through a prolapsing valve.

#### **Diastolic murmurs.**

Early: usually due to backflow through incompetent aortic or pulmonary valves. Starts loudly at S2 and decrescendos during diastole.

Mid-diastolic: these begin later in diastole and may be brief or continue up to S1. Usually due to flow through a narrowed mitral or tricuspid valve. Lower pitched than early diastolic murmurs.

Austin-Flint murmur: this is audible vibration of the mitral valve during diastole as it is hit by flow of blood due to severe aortic regurgitation. Graham-Steele murmur: pulmonary regurgitation secondary to pulmonary artery dilatation caused by elevated pulmonary artery pressure in mitral stenosis. Diastolic murmurs usually indicate valvular heart disease. Systolic murmurs may indicate valvular disease but often occur when the heart valves are normal. Continuous murmurs heard throughout both systole and diastole. Common causes include a patent ductus arteriosus or an arteriovenous fistula.

The murmur can sometimes be heard in areas where heart sounds are not normally auscultated the murmur will tend to radiate in the direction of the blood flow that is causing the sound

#### **Additional sounds.**

Opening snap. In mitral stenosis, sudden opening of the stiffened valve can cause an audible high-pitched snap. Best heard over the left sternal edge.

Ejection click. Similar to the opening snap of mitral stenosis, this is a high-pitched click heard early in systole caused by the opening of a stiffened semilunar valve (aortic stenosis). Associated with bicuspid aortic valves. Heard at the aortic or pulmonary areas and down the left sternal edge.

Mid-systolic click. Usually caused by mitral valve prolapse, this is the sound of the valve leaflet flicking backward (prolapsing) mid-way through ventricular systole. Will be followed by the murmur of mitral regurgitation. Best heard at the mitral area.

Tumor plop. A very rare finding due to atrial myxoma. If there is a pedunculated tumour in the atrium, it may move and block the atrial outflow during atrial systole causing an audible sound.

Pericardial rub. This is a scratching sound, comparable with creaking leather, heard with each heartbeat caused by inflamed pericardial membranes rubbing against each other in pericarditis. Louder as the patient is sitting up, leaning forward, and heard best in expiration.

Metallic valves. Patients who have had metallic valve replacement surgery will have an obviously audible mechanical click corresponding to the closing of that valve. These can often be heard without the aid of a stethoscope. Some valves have both opening and closing clicks.

Examination of the lungs (dyspnea, crackles), abdomen (hepatomegaly, ascites, and abdominal aortic aneurysm), peripheral edema and varicose veins also should form part of a thorough cardiovascular examination.

## **DIGESTIVE SYSTEM**

Inspection: \_\_\_\_\_  
Mouth \_\_\_\_\_  
Abdomen \_\_\_\_\_ Auscultation \_\_\_\_\_ Bowel sounds \_\_\_\_\_  
Bruits \_\_\_\_\_ Friction rubs \_\_\_\_\_  
Percussion \_\_\_\_\_  
Palpation \_\_\_\_\_  
Superficial palpation. \_\_\_\_\_  
Deep palpation. \_\_\_\_\_  
Per rectum examination. \_\_\_\_\_

### **Comments**

Examination should be implemented in definite order: inspection, auscultation, palpation, and percussion.

### **Inspection.**

Pay attention on stigmata of liver disease: fetor hepaticus, asterixis (flapping tremor); on hands: clubbing, Dupuytren's contracture, palmar erythema; and estrogen related: spider nevi, testicular atrophy, gynecomastia. Mouth. Look carefully at the state of the teeth, the tongue and the inner surface of the cheeks. You should also subtly attempt to smell the patient's breath. Examples of abnormalities: Angular stomatitis.

Dentition: note false teeth or if there is evidence of tooth decay. Telangiectasia: dilatation of the small vessels on the gums and buccal mucosa. Gums: look especially for ulcers (causes include coeliac disease, inflammatory bowel disease, Behcet's disease and Reiter's syndrome) and hypertrophy (caused by pregnancy, phenytoin use, leukemia, scurvy [vitamin C deficiency] or inflammation [gingivitis]).

Breath: smell especially for fetor hepaticus (sweet-smelling breath), ketosis (sickly sweet pear-drop smelling breath), uremia (a fishy smell). Tongue: look especially for:

Glossitis: smooth, erythematous swelling of the tongue. Causes include deficiencies of iron, vitamin B12, and folate deficiencies.

Macroglossia: enlarged tongue. Causes include amyloidosis, hypothyroidism, acromegaly, Down's syndrome, and neoplasia.

Leukoplakia: a white-coloured thickening of the tongue and oral mucus membranes. A premalignant condition caused by smoking, poor dental hygiene, alcohol, sepsis and syphilis.

Geographical tongue: painless red rings and lines on the surface of the tongue looking rather like a map. Can be caused by vitamin B2 (riboflavin) deficiency or may be a normal variant.

Candidiasis: a fungal infection of the oral membranes seen as creamy white curd-like patches which can be scraped off revealing erythematous mucosa below. Causes include immunosuppression, antibiotic use, poor oral hygiene, iron deficiency and diabetes.

### **Abdomen.**

Inspect the surface, contours, and movements of the abdomen.

Scars (result of trauma or previous surgery).

Abdominal distension or focal swellings (fat, fluid, flatus, faeces, fetus). Prominent vasculature (caput medusae – dilated blood vessels radiating from the umbilicus).

Obvious pulsations (pulsatile, expanding mass in the epigastrium may be an abdominal aortic aneurysm.).

Peristaltic waves (may indicate intestinal obstruction). Striae (pink-purple striae of Cushing's syndrome).

Skin discoloration (jaundice, Cullen's sign – discoloration at the umbilicus and surrounding skin, Grey-Turner's sign: discoloration at the flanks). Stomas (colostomy, ileostomy, urostomy, nephrostomy).

Auscultation. An important part of the abdominal examination which is easily missed.

### **Bowel sounds.**

These are low-pitched gurgling sounds produced by normal gut peristalsis. Listen with the diaphragm of the stethoscope just below the umbilicus.

Normal: low-pitched gurgling, intermittent.

High-pitched: often called a tinkling. These sounds are suggestive of partial or total bowel obstruction.

Borborygmus: this is a loud low-pitched gurgling that can even be heard without a stethoscope. Typical of diarrheal states or abnormal peristalsis. Absent sounds: if no sounds are heard for 2 minutes, there may be a complete lack of peristalsis, i.e., a paralytic ileus or peritonitis.

Bruits. These are sounds produced by the turbulent flow of blood through a vessel similar in sound to heart murmurs. Listen with diaphragm of the stethoscope just above the umbilicus over the aorta (abdominal aortic aneurysm), either side of the midline just above the umbilicus (renal artery stenosis), at the epigastrium (mesenteric stenosis), over the liver (AV malformations, acute alcoholic hepatitis, hepatocellular carcinoma).

Friction rubs. Listen over the liver and the spleen in the right and left upper quadrants respectively. Causes include hepatocellular carcinoma, liver abscesses, recent percutaneous liver biopsy, liver or splenic infarction.

### **Percussion.**

In the examination of the abdomen, percussion is useful for: Determining the size and nature of enlarged organs or masses (liver, spleen, kidneys, urine bladder).

Detecting shifting dullness (ascites). Eliciting rebound tenderness (peritonitis).

Organs or masses will appear as dullness whereas a bowel full of gas will seem abnormally resonant.

### **Palpation.**

For this, you use the finger-tips and palmar aspects of the fingers.

Superficial palpation. If there is pain on superficial palpation, attempt to determine whether the pain is worse when you press down or when you release the pressure (rebound tenderness – Blumberg's sign). If the abdominal muscles seem tense, determine whether it is localized or generalized. Ensure the patient is relaxed-it may be helpful for the patient to bend their knees slightly, relaxing the abdominal muscles. An involuntary tension in the abdominal muscles apparently protecting the underlying organs is called guarding.



Deep palpation. Once all 4 quadrants are lightly palpated, re-examine using more pressure. This should enable you to feel for any masses or structural abnormalities. For intrinsic organs (liver, gallbladder, spleen, urine bladder, colon) or abnormal masses describe their exact location, size, shape, surface, consistency, mobility, movement with respiration, tenderness and whether or not it is pulsatile.

Per rectum examination. This is an important part of the examination and should not be avoided simply because it is considered unpleasant. It is particularly important in patients with symptoms of bleeding, tenesmus, change in bowel habit and pruritus ani.

## **URINARY SYSTEM**

Inspection \_\_\_\_\_

Palpation \_\_\_\_\_

Percussion \_\_\_\_\_

Characteristics of urination \_\_\_\_\_

(urinary frequency, nocturia, urinary incontinence, incomplete emptying, hesitancy, dysuria, hematuria, volume of urination)

### **Comments**

Urinary system examination includes inspection of the kidneys area, kidneys deep palpation, percussion tenderness of the lumbar region (Pasternatsky's sign), palpation and percussion of the urinary bladder.

Other characteristics include:

Urinary frequency. Quantify this how many times in a day and also ask about the volume of urine passed each time.

Nocturia. Urination during the night.

Urinary incontinence. The loss of voluntary control of bladder emptying. Incomplete emptying. This is the sensation that there is more urine left to expel at the end of micturition.

Hesitancy. Difficulty in starting to urinate.

Dysuria. Pain on micturition.

Hematuria. The passage of blood in the urine.

Volume of urination. Oliguria is low-volume urination and is defined as the excretion of <500 ml urine in 24 hours. Anuria is the absence of urine formation and you should attempt to rule out urinary tract obstruction as a matter of urgency. Polyuria is excessive excretion of large volumes of urine and must be carefully differentiated from urinary frequency (the frequent passage of small amounts of urine).

## **REPRODUCTIVE SYSTEM**

Female genitalia (examination by gynecologist as required)

Female breasts

Male genitalia (examination by urologist as required)

### **Comments**

Examination of the female breasts includes inspection and palpation of both breasts, nipples, and axillae. Examples of abnormalities: lumps (fibroadenoma, fibrocystic disease, breast cancer, abscess), abnormal nipple, areola, and local lymphadenopathy (breast cancer, abscess).

Examination of the female genitalia is usually conducted by gynecologist in definite order: general inspection, abdominal examination, pelvic examination, external genitalia inspection, external genitalia palpation, speculum examination, bimanual examination.

Examination of the male genitalia is usually conducted by urologist including inspection and palpation of the penis, scrotum and perineum. Examples of abnormalities: foreskin disorders (phimosis, paraphimosis), abnormal positioning of the urethral meatus (hypospadias), redness, swelling and pain of the glans and the foreskin (balanitis and balanoposthitis), painful, persistent erection (priapism), scrotal swelling (inguinal hernia, hydrocele, varicocele, orchitis).

## NERVOUS SYSTEM

General inspection and mental state \_\_\_\_\_  
Speech and language \_\_\_\_\_  
Cognitive function \_\_\_\_\_  
Cranial nerves \_\_\_\_\_  
Motor system \_\_\_\_\_  
Tendon reflexes \_\_\_\_\_  
Sensory organs examination \_\_\_\_\_

### Comments

General inspection and mental state includes examination of the level of alertness, appropriateness of responses, orientation to date and place.

Speech and language problems may be evident from the start of the history and require no formal testing. You should briefly test their language function by asking them to read or obey a simple written command (e.g. close your eyes) and write a short sentence.

Cognitive function. Neurological diseases may affect function such that patients' appearance or communication skills are at odds with their social standing or educational level. Therefore, formal assessment of a person's mental state is important.

Cranial nerves examination should include visual acuity, pupillary light reflex, eye movements, hearing, facial strength – smile, eye closure.

Motor system:

Strength – shoulder abduction, elbow extension, wrist extension, finger abduction, hip flexion, knee flexion, ankle dorsiflexion.

Gait – casual, tandem.

Coordination – fine finger movements, finger-to-nose

Tendon reflexes examination should always include deep tendon reflexes (biceps, patellar, Achilles), abdominal and plantar responses

Sensory examination pain and temperature, position and vibration, light touch, discrimination.

## ENDOCRINE SYSTEM

Examining the thyroid gland \_\_\_\_\_  
Eye signs in thyroid disease \_\_\_\_\_  
Other findings \_\_\_\_\_

### Comments

Usually, an endocrine examination is focused on looking for signs to confirm or refute differential diagnoses that you have developed during history taking or examining the function of one or more specific glands (e.g. thyroid). You may, however, perform a quick screening general examination of a patient's endocrine status.

Examining the thyroid gland (location, size, consistency, painfulness, presence of nodules);

Eye signs in thyroid disease (proptosis, exophthalmos, lid retraction, lid lag). Other findings may reveal abnormal height and weight, signs of tetany (Trousseau's sign, Chvostek's sign), central adiposity, purple striae, hirsutism, gynaecomastia in males, galactorrhoea, prominent glabellas (above the eyes) and enlargement of the chin (macrognathism), skin thickness (thin skin in Cushing's, thick skin in acromegaly) etc.

## PRELIMINARY DIAGNOSIS

Preliminary diagnosis is based on results of history taking and physical examination only. It represents generalized assumption about possible disease and should be brief. Examples: “Peptic ulcer” or “ARVI. Influenza”.

## **PLAN OF INVESTIGATIONS**

Since preliminary diagnosis is established, the plan of additional investigations should be worked out. It consists of analytic methods known to be useful for accurate definition of disease peculiarities and differential diagnosis.

Example of investigations plan for influenza:

1. Complete blood analysis and Urine analysis, glycosuria, acetonuria, microalbuminuria
2. Glycated hemoglobin, insulin, C-reactive protein
3. Serological test (CITO, ELISA, Hemagglutination etc)
4. Stool analysis
5. Chest X-ray
6. ECG
7. Echocardiography and abdominal ultrasound.

Stool analysis provides information about color, consistency, weight (volume), shape, odor, and the presence of mucus. The stool may be examined for hidden (occult) blood, parasites, fat, meat fibers, bile, white blood cells, and sugars called reducing substances.

The pH of the stool also may be measured. A stool culture is done to find out if bacteria may be causing an infection. Examples of abnormalities: occult bleeding, steatorrhea, ascariidosis.

Chest X-ray evaluates chest cage, heart, lungs, and blood vessels. Examples of abnormalities: rib fracture, cardiomegaly, pneumonia, pleural effusion.

ECG-recording should be examined for rhythm, regularity, electrical axis, P-wave, PQ-interval, QRS-complex, ST-interval. Examples of abnormalities: bradycardia, tachycardia, premature contraction, atrial fibrillation, atrioventricular block, left atrial and ventricular hypertrophy, myocardial ischemia.

Echocardiography may reveal diameter of heart chambers, thickness of the heart walls, and structure of cardiac valves. Examples of abnormalities: aortic regurgitation, dilated cardiomyopathy, mitral valve stenosis, left ventricular hypertrophy, thrombus in the left atrium, apical aneurism of the left ventricle, cardiac tamponade.

Abdominal ultrasound reveals size, shape and structural peculiarities of some intrinsic organs: liver, spleen, gallbladder, pancreas, kidneys, urine bladder, and also free fluid. Examples of abnormalities: hepatomegaly, gallstones, pancreatic cysts, ascites.

## **DIFFERENTIAL DIAGNOSIS**

Differential diagnosis is the determination of which one of several diseases may be producing the symptoms. In this part of case history you should list diseases selected for differential diagnosis and then describe similarities and differences between them.

There are various methods of performing a differential diagnostic procedure, but in general, it is based on the idea that one begins by considering the most common diagnosis first: peptic ulcer versus gastric cancer, for example. As a reminder, medical students are taught the adage, "When you hear hoofbeats, look for horses, not zebras," which means look for the simplest, most common explanation first. Only after the simplest diagnosis has been ruled out should the clinician consider more complex or exotic diagnoses.

## **FINAL CLINICAL DIAGNOSIS**

For substantiation of final diagnosis you should list the typical (pathognomonic or specific) symptoms and signs, changes in the laboratory and instrumental diagnostic methods data.

The diagnosis documents the expected course of disease, its severity, complications and accompanied diseases according to comprehensive classification of illnesses. For example:

Main disease: J 09.X1 Influenza type A, H3N2 (PCR+), severe stage.

Complications: Pneumonia, pulmonary insufficiency.

Concomitant diseases: Chronic bronchitis.

## **ETIOLOGY AND PATHOGENESIS**

Etiology and pathogenesis are closely related. Etiology includes risk factors and is the actual cause of disease. Pathogenesis is how those things went about causing the disease: the mechanism of disease. Information for this part of case history can be obtained from recommended textbooks and lecture notes.

## **COMPLICATIONS**

In this part of case history you should list all complications possible in present disease and then complications found in given patient.

## **COURSE OF DISEASE**

On the basis of number and severity of symptoms you may identify the course of current disease (mild, moderate, and severe). It is important to substantiate your findings.

## **ORDERS, TREATMENT AND PROPHYLAXIS**

First part of treatment description includes information about all available options for current disease (life style modification, diet, medications, and possible surgical interventions). Appropriate information can be obtained from recommended textbooks and lecture notes.

Second part of treatment description includes drug prescriptions for given patients. Usually it is one; two or more drugs (use brand names only and avoid multiple prescriptions for safety reasons) which can be administered for patients with current disease. For example:

Life style:

cessation of smoking and alcohol consumption, daily walking during 30 min

Diet:

restriction of refined carbohydrates avoidance of overeating

Medications:

metformin 500 mg twice daily enalapril 10 mg once daily

pentoxifyllin 600 mg + 400 ml 0.9 % solution of sodium chloride i.v. once daily

Insulin glargine 20 IU once daily subcutaneously

## **PROGNOSIS**

For life \_\_\_\_\_

For health \_\_\_\_\_

For work \_\_\_\_\_

## **Comments**

Any disease may affect duration of life or quality of life or both. The prognosis can be assessed according to ability of patient to work, to feel well-being, and to live longer. There are two kinds of prognosis: favorable and unfavorable.

## **JOURNAL OF FOLLOW-UP**

Date \_\_\_\_\_

Clinical status and examination details \_\_\_\_\_

Treatment \_\_\_\_\_

Journal of follow-up consists of date of observation, brief description of clinical status of the patient and current treatment.

## **EPICRISIS**

Epicrisis is an analytical summing up of a medical case history. In this part you should briefly describe all significant data which may characterize current clinical case (identification data, final clinical diagnosis, chief complaints, anamnesis, some physical findings, selected results of laboratory tests, treatment, prognosis and recommendations for follow up.

## **Check out The Example of a Complete History and Physical Write-up**

**Informant:** patient, who is reliable, and old CPMC chart.

**Chief Complaint:** This is the 3rd CPMC admission for this 83 year old woman with a long history of hypertension who presented with the chief complaint of substernal “toothache like” chest pain of 12 hours duration.

**History of Present Illness:** Ms J. K. is an 83 year old retired nurse with a long history of hypertension that was previously well controlled on diuretic therapy. She was first admitted to CPMC in 1995 when she presented with a complaint of intermittent midsternal chest pain. Her electrocardiogram at that time showed first degree atrioventricular block, and a chest X-ray showed mild pulmonary congestion, with cardiomegaly. Myocardial infarction was ruled out by the lack of electrocardiographic and cardiac enzyme abnormalities. Patient was discharged after a brief stay on a regimen of enalapril, and lasix, and digoxin, for presumed congestive heart failure. Since then she has been followed closely by her cardiologist. Aside from hypertension and her postmenopausal state, the patient denies other coronary artery disease risk factors, such as diabetes, cigarette smoking, hypercholesterolemia or family history for heart disease. Since her previous admission, she describes a stable two pillow orthopnea, dyspnea on exertion after walking two blocks, and a mild chronic ankle edema which is worse on prolonged standing. She denies syncope, paroxysmal nocturnal dyspnea, or recent chest pains.

She was well until 11pm on the night prior to admission when she noted the onset of “aching pain under her breast bone” while sitting, watching television. The pain was described as “heavy” and “toothache” like. It was not noted to radiate, nor increase with exertion. She denied nausea, vomiting, diaphoresis, palpitations, dizziness, or loss of consciousness. She took 2 tablespoon of antacid without relief, but did manage to fall sleep. In the morning she awoke free of pain, however upon walking to the bathroom, the pain returned with increased severity. At this time she called her daughter, who gave her an aspirin and brought her immediately to the emergency room. Her electrocardiogram on presentation showed sinus tachycardia at 110, with marked ST elevation in leads I, AVL, V4-V6 and occasional ventricular paroxysmal contractions. Patient immediately received thrombolytic therapy and cardiac medications, and was transferred to the intensive care unit.

### **Current Regimen**

Digoxin 0.125mg once daily

Enalapril 20mg twice daily

Lasix 40mg once every other day

Kcl 20mg once daily

Tylenol 2 tabs twice daily as needed for arthritis

### **Past Health**

General: Relatively good

Infectious Diseases: Usual childhood illnesses. No history of rheumatic fever.

Immunizations: Flu vaccine yearly. Pneumovax 1996

Allergic to Penicillin-developed a diffuse rash after an injection 20 years ago.

Transfusions: 4 units received in 1980 for GI hemorrhage, transfusion complicated by Hepatitis B infection.

Hospitalizations, Operations, Injuries:

- 1) Normal childbirth 48 years ago
- 2) 1980 Gastrointestinal hemorrhage, see below
- 3) 9/1995 chest pain- see history of present illness
- 4) Last mammogram 1994, Flexible Sigmoidoscopy 1997

### **Systems Review**

1. Constitutional: energy level generally good, weight is stable at 160 lbs, height 5'8"

2. HEENT:

No headaches

Eyes: wears reading glasses but thinks vision getting is worse, no diplopia or eye pain

Ears: hearing loss for many years, wears hearing aid now

Nose: no epistaxis or obstruction

No history of tonsillitis or tonsillectomy

Wears full set of dentures for more than 20 years, works well.

3. Respiratory: No history of pleurisy, cough, wheezing, asthma, hemoptysis, pulmonary emboli, pneumonia, TB or TB exposure

4. Cardiac: See HPI

5. Vascular: No history of claudication, gangrene, deep vein thrombosis, aneurysm.

Has chronic venous stasis skin changes for many years

6. G.I.: Admitted to CPMC in 1980 after two days of melena and hematemesis.

Upper G.I. series was negative but endoscopy showed evidence of gastritis, presumed to be caused by ibuprofen intake. Her hematocrit was 24% on admission and she received four units of packed cells. Colonoscopy revealed multiple diverticuli. Since then her stool has been brown and consistently hematest negative when checked in clinic. Several months after this admission she was noted to be mildly jaundiced and had elevated liver enzymes, at this time it was realized that she contracted hepatitis B from the transfusions. Since then she has not had any evidence of chronic hepatitis.

7. GU: History of several episodes of cystitis, most recently E Coli 3/1/90, treated with Bactrim. Reports dysuria in the 3 days prior to hospitalization. No fever, no hematuria. No history of sexually transmitted disease. Menarche was at 15, menstrual cycles were regular interval and duration, menopause occurred at 54. Seven pregnancies with 5 normal births and 2 miscarriages.

8. Neuromuscular: Osteoarthritis of the both knees, shoulder, and hips for more than 20 years. Took ibuprofen until 1980, has taken acetaminophen since her GI bleed, with good relief of intermittent arthritis pain.

There is no history of seizures, stroke, syncope, memory changes.

9. Emotional: Denies history of depression, anxiety.

10. Hematological: no known blood or clotting disorders.

11. Rheumatic: no history of gout, rheumatic arthritis, or lupus.

12. Endocrine: no known diabetes or thyroid disease.

13. Dermatological: no new rashes or pruritis.

### **Personal History**

1. Mrs. Johnson is widowed and lives with one of her daughters.

2. Occupation: she worked as a nurse to age 67, is now retired.
3. Habits: No cigarettes or alcohol. Does not follow any special diet.
4. Born in South Carolina, came to New York in 1931. she has never been outside of the United States.
5. Present environment: lives in a one bedroom apartment on the third floor of a building with and elevator. She has a home helper who comes 3 hours a day.
6. Financial: Receives social security and Medicare, and is supported by her children.
7. Psychosocial: The patient is generally an alert and active woman despite her arthritic symptoms. She understands that she is having a “heart attack” at the present time and she appears to be extremely anxious.

### **Family History**

The patient was brought up by an aunt; her mother died at the age of 36 from kidney failure; her father died

at the age of 41 in a car accident. Her husband died 9 years ago of seizures and pneumonia. She had one sister who died in childbirth.

She has 4 daughters (ages 60, 65, 56, 48) who are all healthy, and had a son who died at the age of 2 from

pneumonia. She has 12 grandchildren, 6 great grandchildren and 4 great, great grandchildren.

There is no known family history of hypertension, diabetes, or cancer.

### **Physical Exam**

1. Vital Signs: temperature 100.2 Pulse 96 regular with occasional extra beat, respiration 24, blood pressure 180/100 lying down

2. Generally a well developed, slightly obese, elderly black woman sitting up in bed, breathing with slight

difficulty. She complains of resolving chest pain.

3. HEENT:

Eyes: extraocular motions full, gross visual fields full to confrontation, conjunctiva clear. sclerae non-icteric, pupils equal round and reactive to light and accommodation, fundi not well visualized due to possible presence of cataracts.

Ears: Hearing very poor bilaterally. Tympanic membrane landmarks well visualized.

Nose: No discharge, no obstruction, septum not deviated.

Mouth: Complete set of upper and lower dentures. Pharynx not injected, no exudates. Uvula moves up in midline. Normal gag reflex.

4. Neck: jugular venous pressure 8cm, thyroid not palpable. No masses.

5. Nodes: No adenopathy

6. Chest: Breasts: atrophic and symmetric, nontender, no masses or discharges. Lungs: bibasilar rales. No dullness to percussion. Diaphragm moves well with respiration. No rhonchi, wheezes or rubs.

7. Heart: PMI at the 6th ICS, 1 cm lateral to MCL. No heaves or thrills. Regular rhythm with occasional extra beat. Normal S1, S2 narrowly split; positive S4 gallop. A grade II/VI systolic ejection murmur is heard at the left upper sternal border without radiation. Pulses are notable for sharp carotid upstrokes.

Pulses: Carotid brachial radial femoral DP PT

R 2+ 2+ 2+ 2+ 1+ 0

L 2+ 2+ 2+ 2+ 1+ 0

8. Spine: mild kyphosis, mobile, nontender, no costovertebral tenderness

9. Abdomen: soft, flat, bowel sounds present, no bruits. Nontender to palpation. Liver edge, spleen, kidney not felt. No masses. Liver span 10cm by percussion.

10. Extremities: skin warm and smooth except for chronic venous stasis changes in both legs. 1+ edema to the knees, non-pitting and very tender to palpation. No clubbing nor cyanosis.

11. Neurological: Awake, alert and fully oriented. Cranial nerves III-XII intact except for decreased hearing. Motor: Strength not tested, patient moves all extremities. Sensory: Grossly normal to touch and pin prick. Cerebellar: no tremor nor dysmetria. Reflexes symmetrical 1+ through out, no Babinski sign.

12. Pelvic: deferred until patient more stable.

13. Rectal: Prominent external hemorrhoids. No masses felt. Stool brown, negative for blood

### **Labs**

WBC 12,400 Hgb 12.0 Hct 38.0 MCV 80.0 Plts 218,000 Retic 1.3 Diff Na 143  
K4.1 C1 103 CO229 Glu 102 BUN 9 Creat 0.8; T bili 0.5 Dbili 0.1  
Alk Phos 155 AST 55 ALT 26 LDH 274 CPK 480, MB fraction positive,  
Troponin 25  
U/A Sp Gr 1.008 pH 6.5 2+ Alb many WBC many RBC 3+ bact  
ABG pH 7.46 pCO234 PO284 O2Sat 98% (room air)  
EKG NSR 96, ST elevations I, AVL, V4-V6; rare unifocal VPC's  
CXR portable AP, probable cardiomegaly, mild PVC  
(\*Note: In the Physical Diagnosis Course the labs will not generally be a part of the write-ups, as the chart is not usually available to the students)

### **Formulation**

This 83 year old woman with a history of congestive heart failure, and coronary artery disease risk factors of hypertension and post-menopausal state presents with substernal chest pain. On exam she was found to be in sinus tachycardia, with no JVD, but there are bibasilar rales and pedal edema, suggestive of some degree of congestive heart failure. There were EKG changes indicate an acute anterolateral myocardial infarction, and the labs shows elevation of CPK and troponin.

### **Impression**

1. Acute anterolateral myocardial infarction, complicated by mild left ventricular dysfunction. Patient has received thrombolysis therapy.
2. Hypertension
3. Dysuria - 3+ bacteria in urine with pyuria

### **Plan**

1. Continue aspirin, heparin, nitrates, beta blockers, nasal oxygen. Follow serial physical exams, EKGs, and labs.
2. Obtain echocardiogram to assess post MI heart function and murmurs heard on cardiac exam. If LV ejection fraction is preserved, to start early beta-blocker therapy.
3. Continue ACE inhibitor therapy, and monitor blood pressure.
4. Dysuria and pyuria- probable recurrent cystitis, as she is afebrile and without costovertebral tenderness. Start Bactrim treatment for presumed uncomplicated urinary tract infection and follow up on urine culture result.



Dear student, print the patient's medical card and fill it in by yourself!  
Don't forget to mention following items!

**1. The preliminary diagnosis and its rationale.**

Considering the complaints (start, course dynamics symptoms last exacerbation), history of life, epidemiological history (data or indications of possible contact the local epidemiological situation), rejecting an objective examination of the patient can be identified following leading symptoms and put a preliminary diagnosis.

**2. Plan of inspection of patient.**

Specifies the full amount of needed for this patient examinations without depending on the diagnostic capabilities of the hospital (in theory).

**3. Laboratory and instrumental methods.**

Analysis of clinical, biochemical, bacteriological, radiological, serological data, ultrasound and other tests. Indicate some of the most typical analyzes in the dynamics.

**4. Differential diagnosis.**

Considering the symptoms of the underlying disease, their dynamics and the results of additional tests. It is necessary to exclude clinically similar diseases with mandatory comparison with the clinic of the patient. In diseases with severe clinical differential diagnosis cycles carried out according to the sequence of periods of the disease.

**5. Clinical diagnosis.**

Justification diagnosis begins with anamnesis, objective examination, the indicators and laboratory methods of examination of a sick child (adult). In the presence of comorbidities should give a brief rationale for each.

**6. Treatment of the patient** (with extract recipes and other recommendations: diet, limitations in physical activity).

Ministry of Health of Ukraine  _____ <u>Regional Clinical Infectious Disease Hospital</u>  <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> </div> </div>					<b>MEDICAL DOCUMENTATION</b>  Form of primary accounting documentation <b>№ 003/o</b>  <div style="display: flex; justify-content: space-between;"> <div style="width: 40%;"> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> </div> <div style="text-align: right;">№ <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div></div> </div>				
<b>Patient's history № _____</b>									
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<i>date</i>		(dd/mm/yyyy)			(hh/min)			Transferred to	
								Department	Date
									Time
<b>Discharged from the hospital (death)</b>		<div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div>	<div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div>	hospitalized with same diagnosis this year	
								O	1th time
								O	2d time
Spent bed-days _____									
Blood group _____		Rh _____		RW _____		<div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div>		HIV-infection <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div>	
Drug allergies _____									
_____ (name of drug, side effect)									
1. Name _____									
		2. Sex: 1-male, 2-female		<div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div>		3. Age _____		<div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div>	
(DD/MM/YYYY)									
4. Permanent residency: city - 1, village - 2 <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> _____ <div style="text-align: right;">(Address)</div>									
5. Place of work, specialty and position _____ <div style="text-align: right;">for pupils, students - place of study, for children - the name of kindergarten</div>									
6. Who sent the patient _____ <div style="text-align: right;">(name of health care institution)</div>									
7. Hospitalized (a) in _____ hours after onset for urgent indications - 1, injury; in the planned order - 2 <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div>									
8. Diagnosis of the health care institution that sent the patient: _____									
9. Diagnosis during hospitalization: _____									
10. Clinical diagnosis: _____									
date _____		Dr. _____ <div style="text-align: right;">(name, signature)</div>							
11. Final diagnosis a) main _____									
_____									
6) complications									
b) comorbid pathology _____								Code <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div> <div style="border: 1px solid black; width: 20px; height: 20px; margin: 2px;"></div>	

## I. Patient's complains

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## II. Anamnesis Morbi

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## III. Epidemiological anamnesis

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## IV. Medical anamnesis

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## V. Allergic anamnesis

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## VI. Professional anamnesis

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## VII. Anamnesis Vitae

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## IX. Patient's condition

General condition of the patient \_\_\_\_\_, t \_\_\_\_\_ C, \_\_\_\_\_

Behavior of the patient \_\_\_\_\_ position in bed \_\_\_\_\_

Consciousness \_\_\_\_\_

psychomotor state \_\_\_\_\_

speech, contact \_\_\_\_\_,

Body structure \_\_\_\_\_, nutrition \_\_\_\_\_.

Skin \_\_\_\_\_, color \_\_\_\_\_,

humidity \_\_\_\_\_, turgor \_\_\_\_\_.

Sclera \_\_\_\_\_

Tongue \_\_\_\_\_

Mucous membrane of the oral cavity \_\_\_\_\_

pharynx \_\_\_\_\_

tonsils \_\_\_\_\_

Ability to swallow \_\_\_\_\_

Subcutaneous fat \_\_\_\_\_

Lymph nodes \_\_\_\_\_

Thyroid \_\_\_\_\_

Muscles \_\_\_\_\_

Cardiovascular system: \_\_\_\_\_ mmHg, Ps \_\_\_\_\_ /min.,

auscultatory-heart tones \_\_\_\_\_

Nasal breathing \_\_\_\_\_

BR \_\_\_\_\_ /min., dyspnea \_\_\_\_\_

Cough \_\_\_\_\_

Voice trembling \_\_\_\_\_

Percussion over the lungs \_\_\_\_\_

The limits of the lungs \_\_\_\_\_

auscultation over the lungs \_\_\_\_\_

wheezing, crepitation \_\_\_\_\_

abdomen \_\_\_\_\_

skin of the abdomen \_\_\_\_\_

palpation of abdomen \_\_\_\_\_

Liver \_\_\_\_\_

spleen\_\_\_\_\_  
kidneys\_\_\_\_\_  
urination\_\_\_\_\_, edema\_\_\_\_\_  
stool\_\_\_\_\_  
Neurological status: meningeal signs\_\_\_\_\_  
Tendon reflexes\_\_\_\_\_

## X. PRELIMINARY DIAGNOSIS

## XI. EXAMINATION PLAN:

## XII. TREATMENT PLAN

Regime\_\_\_\_\_

diet\_\_\_\_\_

For the purpose of\_\_\_\_\_

\_\_\_\_\_

Rp.:\_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

Rp.:\_\_\_\_\_

\_\_\_\_\_

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\_\_\_\_\_

## XIII. RESULTS OF LABORATORY TESTS

### CBC

date		
Er		
Hb		
RES		
Leycocytes		
<u>basophils</u>		
eosinophils		
lymphocytes		
monocytes		
platelets		

### Urine Analysis

date		
Specific gravity		
color		
aspect		
pH		
Er		
L		
Ketones		
Salts		
protein		
glucose		

[illegible]

## This image shows a single page of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



## XVI. CLINICAL DIAGNOSIS

Due to patient's complains\_\_\_\_\_

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anamnesis\_\_\_\_\_

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examination data\_\_\_\_\_

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lab. tests\_\_\_\_\_

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Final diagnosis

A) main\_\_\_\_\_

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B) complications\_\_\_\_\_

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B) comorbid pathology\_\_\_\_\_

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Feel free to practice with different cases:

## CASE 1

### Patient Background:

RP is a 68 year-old male who was admitted to the hospital from his long-term care facility after 1 week of dyspnea and cough. He was seen by a staff physician at the long-term care facility and was diagnosed with a COPD exacerbation. He was prescribed azithromycin, but has not improved after 3 days of antibiotics. He has a history of dyslipidemia, COPD, alcoholic cirrhosis, and HTN. He routinely takes lisinopril, atorvastatin, tiotropium and fluticasone/salmeterol, and has recently had a heavier reliance on his rescue albuterol inhaler. Review of systems reveals fever, chills, cough (sometimes productive) and dyspnea (worse than baseline).

### Vitals

Tmax 101.2oF

Heart Rate 89 bpm

Respiratory Rate 18 bpm

Blood Pressure 140/86

Oxygen Saturation 84% on room air, 98% on 4L nasal cannula

### Physical Exam

General - Elderly male, looks older than stated age

HEENT Mildly icteric, pupils equally round and reactive to light and accommodation

Neck Supple

Resp - Coarse breath sounds, rhonchi and wheezes heard throughout

Card Regular rate and rhythm, no murmurs, rubs, or gallops

Abd Slightly distended

Ext No edema

Skin Excoriated, otherwise normal

Neuro Slightly altered, but baseline

### Labs:

Na: 141

Creatinine: 1.6

K: 4.2

WBC: 19.6

Cl: 98

Hgb: 10.8

Bicarb: 23

Hct: 36.2

BUN: 24

Platelets: 115

**Radiology:** Chest X-ray showed focal consolidation in the right lower lobe, suggestive of pneumonia.

**Blood Culture:** No growth at 48 hrs

**Sputum Culture:** Gram Stain: 4+ squamous epithelial cells, 4+ segmented neutrophils, no organisms  
Culture: No growth at 48 hours

**Pneumococcal Urinary Antigen:** Positive

**Legionella Urinary Antigen:** Negative

## CASE 2

### Patient Background:

JP is a 29 year-old female presenting to the Emergency Department with dyspnea, myalgia, and rhinorrhea. Her symptoms began approximately 1 day ago and are continuous, steadily getting worse. She is having significant nasal discharge but minimal cough. Her 4 year-old son has experienced rhinorrhea as well over the past 3 days, but is not as ill as she is. She has no significant past medical history, and takes no routine medications. She reports receiving the flu vaccine when her child first fell ill, 3 days ago. She was a smoker but quit when she became pregnant 4 years ago. Ten point review of systems was negative except for fever, lethargy, nasal discharge, shortness of breath, and muscle soreness.

### Vitals

Tmax 101.0oF, 38.3oC  
Heart Rate 105 bpm  
Respiratory Rate 22 bpm  
Blood Pressure 120/76  
Oxygen Saturation 89% on room air, 100% on 2L nasal cannula

### Labs

Na: 138  
Creatinine: 1.0  
K: 3.6  
WBC: 14.2  
Cl: 105  
Hgb: 12.2  
Bicarb: 26  
Hct: 38.4  
BUN: 24  
Platelets: 356

### Physical Exam

General Well nourished, uncomfortable young woman  
HEENT Pupils equally round and reactive to light and accommodation, copious nasal discharge  
Neck Supple  
Resp - Wheezes, no crackles; diminished breath sounds at bases  
Card Regular rate and rhythm, no murmurs, rubs, or gallops  
Abd Soft, non-tender, normal bowel sounds  
Ext No edema, but tender upon palpation  
Skin Warm and diaphoretic  
Neuro Normal

**Radiology** Chest X-ray showed patchy diffuse bilateral infiltrates suggestive of pneumonia.

**Blood Culture** Negative <24 hrs

**Sputum Culture** Gram Stain: 1+ squamous epithelial cells, 3+ segmented neutrophils, no organisms  
Culture: No growth <24 hours

**Rapid Flu Swab** Positive: influenza A

**Viral Culture** Cancelled

## CASE 3

### Patient Background:

LL is a 12 year old female presenting to her pediatrician, complaining of sore throat and cough. She has had some hoarseness in her voice over the past few days and subjective sweats but no documented fever. She has a history of seasonal allergies in the fall, and takes loratidine only during that season. Upon review of systems, she complains of isolated throat pain, without any rhinorrhea, sinus pressure, or headache. Her mother has been taking her temperature at home, and they have fluctuated from 97.8oF- 99.2oF.

### Vitals

Tcurr 99.0oF, 37.2oC  
Heart Rate 115 bpm  
Respiratory Rate 18 bpm  
Oxygen Saturation 100% on room air

### Labs

Na: 1344  
Creatinine: 0.6  
K: 4.6  
WBC: 8.6  
Cl: 101  
Hgb: 13.6  
Bicarb: 25  
Hct: 40.8  
BUN: 18  
Platelets: 333

### Physical Exam

General Relatively comfortable healthy child  
HEENT Pupils equally round and reactive to light and accommodation, no sinus tenderness, enlarged tonsils  
Neck Supple, mild lymphadenopathy  
Resp Normal breath sounds  
Card Regular rate and rhythm, no murmurs, rubs, or gallops  
Abd Non-tender, non-distended  
Ext No edema  
Skin No rashes  
Neuro Normal for age

### Micro

Rapid Strep Antigen Negative  
Throat Culture Pending

## CASE 4

### PATIENT'S PROFILE

Name: Robert B.  
Age: 4 years old  
Gender: Male  
Chief Complain: malaise, blood in the stool  
Admission Date: January 12, 2024

## **Present Medical History**

In the present medical history of child named Robert, her mother mentioned that her son had been show some sign of anxiety so as a mother she asked her child if her child had problem. Then Robert told that on his stool there is a blood. Her son also told that he experiencing pain on mild straining during eliminating. The pain that he experienced had been started on her rectum then goes upper on her sacrum part. The length of the pain is based on the time of eliminating, and these verity of it is tolerable according to Robert and had a score of 4 out of 10. There is no other complaint that Robert had been mentioning or experiencing.

## **Past Medical History**

In his past medical history, Robert's mother said that her son had not been admitted in any kind of hospital since the time she gave birth to Robert. Sometime her son experiencing common cold, fever, cough and some mild disease.

## **Family Medical History**

In regards on Robert's family her mother mentioned that their family had no serious disease or syndrome that can be inherited through maternal life and her mother also mentioned that on the side of her husband there is a series of high blood pressure condition. But all in all, according to her mother statement We've been concluded that there is no serious hereditary disease that Robert may acquire through her mother.

## **Lifestyle**

Robert is only 4-year-old he loves to run, play with other child and some extraneous activity. He loves also to eat pork chop, her mother said that she having difficulty in preparing food for Robert because in terms of vegetable her son doesn't like it. In terms of care and sleep time of Robert it had been good for her and healthy.

## **Psychosocial Environment**

Family lives in a concrete house and located at factory side so Robert complaining that their placed is having a bad smell. Robert's parent also planning to transfer on another house that there is limited polluted air in order to achieve more god condition for their child Robert. They get their drinking water on their faucet that connected on one of the water suppliers.

## **Physical Examination**

### **General Appearance:**

- Conscious and coherent
- weak in appearance
- ambulatory
- w/ poor appetite

### **Head:**

- no bulging
- skull symmetrical to face
- no lesions

### **Neck:**

- no jugular vein distention
- without inflamed lymph nodes

### **Chest:**

- symmetrical

### **Abdomen:**

- slightly distended
- no lesions
- bowel sound of 2/30 per minute

### **Upper Extremities**

- no lesions
- symmetrical
- capillary refill of 1-2secs
- with slightly weak flexion

### **Back:**

- no lesions
- normal spinal curvature

### **Lower Extremities**

- no lesions

- no lesions
- with good rise and fall of chest during inspiration and exhalation

#### Integumentary

- normal skin color
- no lesions

#### Cardiovascular

- pulse rate 109bpm

#### Respiratory System

- not in respiratory distress 18bpm
- no distress noted
- with no septal deviation
- with no secretion on nose

- symmetrical
- with minimal rash
- with slightly weak flexion

#### Gastrointestinal System

- with abnormal bowel sounds

#### Urinary System

- with normal urine patterns

#### Nervous System

- afebrile 37.3 °C

#### Musculoskeletal System

- w/ weak muscle tone in the extremities

## CASE 5

### Emergency Department Services

**HPI:** A previously healthy 19-year-old male college student presents to the ER complaining of fever, muscle aches, headache, nausea and rash, which have all progressed rapidly over the last several hours. No known exposure to sick people, no illicit drug use or recent travel.

**Past Medical History:** As above.

**Vaccine history** is unknown.

**Review of Systems:** As above.

**Physical Exam:** Temp.= 102, BP = 88/52, P = 118, and RR = 23. Cardiovascular and respiratory exams within normal limits.

**Neurological exam** is significant for confusion and both Brudzinski and Kernig signs are positive. A petechial rash is present on the trunk and legs.

**ED Course:** Lumbar puncture - opening pressure is 300 mm H2O. CSF leukocyte count is 3000/ $\mu$ L (3000 X 10<sup>6</sup>/L) which are mostly PMNs. Protein is 100 mg/dL (1000 mg/L) and glucose is low. No organisms are seen.

## CASE 6

### Emergency Department Services

**HPI:** A 62-year-old male landscaper presents to the ER complaining of forgetfulness, tremor, low-grade fever and bilateral leg weakness, which has been progressive over several days. He has received multiple mosquito bites and he has noted dead crows in several yards he has been prepping for fall cleanup.

**Past Medical History:** Hypertension, controlled on meds.

**Review of Systems:** As above.

**Physical Exam:** Temp. = 101, BP = 120/82, P = 88, and RR = 18. Cardiovascular and pulmonary exams are normal. Neuro exam is significant for flaccid paralysis in both legs, bilateral hand tremors and cogwheel rigidity.

**MRI** hypodense T1 lesions in the thalamus, basal ganglia, and mid-brain. These lesions are hyperintense with FLAIR. CSF is clear with lymphocytic meningitis findings. IGM antibodies are pending.

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