

МІНІСТЕРСТВО ОХОРОНИ ЗДОРОВ'Я УКРАЇНИ
Харківський національний медичний університет

PRACTICUM
IN PROPEDEUTICS OF INTERNAL MEDICINE
Part 1

Main methods of the patient's examination
in internal medicine

ПРАКТИКУМ
З ПРОПЕДЕВТИКИ ВНУТРІШНЬОЇ МЕДИЦИНИ
Частина 1

Основні методи дослідження у внутрішній медицині

Student _____

Group _____

Teacher _____

Харків
ХНМУ
2020

Затверджено Вченою радою ХНМУ.
Протокол № 8 від 30.09.2020.

Practicum in Propedeutics of Internal Medicine. Part 1. Main methods of the patient's examination in internal medicine / comp. T. V. Ashcheulova, G. V. Demydenko, K. M. Kompaniiets et all. – Kharkiv : KhNMU, 2020. – 64 с.

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Практикум з пропедевтики внутрішньої медицини. Частина 1. Основні методи дослідження у внутрішній медицині / упоряд. Т. В. Ащеулова, Г. В. Деміденко, К. М. Компанієць та ін. – Харків : ХНМУ, 2020. – 64 С.

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THEMATIC PRACTICAL CLASSES PLAN
of Propedeutics of Internal Medicine

Part 1:

"Main methods of the patients examination in internal diseases clinics"

Introduction to internal medicine. Main rules of inquiry and inspection of the patients

1. Case history scheme. Inquiry of the patient: patient's complaints, their detailed description, questioning on organs and systems.
2. Anamnesis morbi. Anamnesis vitae.
3. General inspection of the patients. Diagnostic significance of symptoms revealed during patient inspection.
4. Inspection of separate body parts: head, neck, trunk, extremities.

Physical and instrumental examination methods of the respiratory system

5. Main complaints and general inspection of the patients with respiratory organs pathology. Inspection and palpation of the chest.
6. Percussion as method of physical examination of the lungs. Comparative percussion of the lungs technique. Topographic percussion of the lungs.
7. Auscultation as method of physical examination of the lungs. Auscultation of the lungs technique. The main respiratory sounds.
8. Auscultation of the lungs: additional respiratory sounds (rales, crepitation, pleural friction sound). Laboratory sputum and pleural fluid analysis. Instrumental methods of respiratory organs examination.

Physical methods of cardiovascular system examination

9. Physical methods of cardiovascular system examination. Inquiry and general inspection of the patients with cardiovascular pathology. Inspection and palpation of precordial area.
10. Percussion of the heart.
11. Auscultation of the heart. Normal heart sounds, reduplication of the sounds, additional sounds (triple rhythm, gallop rhythm). Auscultation of the heart: organic and functional heart murmurs.
12. Study of arterial pulse and blood pressure.

Instrumental methods of cardiovascular system examination

13. Electrocardiographic method of cardiac function examination. Technique of ECG registration and reading.
14. ECG signs of hypertrophy of heart atria and ventricles.
15. The main ECG syndromes of the myocardium damage (ischemia, injury, necrosis). ECG in myocardial infarction.
16. Electrocardiographic examination of patients with automaticity and excitability function alterations.
17. Electrocardiographic examination of patients with conductivity function alterations.

Main examination methods of digestive organs and kidneys

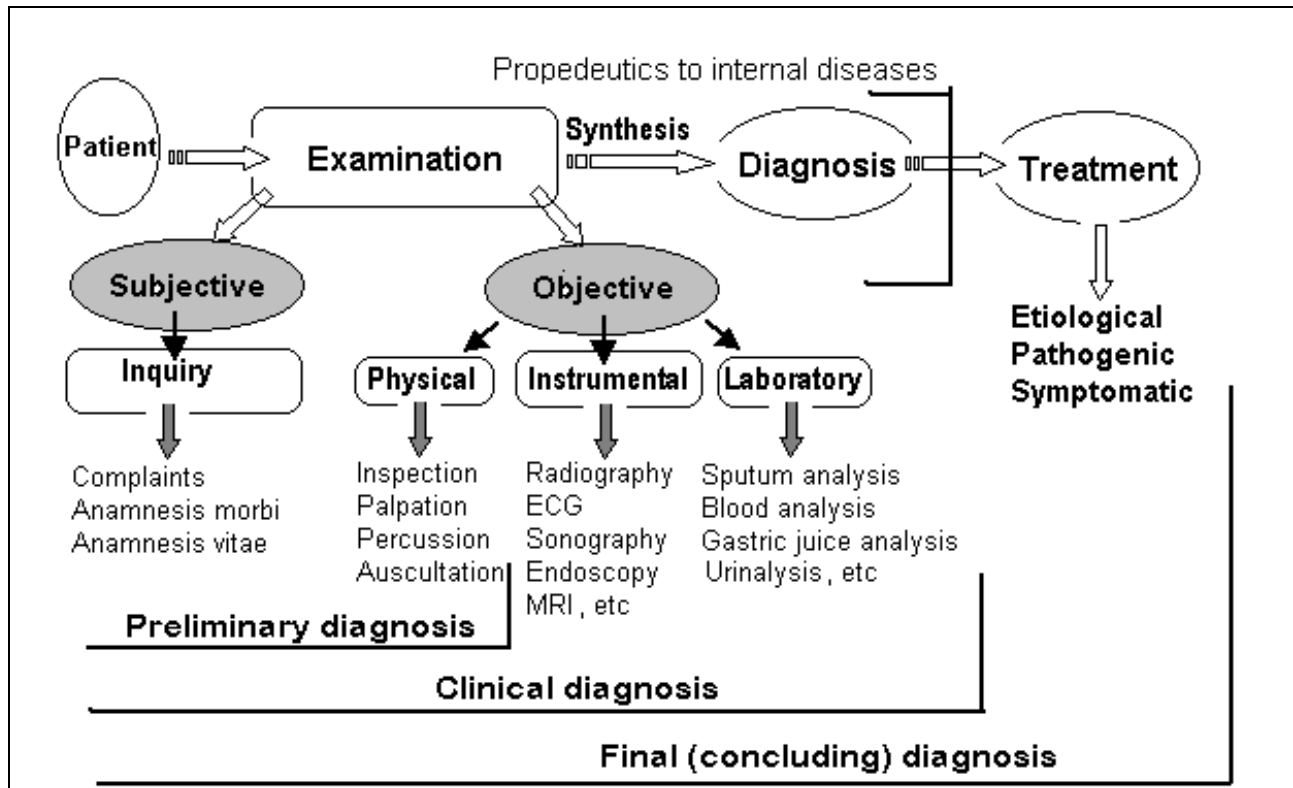
18. Inquiry and inspection of the patients with digestive organs diseases. Inspection and superficial palpation of the abdomen.
19. Deep, sliding, methodic palpation of intestines and stomach. Deep, sliding, methodic palpation of liver, spleen. Liver percussion.
20. Inquiry and inspection of the patients with renal diseases. Instrumental and laboratory methods of examination of urinary system.
21. Clinical urinalysis

Part 1:

"Main methods of the patients examination in internal diseases clinics"

Introduction to internal medicine. Main rules of inquiry and inspection

Topic 1. CASE HISTORY SCHEME. INQUIRING OF THE PATIENT



Propedeutics (Gk *propos* – introduction) of internal diseases is _____

Diagnostics (Gk *dia* – through, *gnosis* – knowledge) is _____

Diagnosis is _____

Preliminary diagnosis is based on _____

Clinical diagnosis is based on _____

Final diagnosis is based on _____

Diagnosis has the following structure:

1. _____
2. _____
3. _____

Symptom _____

Subjective and objective symptoms are differentiated.

Subjective symptoms are those that _____

Objective symptoms are those that _____

The symptoms are divided into *pathological symptoms* (pain, elevated temperature) and *compensatory symptoms* (tachycardia, tachypnoea, hypertrophy).

According significance symptoms can be _____

According to time symptoms are _____

According to prognosis symptoms are _____

Syndrome is defined as _____

Symptomocomplex is defined as _____

CASE HISTORY

A. SUBJECTIVE EXAMINATION

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____
- 6) _____

B. OBJECTIVE EXAMINATION

- 1) _____
- 2) _____
- 3) _____
- 4) _____
- 5) _____

C. BACKGROUND FOR THE PRELIMINARY DIAGNOSIS

D. PATIENT'S ADDITIONAL EXAMINATION PLAN AND ANALYSIS RESULTS

E. BACKGROUND AND STATEMENT OF CLINICAL DIAGNOSIS

Passport part	<ol style="list-style-type: none"> 1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____
Patient's present complains	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>
Questions about general condition	<p>_____</p> <p>_____</p> <p>_____</p>
Questions on organs and systems	<ol style="list-style-type: none"> 1. CENTRAL NERVOUS SYSTEM _____ 2. RESPIRATORY SYSTEM _____ _____

Questions on organs and systems	3. CENTRAL NERVOUS SYSTEM

	4. RESPIRATORY SYSTEM

	3. CARDIOVASCULAR SYSTEM

	4. DIGESTIVE SYSTEM

5. URINARY SYSTEM	

8. LOCOMOTOR SYSTEM	

Topic 2. ANAMNESIS MORBI. ANAMNESIS VITAE

Anamnesis morbi	1. _____

	2. _____

	3. _____

	4. _____

Anamnesis vitae	1) _____

	2) _____

	3) _____

	4) _____

Topic 3–4. GENERAL INSPECTION OF THE PATIENTS

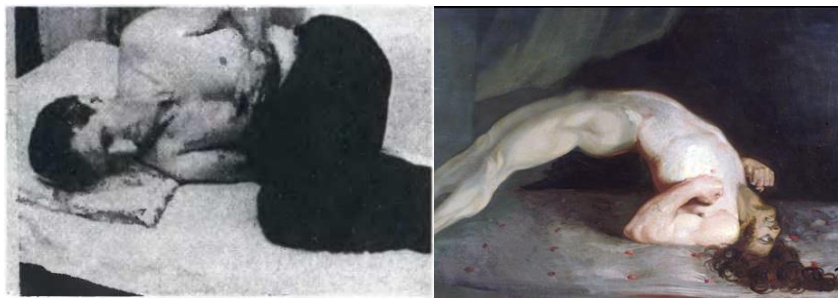
GENERAL INSPECTION	<p>1. CONDITION The criteria of patient's condition are _____ _____ _____</p> <p>Good patient's condition is characterized _____ _____ _____</p> <p>Satisfactory patient's condition (status morboacili) is characterized: _____ _____ _____</p> <p>Moderate condition (status ingravescens) is characterized: _____ _____ _____</p> <p>Severe condition (status morbogravi) is characterized: _____ _____ _____</p> <p>Extremely severe condition (status gravissimus) is characterized: _____ _____ _____</p> <p>2. CONSCIOUSNESS Consciousness (sensorium) may be: _____ The deranged consciousness is divided into _____ _____</p> <p>Possible causes of deranged consciousness are: _____ _____ _____</p> <p>The forms of excited consciousness: _____ Twilight state is characterized: _____ _____</p> <p>Delirium is characterized: _____ _____ _____</p> <p>The forms of excited consciousness are: _____ _____ _____</p> <p>Complete the following table: The forms of depressed consciousness</p> <table border="1" style="width: 100%; border-collapse: collapse; text-align: center;"> <thead> <tr> <th style="width: 25%;">Forms</th> <th style="width: 50%;">Definition</th> <th style="width: 25%;">State</th> </tr> </thead> <tbody> <tr> <td style="text-align: left;">Cloudiness</td> <td></td> <td></td> </tr> <tr> <td style="text-align: left;">Stupor</td> <td></td> <td></td> </tr> <tr> <td style="text-align: left;">Sopor</td> <td></td> <td></td> </tr> <tr> <td style="text-align: left;">Coma</td> <td></td> <td></td> </tr> </tbody> </table>	Forms	Definition	State	Cloudiness			Stupor			Sopor			Coma		
Forms	Definition	State														
Cloudiness																
Stupor																
Sopor																
Coma																

GENERAL INSPECTION

What kinds of coma do you know? Give examples. _____

3. POSTURE

Define and mark the type of forced posture for each patient



**GENERAL
INSPECTION**

4. CONSTITUTIONAL TYPE. BODY BUILD

5. GAIT

Gait is _____

Spastic gait is characterized: _____

Paretic gait is characterized: _____

Hemiplegic/circumductive gait is characterized: _____

Doll's/puppet gait is characterized: _____

Peroneal gait is characterized: _____

Cerebellar gait (wobbly/tottering/reeling gait) is characterized: _____

6. SKIN

Color of the skin. Give examples of diseases which are characterized by the following changes in skin color:

Pale color of the skin (cutis pallida) _____

Red color of the skin (cutis rubra, erythema) _____

Cyanosis (cutis cyanotica) _____

Yellow skin and mucosa (cutis icterica, s. icterus) _____

Brown or bronze skin _____

Eruption of the skin. Herpetic lesions (herpes) is _____

Hemorrhage lesions are of different forms: _____

Hematoma is _____

Erythema _____

Teleangioectasia is _____

Ulcer (ulcus) is _____

Abscess is _____

Scars is _____

Turgor and elasticity of the skin.

Turgor (turgor) of the tissue depends on _____

Moisture of skin: the reasons of alteration (dryness / wetness) _____

The skin derivatives. The following pathological changes of nails are of great diagnostic meaning: _____

GENERAL INSPECTION

Nails in a form of "watch glass" are characterized _____

Hair. Abnormally excessive hair growth may be present:

Deficient hair growth is characteristic of: _____

Subcutaneous fat. Where to measure: _____

In normosthenic person thickness of skinfold _____

Ginoid type of obesity is characterized _____

Android type of obesity is characterized _____

7. EDEMA

According to the pathogenic and location factors, edema may be: _____

The main reasons of general edema are: _____

General edema is characterized: _____

The main reasons of local edema are: _____

Identify and write the possible cause of edema in pictures



8. FACE OF THE PATIENT

Describe the face in patients with diseases of respiratory system: _____

facies pneumonica _____

facies tuberculous _____

facies asthmatica _____

**GENERAL
INSPECTION**

facies adenoidea _____

Describe the face in patients with diseases of cardiovascular system: _____

facies aortale _____

facies mitrale _____

facies Corvisari _____

facies plethorica _____

Describe the face in patients with endocrine disorders: _____

facies acromegalica _____

facies in patients with Cushing's syndrome _____

facies myxoedemica _____

facies basedovica _____

Describe the face in patients with diseases of kidney: _____

facies nefritica _____

Describe the face in patients with diseases of digestive system: _____

facies Hyppocratica _____

Describe the face in patients with diseases of nervous system: _____

facies amimica _____

risus sardonicus _____

facies asymmetrica _____

Describe the face in patients with infectious disease: _____

facies fibrilis _____

facies in patients with parotitis: _____

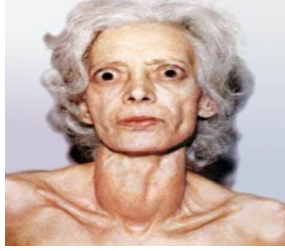
Describe the face in patients with diseases of blood system: _____

facies anemic _____

facies as a "wax-doll" _____

GENERAL INSPECTION

Define and mark a facies in patients with different diseases



9. MOUTH CAVITY INSPECTION

Color of the mucus, gums, tongue: shape, size, surface

10. INSPECTION OF THE NECK

Shape, size, symmetry, skin color, scars, visible pulsation _____

Thyroid gland. Inspection _____

Palpation _____

11. LYMPH NODES

Groups of regional lymph nodes include: _____

The examination of lymph nodes in definite order: _____

The main causes of enlargement of the lymph nodes: _____

Diagnostic meaning of enlarged lymph nodes location

Localization	Diseases
Occipital	
Submandibular	
Axillary	
Inguinal	
Cubital (local)	

GENERAL INSPECTION	12. MUSCULAR SYSTEM
	Development _____
	Gender and age correspondence _____
	Tenderness _____
	Muscular tone _____
	Muscular dystrophy is _____

	Causes of muscular weakness are _____

	Cramps (spasmus) is _____

Paralysis is _____	

13. BONES AND JOINTS SYSTEM	
Symmetry of joints, shape; Configuration (normal, deformed, edema);	
Hyperemia of skin and local hyperthermia; Movements (active, passive, free or limited);	
Palpable tenderness related to passive movements (indicate joints);	
Crackles, fluctuation. _____	

GENERAL INSPECTION

Answer standard: In general inspection the condition of the patient is satisfactory, consciousness is clear, posture is active. Height 176 cm, weight 64 kg, of correct body-build, normosthenic constitution, gait is confident. Skin is of body color, clean, of moderate wetness, elastic, without scars, eruptions and destructive changes, subcutaneous fat development is moderate, corresponds to gender and age, edema are absent. Facial expression is calm, meaningful, mouth cavity and gums mucus is of pale pink color, tongue is of ordinary shape and size, clean, wet. Neck is of ordinary shape and size, symmetrical, skin without changes, scars and visible pulsations are absent, thyroid gland is impalpable. Muscular system development corresponds to gender and age, muscular strength and tone preserved, atrophies and cramps are absent. Joints are of ordinary shape and size, symmetrical without visible deformation, active and passive movements are free, painless.

Write general inspection data of patient with mitral stenosis _____

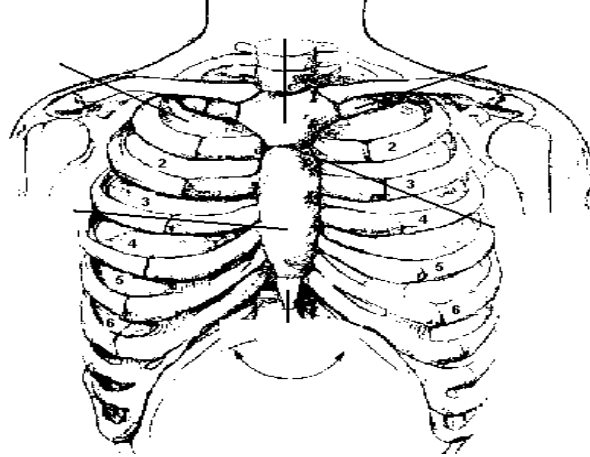
Physical and instrumental examination methods of the respiratory system

Topic 5. MAIN COMPLAINTS AND GENERAL INSPECTION OF THE PATIENTS WITH RESPIRATORY ORGANS PATHOLOGY. INSPECTION AND PALPATION OF THE CHEST

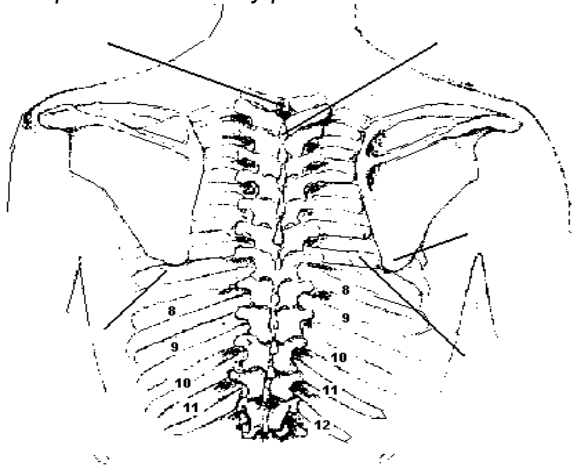
INQUIRY	<p>The main complaints of the patients with disease of the respiratory system are:</p> <p>_____</p> <p>_____</p> <p>Additional complaints: _____</p> <p>_____</p> <p>_____</p> <p>Dyspnoea: _____</p> <p>_____</p> <p>_____</p> <p align="center">Conditions causing dyspnoea classified by rate of onset</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 5%;">№</th> <th style="width: 45%;">Categories</th> <th style="width: 50%;">Causes</th> </tr> </thead> <tbody> <tr> <td align="center">1</td> <td>Dramatically sudden: over minutes</td> <td></td> </tr> <tr> <td align="center">2</td> <td>Acute: over hours</td> <td></td> </tr> <tr> <td align="center">3</td> <td>Subacute: over weeks</td> <td></td> </tr> <tr> <td align="center">4</td> <td>Chronic: over month or years</td> <td></td> </tr> <tr> <td align="center">5</td> <td>Intermittent: Episodic breathlessness</td> <td></td> </tr> </tbody> </table> <p>Cough</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p> <p>Haemoptysis _____</p> <p>_____</p> <p>_____</p> <p>Chest pain _____</p> <p>_____</p> <p>_____</p> <p>_____</p>	№	Categories	Causes	1	Dramatically sudden: over minutes		2	Acute: over hours		3	Subacute: over weeks		4	Chronic: over month or years		5	Intermittent: Episodic breathlessness	
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GENERAL INSPECTION	<p>_____</p> <p>_____</p> <p>_____</p> <p>_____</p>																		

**INSPECTION
OF THE CHEST**

Complete the anatomy points of the chest wall. Anterior view

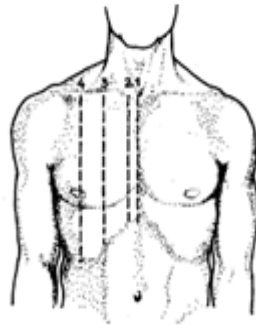


Complete the anatomy points of the chest wall. Posterior view



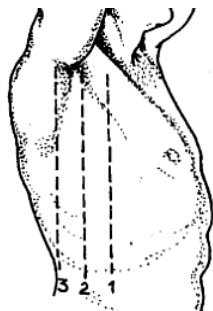
Write down topographical lines:

Anterior surface:



- 1
- 2
- 3
- 4

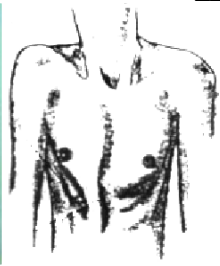
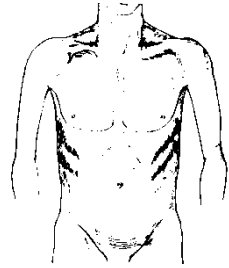
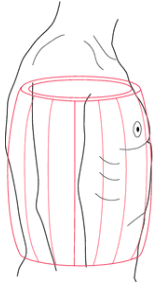
Lateral surface:



- 1
- 2
- 3

**INSPECTION
OF THE CHEST**

Name and describe the shapes of the chest



Types of spine deformities:



Scoliosis – _____ **Kyphosis** – _____



Lordosis – _____

Kyphoscoliosis – _____

1. The symmetry of the chest _____

Enlarged volume of one half of the chest

Decreased volume of the one part of the chest

2. Respiration type

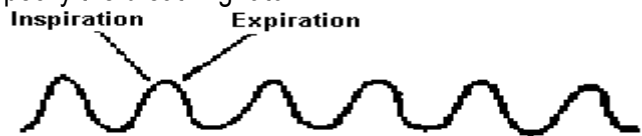
Types of respiration:

1. _____
2. _____
3. _____

3. Respiration rate

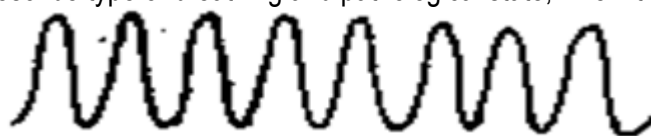
Normal breathing rate: _____

Specify the breathing rate:



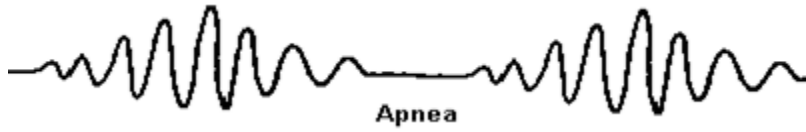
4. Respiration depth

Describe type of breathing and pathological state, when it observed



5. Respiration rhythm

Describe type of breathing and pathological state, when it observed



6. Participation of the chest in the breathing act

Answer standard:

In inspection the chest is normosthenic, symmetric, mixed type of breathing, respiration rate is 18 per minute, of moderate depth, rhythmic, both part of the thorax take part in the breathing act.

Give answer variant in patient with pulmonary emphysema

PALPATION OF THE CHEST

PALPATION OF THE CHEST

Palpation of the chest has three potential uses:

1. _____;
2. _____;
3. _____;

1. **Elasticity** _____



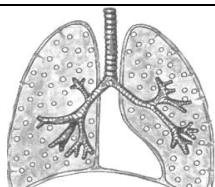
2. **Tenderness** _____

3. **Vocal fremitus** _____

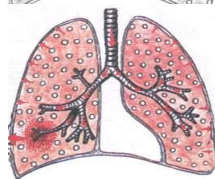
Vocal fremitus is increased _____

Vocal fremitus is decreased _____

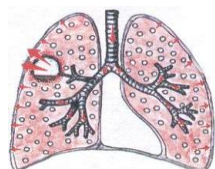
Vocal fremitus can be absent _____



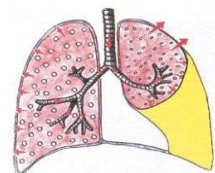
Over healthy lungs vocal fremitus is:



Over local consolidation of the pulmonary tissue vocal fremitus is:

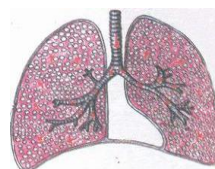


Over cavity region in the lungs vocal fremitus is:



1. Over plueral fluid vocal fremitus is:

2. Over atelectasis zone vocal fremitus is:



In pulmonary emphysema vocal fremitus is:

Answer standard: In palpation the chest is elastic, painless, vocal fremitus is of sufficient strength, similarly radiate on symmetrical part of the thorax.

Give answer variant of the palpation of the chest in patient with pulmonary emphysema

PERCUSSION OF THE LUNGS

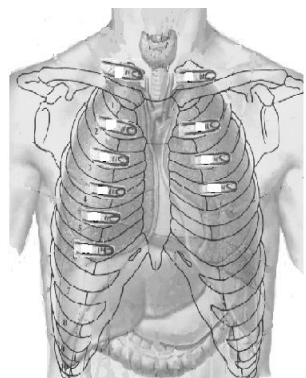
Topic 6. PERCUSSION AS METHOD OF PHYSICAL EXAMINATION OF HE LUNGS. COMPARATIVE PERCUSSION OF THE LUNGS TECHNIQUE. TOPOGRAPHIC PERCUSSION OF THE LUNGS.

Types of percussion of the lungs: 1. _____ 2 _____

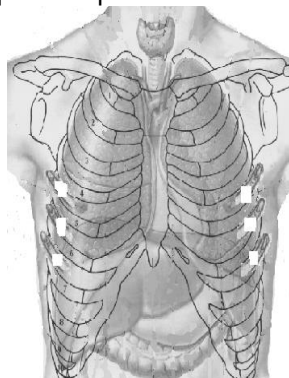
1. Comparative percussion

The *task* of comparative percussion is _____

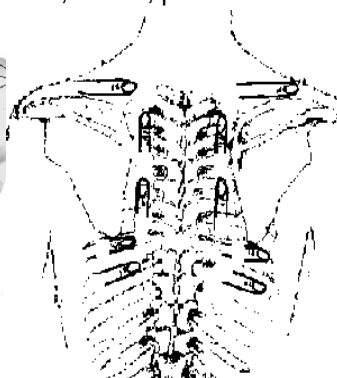
Numerate the order of comparative percussion in anterior, lateral, posterior view.



Anterior view



Posterior view



Lateral view

Comparative percussion helps to determine whether the underlying tissues are air-filled, fluid-filled, or solid. The common cause of percussion changes include:

Characteristics of the percussion sounds

Sound	Relative intensity	Relative pitch	Relative duration	Example location	Pathological examples
Clear pulmonary (resonance)	Loud	Low	Long	Normal lungs	—
Intermediate		Higher			
Bandbox (hyper-resonance)			Longer		
Dullness	Soft (Medium)	High (Medium)			
Tympany					
Metallic					
Cracked-pot					

Intermediate pulmonary sound causes include:

1. _____;
2. _____;
3. _____;
4. _____;
5. _____;

Dullness appear when solid tissue replaces air-containing lungs in conditions as:

1. _____;
2. _____;
3. _____;
4. _____.

Bandbox sound _____.

Tympany suggests _____.

Topographic percussion of the lungs:

- _____;
- _____;
- _____.

Lower borders of the lungs in normosthenic persons

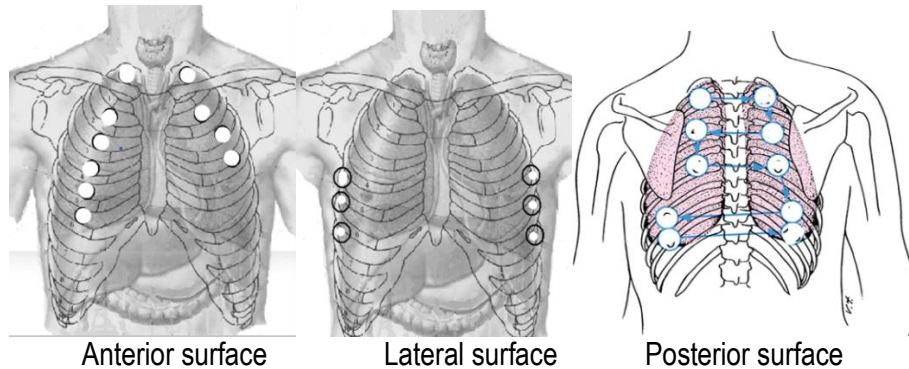
Topographic lines	Right lung	Left lung
Parasternal		
Midclavicular		
Anterior axillary		
Midaxillary	8 th interspace	
Posterior axillary		
Scapular		
Paraspinal		

Answer standard: In comparative percussion of the lungs in supra-, subclavicular fossa, over anterior surface, in axillary, supra- inter-, subscapular regions clear pulmonary sound. Give answer variant of comparative percussion of the lungs in right-sided hydrothorax

AUSCULTATION OF THE LUNGS

Topic 7. AUSCULTATION AS METHOD OF PHYSICAL EXAMINATION OF THE LUNGS. AUSCULTATION OF THE LUNGS TECHNIQUE. THE MAIN RESPIRATORY SOUNDS.

Numerate auscultation of the lungs sequence

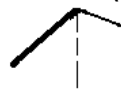


AUSCULTATION OF THE LUNGS

Lung sounds	
Main respiratory (breath) sounds	Adventitious (added) sounds

MAIN RESPIRATORY SOUNDS

Vesicular (_____) breathing



Mechanism of formation _____

Points of auscultation in norm _____

Specify the type breathing and its changes.



Pathologically decreased vesicular breathing observes in:

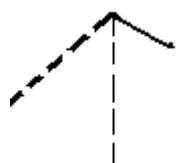
I. abnormal generation of breath sounds occurs in: _____

II. abnormal transmission of breath sounds results from: _____

Pathologically increased vesicular breathing occurs _____

Harsh respiration observes in _____

Specify the breathing and conditions when it observed



respiration _____

AUSCULTATION OF THE LUNGS

Bronchial () breathing

Mechanism of formation _____



Points of auscultation in norm _____

Pathological bronchial breathing is observed in consolidation of the pulmonary tissue in _____

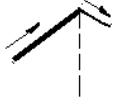


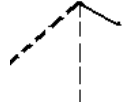


 _____;

in formation of an *empty cavity* in the lung communicated with a large bronchus:

Amphoric respiration is heard in the presence of _____

Bronchovesicular or mixed breathing



Sound	Duration	Intensity of the expiratory sound	Pitch of the expiratory sound	Example location	Pathologic example
Vesicular 	Inspiratory sounds last longer than expiratory one	Soft	Low	Over most of both lungs	—
Decreased vesicular 					
Increased vesicular 					
Cogwheel 					
Bronchial 					
Bronchovesicular 					

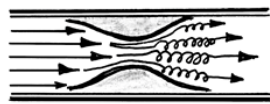
AUSCULTATION OF THE LUNGS

Topic 8. AUSCULTATION OF THE LUNGS: ADDITIONAL RESPIRATORY SOUNDS (RALES, CREPITATION, PLEURAL FRICTION SOUND). LABORATORY SPUTUM AND PLEURAL FLUID ANALYSIS. INSTRUMENTAL METHODS OF RESPIRATORY ORGANS EXAMINATION.

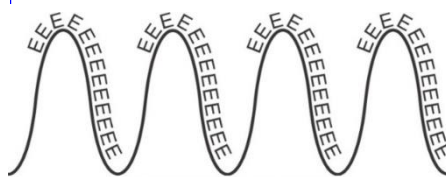
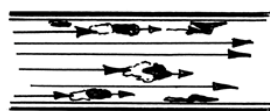
ADVENTITIOUS (ADDED) SOUNDS ARE:

1. _____ 2. _____ 3. _____

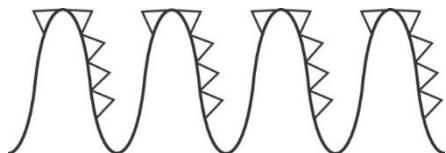
1. **Rales** are subdivided into A. _____ and B. _____ rales.



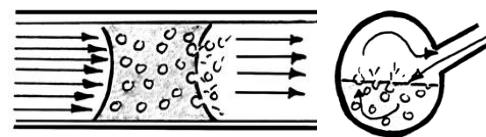
A _____ **rales**
Mechanism of formation



_____ **dry rales** (_____)
are characterized



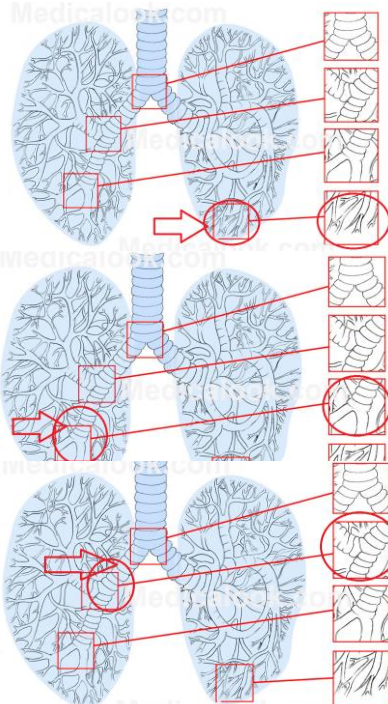
_____ **dry rales** (_____)
are characterized



B _____ **rales**
Mechanism of formation _____

Are heard in patients with _____

1. _____, 2. _____, 3. _____ bubbling rales are differentiated



1 _____ bubbling rales are formed in _____
characterized by _____

2 _____ bubbling rales are formed in _____
characterized by _____

3 _____ bubbling rales are formed in _____
characterized by _____

AUSCULTATION OF THE LUNGS

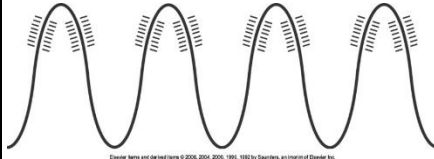
2. Crepitation



Mechanism of formation _____

Is heard in the patients with _____

3. Pleural friction sound



Mechanism of formation _____

Is heard in the patients with _____

Differential diagnosis of adventitious sounds

Signsralesrales	Crepitation	
Relation to the respiratory phases	Best heard during expiration			
Change during cough				Without changes
Pressure with the stethoscope		Without changes		
Breathing movement with close nose and mouth			Absent	

Answer standard: In auscultation of the lungs in supra-, subclavicular fossa, over anterior surface, in axillary, supra- inter-, subscapular regions vesicular breathing.

Give answer variant of comparative percussion of the lungs in left-sided pneumothorax

SPUTUM ANALYSIS

SPUTUM ANALYSIS

Clinical sputum analysis includes: _____

In macroscopic study assessed _____

Sputum revealed in macroscopic examination

Character	Consistency	Color	Odor	Layer ness	Disease
Mucous		Glass like			
Muco-purulent			Odorless		
Puro-mucous					
Purulent					
Mucous bloody				Absent	
Muco-purulent bloody					
Bloody	Liquid, foamy		Odorless	Absent	Pulmonary hemorrhage: in tuberculosis, wounds, lung tumor
Serous		Transpa-rent yellowish	Odorless	Absent	Pulmonary edema

Sputum elements in microscopic study

Cellular elements	Fibrous elements	Crystal elements
	•	•

Bacterioscopic study

Disease	Sputum amount	Sputum character	Macroscopic study	Microscopic study
Acute bronchitis				
Chronic bronchitis	Various			Leucocytes – large amount; erythrocytes, macrophages
Bronchiectasis				
Bronchial asthma		Mucous		
Lobar pneumonia			Fibrin clots, changed blood	
Pulmonary abscess				
Pulmonary tuberculosis				
Broncho-pulmonary tumor				

STUDY OF THE PLEURAL FLUID

Macroscopic study: _____

Character. _____

Transudates _____

Exudates _____

Transparency _____

Color _____

Consistency _____

Odor _____

Relative density _____

Chemical study

Protein level _____

Rivalt's reaction _____

Lucaerini test. _____

STUDY OF THE PLEURAL FLUID	Microscopic study
	<i>Erythrocytes</i> _____

	<i>Leucocytes</i> _____

	<i>Mesothelium cells</i> _____

	<i>Tumor cells.</i> _____

	Cytology
	<i>Neutrophils</i> _____

	<i>Lymphocytes</i> _____

	<i>Eosinophils</i> _____

<i>Macrophages</i> _____	

<i>Mesothelial cells</i> _____	

<i>Malignant cells.</i> _____	

Bacterioscopic study	
Transudates _____	

Exudates _____	

Physical methods of cardiovascular system examination

Topic 9. PHYSICAL METHODS OF CARDIOVASCULAR SYSTEM EXAMINATION. INQUIRY AND GENERAL INSPECTION OF THE PATIENTS WITH CARDIOVASCULAR PATHOLOGY. INSPECTION AND PALPATION OF PRECORDIAL AREA

INQUIRY	<p>The main complaints of the patients with cardiovascular pathology are: _____</p> <p>_____</p> <p>_____</p> <p>Additional complaints: _____</p> <p>_____</p> <p>Pain in the heart region _____</p> <p>_____</p> <p>Typical anginal pain: _____</p> <p>_____</p> <p>Atypical anginal pain: _____</p> <p>_____</p> <p>Non-anginal pain: _____</p> <p>_____</p> <p>Intermissions _____</p> <p>_____</p> <p>Palpitation _____</p> <p>_____</p> <p>Dyspnea _____</p> <p>_____</p> <p>Asphyxia _____</p> <p>_____</p> <p>Cough _____</p> <p>_____</p> <p>Hemoptysis _____</p> <p>_____</p> <p>Edema _____</p> <p>_____</p> <p>Syncope _____</p> <p>_____</p>
GENERAL INSPECTION	<p>Position of the patient: _____</p> <p>_____</p> <p>Color of the skin: _____</p> <p>_____</p> <p>_____</p> <p>Specific signs: _____</p> <p><i>Facies mitrale</i> _____</p> <p>_____</p> <p><i>Facies Corvisarti:</i> _____</p> <p>_____</p> <p><i>Stokes' collar:</i> _____</p> <p>_____</p> <p><i>Edema</i> _____</p> <p>_____</p>

	Cardiac edema	Renal edema
Typical location		
Palpatory characteristics		
Skin in edematous area		
Time of appearance		

INSPECTION OF PRECORDIAL REGION

Cardiac hump _____

Cardiac beat _____

Apex beat _____

Visible pathological pulsations _____

Answer standard: In inspection of precordial region cardiac hump is absent, apex beat is in 5th i/s 1.5 cm medially from the left midclavicular line, cardiac beat and visible pathologic pulsations are absent.

Give answer: inspection of the precordial region in mitral stenosis _____

PALPATION OF PRECORDIAL REGION

Apex beat _____

Location _____

1 – left midclavicular line; 2 – left anterior axillary line; 3 – line of displacement.

Sign the variants of apex beat location and describe their diagnostic significance:

A: _____

B: _____

C: _____

D: _____

Area of the apex beat _____

Height of the apex beat: _____

Strength of the apex beat: _____

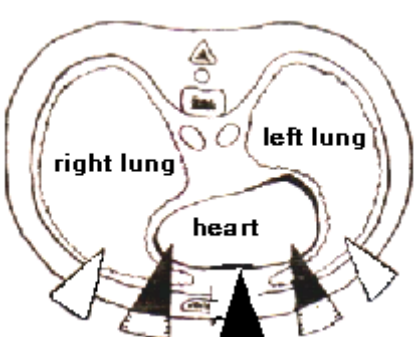
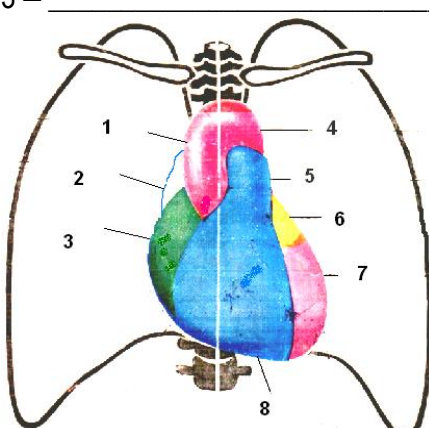
Cat's purr symptom: _____

		Systolic	Diastolic
	Apex of the heart		
	2 nd right intercostal space		
	2 nd left intercostal space		
	Lower right sternal edge		

Answer standard: In palpation of precordial region apex beat is in 5th i/s 1.5 cm medially from the left midclavicular line, area 2 cm², of moderate height and strength, “cat’s purr symptom” is absent.

Give answer: palpation of the precordial region in mitral stenosis _____

Topic 10. PERCUSSION OF THE HEART

<p>PERCUSSION OF THE HEART</p>	<p>Percussion of the heart include determination of:</p> <ol style="list-style-type: none"> 1. Relative cardiac dullness borders; 2. Absolute cardiac dullness borders; 3. Width of the vascular bundle; 4. Transverse length of the heart; 5. Configuration of the heart. <p>Mark the areas of different percussion sounds:</p> <p>1 – _____</p> <p>2 – _____</p> <p>3 – _____</p>	 <p>Mark the structures forming the cardiac contour:</p> <p>1 – _____</p> <p>2 – _____</p> <p>3 – _____</p> <p>4 – _____</p> <p>5 – _____</p> <p>6 – _____</p> <p>7 – _____</p> <p>8 – _____</p>						
								
	<p>1. Relative cardiac dullness borders _____</p> <p>_____</p> <p>Fill in the normal borders position:</p> <table border="1"> <thead> <tr> <th>Borders</th> <th>Location</th> <th>Formed by</th> </tr> </thead> <tbody> <tr> <td>Right</td> <td></td> <td></td> </tr> </tbody> </table>		Borders	Location	Formed by	Right		
Borders	Location	Formed by						
Right								

Upper		
Left		

Dislocation of relative cardiac dullness borders:
To the right: _____

To the right and upward: _____

To the right and upward: _____

To the left: _____

To the left and downward: _____

To all sides: _____

2. Absolute cardiac dullness borders _____

Left _____ Upper _____ Left _____

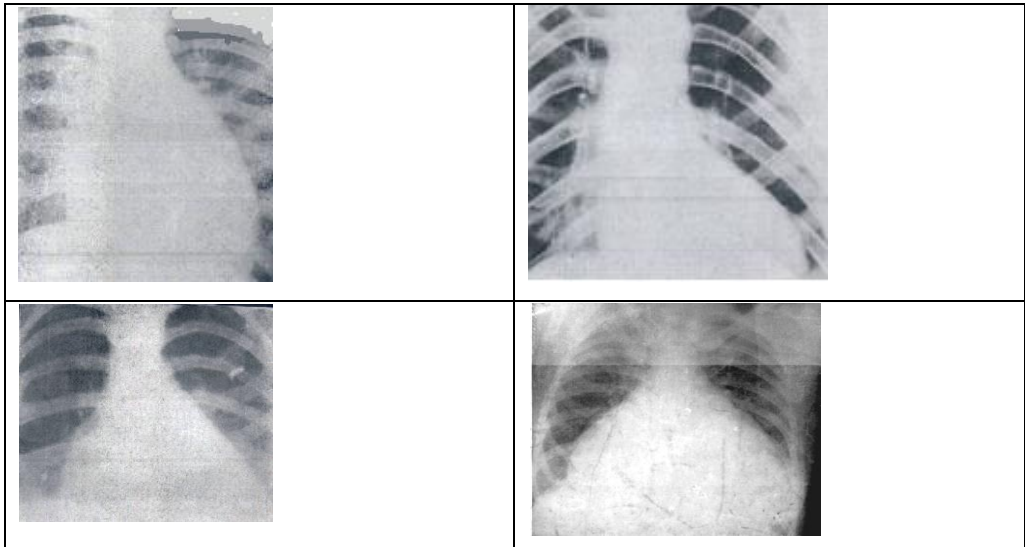
3. Vascular bundle _____

4. Transverse length of the heart _____

5. Configuration of the heart _____

Waist of the heart: _____

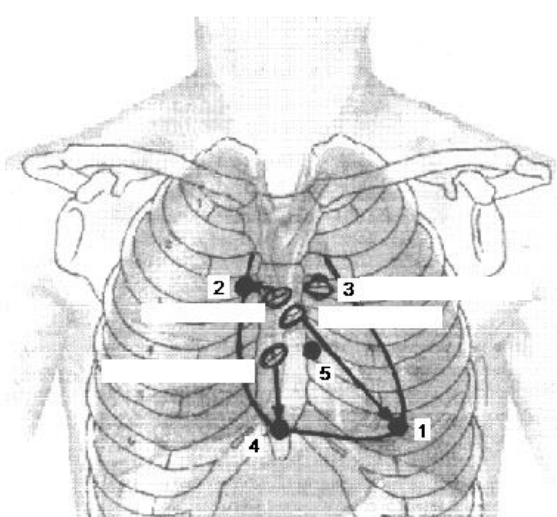
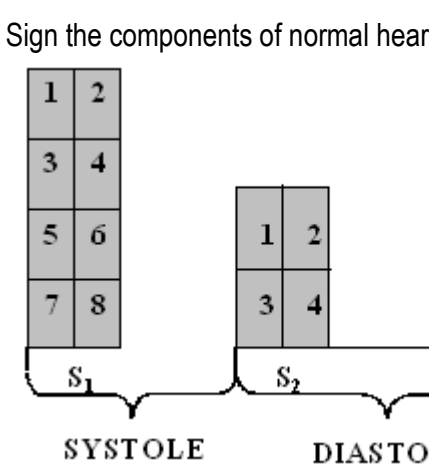
Sign the variants of cardiac configuration and their diagnostic significance:



Answer variant: In percussion of the heart the right border of the relative cardiac dullness is in IV i/s outward of right sternal edge, upper border – in III i/s on left parasternal line, left border – in V i/s 1.5 cm medially from the left midclavicular line, vascular bundle is 6 cm, transverse length of the heart – 11 cm, configuration of the heart is normal.

Give answer: percussion of the heart in patient with aortic regurgitation _____

Topic 11. AUSCULTATION OF THE HEART. NORMAL HEART SOUNDS, REDUPLICATION OF THE SOUNDS, ADDITIONAL SOUNDS (TRIPLE RHYTHM, GALLOP RHYTHM). AUSCULTATION OF THE HEART: ORGANIC AND FUNCTIONAL HEART MURMURS

<p>AUSCULTATION OF THE HEART</p>	<p>Sign the heart valves projections and points of auscultation:</p> <p>1 – _____</p> <p>2 – _____</p> <p>3 – _____</p> <p>4 – _____</p> <p>5 – _____</p>	
	<p>Sign the components of normal heart sounds:</p>  <p>SYSTOLE DIASTOLE</p>	<p>1 – _____</p> <p>2 – _____</p> <p>3 – _____</p> <p>4 – _____</p> <p>5 – _____</p> <p>6 – _____</p> <p>7 – _____</p> <p>8 – _____</p> <p>1 – _____</p> <p>2 – _____</p> <p>3 – _____</p> <p>4 – _____</p> <p style="text-align: center; font-size: 2em; opacity: 0.5;">S1</p> <p style="text-align: center; font-size: 2em; opacity: 0.5;">S2</p>

Differential signs of S1 and S2

	S ₁	S ₂
Point of auscultation		
Relation to pause		
Duration		
Relation to apex beat		

Auscultation of the heart plan:

1. Heart rhythm;
2. Heart rate;
3. Heart sounds analysis;
4. Reduplication, splitting, additional sounds presence;
5. Heart murmurs presence.

1. **Heart rhythm** _____

2. **Heart rate** _____

3. **Heart sounds analysis** _____

Both heart sounds increasing _____

Both heart sounds decreasing _____

Isolated heart sounds changing

	S ₁	S ₂
Increasing	_____ _____ _____	_____ _____ _____
Decreasing	_____ _____ _____	_____ _____ _____

4. Reduplication, splitting, additional sounds presence

Reduplication/ splitting	S ₁	S ₂
Physiologic	_____ _____ _____	_____ _____ _____
Pathologic	_____ _____ _____	_____ _____ _____

Additional sounds (three-sounds rhythms)

Triple rhythm _____

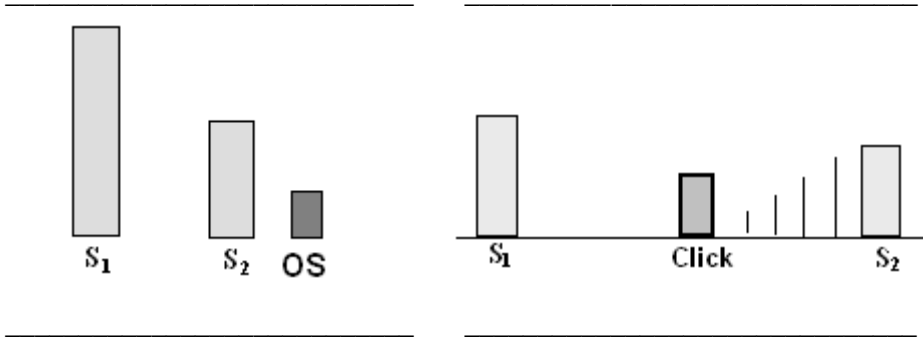
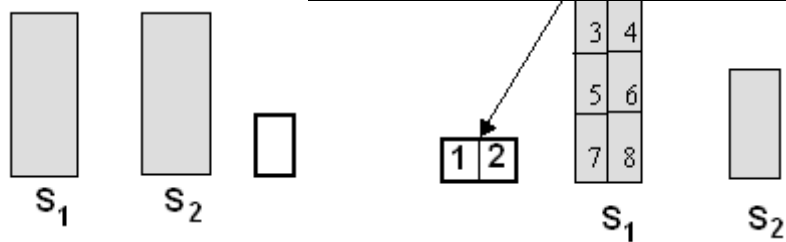
Gallop rhythm

Presystolic gallop rhythm _____

Systolic gallop rhythm _____

Protodiastolic gallop rhythm _____

Sign the components of auscultation patterns with additional heart sounds and their diagnostic significance:



5. Heart murmurs presence

Endocardiac murmurs _____

Exocardiac murmurs _____

Endocardiac (intracardiac) murmurs

Organic murmurs _____

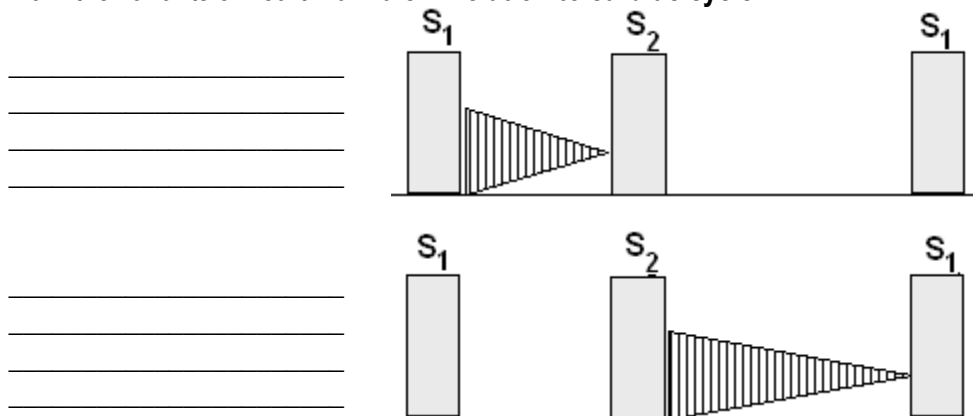
Functional murmurs _____

Characteristics used to describe cardiac murmurs are:

- timing,
- intensity,
- pitch,
- quality,
- configuration,
- duration,
- location
- radiation

Timing

Mark the variants of heart murmurs **in relation to cardiac cycle**:



Intensity

The *intensity* of the murmurs is graded according to the Levine scale:

Grade I – Lowest intensity, difficult to hear even by expert listeners

Grade II – Low intensity, but usually audible by all listeners

Grade III – Medium intensity, easy to hear even by inexperienced listeners, but without a palpable thrill

Grade IV – Medium intensity with a palpable thrill
 Grade V – Loud intensity with a palpable thrill. Audible even with the stethoscope placed on the chest with the edge of the diaphragm
 Grade VI – Loudest intensity with a palpable thrill. Audible even with stethoscope raised above the chest.

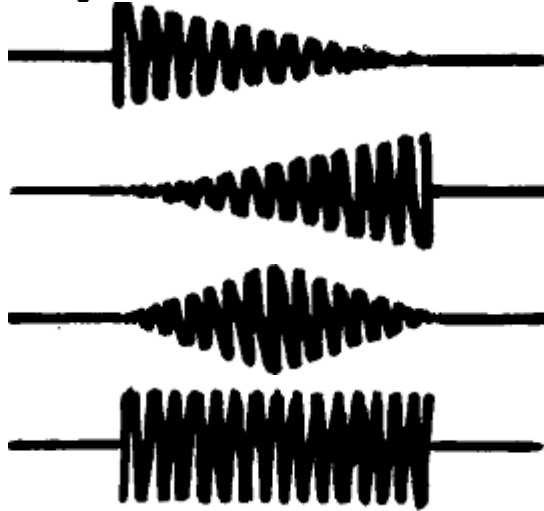
Pitch, quality

A cardiac murmur's *pitch* varies from high to low.

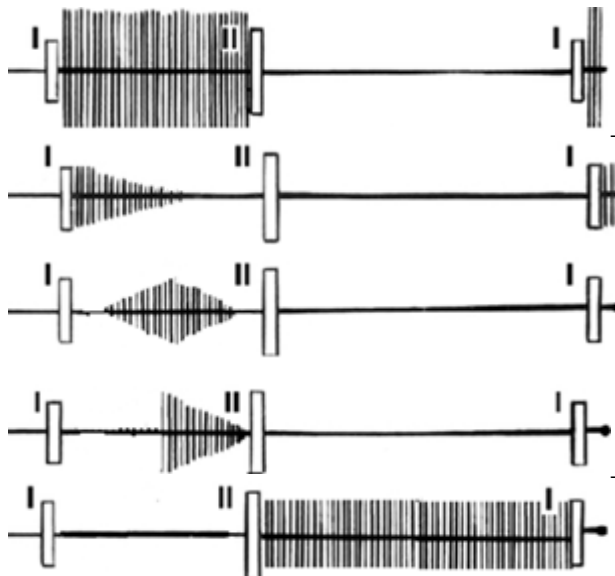
Common descriptive terms of a murmur's *quality* include

- rumbling,
- blowing,
- machinery,
- scratchy,
- harsh,
- rough,
- squeaky,
- musical.

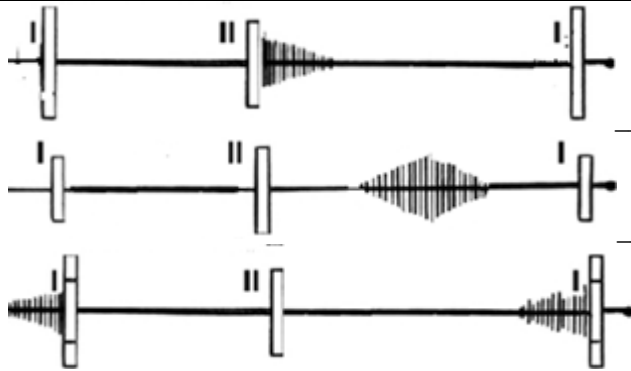
Configuration



Duration



systolic _____



Location





Cardiac murmurs may not be audible over all areas of the chest, and it is important to note where it is heard best and where it radiate to. The location on the chest wall where the murmur is best heard and the areas to which it radiates can be helpful in identifying the cardiac structure from which the murmur originates.

Best auscultatory areas of a cardiac murmurs. Topographic classification of murmurs

Auscultation areas	Murmur	Heart valvular disease
Heart apex	Systolic	_____
	Diastolic	_____
Second intercostal space at the right sternal edge	Systolic	_____
	Diastolic	_____
Second intercostal space at the left sternal edge	Systolic	_____
	Diastolic	_____
Base of the xiphoid	Systolic	_____
	Diastolic	_____

Radiation

Some cardiac murmurs may be heard not only in standard auscultatory areas but also transmitted in the direction of blood flow. This phenomenon is known as radiation. Murmurs radiate in either a forward (ejection murmurs) or backward direction (regurgitation murmurs).

	Heart valvular disease	Murmur	Auscultation area	Radiation area	
		Systolic			
		Heart valvular disease	Murmur	Auscultation area	Radiation area
			Diastolic		
	Heart valvular disease	Murmur	Auscultation area	Radiation area	
		Diastolic			
	Heart valvular disease	Murmur	Auscultation area	Radiation area	
		Systolic			

Answer standard: In auscultation of the heart, rhythm is regular, HR 72 beats per min, heart sounds of sufficient sonority, S₁ at the heart apex unchanged, S₂ at the heart base unchanged, heart sounds reduplication, splitting and heart murmurs are absent.

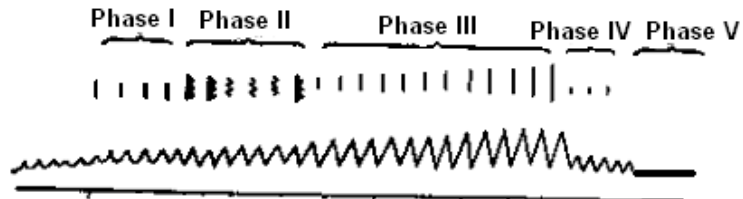
Give answer: auscultation of the heart in mitral stenosis _____

Topic 12. STUDY OF ARTERIAL PULSE AND BLOOD PRESSURE

ARTERIAL PULSE	Fill in the table – define the characteristics that are evaluated during arterial pulse study, describe the normal findings and possible pathology:			
	Examination sequence	Factors that cause pulse characteristics	Norm	Pathology
	Symmetry			
	Rhythm			
	Rate (PR)			
	Pulse deficit			
	Volume			
	Tension			
	Size			

BLOOD PRESSURE

Describe the technique of blood pressure measurement, mark (with the arrows) the points of SBP and DBP detection _____



Finish the classification of blood pressure according to WHO (fill in the table):

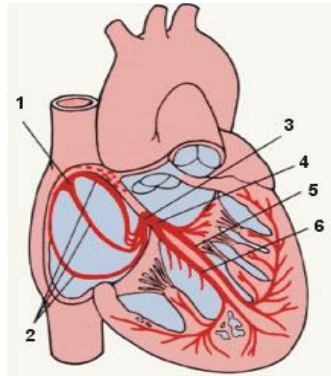
Level of blood pressure	SBP (mmHg)	DBP (mmHg)
_____	< 120	< 80
_____	< 130	< 85
_____	130–139	85–89
Hypertension:		
I grade (_____)	140–159	90–99
Subgroup: _____	140–149	90–94
II grade (_____)	160–179	100–109
III grade (_____)	≥ 180	≥ 110
_____	≥ 140	≤ 90
Subgroup: _____	140–149	< 90

Answer standard: In palpation pulse is symmetric, rhythmic, pulse rate is 72 beats per min, pulse deficit is absent, of satisfactory volume, tension and size.

Give answer: pulse in atrial fibrillation _____

Instrumental methods of cardiovascular system examination

Topic 13. ELECTROCARDIOGRAPHIC METHOD OF CARDIAC FUNCTION EXAMINATION. TECHNIQUE OF ECG REGISTRATION AND READING



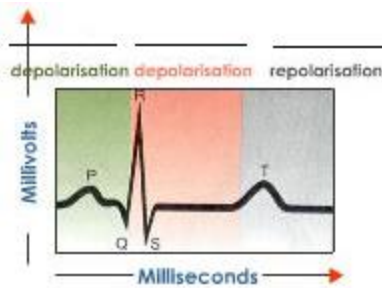
ECG is _____

Fill the parts of the conduction pathways by numbers

- 1 _____
- 2 _____
- 3 _____
- 4 _____
- 5 _____
- 6 _____

Automacity _____

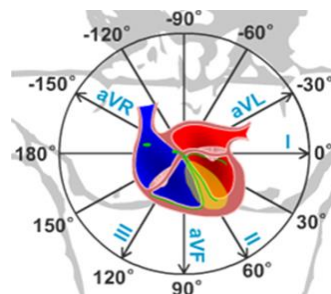
Conductivity _____



Refractoriness _____

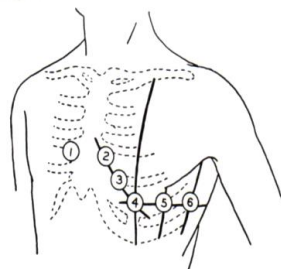
Depolarization _____

Repolarization _____



ECG Registration 12 leads:

- 3 _____
- 3 _____
- 6 _____
- _____
- _____
- _____



V1 _____

V2 _____

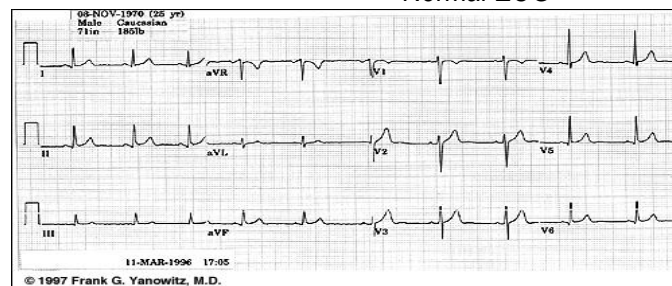
V3 _____

V4 _____

V5 _____

V6 _____

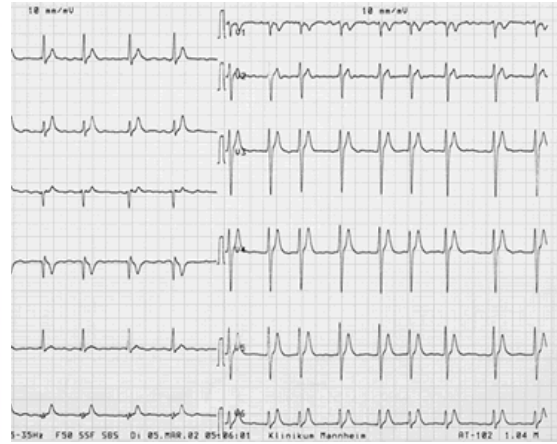
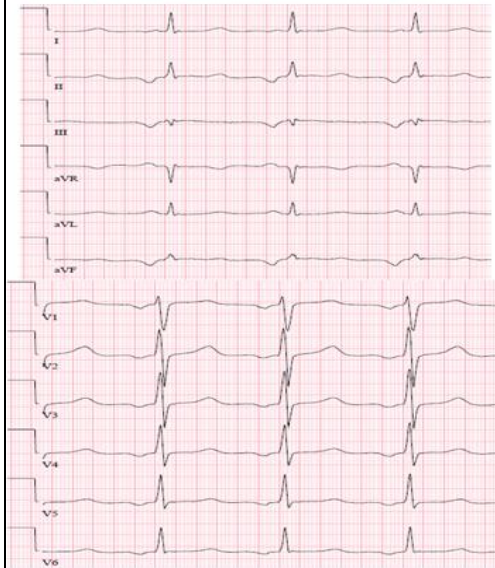
Normal ECG



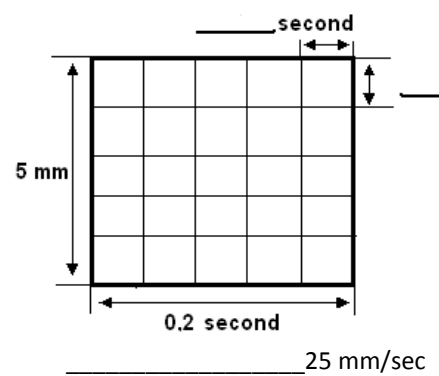
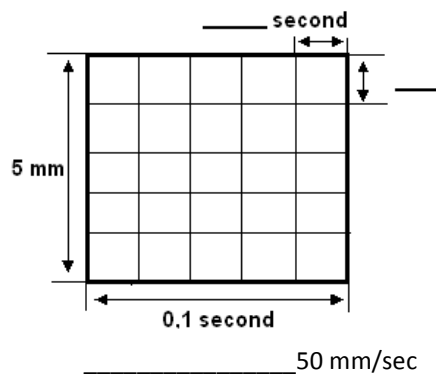
Right leads _____

Left leads _____

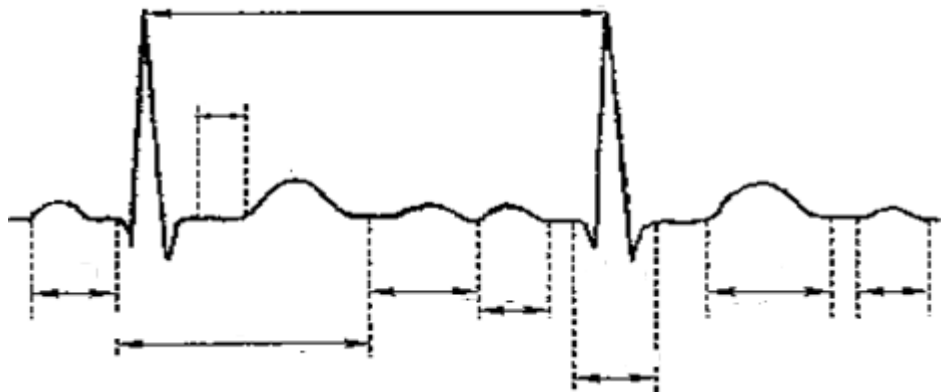
Speed of ECG recording _____

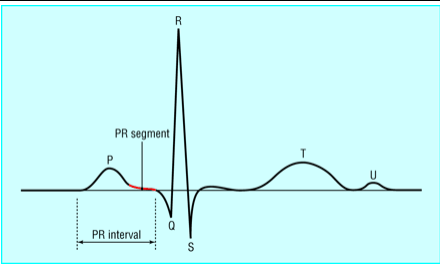


Specify the ECG recording speed _____

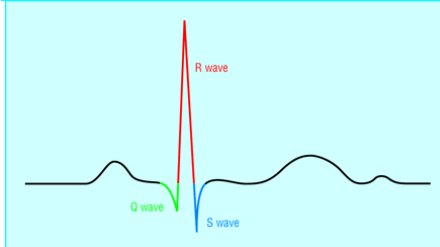


Write down all the waves, intervals, segments on ECG

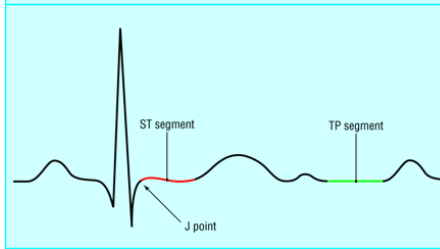




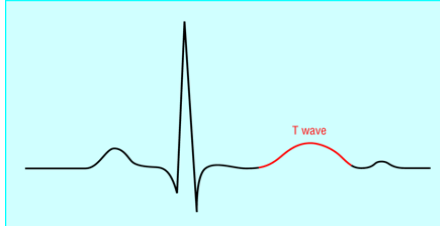
P wave _____



PQ interval _____



QRS interval _____



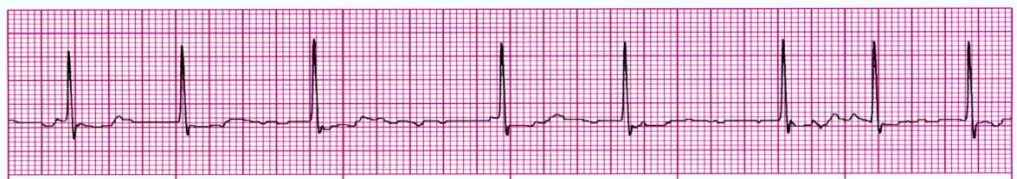
ST segment _____

 T wave _____

Interpretation of the ECG

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

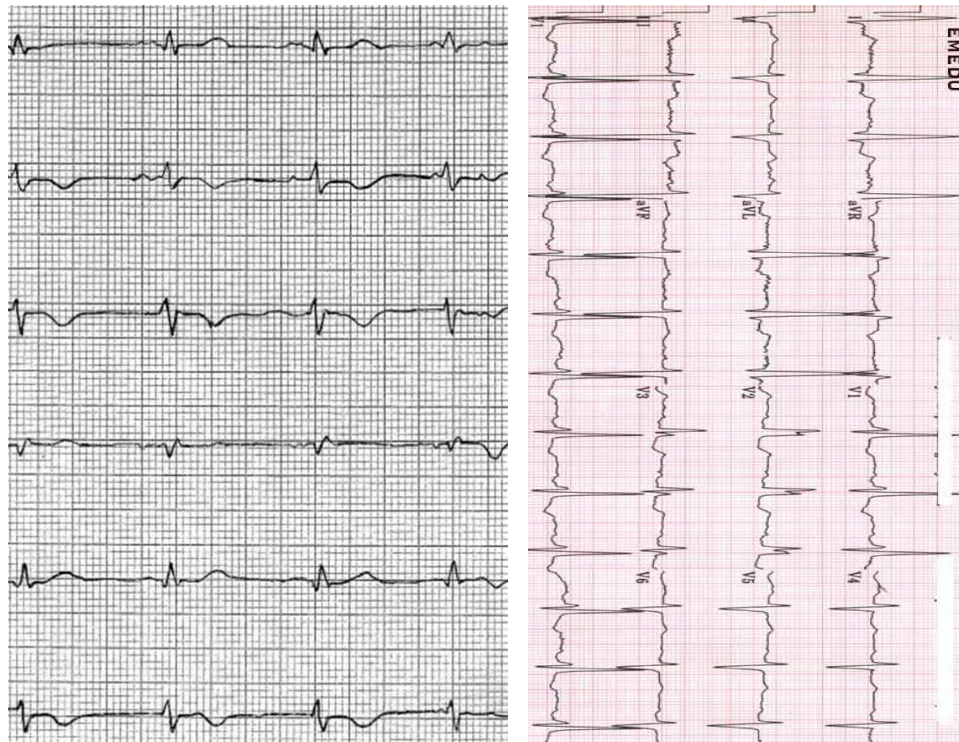
Determine regularity of the rhythm



Sinus rhythm criteria _____

Nonsinus rhythm (possible types) _____

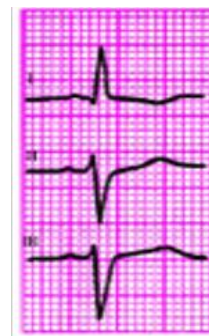
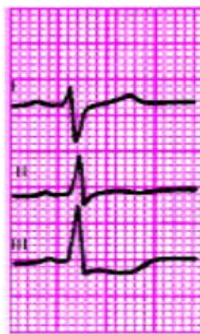
Measurement of the ECG Amplitude (voltage) _____



Determine the amplitude. left _____ right _____

Specify electrical axis of the heart

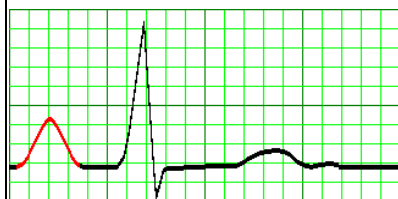
a) _____ b) _____ c) _____



Topic 14. ECG SIGNS OF HYPERTROPHY OF HEART ATRIA AND VENTRICLES



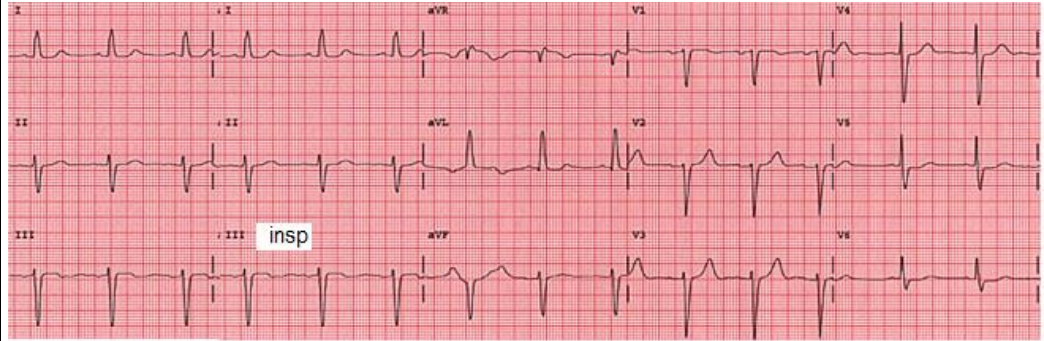
P-mitrale – _____



P-pulmonale – _____

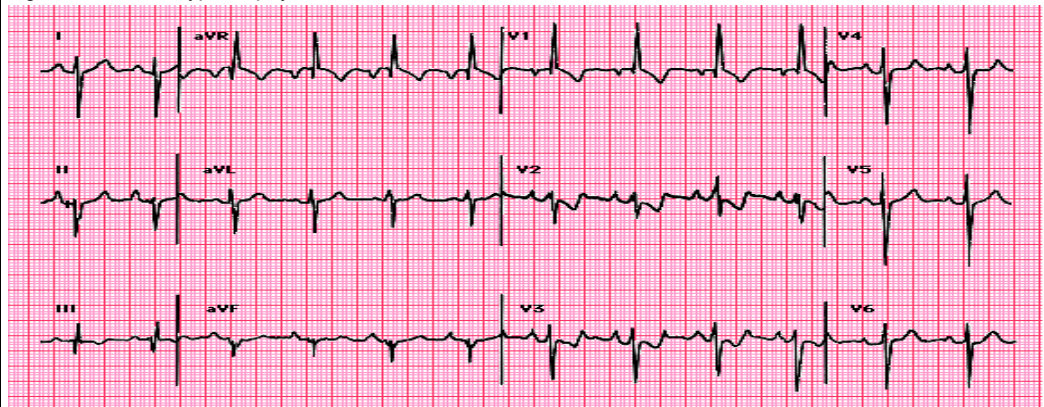
Common signs of ventricular hypertrophy

Left Ventricular Hypertrophy



LV Hypertrophy criteria _____

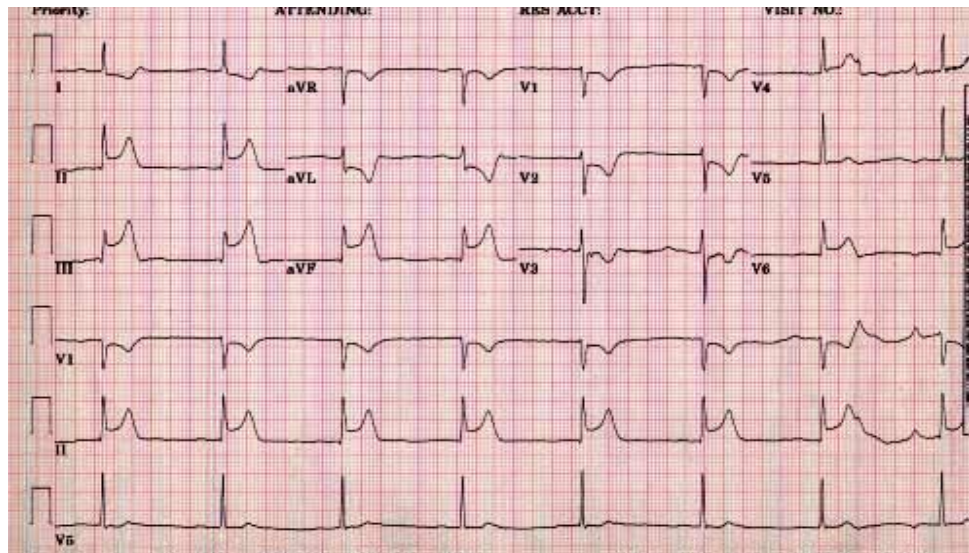
Right Ventricular Hypertrophy



RV Hypertrophy criteria _____

Topic 15. THE MAIN ECG SYNDROMES OF THE MYOCARDIUM DAMAGE (ISCHEMIA, INJURY, NECROSIS). ECG IN MYOCARDIAL INFARCTION

Myocardial infarction: what?, when?, where?



WHAT? ECG signs of MI

Ischemia signs _____

Injury signs _____

Necrosis signs _____

WHEN? Stages of the myocardial infarction:

Acute _____

Evolutionary _____

Recovery _____

Stabilized _____

WHERE? Location of the myocardial infarction:

Anterior _____

Septal _____

Posterior _____

Apical _____

Lateral _____

Topic 16. ELECTROCARDIOGRAPHIC EXAMINATION OF PATIENTS WITH AUTOMATICITY AND EXCITABILITY FUNCTION ALTERATIONS

Cardiac Arrhythmias

Normal Sinus Rhythm	Cardiac Arrhythmias
1. The SA node is pacemaker. Heart rate: _____ beats per minute.	1.
2. Regular cardiac rhythm:	2. _____ cardiac rhythm: the R-R intervals _____
3. The P waves originate from	3. The P waves originate from
4. The relationship of the P wave and the QRS complex:	4.
5. The conduction to the ventricles is 1:1 (equal amount).	5.
6. Constant and normal duration of P _____	6.

I. Abnormalities of the Impulse Formation

A. Altered Automaticity of the Sinoatrial Node (Nemotopic Arrhythmias).

1. _____
2. _____
3. _____
4. _____

B. Increased Automaticity of an Ectopic Pacemaker

1. _____
2. _____
3. _____
4. _____

C. Ectopic (heterotopic) Arrhythmias caused by increased excitability of the myocardium

1. _____
2. _____
3. _____

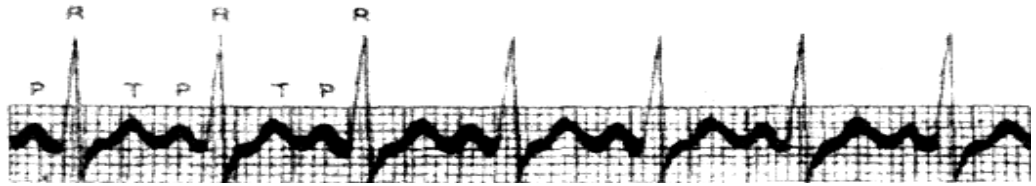
II. Abnormalities of Conduction

1. _____
2. _____
3. _____

4. _____ :

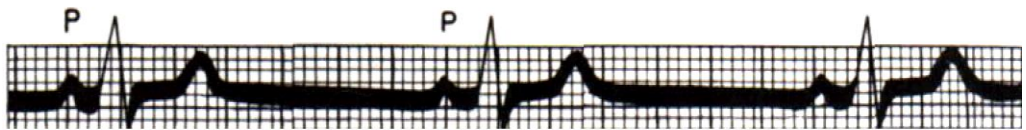
Altered Automaticity of the Sinoatrial Node (Nomotopic Arrhythmias)

Sinus Tachycardia



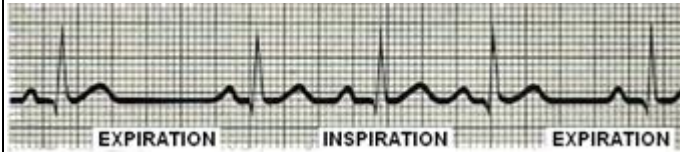
1. _____
 2. _____
 3. _____
 4. _____

Sinus Bradycardia



1. _____
 2. _____
 3. _____
 4. _____

Sinus Arrhythmia



1. _____
 2. _____
 3. _____
 4. _____

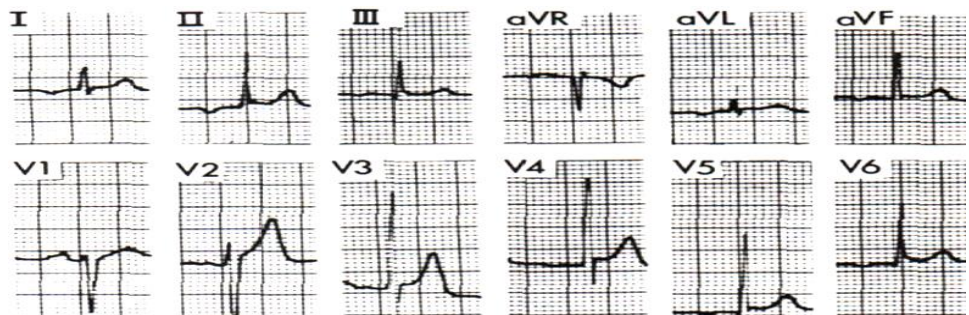
Sick Sinus Syndrome

1. _____
 2. _____
 3. _____
 4. _____

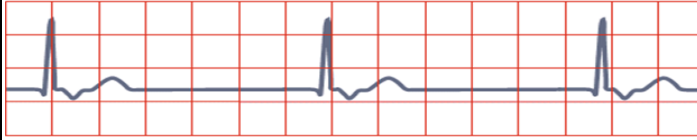
Increased Automaticity of an Ectopic Pacemaker

Atrial Rhythm

1. _____
 2. _____
 3. _____
 4. _____

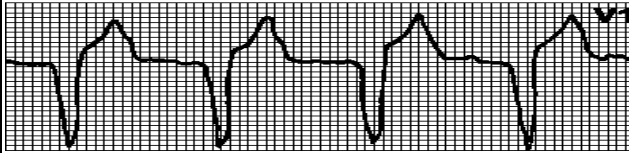


Junctional (AV) Rhythm



1. _____
2. _____
3. _____
4. _____

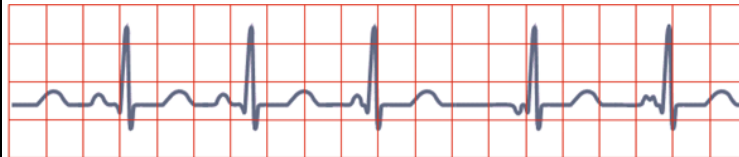
Ventricular or Idioventricular Rhythm



1. _____
2. _____
3. _____
4. _____

Wandering Pacemaker

1. _____
2. _____
3. _____
4. _____

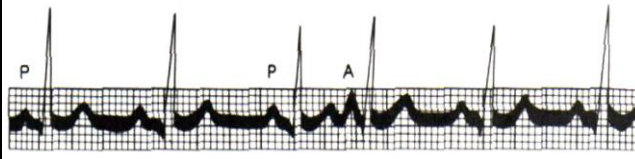


Ectopic (heterotopic) Arrhythmias caused by increased excitability of the myocardium

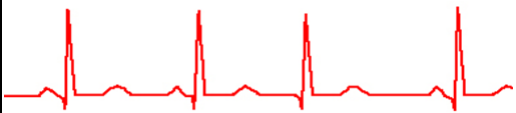


Re-entry mechanism _____

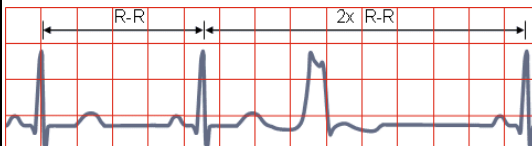
Premature Atrial Contraction



Junctional Premature Contractions



Ventricular Premature Contractions



Unifocal PVC

Multifocal PVC

Ventricular bigeminy

Ventricular Trigeminy

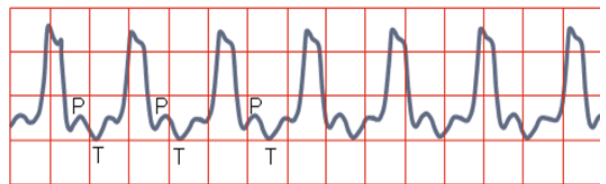
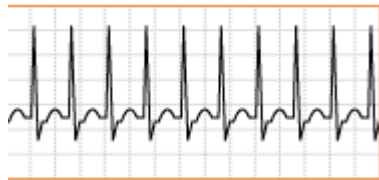
Group Ventricular Premature Contractions



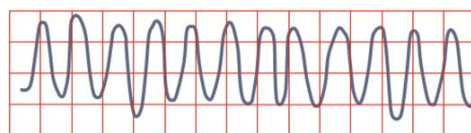
Paroxysmal Tachycardia

- 1 _____
- 2 _____
- 3 _____

Write down what kind of paroxysmal tachycardia is that&



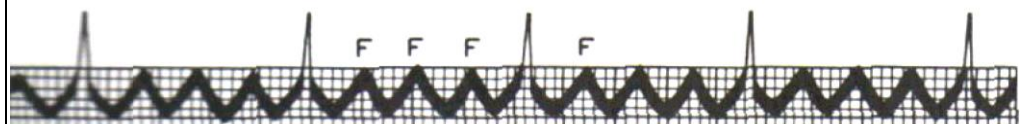
Ventricular Flutter and Fibrillation



- 1 _____
- 2 _____
- 3 _____

Atrial Flutter

- 1 _____
- 2 _____
- 3 _____



Atrial fibrillation

- 1 _____
- 2 _____
- 3 _____



Topic 17. ELECTROCARDIOGRAPHIC EXAMINATION OF PATIENTS WITH CONDUCTIVITY FUNCTION ALTERATIONS

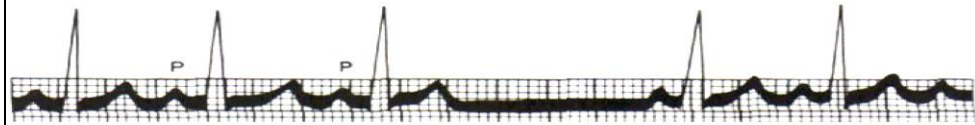
Abnormalities of the Impulse Conduction

Heart block

Incomplete block

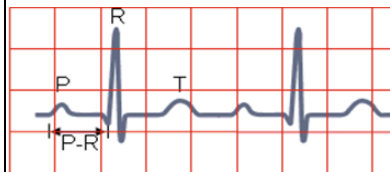
Complete heart block

Sinoatrial Block



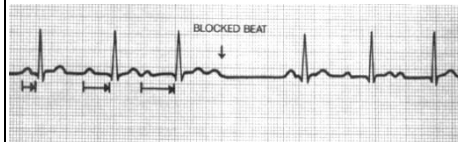
Atrioventricular Block

The First-Degree AV Block

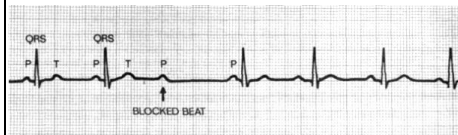


Second-Degree AV Block

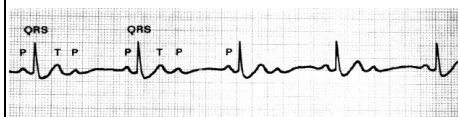
Mobitz (Wenchenbach) type I.



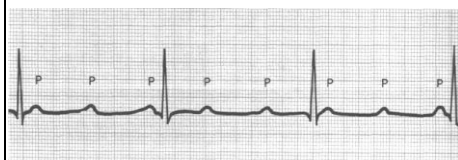
Mobitz type II



Type III second-degree AV block or incomplete AV block



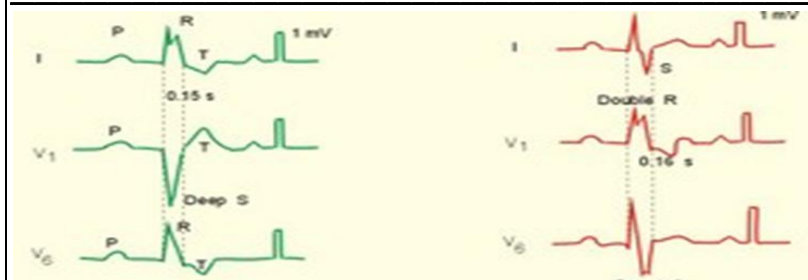
Third-Degree AV block or complete AV block



Bundle-branch block

Right BBB

Left BBB



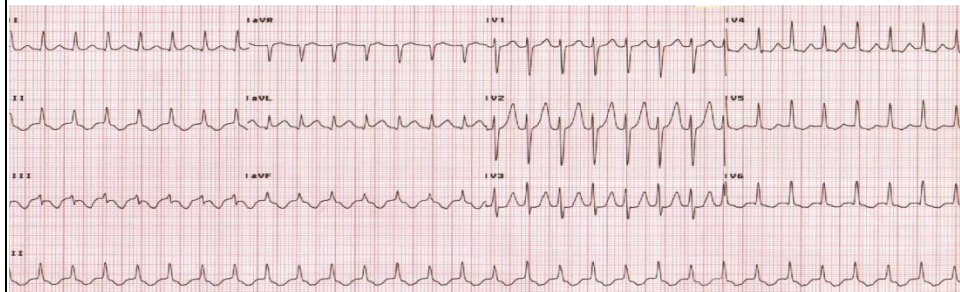
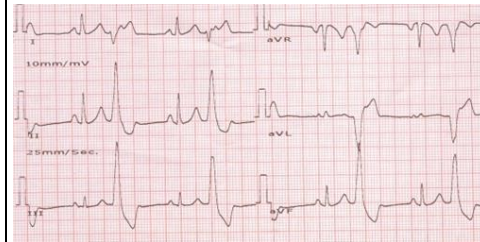
Find out
Right BBB
And
Left BBB
←

Ventricular Preexcitation Syndromes

ECG signs of CLC syndrome

ECG signs of WPW syndrome

Give a conclusion about ECG



Main examination methods of digestive organs and kidneys

Topic 18. INQUIRY AND INSPECTION OF THE PATIENT WITH DIGESTIVE ORGAN DISEASES. INSPECTION AND SUPERFICIAL PALPATION OF THE ABDOMEN

<i>The most common complaints of the patients with the diseases of digestive organs are:</i>	1. _____ 2. _____ 3. _____ 4. _____ 5. _____ 6. _____ 7. _____ 8. _____ 9. _____ 10. _____	
Overview of approach to patients with common gastrointestinal disorders		
<i>Site of disorder</i>	Common symptoms	Possible physical signs
<i>Esophagus</i>	Dysphagia Odynophagia Heartburn, chest pain Hematemesis/melena	
<i>Stomach</i>		
<i>Pancreas</i>		Mass Jaundice
<i>Duodenum</i>		
<i>Jejunum</i>		
<i>Ileum</i>		
<i>Colon</i>		
<i>Rectum</i>		

	Dysphagia			
	Aphagia			
	Misdirection of food			
	Phagophobia			
	Dysphagia			
Process and Problem	Timing	Factors that Aggravate	Factors that Relieve	Associated Symptoms and Conditions
Transfer Dysphagia, <i>due to motor disorders affecting the pharyngeal muscles</i>				
Esophageal Dysphagia				
Mechanical Narrowing				
• <i>Mucosal rings and webs</i>				
• <i>Esophageal stricture</i>				
• <i>Esophageal cancer</i>				
Motor disorders				
Diffuse esophageal spasm				
Scleroderma				
Achalasia				

Regurgitation	Heartburn		
	<hr/> <hr/>		
	Regurgitation		
	<hr/> <hr/>		
	By air <i>(eructation)</i>	By food or by gas <i>(regurgitatio)</i>	
Cause		Motor dysfunction of the stomach with increased formation of gas due to abnormal <div style="display: flex; justify-content: center; align-items: center;"> ↙ or ↘ </div>	
Odour			
Disease			
	Nausea		
	<hr/> <hr/>		
	<p>Nausea can be due to</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;"> <p>Gastric diseases</p> <p>—</p> <p>—</p> <p>—</p> </div> <div style="text-align: center;"> <p>Other causes</p> <p>—</p> <p>—</p> <p>—</p> </div> </div>		
	Vomiting		
	<hr/> <hr/>		
Causes of nausea	Vomiting etiology		
	Central	Peripheral (of visceral etiology, reflex)	Hematogenic and toxic
Vomiting	Vomiting of gastric etiology is caused by stimulation of receptors in the gastric mucosa by:		
	<p>↓</p> <p>Inflammatory process</p> <p>↓</p>	<p>↓</p> <p>Chemical factors</p> <p>↓</p>	<p>↓</p> <p>Physical factors</p> <p>↓</p>

Abdominal pain

Abdominal pain

Problem	Process	Location	Quality	Timing	Factors That May Aggravate	Factors That May Relieve	Associated Symptoms and Setting
Peptic Ulcer and Dyspepsia							
Biliary Colic							
Cancer of the Pancreas							
Chronic Pancreatitis							
Acute Pancreatitis							
Acute Appendicitis							
Acute Diverticulitis							
Acute Cholecystitis							
Acute Arterial Occlusion							
Acute Mechanical Intestinal Obstruction							

Diarrhea

Types of diarrhea:

-
-

Classification of chronic diarrhea

Mechanism	Clinical features	Examples
INFLAMMATORY		
OSMOTIC		
SECRETORY		
ALTERED INTESTINAL MOTILITY		
FACTITIOUS		

Constipation _____
Weight gain _____
Weight loss _____
Gastrointestinal bleeding _____
Hematochezia _____
Melena _____

Inspection of the abdomen

Shape of the abdomen _____
 Size of the abdomen _____
 Symmetry of the abdomen _____
 Participation of the anterior abdominal wall in the breathing act _____

 Navel position _____
 Expression of the subcutaneous veins _____
 Scars _____
 Eruption _____
 Scratches _____
 Visible pulsation _____
 Visible peristalsis _____
 Telangioectasia _____

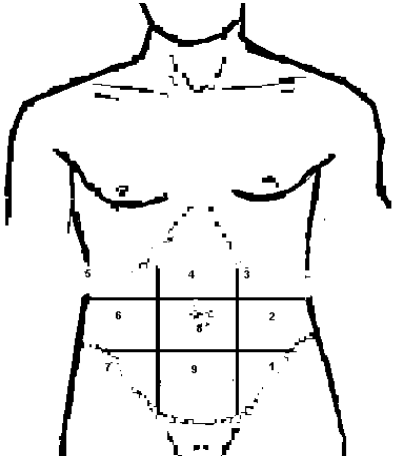
Answer standard: In inspection abdomen is of oval shape, does not enlarge in size, symmetric, anterior abdominal wall take part in the breathing act, the navel is retracted, pronounced venous network, scars, eruption. Scratches, visible pulsation, visible peristalsis, and teleangioectasia are absent.

PALPATION OF THE ABDOMEN

Topographic regions of the abdomen:

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

Superficial palpation of the abdomen	
Resistance of the anterior abdominal wall	1) 2) 3)
Tenderness of the abdomen	1) 2)
Diastasis recti	1) 2)
Fluctuation symptom	1) 2)



Answer standard: In superficial palpation the abdomen is soft, painless, separation of rectus abdominal muscle is absent, fluctuation symptom is negative.

Topic 19. DEEP SLIDING SYSTEMATIC PALPATION OF THE ABDOMEN

I. Sigmoid	
If palpable, to indicate:	
1. Location	
2. Diameter	
3. Density	
4. Surface	
5. Tenderness	
6. Mobility	
7. Rumbling sounds	
II. Caecum	
1. Location	
2. Diameter	
3. Density	
4. Surface	
5. Tenderness	

6. Mobility	
7. Rumbling sounds	
III. Ascending and descending colons	
If palpable, to indicate diameter, density, tenderness, mobility, presence of the rumbling sound, and assess surface.	
IV. Transverse colon	
If palpable to indicate:	
1. Location	
2. Diameter	
3. Surface	
4. Tenderness	
5. Rumbling sounds	
V. Stomach (the greater curvature)	
If palpable to indicate:	
1. Location	
2. Consistency	
3. Rumbling sounds	
VI. Liver	
Anterior axillary line	
Midclavicular line	
Right parasternal line	
Anterior median line	
If the liver is palpable, to describe:	
1. Lower edge	
2. Surface	
3. Consistency	
4. Tenderness	
VII. Gall bladder	
If palpable, to indicate size, shape, consistency, tenderness, mobility	
VIII. Pancreas	
If palpable, to determine:	
1. Location	
2. Consistency	
3. Tenderness	
IX. Spleen	
<u>Percussion:</u>	
a) the spleen diameter	
b) the spleen length	
<u>Palpation</u>	

	If palpable, to determine:	
	1. Location	
	2. Consistency	
	3. Tenderness	
	4. Surface	

Ker point _____

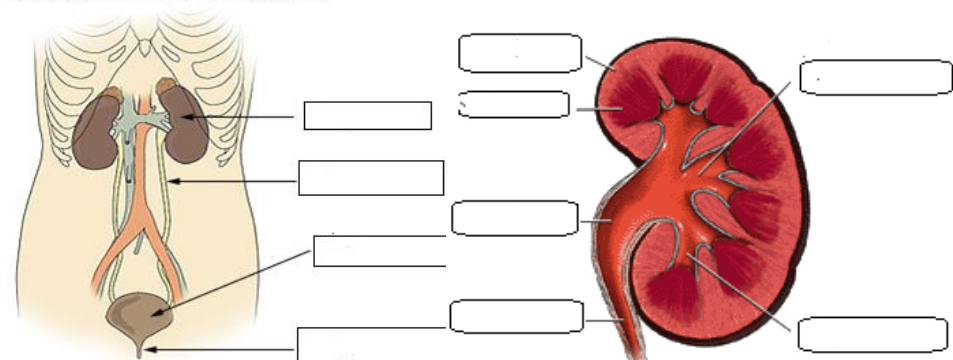
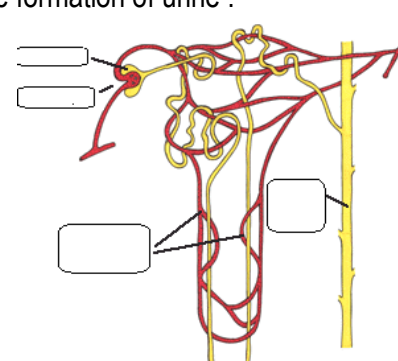
McBurne point _____

Duodenum bulb projection point _____

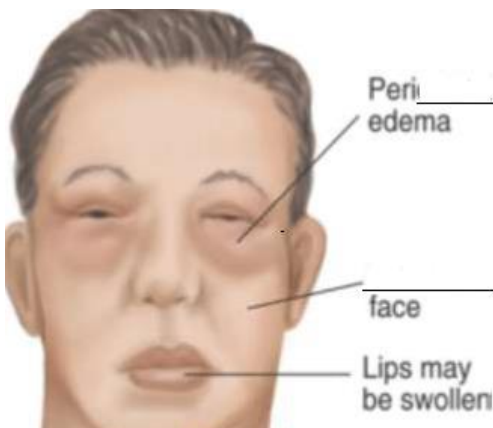


Shchetkin-Blumberg symptom _____


Answer standard: In deep, methodical sliding palpation according Obratsov-Strazhesko method in the left iliac region sigmoid is in a form of smooth, of moderate density cylinder, 3 cm in diameter, painless, easily displaces, doesn't rumble, with weak and rare peristalsis. In the right iliac region caecum is in a form of smooth, soft, elastic, slightly enlarged downward cylinder, 4 cm in diameter, painless, moderate mobile, and rumble in pressing. Ascending and descending colons are palpable, accordingly, in the right and in the left flanks in a form of mobile, moderate dense painless cylinder near 2 cm in diameter. Transverse colon is determined 2 cm upper navel in a form of moderate density cylinder near 2 cm in diameter, painless, easily movable up and down. The greater curvature of the stomach is 4 cm upper navel in form of smooth, soft, immobile, painless ridge. Liver, gall bladder, pancreas and spleen are impalpable. In percussion the liver size according Culrov: 9×8×7 cm. In percussion according Curlov the spleen width is 4 cm, length – 6 cm. Additional pathologic formations in the abdominal cavity are not palpable.

**Topic 20. INQUIRY AND INSPECTION OF THE PATIENTS WITH RENAL DISEASES.
INSTRUMENTAL AND LABORATORY METHODS OF EXAMINATION OF URINARY SYSTEM**

FUNCTIONAL AND CLINICAL ANATOMY	<p>Components of the Urinary System</p>  <p style="text-align: center;">Kidney anatomy</p>
	<p>The functional units of the kidney are the <i>nephrons</i> The formation of urine :</p>  <div style="margin-left: 400px;"> <p>1) _____</p> <p>2) _____</p> <p>3) _____</p> <p>4) _____</p> </div>

Inquiring	<p>The most common complaints of the patients with renal diseases are: _____</p> <hr/> <p style="text-align: center;">Pain in selected urinary diseases.</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 30%;">Disease</th> <th style="width: 30%;">Location Radiation</th> <th style="width: 40%;">Character</th> </tr> </thead> <tbody> <tr><td>Nephrolithiasis</td><td></td><td></td></tr> <tr><td>Pyelonephritis</td><td></td><td></td></tr> <tr><td>Renal abscess</td><td></td><td></td></tr> <tr><td>Renal infarction</td><td></td><td></td></tr> <tr><td>Nephroptosis (movable kidney)</td><td></td><td></td></tr> <tr><td>Acute glomerulonephritis</td><td></td><td></td></tr> <tr><td>Congestive kidney</td><td></td><td></td></tr> <tr><td>Cystitis</td><td></td><td></td></tr> <tr><td>Urethritis</td><td></td><td></td></tr> </tbody> </table> <p>Healthy person excretes approximately _____ liters of urine in 24 hours; urination rate is _____ times a 24 hours; ratio of daily and nightly amount of excreted urine is ____ accordingly. Urination is free and painless.</p> <p style="text-align: center;">Deranged urination:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-top: 10px;"> <thead> <tr> <th style="width: 25%;">Term</th> <th style="width: 45%;">Definition</th> <th style="width: 30%;">Causes</th> </tr> <tr> <td style="text-align: center;">1</td> <td style="text-align: center;">2</td> <td style="text-align: center;">3</td> </tr> </thead> <tbody> <tr><td>Polyuria</td><td></td><td></td></tr> <tr><td>Oliguria</td><td></td><td></td></tr> <tr><td>Anuria</td><td></td><td></td></tr> <tr><td>Ishuria</td><td></td><td></td></tr> <tr><td>Nocturia</td><td></td><td></td></tr> <tr><td>Pollakiuria</td><td></td><td></td></tr> <tr><td>Ollakiuria</td><td></td><td></td></tr> <tr><td>Enuresis</td><td></td><td></td></tr> <tr><td>Dysuria</td><td></td><td></td></tr> <tr><td>Isuria</td><td></td><td></td></tr> <tr><td>Stranguria</td><td></td><td></td></tr> </tbody> </table>	Disease	Location Radiation	Character	Nephrolithiasis			Pyelonephritis			Renal abscess			Renal infarction			Nephroptosis (movable kidney)			Acute glomerulonephritis			Congestive kidney			Cystitis			Urethritis			Term	Definition	Causes	1	2	3	Polyuria			Oliguria			Anuria			Ishuria			Nocturia			Pollakiuria			Ollakiuria			Enuresis			Dysuria			Isuria			Stranguria		
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Isuria																																																																						
Stranguria																																																																						

	 <p>Edema (varying degrees) is the common symptom, Local: edema of face (facial edema), edema around eyes (periorbital swelling), in lower extremities Generalized (_____), edema of penis and scrotum</p>
<p>General inspection</p>	<p>General condition _____</p> <p>Consciousness _____</p> <p>Posture _____</p> <p>Skin _____</p> <p><i>Facies nephritica</i> _____</p> <p>_____</p>
<p>Palpation</p>	<div style="display: flex; justify-content: space-between;"> <div style="width: 45%;">  <p>Palpation of the kidneys according to S. Botkin</p> <p>Palpation is used to diagnose ptosis of the kidneys. Three degrees of the nephroptosis are differentiated</p> <p>I degree – palpable kidney (Ren palpabilis):</p> <p>_____</p> <p>_____</p> <p>II degree – movable kidney (Ren mobilis):</p> <p>_____</p> <p>_____</p> <p>III degree – wandering kidney (Ren migrans)</p> <p>_____</p> <p>_____</p> </div> <div style="width: 45%;"> <p><i>Palpation of the kidneys according to Obratzsov-Strazhesko</i></p>  </div> </div> <p>Palpation of the urine bladder</p> <p>In palpation you can detect following tenderness points:</p> <ol style="list-style-type: none"> 1. _____ point – the site of kidney projection, is placed in the angle between the 12th rib and the longissimus thoracis muscles; 2. _____ point is placed at the lateral edge of the rectus abdominal muscle at the umbilicus level; 3. _____ is placed at the intersection of linea biiliaca with the vertical line passing the spina ossis pubis (pubic tubercle).

Percussion		<p>Pasternatsky's symptom.</p> <p>Pain with percussion in the costovertebral angle suggests</p> <p>_____</p> <p>_____</p> <p>_____</p>
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Laboratory methods	<p>Topic 21. URINALYSIS</p> <p>Collection of the urine _____</p> <p>_____</p> <p>_____</p> <p>Macroscopic study includes assessment of physical properties of the urine: _____</p> <p>_____</p> <p>Clinical significance of urine color changes.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 25%;">Color</th> <th style="width: 40%;">Pathological condition</th> <th style="width: 35%;">Cause</th> </tr> </thead> <tbody> <tr><td>Dark yellow</td><td></td><td></td></tr> <tr><td>Pale, water-like</td><td></td><td></td></tr> <tr><td>Dark</td><td></td><td></td></tr> <tr><td>Dark, almost black</td><td></td><td></td></tr> <tr><td>Red</td><td></td><td></td></tr> <tr><td>Appearance of "meat wastes"</td><td></td><td></td></tr> <tr><td>Greenish-brown (beer-like)</td><td></td><td></td></tr> <tr><td>Greenish-yellow</td><td></td><td></td></tr> <tr><td>Whitish</td><td></td><td></td></tr> <tr><td>Milky</td><td></td><td></td></tr> </tbody> </table> <p>Cloudiness of the urine. _____</p> <p>_____</p> <p>_____</p> <p>Smell of the urine. _____</p> <p>_____</p> <p>_____</p> <p>Specific gravity of the urine is _____</p> <p>_____</p> <p>_____</p>	Color	Pathological condition	Cause	Dark yellow			Pale, water-like			Dark			Dark, almost black			Red			Appearance of "meat wastes"			Greenish-brown (beer-like)			Greenish-yellow			Whitish			Milky		
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Zimnitsky's test

Isosthenuria is

Hyposthenuria is

Chemical study includes assessment of reaction of the urine (urine pH), protein, glucose, ketone bodies, and bile pigments.

Clinical significance of urine pH changes.

Urine reaction		
Acid	Neutral Feebly acid	Alkaline
<i>Physiological conditions:</i>	Norm	<i>Physiological conditions:</i>
<i>Pathological conditions:</i> diabetes		<i>Pathological conditions:</i>

Proteinuria

Selective proteinuria

Depend on protein- amount in the urine, — 30–300 mg/24h, and proteinuria () – more than 300 mg/24h are distinguished.

Functional proteinuria

Organic proteinuria

Glycosuria

Ketone bodies (acetone, acetoacetic and β 2-oxybutyric acid)

Bilirubin.

Urobilinoids:

Macroscopic study

The presence of erythrocytes in the urine is called

Microhaematuria

Macrohaematuria

Leucocyturia

Epithelium cells
 Tubular (renal) epithelium cells _____

 Squamous epithelium cells _____


 Cylinders (casts). _____


 Nechiporenko's method allows counting formed elements in 1 ml of urine, normally:
 o Leucocytes – _____;
 o Erythrocytes – _____;
 o Casts – _____.
 Crystals. _____

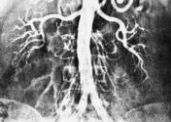
 Mucus. _____
Bacterioscopic study
 Bacteriuria _____

Instrumental methods


Plain radiography of the urinary tract _____

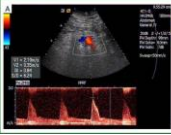
 **Excretion urography (synonyms: intravenous pyelography; IVP; IVU)** _____

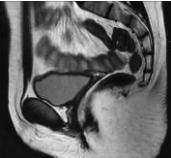
 **Retrograde pyelography/ureterography** _____

 **Renal arteriography.** _____

Renal venography _____

 **Computed tomography (CT scanning)** _____

 **Ultrasonography.** _____

 **Nuclear renal imaging** _____

For notes

Навчальне видання

**Практикум
з пропедевтики внутрішньої медицини**

**Частина 1.
Основні методи обстеження хворих
у клініці внутрішніх хвороб**

Упорядники Ащеулова Тетяна Вадимівна
 Деміденко Ганна Валеріївна
 Компанієць Кіра Миколаївна
 Кочубей Оксана Анатоліївна
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Відповідальний за випуск Т. В. Ащеулова



Комп'ютерна верстка О. Ю. Лавриненко

Формат А5. Ум. друк. арк. 2,91. Зам. № 20-34047.

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Свідоцтво про внесення суб'єкта видавничої справи до Державного реєстру видавництв, виготівників і розповсюджувачів видавничої продукції серії ДК № 3242 від 18.07.2008 р.