Saint Petersburg State Pediatric Medical University
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Department of Propaedeutics of Internal Diseases

Objective status description in the clinic of internal diseases

Instructions for 2 - 3d year medical students

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General Principles of Objective Status Description in the Clinic of Internal Diseases.
(Status praesens objectivus)

Examination of a patient consists of subjective and objective methods of study. **Interrogation (interrogatio)**, being a ***subjective*** method of study, helps to establish:

1. Complaints
2. Case History (anamnesis morbi)
3. Life History (anamnesis vitae)
4. Additional questions concerning the state of the essential body functions (status functionalis).

This is followed by ***objective*** (physical) methods of study which include:

- inspection (inspectio) of general physical appearance
- palpation (palpatio)
- percussion (percussio)
- auscultation (auscultatio)

In addition to physical examination, other objective methods of study include laboratory and instrumental methods of diagnostics.

General inspection of physical appearance is performed in consecutive orders and its description includes:

1. General condition of a patients
2. Consciousness
3. Position
4. Constitution (habitus)
5. Skin covering, skin derivatives and visible mucous membranes
6. Subcutaneous fat layer
7. Lymphatic nodes
8. Muscular-skeletal system
9. Inspection of body parts

Then, the description of objective data obtained during the *examination of the body systems* is given:

- cardiovascular system (inspection, palpation, percussion, auscultation).
- respiratory system (inspection, percussion, auscultation, palpation).

- gastrointestinal system (digestive system) (inspection, palpation, percussion, auscultation).
- urine excretive system (inspection, palpation, percussion, auscultation).
- endocrine system
- blood forming system
- nervous system

Thorough examination of endocrine, nervous and blood forming systems as well as the description of psychic status is usually performed by specialized physicians.

Objective Status Description On Inspection and General Palpation

General inspection:

1. General condition of a patient: satisfactory, of moderate severity, severe, extremely severe, agonal.

2. Consciousness: clear, stupor, sopor, coma.

3. Position: active, passive, forced.

4. Constitution (habitus). This notion includes (body) constitutional type (asthenic, normosthenic, hypersthenic); body height and body weight; nutrition – satisfactory, excessive, insufficient.

5. Carriage: straight (normally), stooping, flaccid – in pathology; "beggar's posture" in Bekhterev's disease.

Gait: even, steady – normally; cautious with stiff back or body bent forward – in back pains; staggering gait – in nervous system pathology.

6. Body temperature.

7. Skin covering and visible mucous membranes: colour, moisture, presence of eruption, scars, depigmentation, birthmarks, vascular stars; turgor of tissues.

8. Skin derivatives – hair and nails: brittleness, mycotic affection of nails, deformities (watch glass shaped), striation; pediculosis; hirsutism, hypertricosis. Examination of eyebrows and eyelashes. Normally hair covering corresponds to age and sex. Skin of the hairy part of the head is clean. Hair and nails have no changes.

9. Subcutaneous fat layer is developed – moderately; slightly, cachexia; excessively, obesity (its degree; android, gynoid). Distribution. Pastiness and edema (localization and degree).

10. Lymphatic nodes: peripheral lymphatic nodes are not visualized. On palpation (if they are palpatable) one should identify localization of the nodes, their number, size in centimeters, consistency, displacement; presence of

tenderness, presence of nodes adhesion to one another and to surrounding tissues as well as changes in the skin covering the nodes.

11. Muscular-skeletal system: degree of muscles development (atrophy, hypertrophy), their tonus and strength, contracture. State of the spinal column: presence of physiological kyphoses, lordoses, scoliotic deformation of the spine, torsion. Deformity of the bones, acromegaly, clubbed fingers, tenderness of the bones during tapping.

Joints: normal configuration; enlargement, hyperemia of the skin, hyperthermia in joint area; deformities, restriction of movement, tenderness in active and passive movements as well as in palpation; ankyloses.

Inspection of body parts:

12. Head: shape, size, involuntary shaking (Musse's symptom in aortic insufficiency).

13. Face: normally restful; asymmetric, masklike, puffed, feverish, "Hippocratic", "Corvisar's face", myxedematose, acromegalic, moon-shaped, facies nephritica, facies mitralis, etc.

14. Eyes and eyelids: reduced eye slit, exophthalmos, enophthalmos, nystagmus, eyelids edema (baggy lower eyelids), ptosis, xanthomas; miotic pupils, mydriatic pupils.

15. Nose: enlarged in acromegaly.

16. Lips: colour, presence of eruption, cracks, perleche.

17. Mouth smell: acetone smell, uremic, "hepatic", putrid.

18. Tongue: clean, normally wet; dry (in diabetes mellitus); enlarged (macroglossia) in hyperthyroidism, in acromegaly; colour: rosy, pale, red, "polished"; coat: colour, localization, see if it is easy taken off; lingual papillae: well marked, smoothed.

19. Mucous membrane of oral cavity: colour, eruption.

20. State of teeth and gingivae (gums): dental caries, inflammation.

21. State of fauces (tonsils, palatine arches, back of the throat): inflammation, furring.

22. Neck: enlarged thyroid; enlarged nodding muscles, pulsation of carotid arteries ("carotid pulse"), swelling and pulsation of jugular veins.

23. Lactiferous glands in females, chest glands in males: presence of nodes, tenderness on palpation; characteristics of revealed volumetric formations: size, consistency. Tenderness, displacement (adhesions to surrounding tissue), skin alterations over the formations.

Note. Description of general body parts inspection data may not always be given at the end of general inspection, but, if necessary, at the beginning or in the middle of it to make the presentation of a patient as clear as possible. E.g., in a patient with severe kidney pathology one can start the description with facies nephritica.

Objective Status = Status praesens objectivus.

*Description of normal general inspection data***.**

The state is satisfactory. Consciousness is clear. Position is active. Body building is proper, normosthenic, of moderate nutrition. Body temperature is 36.4ºC. Carriage is straight, gait is steady.

Face, ears, nose and eyes have no pathologic changes. Face does not show any manifestations of a disease. Skin covering is of usual colour, moderately moist, without any eruptions. Mucous membranes of conjunctiva, oral cavity and throat are rosy, clean and moist. Tongue is clean, wet, lingual papillae are well marked. Tonsils do not protrude beyond palatine arches, are homogenous and have clean surface; lacunae are not deep, without separable matter. Act of swallowing is normal. There are no changes in the voice which is adequate to gender. Neck shape is normal, its outline (contour) is even. Thyroid gland is not visualized. Its tissue, on palpation, is of homogenous, soft elastic consistency, painless, mobile during swallowing, non-adherent to skin and surrounding tissues. Lactiferous glands in females (chest glands in males) have no pathology. Muscular system is satisfactorily developed; muscles are painless, with sufficient tonus and strength. Configuration of the spine is proper. Integrity of the bones is intact, their surface is smooth; there is no tenderness either on palpation or on tapping. Externally joins have no changes. Movements of joints and spine are painless and performed in full range.

Description of Objective *Cardio-Vascular System* Status

Changes which frequently occur in pathology:

- General condition, consciousness and habitus (constitution) may be of different characters.
- Cardiac cachexia.
- Facies mitralis, Corvisar's face.
- Orthopnea.
- Breathlessness (dyspnea) and cough.
- Paleness, hyperemia, cyanosis of skin covering.

- Xanthomas, xanthelasmas.
- Edemas
- “Carotid pulse”, Musse’s symptom.
- Swelling, pulsation of jugular veins.
- Changes of the chest cage are: cardiac hump, marked kyphosis, carina-like or funnel-like deformations (pectus carinatum, pectus excavatum).
- Signs of arthritis.

Normally, if apex beat is seen on examination, in normosthenics it is usually located in the fifth intercostal space at 1.5cm - 2.0cm towards the inside from the left midloclavicular line. Swelling of jugular veins, extasia of subcutaneous body and limbs veins and visual pulsation of both carotid and other peripheral arteries are absent.

On palpation of the radial arteries pulse is of equal volume in both hands, regular its rate is 60 - 90 beats per minute; its volume is full and it’s soft (not hard); blood vessel wall beyond the pulse wave is not palpable.

If apex beat is palpable, it is located in the fifth intercostal space at 1.5cm - 2.0cm towards the inside from the left midloclavicular line, coinciding in time with carotid pulse, it is of moderate strength, its area is ≤ 2cm². Apex beat, phenomena of diastolic and systolic tremor in the precardiac region, retrosternal and epigastral pulsations are not defined on palpation. Pulsation of temporal arteries and distal lower extremity arteries is preserved and is equal in both sides. Arterial pressure is up to 140/90 mm Hg, its difference between the left and right shoulder arteries is not more than 10 mm Hg. Pulse pressure is 40-70 mm Hg. In case of increased arterial pressure one should give the results of its measurement in femur arteries, where, normally, it exceeds the shoulder artery pressure by 20 mm Hg.

On percussion the right border of the relative heart dullness on the fourth intercostal space level passes along the right breastbone border, whereas that of the absolute heart dullness passes along the left breastbone border; the upper border of the relative heart dullness defined along the left peribreastbone line (or by 1cm away from the left breastbone border), is located in the 111d rib, whereas that of the absolute heart dullness is located in the 1Vth rib; the left border of the heart on the level of the fifth intercostal space is located by 1.5 – 2.0 cm towards the inside from the left midloclavicular line. The width of the vascular fascicle on the level of the second intercostal space is within the width of the breastbone.

On auscultation the number of heart contractions is adequate to the pulse. Heart sounds are clear (there are no either splitting or additional sounds; there are no murmurs) in all the points of auscultation. The ratio of sounds strength is not changed: above the heart apex, in Botkin’s point and at the basis of the xiphoid

(sword-shaped) process sound 1 is louder than sound 2; in young people (up to 25 years of age) there may be physiologic accent of sound 2 above over the pulmonary artery. In case some additional sounds and murmurs are revealed, one should fix the points in which they are auscultated, their relation to the phases of the heart cycle; for murmurs one should also define their loudness, duration, timbre, conduction direction and murmur changes depending on respiration phases, position of the patient and physical exertion. Murmurs are not normally defined in peripheral arteries and jugular veins.

Description of Objective ***Respiratory*** *System* Status

Changes which frequently occur in pathology:

- General condition, consciousness, habitus (constitution) may be of different character.
- Forced position in pneumothorax, bronchial asthma attack, dry pleuritis.
- Fever.
- Breathlessness (dyspnea).
- Cyanosis.
- Unilateral feverish red cheeks.
- Herpes labialis et nasalis.
- Swelling of jugular veins.
- Thickening of nodding muscles.
- Cheyne-Stokes respiration; Biot's respiration.
- Thorax asymmetry.
- Delayed breathing of the affected thorax half.
- "Clubbed fingers" and "clock glasses" deformations.

Normally, the chest, on inspection, is of the right shape, symmetric. Supraclavicular and subclavicular fossae are moderately marked, similar on both sides. Respiratory rate is 12 - 18 per minute, respiratory movements are rhythmic, of medium depth, both halves of the thorax evenly participate in the act of respiration. Either abdominal respiration or thorasic one or mixed type prevails. Ratio of inspiration and expiration phase duration is not disturbed. Respiration is performed noiselessly without involving lacertus musculature.

When pressed, thorax is elastic and pliable. On palpation the integrity of the ribs is not damaged (ribs are intact), their surface is smooth.

On feeling the ribs, intercostal spaces and thoracic muscles no tenderness is revealed. Voice shaking is moderately pronounced, being similar on the symmetrical areas of the chest.

On topographic percussion, right and left lung apexes are, anteriorly, 3-4 cm higher than the clavicle, whereas posteriorly they are on the level of VII-cervical vertebra spinal process; the width of lung apexes (Crenig`s fields) is 5-8 cm on either side; the inferior borders of the lungs along the median clavicular lines are located along the VI-th rib (on the left side they are not defined); along the anterior axillary lines they are located along the VII-th rib; along the median axillary lines they are located along the VIII-th rib (and on the left side – along the IX-th rib); along the posterior axillaries lines they are located along the IX-th rib; along the scapula lines they are located along the X-th rib; along the paravertebral lines they are located on the level of XI-th thoracic vertebra spinal process; mobility of the inferior lung border along the posterior axillary lines is 6-8 cm on either side.

When comparative percussion is performed, clear pulmonary sound is defined over the whole surface of the lungs. In case percutory sound changes are determined, one should describe their character and localization.

On auscultation vesicular respiration is defined over the lungs on either side (over trachea laryngotracheal respiration may be heard in the upper part of interscapular space up to the level of the IV-th thoracic vertebra). Additional respiratory sounds such as rales, crepitations, pleural friction rub are not heard.

Bronchophony is negative. In case pathological auscultative phenomena are found, one should describe their character and localization.

Description of Objective ***Digestive System*** Status

Changes frequently occur in pathology include:

- General condition, consciousness, constitution (habitus) may be different
- Forced position in pain syndrome
- Decreased body weight, cachexia
- Mouth odor, hepatic(us) odor
- Fever
- Paleness, yellowness of skin and mucous membranes.
- Vascular stars, “hepatic palms of the hand”, scratches.
- Xanthomas, xanthelasmas
- Stool changes.

Normally, on examination of the mouth cavity the mucous membrane is rosy, moist. Ulcerations, fur, eruption are absent. Dental caries is absent. Tonsils are not enlarged. Tongue is of normal size and shape, rosy, moist, clear.

Abdomen is of common size and regular shape, symmetric and evenly participates in the respiratory act. Visualized peristalsis, hernial diverticula and dilatation of subcutaneous abdominal veins are not determined.

On surface palpation the abdomen is soft, painless; abdominal press is well developed; divarication of recti is absent; umbilical ring is not dilated.

In some cases when tenderness and local muscular protection of the anterior abdominal wall are revealed, describe their localization and also establish whether Shchetkin-Blumberg`s symptoms or Orthner-Grekov's symptoms, etc. are present.

On deep sliding palpation of the abdomen, according to Obrastzov`s method, in the left iliac area sigmoid is palpated as a smooth, moderately dense 12 cm cord with the diameter as thick as a thumb; it is painless, easily displaced, doesn't grumble, has flaccid and rare peristalsis. In the right iliac area blind intestine is palpated as a smooth, soft elastic, somewhat dilated downwards cylinder with the diameter of two transversal fingers; it is painless, moderately mobile. Ascending and descending sections of large intestine are palpated, respectively, in the right and left abdomen as mobile, moderately dense, painless cylinders, each with the diameter of about 2 cm. Transversal segmented intestine is defined in the umbilical region as a transversly lying, arch-like downwards curved cylinder of moderate density and with the diameter of about 2,5 cm; it is painless and easily displaced. Splashing sound over fast stomach is not detected by succussion method. Palpation in the pancreas projection area is painless.

Liver, both in supine and standing position, is not palpated. If it is palpated, one should determine the size of its tip emerging from under the costal arch, the character of the tip contour, its consistency and the presence of its tenderness. The percutory borders of the liver (sizes according to Kurloff) along the right median clavicular line are the following: superior border is located along the sixth rib; inferior border is located along the edge of the right costal arch) its size is 8-10 cm), along the anterior median line its size is 7-9 cm, along the left costal arch (from dull percutory sound up to sword-like process of the breastbone) its size is 6-8 cm.

Gallbladder is not palpated; palpation of its projection is painless; symptoms of Kerr, Obrastzov-Murphy, Orthner-Grekov and Mussy (phrenicus symptom) are negative.

Spleen is not palpated either in supine or right lateral (Sali) position. The percutory borders of the spleen along the left median axillary line are the following: superior border is on the ninth rib; inferior border is on the eleventh rib (width of dullness is 4-5 cm); spleen tips on the level of the tenth rib are located along the scapular line (posterior tip) and along the anterior axillary line (anterior tip); width of dullness is 6-8 cm.

Additional pathologic formations in the abdominal cavity, signs of free fluid accumulations in the abdominal cavity are not determined. On auscultation of the abdomen murmurs of intestinal peristalsis like periodic grumbling and splashing of fluid are defected. Peritoneal murmur as well as systolic murmur over the aorta and mesenteric arteries are absent.

Stool is regular, shaped, of common colour, without pathological additives.

Description of Objective *Urine System* Status.

Changes frequently occur in pathology include:

- General condition, consciousness, position, constitution (habitus) may be of different character
- Facies nephritica
- Paleness of skin covering
- Uremic odor
- Edema

Normally, on inspection lumbar region is not changed. Kidneys, both in supine and standing position are not palpated. If kidneys are palpated, describe their shape, size, consistency, the character of their surface, degree of displacement, the presence of tenderness. Penetrating palpation in the projection of both kidneys and ureters, as well as tapping the lumbar surface in the region of the 12-th rib are painless on either side. On auscultation murmurs over kidney arteries are absent. Both on palpation and percussion bladder is not determined.

Description of Objective *Blood System* Status.

The findings of inspection, palpation, percussion and auscultation of blood forming organs are presented in other sections of objective status description in case history.

Description of Objective *Endocrine System* Status.

Changes frequently occur in pathology are:

- General condition, consciousness, constitution (habitus) may be of different character
- Exophthalmos
- Acetone odor
- Quantity and distribution changes in the subcutaneous fat layer
- Paleness, dryness, slight yellowness of skin covering (in diabetes mellitus, hypothyroidism)

Increased moisture, slight hyperthermia of skin covering (in hyperthyroidism)

Normally, thyroid is not palpable (in case it is enlarged indicate the degree of enlargement). Eye symptoms (of Gref, Mebius, Dalrimple) are negative.

On percussion shortness of sound over manubrium sterni is not noted.

On auscultation no murmur over thyroid is heard.

Specific Examples of Objective Status Description for some diseases.

1. Patient A., aged 32. Diagnosis: Rheumatic fever, mitral stenosis.

General condition is of moderate severity. Consciousness is clear. Position is active. Constitution of normosthenic type, undernourished. Body temperature is 37,4°C. Facies mitralis. Acrocyanosis. Swelling and pulsation of jugular veins. Skin covering is moderately moist and has no eruption. Hair and nails are not changed.

Hyperemia of fauces. Tonsils are enlarged and unfurred. Lymphatic nodes in the neck are palpated: anterior and posterior cervical nodes are painless of about 1,5 cm in diameter, elastic, unadhered to the surrounding tissues. The size of the right talocrural joint is enlarged; it is tender on palpation and in active and passive movements; joint mobility is limited. The skin in the joint region is somewhat hyperemic, of increased temperature. Muscular system is sufficiently developed, muscles palpation is painless.

Cardiovascular system. Pulsus differens, arrhythmia, pulse rate is 102 beats per min., heartbeat rate is 104 per min. (dropped-beat pulse is 2 beats per min), small pulse, soft pulse. BP is 115/80 mm Hg.

Palpation of the heart region reveals cardiac beat, the symptom of “two hammers”, diastolic tremor. Epigastric pulsation downwards.

The borders of relative cardiac dullness are expanded: the right border is expanded by 2 cm towards outside from the right edge of the sternum, the superior border is expanded to the 1st intercostal space; the left border is not expanded (5th intercostals space, 2 cm inside from the median clavicular line).

Heart sounds are clear, arrhythmic; the first sound is flapping; accent and bifurcation of the second sound are heard over the pulmonary artery; mitral click is detected at the apex and in Botkin`s point: in the latter protodiastolic murmur is also defined.

No pathology is detected in other systems (see description of normal objective status).

2. *Patient K., aged 26. Diagnosis: croupous pneumonia; the 5th day of the illness.*

General condition is severe, consciousness is clear but questions are answered with delay.

The patient is lying on the right side. Normosthenic, of moderate nourishment. Body temperature is 39,3°C. The right cheek is hyperemic. Herpetic eruption is seen on the upper lip. Slight hyperemia of the fauces is noted. Lymphatic nodes are not enlarged; posterior cervical lymph nodes up to 1 cm in diameter are palpable and painless as well as the inguinal ones up to 1,5 cm in diameter. Musculoskeletal system is normal. (see description of normal objective status).

Cardiovascular system. The pulse is equally full in both radial arteries, rhythmic, 112 beats per minute, pulsus plenuus (full pulse), without tension. BP is 100/60 mm Hg. Apex beat is in the 5th intercostals space by 1,5 cm towards the inside from the median clavicular line; it is of moderate strength, unspilt. The borders of relative heart dullness are not expanded: the right border is located along the right sternal edge in the fourth intercostals space; the superior border is the third rib along the line passing 1 cm away from the left edge of the sternum, the left border is located along the fifth intercostals space by 1,5 cm more medial than the median clavicular line. The width of the vascular band is adequate to the width of the sternum. Heart sounds are clear, correlation of sounds is kept, there are no murmurs.

Respiratory system. The cough is productive, the sputum is of rusty colour and of small amount. Respiratory rate is 25 per min. the chest is of common shape. Delay in respiration of the right half of the chest is revealed on inspection in sitting position.

Anteriorly the height of the lung apexes is 4 cm higher than the clavicles on both sides; posteriorly it is on the level of the spinal process of the seventh cervical vertebra. On determination on the inferior borders of the lungs of the right a dull sound begins from the shoulder blade angle and lower. On the left the inferior border of the lung is normal. The mobility of the lower pulmonary tip was not determined because of the severe condition of the patient. On percussion there is a clear pulmonary sound over the whole left pulmonary field, on the right, lower than the shoulder blade angle, the sound is dull, there is bronchial breathing; pleura friction sound is heard. On the left there is vesicular breathing without rales. Voice shaking is enhanced on the right under the shoulder blade, bronchophony is also present here.

No pathology is revealed in other systems (see normal objective status description).

3. Patient T., aged 45. Diagnosis: duodenal ulcer, aggravation.

General condition is satisfactory, consciousness is clear, active position, asthenic, moderately nourished. (Further see normal objective status description).

Digestive system. The tongue is moist, covered with white fur all over its surface, teeth prints are seen on its lateral sides, lingual papillae are not flattened. The abdomen is of common form and size, equally participates in respiration. On light touch palpation the abdomen is soft, moderately tender in the epigastric area. On deep palpation: the sigmoid colon is determined as a band (cord), it is smooth, painless, elastic; the blind intestine is painless, elastic. Ascending and descending sections of the large intestine are painless, in the form of cylinders, moderately dense, elastic. The transversal segmented intestine and the point of the gallbladder projection were not palpated because of the tenderness in the epigastric area revealed on light touch palpation. The liver is not enlarged, its inferior tip does not emerge from under the costal arch, it is sharp, even, painless, elastic. Orthner-Grekov`s symptom and Mussy`s symptom are negative. The spleen is not palpable. The signs of ascites are absent. On auscultation intestinal peristalsis is heard. The stool is shaped, of dark brown colour (visus).

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