

Taras Shevchenko National University of Kyiv
ESC "Institute of Biology and Medicine"
Department of Internal Medicine

Passport

of examination station No. 5

"INTERNAL MEDICINE. PRACTICAL SKILLS"

objective structured practical clinical examination (OSP(K)I-2)

for applicants for a higher education degree of Master

in the specialty 222 Medicine, field of knowledge 22 "Health Care"

"APPROVED"

**by the Scientific and Methodological Commission of
the National Scientific Center "Institute of Biology and Medicine"
of the Taras Shevchenko National University of Kyiv**

Protocol No. 7 of March 24, 2026

Head of the Scientific

and Methodological Commission

(Tetiana SHEVCHENKO)

Deputy Director for Scientific
and Pedagogical Work



(Olga KHARTCHENKO)

Kyiv-2026

By the

Passport
of examination station No. 5
of objective structured practical (clinical) examination - (OSP(K)I-2)
of applicants for a higher education degree of Master in the specialty
222 "Medicine" of the field of knowledge 22 "Healthcare"

<u>Course title:</u> ‘INTERNAL MEDICINE’
<u>Station name:</u> ‘PRACTICAL SKILLS’
<u>Learning objective:</u> Demonstrate a clear understanding and practical skills in performing key clinical procedures: comparative percussion of the lungs; auscultation of the heart; measurement of blood pressure; intravenous injection; intramuscular injection; subcutaneous injection; auscultation of the lungs; determination of relative cardiac dullness; palpation of the bowel segments; palpation of the thyroid gland; collection of venous blood for testing; recording of a 12-lead ECG.
<u>Developers:</u> Professor, Doctor of Medical Sciences, Head of the Department of Internal Medicine, V.I. Bulda Professor, Doctor of Medical Sciences, Professor of the Department of Internal Medicine, T.I. Chaban Associate Professor, Candidate of Medical Sciences, Associate Professor of the Department of Internal Medicine, V.O. Boiko PhD, Assistant Lecturer of the Department of Internal Medicine, I.O. Zdolnik
<u>Competencies assessed at the station:</u> SK 2. Ability to determine the necessary range of laboratory and diagnostic tests and to evaluate their results. SK 3. Ability to establish a preliminary and clinical diagnosis of a disease. SK 11. Skills in performing medical procedures. SK 13. Ability to carry out sanitary, hygienic and preventive measures.
<u>Learning outcome, which is checked and assessed using a checklist:</u> PRN 1. To identify and identify the leading clinical symptoms and syndromes (according to list 1); using standard methods, using preliminary data from the patient's history, patient examination data, knowledge about the person, his organs and systems, to establish the most probable nosological or syndromic preliminary clinical diagnosis of the disease (according to list 2). PRN 2. Collect information about the patient's general condition, assess the patient's psychomotor and physical development, the condition of the body's organs and systems, and evaluate information about the diagnosis based on the results of laboratory and instrumental studies (according to list 4). PRN 5. Determine the main clinical syndrome or what determines the severity of the victim's condition (according to list 3) by making a reasoned decision and assessing the

person's condition under any circumstances (at home, on the street, in a healthcare facility, its unit), including in emergency situations and combat operations, in field conditions, in conditions of lack of information and limited time.

PRN 14. Perform medical manipulations (according to list 5) in a medical institution, at home or at work based on a preliminary clinical diagnosis and/or indicators of the patient's condition by making an informed decision, adhering to relevant ethical and legal norms.

PRN 23. Comply with the requirements of ethics, bioethics, and deontology in one's professional activities.

PRN 24. Organize the necessary level of individual safety (one's own and those in one's care) in the event of typical dangerous situations in one's individual field of activity.

Duration of work at the station

Total duration of passing the station is 10 minutes.

Time allocation:

1. Preparation for practical skill #1 – 1 minute
2. Performing practical skill #1 – 4 minutes.
3. Preparation for practical skill #2 – 1 minute
4. Performing practical skill #2 – 4 minutes.

Maximum number of points that can be obtained at the station:

5 балів

Tasks performed by the student at the station:

The student must demonstrate: the stages of performing comparative percussion of the lungs, the stages of performing auscultation of the heart, the stages of measuring blood pressure, the stages of performing an intravenous injection, demonstrate the stages of performing an intramuscular injection, the stages of performing a subcutaneous injection, the stages of performing auscultation of the lungs, the stages of determining relative cardiac dullness, the stages of palpation of the intestinal sections, the stages of palpation of the thyroid gland, the stages of performing blood sampling from a vein for research, the stages of performing ECG registration in 12 leads.

Клінічні кейси (сценарії, задачі):

має

(див. Додаток 1)

Station organization:

Room requirements: Room with a simulated doctor's office

Logistics and technical support:

- *Required equipment, supplies, and tools for 1 applicant:*
- Table – 1 pc
- Gloves – 1 pc
- Chairs – 2 pcs
- Syringe – 1 pc
- Couch – 1 pc
- Mask – 1 pc
- Cotton balls – 2 pcs
- Tonometer with phonendoscope – 1 pc

- Disposable plaster - 1 pc
- Ethyl alcohol 96%
- ECG device - 1 pc
- Hand sanitizer and paper towels.
- ***Required simulation equipment:***
- Human phantom – 1 pc.
- Auscultation phantom – 1 pc.
- Phantom hand for intravenous injections – 1 pc.
- Phantom for intramuscular injections – 1 pc.
- Phantom hand for subcutaneous injections – 1 pc.

Need for support staff: none

Need for standardized patient: none

Standardized patient instructions

no

Instructions for the examiner on working at the station

- Identify the learner.
- Register the learner.
- Assess the learner's ability to demonstrate the stages of practical skills.
- Complete the checklist.
- Intervene only in the event of unforeseen situations.

Algorithm for completing a task by a student

Determination of the limits of relative cardiac dullness.

1. Greet, introduce yourself to the patient.
2. Obtain consent for the examination.
3. Suggest that the patient undress to the waist and lie down on the couch, ask if the patient is comfortable.
4. Take a classic (academic) position at the patient's bedside: sit to the right of the patient at the level of his pelvic part, facing the patient.
5. Determine the boundaries of the heart in the following sequence: right, upper, left.
Determination of the right border of relative dullness of the heart.
6. Determine the height of the diaphragm along lin. medioclavicularis dextra, for this place the finger of the plesimeter along lin. medioclavicularis dextra in the 3rd intercostal space and apply percussion blows, descending down the intercostal spaces and ribs until dullness. Normally, the height of the diaphragm in a normosthenic is at the level of 5 ribs or 5 intercostal space.
7. After determining the height of the diaphragm, it is necessary to rise one rib (or 1 rib and 1 intercostal space) - this will be the intercostal space.
8. Place the plesimeter finger in the 4th intercostal space parallel to the desired border (vertically) along lin. medioclavicularis dextra, apply medium-strength blows and move towards the heart, moving the finger 0.5-1 cm, until dullness. The mark of the border is made along the edge of the finger facing a clear pulmonary sound.
Determination of the upper border of relative dullness of the heart.
9. Place the plesimeter finger in the 1st intercostal space parallel to the desired border, so that the border between the terminal and middle phalanges of the plesimeter finger (the place of the blow) is on lin. parasternalis sin., or rather 1 cm outward from the left edge of the sternum (the position of lin. parasternalis sin. varies depending on the type of chest).

10. Move the finger of the plessimeter down the ribs and intercostal spaces, applying blows of medium force, until dullness appears. The boundary is marked along the edge of the finger facing a clear pulmonary sound. Визначення лівої межі відносної тупості серця.

11. Determine the position of the apical impulse (palpation).

Percussion determination of the left border of the heart is carried out along the intercostal space in which the apical impulse is localized.

If the apical impulse is not determined, then percussion is carried out along the 5th intercostal space.

12. Place the plessimeter finger parallel to the desired border (vertically) in the intercostal space in which the apical impulse was palpated, along lin. axillaris anterior (if the apical impulse is palpated to the left of the mid-axillary line, then place the plessimeter finger along lin. axillaris media).

Move the plessimeter finger 0.5-1 cm (applying percussion blows of medium force) towards the sternum until dullness appears. The border is marked along the edge of the finger facing a clear pulmonary sound.

Auscultation of the heart.

1. Greet, introduce yourself to the patient.

2. Obtain consent for the examination.

3. Ask the patient to undress to the waist and lie down on the couch, ask if the patient is comfortable.

4. Take a classic (academic) position at the patient's bedside: sit to the right of the patient at the level of his pelvic part, facing the patient.

5. Place the phonendoscope at the 1st auscultation point (5th intercostal space 1-1.5 cm to the middle from lin. medioclavicularis sinistra - the point of auscultation of the mitral valve) and listen during normal breathing.

6. Ask the patient to inhale, exhale and hold his breath. (for approximately 10 seconds).

7. Ask the patient to inhale and hold his breath (for approximately 10 seconds).

8. Ask the patient to turn to the left side, auscultate the 1st point on the left side, then ask to return to the supine position.

9. Place the phonendoscope at the 2nd auscultation point (the base of the xiphoid process on the right - the auscultation point of the tricuspid valve).

10. Ask the patient to inhale, exhale and hold his breath.

11. Ask the patient to inhale and hold his breath.

12. Place the phonendoscope at the 3rd auscultation point (the 2nd intercostal space to the right of the sternum - the auscultation point of the aortic valve) and listen during normal breathing.

13. Place the stethoscope in the 4th auscultation point (the 2nd intercostal space to the left of the sternum - the point of auscultation of the pulmonary artery valve) and listen during normal breathing (the sound of the 2nd tone on the aorta and pulmonary artery is compared).

14. Listen in the 2nd intercostal space to the left during breath holding on inspiration and expiration.

15. Listen in the 5th auscultation point (the 3rd intercostal space to the left of the sternum).

16. Make a general conclusion about the auscultatory picture of the heart.

Deep methodical palpation of the intestinal sections.

Greet, introduce yourself to the patient.

2. Obtain consent for the examination.

3. Ask the patient to undress to the waist and lie down on the couch, ask if the patient is comfortable.

4. Explain to the patient his position before the procedure: lying on his back, legs slightly bent at the knees, arms along the body, stomach relaxed.
5. Take the classic (academic) position by the bed: to the right of the patient and facing him.
6. Palpation is performed on the patient's exhale, the movements should be soft and gradual. It is worth starting with painless areas
7. Hand position: the hand moves perpendicular to the axis of the intestine.
8. Palpation sequence: sigmoid colon, cecum, ascending colon, transverse colon, descending colon.
9. Palpation technique of the sigmoid colon: the fingers of the right hand are placed parallel to the intestine, on exhalation — immersion in depth, then sliding. The place of palpation is the left iliac region. Normally, the sigmoid colon is smooth, elastic, painless, diameter ~2–3 cm, easily displaced, may rumble.
10. Palpation technique of the cecum: the fingers of the right hand are placed parallel to the intestine, on exhalation — immersion in depth, then sliding. The place of palpation is the right iliac region. Normally, the cecum is elastic, painless, moderately mobile, may rumble.
11. Palpation technique of the ascending colon: performed with two hands (bimanually): the left hand — fixes, and the right — palpates on exhalation — immersion in depth, then sliding. Normally, the ascending colon is inactive, painless, of moderate density.
12. Palpation technique of the transverse colon: performed with two hands (bimanually): the left one fixes, and the right one palpates on exhalation - immersion in depth, then sliding across. Normally, the transverse colon is inactive, painless, soft.
13. Palpation technique of the descending colon: performed with two hands (bimanually): the left one fixes, and the right one palpates on exhalation - immersion in depth, then sliding. Palpation site - the left side of the abdomen. Normally, the descending colon is painless, inactive, dense.

Palpation of the thyroid gland.

1. Greet, introduce yourself to the patient.
2. Obtain consent for the examination.
3. Ask the patient to remove clothing and jewelry from the neck, ask if the patient is comfortable.
4. Explain the position to the patient: the patient is sitting or standing, the head is slightly tilted forward to relax the neck muscles.
5. Take the correct position: the doctor stands behind the patient.
6. Palpation is performed with warm hands, the movements are soft, painless, the results are evaluated symmetrically, sliding movements of the fingers are used.
7. Hand position: both hands are placed on the neck, the thumbs are behind (on the back of the head or neck), the other fingers are on the front surface of the neck above the projection of the thyroid gland.
8. Palpation technique of the isthmus of the thyroid gland: fingers are placed at the level of the trachea (below the cricoid cartilage), the patient is asked to make a swallowing movement, assess the displacement of the gland under the fingers
9. Palpation technique of the thyroid lobes: palpate the right and left lobes alternately, fingers shift the trachea to the opposite side, assess the mobility of the lobe during swallowing.
10. During palpation, it is worth assessing its size, symmetry, consistency (soft, elastic, dense), soreness, surface (smooth / bumpy), the presence of nodes, mobility during swallowing.
11. Normally, the thyroid gland is not palpable or partially palpable, painless, elastic, homogeneous, mobile during swallowing.

12. If the thyroid gland increases in size, assess the degree of enlargement (according to WHO) and pay attention to the presence of nodules.

Comparative percussion of the lungs

1. Greet, introduce yourself to the patient.
2. Obtain consent for the examination.
3. Ask the patient to undress to the waist.
4. Percussion is performed in the patient's sitting or standing position.
5. Comparative percussion is performed on symmetrical areas in the following sequence: supraclavicular, clavicular area, infraclavicular, axillary, suprascapular, interscapular, infrascapular areas. Loud percussion is used.
6. Stand or sit in front of the patient, place the plessimeter finger in the supraclavicular area parallel to the clavicle so that the border between the terminal and middle phalanx (the place of impact) is in the middle of the clavicle, apply 2 blows and repeat all this on the symmetrical area on the opposite side. Compare the sounds obtained.
7. Percuss the clavicles using direct percussion (according to Yanovsky).
8. In the subclavian region, the finger of the plessimeter is placed in the intercostal spaces, so that the boundary between the terminal and middle phalanx (the place of impact) passes along the lin.medioclavicularis sin.
9. Comparative percussion is carried out on the left to the 2nd intercostal space. Further to the left is the heart (incisura cordialis).
10. On the right, below the 2nd intercostal space, comparative percussion is carried out along the lin.parasternalis dextra and lin.axillaris ant. dextra.
11. Before conducting comparative percussion in the axillary regions, ask the patient to raise his arms and put them behind his head.
12. In the axillary region, the finger of the plessimeter is placed in the intercostal spaces, so that the boundary between the terminal and middle phalanx (the place of impact) passes along the lin.axillaris med.
13. Turn the patient with his back to you.
14. Place the finger of the plessimeter in the suprascapular region horizontally, parallel to the spina scapulae, so that the base of the hand is turned to the shoulder joint, and the border between the terminal and middle phalanx (the place of impact) passes along the lin.scapularis. And similarly percuss on the symmetrical area on the other side.
15. Before conducting comparative percussion in the interscapular region, ask the patient to cross his arms in front of him and tilt his head forward slightly.
16. Percussion should be carried out along the spine in the upper, middle and lower interscapular regions or using the "herringbone" method (at an angle to the spine in each intercostal space).
17. In the subscapular region, the finger of the plessimeter is located in the intercostal spaces, so that the border between the terminal and middle phalanx (the place of impact) passes along the lin.scapularis. Percussion sounds are compared to the IX intercostal space.
18. Make a general conclusion about the results of comparative percussion of the lungs, noting the nature of the percussion tone and its symmetry over the lungs.

Auscultation of the lungs.

1. Greet, introduce yourself to the patient.
2. Obtain consent for the examination.
3. Ask the patient to undress to the waist.

4. Auscultation should be performed while sitting, or standing, but monitor the patient's sensations. The patient may feel dizzy when taking a deep breath.
5. The phonendoscope is pressed tightly, but not too tightly, to the patient's body.
6. Ask the patient to breathe calmly with a half-open mouth (this is important, because patients often have difficulty breathing through the nose and side noises may appear during auscultation).
7. Auscultation is performed in the supraclavicular, infraclavicular, axillary, suprascapular, interscapular and infrascapular regions.
8. Auscultation in the subclavian region on the left is performed to the 2nd intercostal space. Further to the left is the heart (incisura cordialis).
9. On the right below the 2nd intercostal space, auscultate the lungs along lin.parasternalis dextra and lin.axillaris ant. dextra.
10. Before auscultating the axillary areas, ask the patient to raise his arms and put them behind his head.
11. In the axillary area, listen to the upper, middle and lower sections, while the stethoscope is located along lin.axilaris med.
12. Turn the patient with his back to you.
13. Place the stethoscope in the suprascapular area above the spina scapulae. And listen in the same way in the symmetrical area on the other side.
14. Before auscultating the interscapular area, ask the patient to cross his arms in front of him and tilt his head forward slightly.
15. Listen along the spine in the upper, middle and lower interscapular areas.
16. In the subscapular region, the stethoscope is located along the lin.scapularis. The auscultatory picture is compared to the IX intercostal space.
17. When conducting auscultation in each area, it is necessary to listen to the main respiratory noise, and if present, additional respiratory noises, with calm breathing, then listen by asking the patient to breathe deeper, then ask the patient to cough and listen again at the same point (these techniques are used for differential diagnosis of additional respiratory noises).

Blood sampling from a vein for research

Applying a venous tourniquet and preparing for puncture

1. Wash your hands and treat them with an antiseptic solution, put on rubber gloves.
2. Check disposable syringes and needles immediately before preparing for the manipulation for expiration date.
3. Tear the packaged disposable syringe from the piston side, remove the syringe, remove the needle by the plastic cap and put it on the syringe (in those syringes where it is not previously installed). Place the assembled syringe inside a sterile bag that has just been torn.
9. Blood sampling from a vein for examination is carried out with the patient lying or sitting.
10. Place the patient's arm with the inner surface up. To maximally straighten the elbow, a hard pillow or folded towel should be placed under it. If the manipulation is performed in bed, then lay an oilcloth under the arm so as not to stain the linen.
11. Apply a tourniquet to the patient's shoulder above the elbow. When using a rubber tourniquet, it is placed on a shirt sleeve, towel or napkin so that the free ends do not interfere during the manipulation and it is convenient to untie it with one hand. Rubber-fabric tourniquets with a clasp can be applied directly to the patient's arm. It should be remembered that the tourniquet should compress only the superficial veins and in no case disrupt the flow of blood through the arteries.
12. To increase venous stasis, the patient can be offered to clench and unclench his fist several times or lower his arm before applying the tourniquet. You can also lightly stroke the arm, as if

pumping blood in the veins, in the direction from the hand to the elbow bend or pat the hand on the elbow bend area. In case of satisfactory filling, the veins are clearly contoured and palpated under the skin in the form of elastic cords.

13. With the tip of the index finger of the right hand, palpate the veins of the elbow bend and select the most voluminous and least mobile vein from them.

II. Venipuncture and blood sampling from a vein

1. Treat rubber gloves with 70% ethyl alcohol solution. Wipe the surface of the elbow bend twice with sterile swabs moistened with 70% ethyl alcohol solution. It is better to do this from the bottom up from the periphery to the center, that is, along the flow of blood and lymph.
2. With the second finger of the left hand, next to the venous trunk, move the skin slightly down and fix the venous trunk (the patient's fist is clenched).
3. Take the syringe with your right hand so that the second finger fixes the needle sleeve, and the rest hold the syringe cylinder. The cut of the needle should be on top.
4. Place the needle at an acute angle to the skin surface in the direction of blood flow, carefully pierce the skin and the wall of the fixed vein. At the same time, you may feel as if the needle has fallen into a void.
5. After the needle enters the vein, advance it another 5–10 mm along the vein.
6. Slightly pull the syringe plunger towards you. If the needle is correctly positioned in the vein, blood will appear in the syringe.
7. Slowly pulling the syringe plunger towards you, draw 5 ml of blood from the vein into the syringe.
8. Remove the tourniquet carefully with your left hand, if using a rubber tourniquet, by pulling its end, or by pressing on different sides of the buttons of the clamping device when using a rubber-fabric tourniquet, and ask the patient to unclench his fist.
9. Apply a cotton swab moistened with alcohol to the venipuncture site and quickly remove the needle from the vein.
11. Ask the patient to bend his arm at the elbow and clamp the swab. The hand should remain in this position for 5-10 minutes, and with increased bleeding - up to 30 minutes. After that, the venipuncture site should be sealed with a bactericidal plaster. If the patient is unconscious, the puncture site should be fixed or a sterile napkin should be applied and secured with a bandage, wrapping it around the hand.
12. Wash and dry your hands.

Blood pressure measurement method.

1. Blood pressure (BP) measurement should be carried out in a quiet environment after a 5-minute rest.
2. Within 30 minutes before measuring blood pressure, the patient should not smoke or drink coffee.
3. The cuff should cover at least 80% of the circumference of the arm and cover 2/3 of its length. Using a cuff that is too narrow or short leads to an overestimation of BP values, and a cuff that is too wide leads to a decrease in them. Standard cuff (12-13 cm wide and 35 cm long)
4. Place the cuff in the middle of the arm at heart level so that its lower edge is 2-2.5 cm above the cubital fossa, and a finger passes between the cuff and the surface of the shoulder.
5. When measuring by the auscultative method, air is pumped 20-30 cm above the SAT values.
6. Release the air slowly - 2-3 mm per second - and determine the I phase of Korotkoff sounds (appearance) and V phase (disappearance), which correspond to systolic blood pressure (SBP) and diastolic blood pressure (DBP). When listening to Korotkoff sounds to very low values or to

0, the DBP level is considered to be fixed at the beginning of the V phase. The BP value is rounded to the nearest 2 mm.

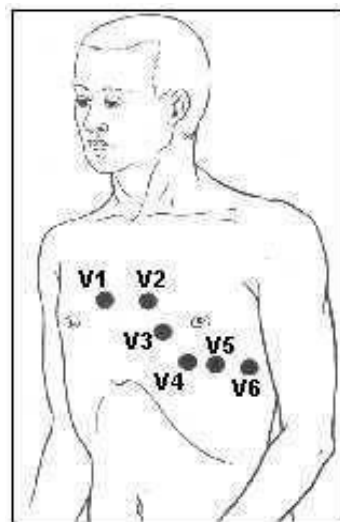
7. Measurements should be carried out at least twice with an interval of 2-3 minutes. If the results differ by more than 5 mm Hg, repeated measurements should be made after a few minutes.

8. During the first measurement, BP should be determined on both arms, as well as in a sitting, standing and lying position. Higher values are taken, which more accurately correspond to BP.

Electrocardiogram recording technique (12-lead electrocardiograph).

The study is carried out in a supine position, after a rest of 15-20 minutes, and no earlier than 30 minutes after eating. The patient should be undressed to the waist, and the lower third of the lower legs and forearms should also be exposed.

- 4 plate electrodes (or disposable electrodes) should be applied to the inner surface of the lower legs and forearms in their lower third using rubber bands, it is necessary to degrease the skin with alcohol in the places of application of the electrodes, apply a layer of special conductive gel to the electrodes, and install 6 chest electrodes on the chest using a rubber bulb - a suction cup.
- An electrocardiograph wire of the corresponding color should be connected to each electrode located on the limbs and chest: right arm - red (R), left arm - yellow (L), left leg - green (F), right leg - black (N).
- The thoracic leads proposed by Wilson in 1934, are localized as follows:
 - V1 - red active electrode installed in the fourth intercostal space along the right edge of the sternum;
 - V2 - yellow active electrode installed in the fourth intercostal space along the left edge of the sternum;
 - V4 - brown active electrode installed in the fifth intercostal space along the left midclavicular line;
 - V3 - the green active electrode is located between the second and fourth electrodes, approximately at the level of the fourth rib along the left parasternal line;
 - V5 - black active electrode is placed on the same horizontal level as V4 along the left anterior axillary line;
 - V6 - blue or purple. active electrode is placed on the left mid-axillary line on the same horizontal level as the electrodes of leads V4 and V5.
- In the lead switch position 0, adjust the electrocardiograph gain and record the calibration millivolt. If necessary, you can change the gain: reduce it if the amplitude of the ECG waves is too large (1 mV = 5 mm), or increase it if their amplitude is small (1 mV = 15 or 20 mm).



You should set the ECG recording speed by pressing the speed button to select the appropriate parameter (25 mm / sec).

- Check the quality of the electrode application by looking at the ECG display in leads I and II, switching the leads with the up and down arrow keys.

Immediately after the end of the study, indicate the patient's last name, first name and patronymic, age, date and time of the study on a paper tape.

Intravenous injection

I. Applying a venous tourniquet and preparing for puncture

1. Wash your hands and treat them with an antiseptic solution, put on rubber gloves.
2. Check disposable syringes and needles immediately before preparing for injection for expiration date.
3. Tear the packaged disposable syringe from the piston side, remove the syringe, remove the needle by the plastic cap and attach it to the syringe (in those syringes where it is not pre-attached). Place the assembled syringe inside the sterile bag that has just been torn.
4. Carefully read the name of the drug on the ampoule or vial, clarify the date of manufacture and the expiration date of the drug, which are indicated on the ampoule or vial.
5. Before drawing the drug from the ampoule, it is necessary to distill the liquid from its narrow part into the wide part. To do this, tap the narrow part of the ampoule with your fingers. Wipe the narrowed part of the ampoule with 70% ethyl alcohol. If necessary, file the ampoule at the narrowing point with a special small file (often manufacturers of modern medicines make ampoules so that they can be opened without prior filing; there is a greasy dot on the narrow part of such ampoules or the neck of the ampoule has a painted rim).
6. Use a sterile dry gauze napkin to take the place of the file and carefully break off the narrow part of the ampoule so that splinters do not form and they do not get into the inside of the ampoule.
7. Dip the needle into the ampoule and draw liquid into the syringe, gradually tilting the ampoule to a horizontal position, and then to a vertical position with the opening down at an angle of 45° . In this case, the syringe should be held as follows: the syringe barrel is clamped between the I, III—IV fingers of the right hand, the ampoule is held with the II and III fingers of the left hand; With the II and III fingers of the right hand, pull back the piston and draw liquid from the ampoule.
8. Remove air from the syringe. To do this, turn the syringe with the needle up so that the air contained in it accumulates at the top, above the liquid, in the outlet part of the cylinder. The piston pushes air through the needle in such a way that a small amount of liquid (a few drops) is squeezed out after the air. To prevent the piston from moving back and the air from getting into the syringe again, the latter is placed in a horizontal position in a sterile tray or in a bag from under the syringe.
9. Intravenous administration of drugs is carried out with the patient lying or sitting.
10. Place the patient's arm with the inner surface up. To maximally straighten the elbow, a hard pillow or folded towel should be placed under it. If the injection is done in bed, then an oilcloth should be placed under the arm so as not to stain the linen.
11. Apply a tourniquet to the patient's shoulder above the elbow. When using a rubber tourniquet, it is placed on a shirt sleeve, towel or napkin so that the free ends do not interfere with the injection and it is convenient to untie it with one hand. Rubber-fabric tourniquets with a clasp can be applied directly to the patient's arm. It should be remembered that the tourniquet should compress only the superficial veins and in no case disrupt the flow of blood through the arteries.
12. To increase venous stasis, the patient can be offered to clench and unclench his fist several times or lower his arm before applying the tourniquet. You can also lightly stroke the arm, as if pumping blood in the veins, in the direction from the hand to the elbow bend or pat the hand on the elbow bend area. In case of satisfactory filling, the veins are clearly contoured and palpated under the skin in the form of elastic cords.
13. With the tip of the index finger of the right hand, palpate the veins of the elbow bend and select the most voluminous and least mobile vein from them.

II. Venipuncture and administration of drugs into the vein

1. Treat rubber gloves with 70% ethyl alcohol solution. Wipe the surface of the elbow bend twice with sterile swabs moistened with 70% ethyl alcohol solution. It is better to do this from the bottom up from the periphery to the center, that is, along the flow of blood and lymph.
2. With the second finger of the left hand, next to the venous trunk, move the skin slightly down and fix the venous trunk (the patient's fist is clenched).
3. With the right hand, take the syringe with the drug so that the second finger fixes the needle sleeve, and the rest hold the syringe cylinder. The cut of the needle should be on top.
4. Place the needle at an acute angle to the skin surface in the direction of blood flow, carefully pierce the skin and the wall of the fixed vein. At the same time, there may be a feeling that the needle has fallen into a void.
5. After the needle enters the vein, advance it another 5–10 mm along the vein.
6. Slightly pull the syringe piston towards you. If the needle is correctly positioned in the vein, blood will appear in the syringe.
7. Remove the tourniquet carefully with your left hand, if using a rubber tourniquet, by pulling its end, or by pressing on different sides of the clamping device button when using a rubber-fabric tourniquet, and ask the patient to unclench his fist.
8. Pull the cylinder piston towards you again to make sure that the needle did not come out of the vein when removing the tourniquet. At the same time, blood flows freely into the syringe.
9. Administer the drug slowly so that it mixes with the blood and does not irritate the inner wall of the vein, and does not cause an undesirable reaction of the body. When injected, the drug (usually 10-20 ml) must be injected very slowly (3-4 min) so as not to cause an undesirable reaction and constantly monitor that the needle does not come out of the vein.
10. After the end of the injection of the drug, apply a cotton swab moistened with alcohol to the injection site and quickly remove the needle from the vein.
11. Ask the patient to bend his arm at the elbow and squeeze the swab. The arm should be in this position for 5-10 min, and with increased bleeding - up to 30 min. After that, the venipuncture site should be sealed with a bactericidal plaster. If the patient is unconscious, the puncture site should be fixed or a sterile napkin should be applied and secured with a bandage, wrapping it around the arm.
12. Wash and dry your hands.

Intramuscular injection

1. Wipe cleanly washed hands with a sterile cotton swab moistened with 70% ethyl alcohol solution.
2. Check disposable syringes and needles immediately before preparing for injection for expiration date.
3. Tear the packaged disposable syringe from the piston side, remove the syringe, remove the needle by the plastic cap and attach it to the syringe (in those syringes where it is not pre-attached). Place the assembled syringe inside the sterile bag that has just been torn.
4. Carefully read the name of the drug on the ampoule or bottle, clarify the date of manufacture and the expiration date of the drug, which are indicated on the ampoule or bottle.
5. Before drawing the drug from the ampoule, it is necessary to distill the liquid from its narrow part into the wide part. To do this, tap the narrow part of the ampoule with your fingers. Wipe the narrowed part of the ampoule with 70% ethyl alcohol. If necessary, file the ampoule at the narrowing point with a special small file (often manufacturers of modern medicines make ampoules so that they can be opened without prior filing; there is a greasy dot on the narrow part of such ampoules or the neck of the ampoule has a painted rim).

6. Use a sterile dry gauze napkin to take the place of the file and carefully break off the narrow part of the ampoule so that splinters do not form and they do not get into the inside of the ampoule.
7. Dip the needle into the ampoule and draw liquid into the syringe, gradually tilting the ampoule to a horizontal position, and then to a vertical position with the opening down at an angle of 45° . In this case, the syringe should be held as follows: the syringe barrel is clamped between the I, III—IV fingers of the right hand, the ampoule is held with the II and III fingers of the left hand; With the fingers of the right hand, pull back the piston and draw liquid from the ampoule.
8. Remove air from the syringe. To do this, turn the syringe with the needle up so that the air contained in it accumulates at the top, above the liquid, in the outlet part of the cylinder. The piston pushes air through the needle in such a way that a small amount of liquid (a few drops) is squeezed out after the air. To prevent the piston from moving back and the air from getting into the syringe again, the latter is placed in a horizontal position in a sterile tray or in a bag from under the syringe.
9. The intramuscular injection is performed with the patient lying on his stomach or on his side. In this position, the muscles are completely relaxed. If the patient has tensed his muscles, he should be asked to take a calm, deep breath and relax them.
10. Determine the upper outer quadrant of the buttock, for which the buttock area is conditionally divided into four quadrants: draw a vertical line through the ischial tuberosity, and a horizontal line through the greater trochanter of the femur.
11. Wipe the skin of the upper outer quadrant twice with sterile cotton swabs moistened with 70% ethyl alcohol solution. Fix the second cotton swab between the IV and V fingers of the left hand.
12. Hold a syringe filled with medication with a needle in your right hand (support the piston with the II finger, the V - the needle sleeve, and hold the syringe cylinder with the remaining fingers).
13. Stretch the skin at the injection site and fix it between the I and II fingers of the left hand. Suggest that the patient take a deep breath.
14. Insert the needle perpendicular to the skin surface with a sharp movement to a depth of 5–7 cm, piercing the skin, subcutaneous fat, fascia, and gluteus maximus muscle, but not more than $\frac{2}{3}$ of the length of the needle.
15. Before injecting the medication, pull back the piston slightly and make sure that the needle has not entered a blood vessel (no blood appears in the syringe).
16. Slowly inject the medication, pressing on the piston with your left hand to minimize pain and evenly distribute the drug in the tissue.
17. Remove the needle with a quick movement and press the puncture site with a sterile cotton swab moistened with alcohol, holding it for several minutes if necessary.

Subcutaneous injection

1. Wipe cleanly washed hands with a sterile cotton swab moistened with 70% ethyl alcohol solution.
2. Check disposable syringes and needles immediately before preparing for injection for expiration date.
3. Tear the packaged disposable syringe from the piston side, remove the syringe, remove the needle by the plastic cap and put it on the syringe (in those syringes where it is not pre-installed). Place the assembled syringe inside the sterile bag that has just been torn.
4. Carefully read the name of the medicine on the ampoule or bottle, clarify the date of manufacture and the expiration date of the drug, which are indicated on the ampoule or bottle.

5. Before drawing medicine from the ampoule, it is necessary to distill the liquid from its narrow part into the wide part. To do this, tap the narrow part of the ampoule with your fingers. Wipe the narrowed part of the ampoule with 70% ethyl alcohol. If necessary, file the ampoule at the narrowing point with a special small file (often manufacturers of modern medicines make ampoules so that they can be opened without prior filing; there is a greasy dot on the narrow part of such ampoules or the neck of the ampoule has a painted rim).
6. Use a sterile dry gauze napkin to take the place of the file and carefully break off the narrow part of the ampoule so that splinters do not form and they do not get into the inside of the ampoule.
7. Dip the needle into the ampoule and draw liquid into the syringe, gradually tilting the ampoule to a horizontal position, and then to a vertical position with the opening down at an angle of 45°. In this case, the syringe should be held as follows: the syringe barrel is clamped between the I, III—IV fingers of the right hand, the ampoule is held with the II and III fingers of the left hand; With the II and III fingers of the right hand, pull the piston back and draw liquid from the ampoule.
8. Remove air from the syringe. To do this, turn the syringe with the needle up so that the air contained in it accumulates at the top, above the liquid, in the outlet part of the cylinder. The piston pushes air through the needle in such a way that a small amount of liquid (a few drops) is squeezed out after the air. To prevent the piston from moving back and the air from getting into the syringe again, the latter is placed in a horizontal position in a sterile tray or in a syringe bag.
9. Subcutaneous injection is performed with the patient in a sitting position. Patients with a labile nervous system prone to dizziness should be injected in a lying position.
10. At the injection site, wipe the skin with a sterile cotton swab moistened with 70% ethyl alcohol solution twice: first treat an area measuring 10 x 10 cm, then with a second swab measuring 5 x 5 cm. Clamp the second swab between the IV and V fingers of the left hand.
11. Take the syringe filled with medication with your right hand so that the II finger holds the needle sleeve, the remaining fingers freely hold the syringe barrel. The needle cut should be directed upwards.
12. With the index and thumb of your left hand, grab the skin with subcutaneous fat in the corresponding area and pull it slightly upwards.
13. With a quick movement at an acute angle (30–45°) along the lymph flow (from the periphery to the center), insert the needle with the cut side up, insert it 2/3 of the length into the base of the formed fold, that is, to a depth of 1–2 cm.
14. After piercing the skin, release the fold and with the II–III fingers of the left hand, grasp the rim of the syringe cylinder, and with the I finger, press on the piston handle and slowly inject the medicine under the skin.
15. With the left hand, apply a sterile cotton swab to the injection site and quickly pull out the needle.
16. With this same swab for 3–5 minutes. hold the injection site.

Checklist (checklist) (see Appendix 2)

Example checklist

<i>Nº 3/n</i>	<i>Components of the clinical case being evaluated</i>	Number of points per position	Number of points of the education seeker*

Practical skill №1			
1.	Greet and introduce yourself to the patient, obtain consent for the examination	0,2	
2.	Put on disposable gloves	0,15	
3.	Invite the patient to undress to the waist and lie down on the couch	0,15	
4.	Take an academic position near the patient's bed	0,15	
5.	Percussively determine the height of the diaphragm along the right midclavicular line	0,2	
6.	Determine the right border of relative cardiac dullness along the edge of the finger facing the clear pulmonary sound	0,2	
7.	Place the hand to determine the upper border of relative cardiac dullness 1 cm outward from the left edge of the sternum	0,2	
8.	Determine the upper border of relative cardiac dullness along the edge of the finger facing the clear pulmonary sound	0,2	
9.	Determine the location of the apical impulse	0,2	
10.	Determine the left border of relative cardiac dullness along the edge of the finger facing the clear pulmonary sound	0,2	
11.	Follow the correct sequence of determining the borders of relative cardiac dullness (right, upper, left)	0,35	
12.	Announce the results obtained and indicate their (non)compliance with normal meaning.	0,3	
Practical skill №2			
1.	Put on a mask and disposable gloves	0,3	
2.	Check the expiration date of the syringe	0,15	
3.	Prepare the syringe and sterile cotton balls	0,15	
4.	Apply a tourniquet	0,2	
5.	Treat the skin over the vein at the puncture site	0,2	
6.	Insert the needle into the vein	0,35	
7.	Check the position of the needle in the vein	0,2	
8.	Collect 5 ml of blood into the syringe	0,2	
9.	Remove the tourniquet	0,15	
10.	Properly remove the needle	0,2	
11.	Fix the swab at the injection site	0,2	
12.	Disassemble the syringe and place it in a container	0,2	
Total points		5	

** to be filled in by the examiner.*

Regulatory documents and literature, on the basis of which tasks were given to applicants and algorithms for completing tasks were specified

1. 1. Propaedeutics of internal medicine: a textbook / Yu.I. Decyk, O.G. Yavorsky, E.M. Neyko and others; edited by O.G. Yavorsky. – 4th ed., corrected and supplemented – Kyiv: VSV “Medicine”, 2016. – 552 p. + 12 p. color incl.
2. 2. Patient care and medical manipulation techniques: a textbook / L.S. Savka, L.I. Razinkova, O.I. Kotsar, L.M. Kovalchuk, O.V. Kononov. – 4th edition, 2018
3. 3. Nursing: a textbook (University of Applied Sciences I-III years) / N.M. Kasevich, I.O. Petryashev, V.V. Slipchenko and others; edited by V.I. Lytvynenko. – 3rd ed., corrected
4. 4. INSTRUCTIONS on the implementation of improved hand hygiene in healthcare institutions and institutions / institutions providing social services / social protection of the population. As amended and supplemented by the order of the Ministry of Health of Ukraine dated February 21, 2023 No. 354.
https://ips.ligazakon.net/document/view/re36943?an=1&ed=2023_02_21
5. 5. Fundamentals of electrocardiography: Textbook (editors: Prof. O.Y. Zharinov, Associate Professor V.O. Kuts). Fourth edition, revised and supplemented. – Kyiv: Chetverta hvylya, 2020. – 248 p.