

Clinical station: "Physical examination of the patient: comparative percussion of the lungs"

№	Steps	Algorithm
Physical Examination of the Patient: Comparative Percussion of the Lungs		
1.	Establishing contact with the patient using appropriate verbal and nonverbal communication.	<p>Introduce yourself and get acquainted with the patient.</p> <p>Employ appropriate verbal and nonverbal communication to build mutual understanding.</p> <p>Involve the patient; provide nonverbal support to reassure the patient.</p>
2	Aseptic rules.	Sanitize your hands using hygienic method.
3	Correct positioning the patient.	<p>Request that the patient expose their chest by removing clothing.</p> <p>Positioning of the patient: they should either stand or sit with their arms lowered.</p>
4	Proper positioning of the pleximeter finger and hammer finger.	<p>Firmly place the pleximeter finger parallel to the ribs.</p> <p>Bend the hammer finger at a right angle.</p> <p>Deliver percussive strikes strictly perpendicular to the pleximeter finger.</p>
5	Conducting comparative percussion on the front surface of the lungs.	Start percussion from the anterior surface of the chest. Begin with the supraclavicular fossae. Continue percussing over the clavicle (without using the pleximeter finger). Proceed along the parasternal lines. Then continue along the mid-clavicular lines.
6	Conducting comparative percussion on the lateral surfaces.	Ask the patient to raise their arms above their head. Then continue percussing along the anterior, middle, and posterior axillary lines.
7	Conducting comparative percussion on the posterior surface.	Position of the patient: standing or sitting, with their arms crossed over their chest. Start percussion over the lung apices. Continue across the interscapular area. Then proceed to the infrascapular area.
8	Assessment of the characteristics of percussion sounds at symmetric points.	<p>Determine and compare the loudness of the sound.</p> <p>Determine and compare the pitch of the sound. Determine and compare the duration of the sound.</p>
9	Interpreting the obtained data.	<p>Clear lung sound: Normal condition.</p> <p>Dull sound: Consolidation of lung tissue.</p> <p>Flat sound: Fluid in the pleural cavity.</p> <p>Tympanic sound: Cavity in the lung.</p>

10	Conclude the examination.	Assist the patient in dressing. Remove gloves. Sanitize your hands. Inform the patient that the examination has concluded.
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Maximum time for the station: 10 minutes.

Maximum score: 100 points.

Clinical station: "Physical Examination of the Patient: Normal Heart Auscultation"

№	Steps	Algorithm
Physical Examination of the Patient: Normal Heart Auscultation		
1.	Establish contact with the patient and use appropriate verbal and nonverbal communication.	<ul style="list-style-type: none"> Greet the patient, learn their name, and introduce yourself. Use appropriate verbal and nonverbal communication to build mutual understanding. Engage the patient, providing nonverbal support to make them feel comfortable.
2	Follow aseptic rules.	<ul style="list-style-type: none"> Sanitize your hands using hygienic method. Clean the diaphragm and bell of the stethophonendoscope with an antiseptic.
3	Position the patient.	<ul style="list-style-type: none"> Ask the patient to expose their chest by removing clothing. Ensure good lighting of the area to be examined. Perform auscultation standing/sitting.
4	Auscultation at the mitral valve projection point.	<ul style="list-style-type: none"> Auscultation at the 5th point: <p>Place the diaphragm at the 5th intercostal space along the left midclavicular line. Listen to the heart sounds. Assess rhythm regularity, volume, and the relationship of the sounds.</p>
5	Auscultation at the aortic valve projection point.	<ul style="list-style-type: none"> Auscultation at the 2nd point: <p>Place the diaphragm at the 2nd intercostal space to the right of the sternum. Listen to both heart sounds. Evaluate the characteristics of the second sound.</p>
6	Auscultation at the pulmonary artery valve projection point.	<ul style="list-style-type: none"> Auscultation at the 3rd point: <p>Place the diaphragm at the 2nd intercostal space to the left of the sternum. Listen to both heart sounds. Assess the characteristics of the second sound.</p>
7	Auscultation at the tricuspid valve projection point.	<ul style="list-style-type: none"> Auscultation at the 4th point: <p>Place the diaphragm at the area of the xiphoid process on the right side. Listen to both heart sounds. Assess the characteristics of the first sound.</p>
8	Evaluation of additional auscultation points.	<ul style="list-style-type: none"> Auscultation at additional points: <p>Botkin-Erb point (3rd-4th intercostal space to the left of the sternum). Observe the apical impulse.</p>

9	Interpretation of results.	<ul style="list-style-type: none"> • Assess normal findings: <p>Regularity of heartbeats.</p> <p>Clarity of the first (I) and second (II) sounds.</p> <p>Absence of pathological murmurs.</p> <p>Tone relation at the apex (I sound louder than II).</p> <p>Tone relation at the base (II sound louder than I).</p>
10	Conclude the examination.	Clean the stethophonendoscope. Sanitize hands. Inform the patient that the examination is complete.

Maximum time for the station: 10 minutes.

Maximum score: 100 points.

Clinical station: "Basics of Laboratory Research: Analysis and Interpretation of Complete Blood Count (CBC) in Normal and Pathological Cases"

No	Steps	Algorithm
Basics of Laboratory Research: Analysis and Interpretation of Complete Blood Count (CBC) in Normal and Pathological Cases		
1.	Interpret the RBC (Red Blood Cell) level	The student interprets the patient's RBC level (erythrocytosis/erythropenia).
2	Interpret the HGB (Hemoglobin) level	The student interprets the patient's hemoglobin level (increase/decrease).
3	Interpret the HCT (Hematocrit) level	The student interprets the patient's hematocrit level (increase/decrease).
4	Interpret the Color Index level	The student interprets the patient's Color Index level (increase/decrease).
5	Interpret the blood leukocyte formula	The student interprets the patient's leukocyte formula (leukocytosis with a left/right shift, eosinophilia/eosinopenia).
6	Interpret the platelet component	The student interprets the patient's platelet component (thrombocytosis/thrombocytopenia).
7	Evaluate ESR (Erythrocyte Sedimentation Rate) and its interpretation	The student interprets the patient's ESR (acceleration/normal).
8	Identify syndromes and their connections	Determine syndrome(s): <ul style="list-style-type: none"> • Purulent inflammation syndrome. • Anemic syndrome. • Hypercoagulation syndrome.

Maximum time for the station: 10 minutes.

Maximum score: 100 points.

Clinical station: " Measurement of Blood Pressure "

No	Steps	Algorithm
Measurement of Blood Pressure		

1.	Establish contact with the patient and use appropriate nonverbal behavior:	<ul style="list-style-type: none"> • The student greeted the patient, learned their name, and introduced themselves. • Nonverbal behavior was used effectively to build mutual understanding. • The patient was engaged, and nonverbal support was provided to ensure comfort.
2	Prepare the patient and equipment:	<ul style="list-style-type: none"> • Ensured the patient was in a comfortable position (either sitting or lying down, relaxed). • Allowed the patient time to calm down if they were anxious or stressed. • Checked the functionality of the sphygmomanometer, cuff, and all auxiliary tools. • Verified that the cuff was suitable for the patient's arm size.
3	Select the measurement site:	<ul style="list-style-type: none"> • Chose the patient's arm for measurement. • Ensured that the patient's arm was at heart level
4	Apply the cuff:	<ul style="list-style-type: none"> • Placed the cuff on the patient's upper arm, leaving a small gap between the cuff and skin (approximately 2 cm). • Positioned the cuff 2-3 cm above the elbow fold.
5	Position the stethoscope:	<ul style="list-style-type: none"> • Palpated the brachial artery to locate pulsation. • Placed the stethoscope's head on the artery at the elbow fold to detect pulsations.
6	Inflate the cuff:	<ul style="list-style-type: none"> • Checked the position of the manometer needle relative to the "0" mark on the scale. • Slowly inflated the cuff until the pulse sound in the stethoscope disappeared (typically 20-30 mmHg above the estimated systolic pressure).
7	Gradually release air:	<ul style="list-style-type: none"> • Slowly and evenly released air from the cuff (approximately 20 mmHg per second).
8	Record systolic pressure:	<ul style="list-style-type: none"> • Recorded the reading at the moment the pulse sound in the stethoscope began to reappear—this was noted as systolic pressure.
9	Record diastolic pressure:	<ul style="list-style-type: none"> • Continued releasing air until the pulse sound disappeared completely, recording this value as diastolic pressure.
10	Conclude the measurement:	<ul style="list-style-type: none"> • Fully deflated the cuff and removed it from the patient's arm. • Allowed the patient to rest for a short time before repeating the measurement, if necessary.

Maximum time for the station: 10 minutes.

Maximum score: 100 points.

Clinical station: " Procedural Skills: Parenteral Drug Administration"

№	Steps	Algorithm
Parenteral Drug Administration (Intramuscular Injection):		
1.	Establish contact with the patient. Perform hand hygiene and prepare the patient.	<ul style="list-style-type: none">• The student introduced themselves to the patient and engaged in verbal and nonverbal behavior to build mutual understanding.• Performed hand hygiene according to aseptic standards, put on gloves and a mask.• Ensured the patient was in a comfortable position.
2	Prepare the equipment.	<ul style="list-style-type: none">• Gathered all necessary materials: syringe, needle, drug ampoule, antiseptics, cotton balls, and gloves.• Checked the functionality and expiration dates of the equipment.
3	Check the ampoule with the drug.	<ul style="list-style-type: none">• Inspected the drug ampoule for damage and verified the correct dose and drug name.• Opened the ampoule using a sterile technique (ampoule cutter or puncture).
4	Fill the syringe with the drug.	<ul style="list-style-type: none">• Drew the required amount of medication into the syringe, removed air bubbles, and ensured the correct dose was in the syringe.• Placed the prepared syringe and three cotton balls soaked in alcohol into the sterile tray.
5	Select the injection site.	<ul style="list-style-type: none">• Positioned the patient on the examination couch, either lying on their stomach or on their side.• Chose the upper lateral quadrant of the gluteal region for the intramuscular injection.• Ensured the injection site was free of inflammation, damage, scars, or other abnormalities.
6	Disinfect the injection site with antiseptic.	<ul style="list-style-type: none">• Disinfected the injection site twice with an antiseptic solution (e.g., alcohol).• Used the first cotton ball to clean an area of 10 × 10 cm, and the second ball to clean only the needle insertion site, moving from the center outward.
7	Insert the needle.	<ul style="list-style-type: none">• Held the syringe in the right hand, fixing the needle hub with the fourth finger. The remaining fingers gripped the syringe barrel.• Stabilized the skin with the thumb and index finger of the left hand. Inserted the needle at a 90-degree angle to the skin to a depth of 3.5-4 cm.

		<ul style="list-style-type: none"> Ensured the needle remained stable and unmoved after insertion.
8	Administer the drug.	<ul style="list-style-type: none"> Transferred the left hand to the syringe and used the thumb to slowly press the plunger, administering the drug at a controlled speed. Ensured the needle remained stable during administration.
9	Remove the needle and treat the injection site.	<ul style="list-style-type: none"> Pressed a cotton ball onto the injection site and quickly removed the needle, holding it by the hub.
10	Dispose of materials and conclude the procedure.	<ul style="list-style-type: none"> Disposed of used syringes and needles in a Type B container. Removed gloves and performed hand hygiene.

Maximum time for the station: 10 minutes.

Maximum score: 100 points.

No	Steps	Algorithm
Parenteral Drug Administration (Intravenous):		
1.	Establish contact with the patient and prepare the patient:	The student introduced themselves to the patient. Used appropriate nonverbal behavior to build mutual understanding. Performed hand hygiene according to aseptic standards. Put on gloves and a mask. Ensured the patient was in a comfortable position.
2	Perform hand hygiene:	<ul style="list-style-type: none"> Gathered all necessary materials: syringe, needle, drug ampoule, antiseptics, cotton balls, gloves. Ensured the equipment was intact and checked expiration dates.
3	Prepare the equipment:	<ul style="list-style-type: none"> Inspected the ampoule for damage and verified the correct dose and medication name. Opened the ampoule using a sterile technique (ampoule cutter or puncture).
4	Check the ampoule and fill the syringe with medication:	<ul style="list-style-type: none"> Drew the required amount of medication into the syringe, removed air bubbles, and ensured the correct dose remained in the syringe. Disposed of the syringe packaging and empty ampoule into a Type A container. Placed the prepared syringe in a sterile tray along with three alcohol-soaked cotton balls.
5	Select the injection site:	<ul style="list-style-type: none"> Seated or positioned the patient comfortably, placing a waterproof roller pad under the elbow. Identified an appropriate vein, usually in the elbow fold region, ensuring it was visible and accessible, with no damage or inflammation. Applied a tourniquet 5 cm above the elbow fold to improve venous circulation.

		<ul style="list-style-type: none"> • Palpated the vein and asked the patient to open and close their fist several times, then to clench their fist.
6	Disinfect the injection site with antiseptic:	<ul style="list-style-type: none"> • Disinfected the vein puncture site twice using cotton balls (the first ball cleaned an area of 10 × 10 cm, the second cleaned only the needle insertion site). • Disposed of the cotton balls in a Type B container.
7	Insert the needle:	<ul style="list-style-type: none"> • Held the syringe in the right hand, stabilizing the needle hub with the fourth finger while the other fingers gripped the syringe barrel. • Used the left hand to stabilize the skin at the elbow fold between the thumb and index finger. • Carefully pierced the skin and vein, advancing the needle by 1/3 along the vein until feeling the “empty space.” • Pulled the plunger back to confirm blood appeared in the syringe barrel. • Removed the tourniquet and asked the patient to unclench their fist. Pulled the plunger back again to confirm the needle’s contact with the vein.
8	Administer the medication:	<ul style="list-style-type: none"> • Transferred the left hand to the syringe and slowly pressed the plunger with the thumb, ensuring controlled injection speed. • Ensured the needle remained stable during administration.
9	Remove the needle and treat the injection site:	<ul style="list-style-type: none"> • Left a small amount of solution (about 0.5 mL) in the syringe. • Placed a cotton ball at the needle insertion site and carefully removed the needle without displacing it. • Asked the patient to bend their arm at the elbow, keeping the cotton ball in place for 5-10 minutes until bleeding stopped.
10	Dispose of materials and conclude the procedure:	<ul style="list-style-type: none"> • Disposed of the syringe, needle, cotton balls, and gloves into a Type B container. • Performed hand hygiene.

Maximum time for the station: 10 minutes.

Maximum score: 100 points.