Clinical Station: "Determining the Borders of the Base for a Partial Removable Denture"

№	Steps	Algorithm
1	Preparation for determining the borders of the base for a partial removable plate denture in distal edentulous defects on the lower jaw	Put on gloves. Select a plaster model of the lower jaw with partially preserved teeth and a chemical pencil.
2	Visual assessment of the plaster model	Visually assess the plaster model for integrity, ensuring there are no pores and that the prosthetic bed is completely represented.
3	1st step: Identifying the borders of the base for the partial removable plate denture on the lower jaw	Draw the boundary in the area of the mucosal tubercle on the left side.
4	2nd step: Outlining the borders of the base for a partial removable plate denture on the lower jaw.	On the buccal side, outline the attachment points of the buccal-alveolar cords in the area of missing teeth on the left.
5	3rd step: Outlining the borders of the base for a partial removable plate denture on the lower jaw.	On the lingual side, cover the natural molars by 2/3 of the crown height with the boundary.
6	4th step: Outlining the borders of the base for a partial removable plate denture on the lower jaw.	On the lingual side, cover the natural anterior teeth by 1/3 of the crown height with the boundary.
7	5th step: Outlining the borders of the base for a partial removable plate denture on the lower jaw.	On the buccal side, outline the attachment points of the buccal-alveolar cords in the area of missing teeth on the right.
8	6th step: Outlining the borders of the base for a partial removable plate denture on the lower jaw.	Draw the boundary in the area of the mucosal tubercle on the right side.
9	7th step: Outlining the borders of the base for a partial removable plate denture on the lower jaw.	Position the prosthetic base boundary on the oral side above the transitional fold, encircling the areas where the lingual frenulum is attached.

10	8th step: Outlining the borders of the base for a partial removable plate denture on the lower jaw.	Complete the boundary drawing in the area of the mucosal tubercle on the left side.

Maximum time for the station: 10 minutes.
Maximum score: 100 points.

№	№	Steps
1	Preparation for determining the borders of the base for a partial removable plate denture in distal edentulous defects on the upper jaw	The student selects a model of the upper jaw with partially preserved teeth.
2	Visual assessment of the plaster model	They conduct a visual assessment of the plaster model for integrity, absence of pores, and full representation of the prosthetic bed.
3	1st step: Identifying the borders of the base for the partial removable plate denture on the upper jaw	In the distal areas, they mark the boundaries with a pencil, covering the maxillary tuberosities on the left.
4	2nd step: Outlining the borders of the base for a partial removable plate denture on the upper jaw.	In the area of missing teeth on the buccal side, they outline with a pencil the attachment points of the buccal-alveolar folds on the left, 0.5-1 mm below the level of the transitional fold on the left
5	3rd step: Outlining the borders of the base for a partial removable plate denture on the upper jaw.	In the area of missing teeth, they outline with a pencil the attachment point of the upper lip frenum.
6	4th step: Outlining the borders of the base for a partial removable plate denture on the upper jaw.	In the area of missing teeth on the vestibular side, they outline with a pencil the attachment points of the buccal-alveolar folds on the left, 0.5-1 mm below the level of the transitional fold on the right.
7	5th step: Outlining the borders of the base for a partial removable plate denture on the upper jaw.	In the distal areas, they mark the boundaries with a pencil, covering the maxillary tuberosities on the right.
8	6th step: Outlining the borders of the base for a partial removable plate denture on the upper jaw.	They cover the natural teeth in the lateral section from the palatal surface to 2/3 of the crown height of the lateral teeth on the right.
9	7th step: Outlining the borders of the base for a partial removable plate denture on the upper jaw.	They cover the natural teeth in the lateral section from the palatal surface to 2/3 of the crown height of the lateral teeth on the left.

10	8th step: Outlining the borders of the base for a partial removable plate denture on the upper jaw.	They draw a boundary at the transition from the hard palate to the soft palate, slightly anterior to the "A" line, covering the fovea palatina.

Maximum time for the station: 10 minutes.
Maximum score: 100 points.

Clinical station: " Performing the Algorithm for Measuring Blood Pressure"

№	Steps	Algorithm
Measurement of Blood Pressure		
1.	**Introducing Yourself and Building Rapport**	• Greet the patient and introduce yourself. • Use appropriate non-verbal communication. • Develop mutual understanding and trust. • Ensure the patient is in a comfortable position (sitting or lying down, relaxed). • Give the patient some time to calm down if they are anxious or stressed.
2	**Preparing the Equipment**	• Check the functionality of the sphygmomanometer, cuff, and all auxiliary instruments. • Make sure the cuff is the correct size for the patient.
3	**Applying the Cuff & Positioning the Stethoscope**	• Select the arm for measurement. Ensure the arm is at heart level. • Place the cuff on the patient's upper arm, leaving a small space between the cuff and the skin (approximately 2 cm). • The cuff should be positioned 2-3 cm above the elbow crease. • Position the stethoscope's head over the artery in the elbow crease to detect pulsations.
4	**Inflating the Cuff**	• Gradually inflate the cuff until the pulse is no longer audible through the stethoscope (usually 20-30 mmHg above the expected systolic pressure).
5	**Gradual Air Release**	• Slowly and evenly release the air from the cuff (approximately 2-3 mmHg per second).
6	**Recording Systolic and Diastolic Blood Pressure**	• Record the reading when the pulse first becomes audible—this is the systolic pressure. • Continue releasing air until the pulse disappears, then record that value as the diastolic pressure.

7	**Completing the Measurement**	• Fully deflate the cuff and remove it from the patient. • Allow the patient to rest briefly before repeating the measurement if necessary.
8	**Pulse Assessment & Symmetry Check**	• Stand in front of the patient and begin palpating the pulse on both arms (radial arteries on the right and left). • Simultaneously grasp the patient's left wrist with your right hand and their right wrist with your left hand. • Assess pulse symmetry: check for differences in pulse fullness and strength (**pulsus differens**) to determine if there is any asymmetry between the pulses in both arms.

9	**Measuring Heart Rate & Other Pulse Characteristics**	• Locate the radial artery on one of the patient's wrists using three fingers.
		• Evaluate the following pulse characteristics:
		  ○ **Rate** – beats per minute (recommended to measure for 60 seconds for accuracy, especially in cases of arrhythmia).
		  ○ **Rhythm** – regularity of the pulse.
		  ○ **Strength** – force of the pulse.
		  ○ **Tension** – resistance when pressing the artery.
		  ○ **Height** – pulse amplitude.
		  ○ **Form** – nature of pulse oscillations.

10	**Completing the Procedure & Evaluating Results**	After completing the measurements, record the results and inform the patient

Maximum time for the station: 10 minutes.
Maximum score: 100 points.

Clinical station: " Dental Patient Examination "

№	Steps	Algorithm
1	**Establishing Contact with the Patient**	Greet the patient, introduce yourself, and state your role.
2	**Hand Hygiene and Glove Application**	Perform surgical hand disinfection (according to Order No. 101 of the Ministry of Health of the Republic of Kazakhstan) and correctly put on sterile gloves.
3	**Preparing the Work Area for Oral Examination**	Adjust the dental chair to an appropriate level (the patient's head should be at the level of the doctor’s elbow or shoulder). Prepare the following materials: 1. Consumable supplies (sterile cotton balls, wipes) 2. Disinfectant solutions (0.05% chlorhexidine bigluconate solution) 3. Dental instruments (dental tray, dental mirror, excavator, dental probe, dental tweezers)
4	**Preparing for Oral Visualization**	Verify the correct positioning of the chair. Assume a proper position next to the patient and assist them in finding a comfortable posture. Ensure the patient's head is correctly aligned for optimal visualization of the oral cavity.
5	**Step 1: Initial Dental Examination**	Assess the facial configuration. Examine the skin for any discolorations or pathological formations. Palpate the regional lymph nodes. Evaluate the degree of mouth opening and the temporomandibular joint (TMJ).
6	**Step 2: Examination of the Oral Vestibule & Bite Evaluation**	Inspect the oral vestibule and assess the patient's bite.
7	**Step 3: Examination of the Oral Cavity & Tongue**	Examine the oral cavity and inspect the tongue.

8	**Assessment of Oral Health**	Accurately verbalize the assessment results based on the situation.
9	**Determining the Dental Formula in the Given Case**	Correctly dictate the dental formula according to the specific case.
10	**Completing the Oral Examination Procedure**	Inform the patient that the procedure is complete and organize the workspace. Remove the mask and gloves, disposing of them in a class B waste container. Perform hygienic hand disinfection at the end.
11	**Communicating Initial Examination Results to the Patient**	Explain the next steps for treatment, examinations, and preventive measures. Ensure the patient understands the situation. Answer the patient's questions correctly, such as: What happens if this is left untreated? How long can I wait before proceeding? Are there any alternative options?

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.**	• 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.**	• 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.**	• 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.**	• 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.**	• 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.**	• 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.**	• 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. • Ensured the needle remained stable and unmoved after insertion.

8	**Administer the drug.**	• 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.**	• 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.**	• 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

№	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:**	• 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:**	• 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:**	• 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:**	• 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. • 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:**	• 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:**	• 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:**	• 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:**	• 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:**	• 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.

Clinical station: " Placement of a Temporary Filling Made of Dentin with Water "

№	Steps	Algorithm
1	**Hand Hygiene and Glove Application**	Perform surgical hand disinfection (according to Order No. 101 of the Ministry of Health of the Republic of Kazakhstan) and correctly put on sterile gloves.
2	**Preparation of Dental Instruments**	Prepare the following instruments: Tray, Dental mirror, Excavator, Dental probe, Dental tweezers, Mixing glass, Metal spatula
3	**Mixing the Aqueous Dentin**	Place the powder and distilled water on the matte surface of the glass in a 2:1 ratio. First, add the powder to the liquid, ensuring it fully absorbs the water. Then, mix with a metal spatula for 25-30 seconds, gradually adding small amounts of powder to achieve the required consistency. The properly prepared mixture should have a plastic, paste-like consistency.
4	**Application of the Temporary Filling into the Tooth Cavity**	Introduce the filling into the dry cavity in one portion and shape it without pressure using a dry cotton ball. Working time: 1.5-2 minutes. Curing time: 3-4 minutes**.**
5	**Completion of the Procedure**	Inform the patient that the procedure is complete and tidy up the workstation.Remove the mask and gloves, disposing of them in a class B waste container.Perform hygienic hand disinfection at the end.

Maximum time for the station: 10 minutes.
Maximum score: 100 points.