MINISTRY OF HEALTH OF UKRAINE
VINNYTSIA NATIONAL MEDICAL UNIVERSITY
NAMED AFTER M.I. PYROGOV

"APPROVED"
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of dentistry disciplines
Protocol № 8
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Comission № 4
dated "27" 03 2025
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EXAMINATION MATERIALS

STATION №7 «CLINICAL AND TECHNOLOGICAL STAGES OF MANUFACTURING OF ORTHOPEDIC CONSTRUCTIONS (OSP(C)E)»

SPECIALTY	221 Dentistry
EDUCATIONAL PROGRAM	«Dentistry»
FACULTY	Faculty of Dentistry

APPENDICES TO EXAM MATERIALS

1. Instructions for students' work at the station (Appendix 1)
2. List of practical skills (Appendix 2)
3. Algorithms for performing practical skills (Appendix 3)
4. Sample task (Appendix 4)
5. Regulatory documents (Appendix 5)

Appendix 1

INSTRUCTIONS FOR STUDENTS' WORK AT STATION No. 7 "Clinical and laboratory stages of manufacturing of prosthetic structures".

THE FOLLOWING COMPETENCES ARE ASSESSED: manipulations, tactics and treatment, prevention. The station also provides for the performance of technical skills from the list of medical manipulations according to List 5 of the Higher Education Standard for specialty 221 "Dentistry".

The higher education (HE) candidate must greet and present the examiner with the identification number that was assigned during registration at the OSP(K)I. The candidate's response is videotaped at the station. The HE candidate receives a task according to a certain clinical scenario. The work at the station involves interaction with a tutor who plays the role of a standardized patient (mostly), or a medical worker, as indicated in the scenario.

In cases where work on a mannequin or dummy is expected, this is indicated in the scenario.

Before starting the communication with the tutor, the candidate is familiarized with the "Task for the student". Then he/she clearly performs all the items of the "Task" according to the following scheme.

Stages of work	Instructions
Avoid focusing too much on one stage	
Performing the manipulation	Find all teeth with hard tissue defects and large fillings on the proposed tooth models and radiographs
Determining the management and treatment tactics	Determine the occlusal surface destruction index for each problem tooth and identify depulped teeth.
Implementation of preventive elements of treatment	Suggest a method for treating the hard tissue defect depending on the value of the IROPZ and the state of vitality
Completion of the exam	Confirm the completion of the tasks

Duration of work at the station is 8 minutes.

After completing the task or the time spent at the station has expired, return the task to the teacher, wait for the signal to end the time spent at the station, and leave the station. After the time spent at the station has expired, the examiner does not accept a response. The examiner is an observer of your actions and does not provide instructions, comments, or questions. After passing the first station, the student must move to another station according to the route sheet.

It is FORBIDDEN to communicate with the examiner (except in cases related to security issues, deterioration of well-being, unforeseen circumstances, etc.), use educational and auxiliary materials, use gadgets, transmit, copy, and distribute any information related to the exam and not publicly available. If a candidate for higher education violates the above norms, his/her exam is terminated, and the exam grade is given as "failed" (violation of the rules of academic integrity).

You need to **HAVE** gloves and masks with you.

Appendix 2

LIST OF PRACTICAL SKILLS AT THE STATION

To propose a prosthetic treatment plan.

To propose a plan for preparing the patient's oral cavity for prosthetics.

To obtain an anatomical impression of the lower and upper jaws.

To fit a rigid individual tray and obtain a functional impression in the complete absence of teeth.

To determine the central occlusion in group II of dentition defects according to Betelman.

To determine the central occlusion in group III of dentition defects according to Betelman.

To determine the central occlusion in group IV of dentition defects according to Betelman.

To provide anesthesia during the preparation of vital teeth.

To prepare the tooth for a cast metal crown. To prepare the tooth for a pinlay.

To prepare the tooth for a metal-free ceramic crown.

To fit artificial crowns.

To check the design of the bridge prosthesis.

Fit a cast bridge.

Fix the crown and bridge.

Check the design of the partial removable denture.

Check the design of the complete removable denture.

Fit a partial, or complete removable denture.

Correct the partial, or complete removable denture.

Fit the arched removable denture’s frame.

Fit the arched removable denture, and identify the areas that require correction.

Analyze the patient's odontoparadontogram.

Perform selective grinding of teeth.

Perform alignment of the occlusal curve by grinding teeth.

Remove (cut and expand the edges) the stamped crown from the abutment tooth.

Select the design of the prosthesis using implants.

Appendix 3

ALGORITHMS FOR PERFORMING PRACTICAL SKILLS

Find teeth with dental hard tissue defects on the models

• Examine each model in daylight, or artificial light.

• Use a dental mirror and probe.

• Pay attention to: caries, erosions, wedge-shaped defects, enamel cracks, old restorations.

• Record the numbers of teeth with detected defects.

Find teeth with defects on radiographs

• Study the radiographs in the appropriate software, or on a negatoscope.

• Look for: carious cavities, dentin destruction, imperfect restorations, secondary caries, destroyed coronal area, presence of persistent roots

• Record teeth that have radiologically confirmed defects.

Determine the IRPZ for each tooth with a defect

• Assess the degree of destruction of the crown part.

• Take into account the presence of functional, aesthetic disorders and loss of antagonists.

• Assign an IRPZ to each tooth (with IRPZ values:

less than 0.4-0.5 - direct restoration;

from 0.4-0.5 to 0.5-0.6 - inlay;

from 0.5-0.6 to 0.7- 0.8 - filling + artificial crown;

more than 0.7-0.8 - post construction + artificial crown.

The upper limit of values is for vital teeth, the lower limit is for depulped teeth

Determine which teeth are pulped

• Evaluate radiographs: presence of root canal fillings.

• Examine teeth for crown discoloration (grayishness).

• Determine status: vital / pulped.

Suggest a method of treating the dental hard tissue defect depending on the value of IROPZ and the state of vitality

• IROPZ 0.4-0.5, vital tooth: composite restoration, inlay.

• IROPZ 0.5-0.6, vital: inlay, or partial crown.

• IROPZ 0.6-0.8, depulped: pinlay + crown.

• IROPZ 0.8+: post construction, possible removal + implantation or bridge prosthesis.

• Justify your choice: anatomical shape, tissue preservation, aesthetics, function.

Appendix 4

SAMPLE TASKS

Station No. 5. Clinical and laboratory stages of manufacturing the prosthetic structures

Tasks for the student while working at the station.

You are a prosthodontist.

A patient with problems of the dento-maxillary system has asked for help.

Objective indicators: there are defects in the crowns of the teeth, there is their mobility, discoloration and the absence of individual teeth.

1. Start interaction with the patient. Consider legal and ethical issues.

2. Conduct a survey (collection of complaints, their detailing, anamnesis). Focus on the patient's chewing efficiency.

3. Conduct an objective examination of the patient's dento-maxillary system. Determine the IROPZ of each tooth and the state of vitality.

4. Conduct diagnostics.Comment on the result of the X-ray examination of the patient's teeth.

5. Tactics and treatment. Suggest prosthetic treatment tactics, taking into account the IROPZ of each tooth and chewing efficiency.

6. Complete the work at the station.

Instructions for a standardized patient

You simulate a patient suffering from the problems with the dento-maxillary system.

Complaints of impaired chewing function, pain while chewing, speech disorders, complaints of changes in the shape, color, and position of individual teeth.

During an objective examination, indicate the cause of tooth loss and the approximate age of their loss. Indicate which teeth were previously treated and how long ago.

Manipulations. At the student's request, provide the oral cavity for examination.

When touching teeth that are mobile or have defects, simulate pain or unpleasant sensations.

Participate in a discussion of choosing a treatment method that will satisfy you, based on the applicant's recommendations.

OSP(K)I station evaluation checklist

№	Practical skills	Number of points per skill	Number of points of the applicant
Communication			
	(greetings, introductions, beginning and end of communication)		
Find teeth with hard tissue defects on the models.		**1.0**	
	Defects of hard tissues	0.5	
	Fillings	0.5	
Find teeth with defects on radiographs		**2.0**	
	Defects of hard tissues	0.5	
	Fillings	0.5	
	Filled root canals	0.5	
	Teeth having the periapical changes	0.5	
Determine the IRPZ for each tooth with a defect		**0.5**	
	Indications for restoration and crown	0.25	
	Indications for inlays and pinlays	0.25	
Determine which teeth are pulpless.		**1.0**	
	Filled root canals	0.5	
	Intact pulp chamber	0.25	
	Teeth having the changes in periapical tissues	0.25	
Stages of removing one of the teeth in this area		**1.5**	
	Overlay, move, delete	0.75	
	Overlay, advancement, fixation, luxation, removal.	0.75	

Ethical aspects			
	Maximum points per station	**6.0**	
	The amount of points the student scored		

Appendix 5

REGULATORY DOCUMENTS

1) Orthopaedic Dentistry: lecture course : lecture training text-book for IV–V academic years students of stomatological faculty with English language form of study / V. Novikov [et al.] ; eds.: V. Novikov, V. Dvornyk, 2019. – 205 p.

2) Orthopaedic Dentistry: lecture course : lecture training text-book for IV–V academic years students of stomatological faculty with English language form of study / V. Novikov [et al.] ; eds.: V. Novikov, V. Dvornyk. 2020. – 205 p.

3) Prosthetic Dentist. Rozhko M.M. Nespriadko V.P., 2022. – 696 p.

4) Propaedeutics of orthopedic stomatology. Korol M.D., 2009 – 200 p.

5) Practical Periodontics [Text] ed.: Kenneth Eaton, Philip Ower. 2017. – XII, 357 p.

6) Cobourne, Martyn. Handbook of Orthodontics [Text] / M. Cobourne, A. DiBiase. – 2nd ed. – Edinburgh [etc.] : Elsevier. 2016. – XII, 571 p.

7) Fixed prosthodontics. Hasiuk P.A., 2020 – 150 p.

8) Aesthetic aspects of prosthetic design (Естетичні аспекти дизайну ортопедичних конструкцій). Hasiuk P.A., Demkovych A.Ye., Bodnarchuk I.V., 2017 – 98 p.

9) The Basic Technologies of Dentures Producing. The Textbook for individual-training of practical classes. Beliaiev E.V., Hasiuk P.A., Komnatskyi B.Y. etc., 2019 – 122 p.

10) Optimization of clinical and laboratory stages of making of complete removable dentures depending on the condition of the tissues of foundation areas. 2020 – 148 p.

11) Dental-prosthetic technique. Rozhko M.M. 2016 – 559 p.