

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

“APPROVED”


by Methodological Council
of dentistry disciplines

Protocol № 8

dated “26” 03 2025

Head of the Methodological Council

Professor of HEI

 Serhii SHUVALOV

“AGREED”

The head of the Examination

Comission № 4

dated “27” 03 2025

Professor of HEI

 Mariia SHINKARUK-DYKOVYTSKA

EXAMINATION MATERIALS

STATION №9 "Peculiarities of the Course and Treatment of Maxillofacial Diseases in Children" Objective Structured Clinical Examination (OSCE)

SPECIALTY

221 Dentistry

EDUCATIONAL PROGRAM

«Dentistry»

FACULTY

Faculty of Dentistry

APPENDICES OF EXAMINATION MATERIALS

1. Student Instructions at the Station (Appendix 1)
2. List of Practical Skills at the Station (Appendix 2)
3. Algorithms for Performing Practical Skills (Appendix 3)
4. Sample Task (Appendix 4)
5. Regulatory Documents (Appendix 5)

Appendix 1

STUDENT INSTRUCTIONS FOR STATION No. 9 “PECULIARITIES OF THE COURSE AND TREATMENT OF MAXILLOFACIAL DISEASES IN CHILDREN”

The higher education applicant (HEA) at the station with a standardized patient must:

- Greet, introduce yourself, and get to know the patient/his/her representatives.
- Establish contact with the child, ask open-ended questions.
- Collect a targeted history - ask about complaints, detail the complaints, what the occurrence is associated with, how long it lasts, etc.
- Conduct an objective examination. Before conducting an objective examination, the patient should be explained the purpose of the procedure, the hands should be treated, and permission should be requested;
- Conduct a dialogue with the patient about the possible diagnosis/condition and differential diagnosis, explain the opinion regarding the possible diagnosis, provide information/clarification regarding the differential diagnosis.
- Assign a patient examination plan and evaluate the results of the data obtained.
- Formulate a final diagnosis.
- Determine the tactics and treatment of the patient.
- Perform the necessary manipulations.
- Wait for the signal to end the time spent at the station, leave the station and move on to the next one.

THE FOLLOWING COMPETENCES ARE ASSESSED : manipulation; diagnostics; tactics and treatment.

The duration of the station is 8 minutes.

The higher education applicant is prohibited from the following at the station:

- communicate with the examiner,
- use educational and support materials,
- use gadgets,
- transmit, copy, and distribute any information related to the exam that is not publicly available.

Note: If a candidate for higher education violates the above norms, his/her exam will be terminated, and the exam grade will be “failed” (violation of the rules of academic integrity).

TO HAVE their own gloves with them.

Appendix 2

LIST OF PRACTICAL SKILLS AT THE STATION

| No . | Diagnosis | Manipulation | Diagnostics | Treatment |
|------|--------------------------|-----------------------------------|------------------------|-------------------------------|
| 1 | Acute superficial caries | Preparation of hard tooth tissues | Welcome tooth staining | Filling with modern materials |

| | | | | |
|----|---|---|---|--|
| 2 | Chronic hypertrophic pulpitis | Probing, palpation, percussion | Electroodontodiagnostics (EOD) | Surgical treatment methods |
| 3 | Ulcerative-necrotic gingivitis | Examination, palpation, sampling of material for research | Bacteriological examination | Local and general antibacterial therapy |
| 4 | Acute herpetic stomatitis | Inspection, palpation, sampling of material from the aphthous surface | Cytological examination | Antiviral therapy |
| 5 | Acute pseudomembranous candidal stomatitis | Examination, palpation, sampling of material for research | Bacteriological examination | Antifungal therapy |
| 6 | Exacerbation of chronic periodontitis from a molar on the lower jaw | Mandibular anesthesia | Percussion, X-ray examination | Removal of the causal tooth |
| 7 | Acute purulent periostitis from a molar on the lower jaw | Torus anesthesia | Percussion, palpation of the transitional fold, X-ray examination | Removal of the causative tooth, periostotomy |
| 8 | Impinged dislocation of the temporal incisors on the upper jaw | Infraorbital anesthesia | Palpation of the transitional fold, X-ray examination | Removal of the causal tooth |
| 9 | Acute periodontitis of temporary molars on the upper jaw | Tuberal anesthesia | Percussion, palpation of the transitional fold, X-ray examination | Removal of the causal tooth |
| 10 | Physiological change of the temporary incisor | Infiltration anesthesia | X-ray examination, palpation | Removal of the causal tooth |

| | | | | |
|----|--|--|--|--|
| 11 | Crowding of teeth in the upper jaw | Taking diagnostic impressions | Orthopantomography, teleroentgenography, measurements of diagnostic plaster models, construction of the Hawley-Herber-Herbst diagram, Pon's index, Ton's index | Application of removable orthodontic structures with a screw |
| 12 | Narrowing of the maxilla in the molar area | Taking diagnostic impressions | Orthopantomography, teleroentgenography, measurements of diagnostic plaster models, construction of the Hawley-Herber-Herbst diagram, Pon's index, Ton's index | Application of removable orthodontic structures with a screw |
| 13 | Crowding of lower jaw teeth | Taking diagnostic impressions | Orthopantomography, teleradiography, measurements of diagnostic plaster models, Pon's index, Ton's index | Use of removable orthodontic structures |
| 14 | Distal bite | Taking diagnostic impressions, selecting trays | Telerontgenography , radiography , Eschler-Bitner test | And the parathur method |
| 15 | Shortening of the anterior part of the upper jaw | Taking diagnostic impressions | Orthopantomography, teleroentgenography, measurements of diagnostic plaster models, Corkhouse index. | Use of removable orthodontic structures |

Appendix 3

ALGORITHMS FOR PERFORMING PRACTICAL SKILLS

The higher education applicant at a station with a standardized patient must:

- Greet, introduce yourself, and get to know the patient/his/her representatives.
- Establish contact with the child, ask open-ended questions.
- Collect a targeted history - ask about complaints, detail the complaints, what the occurrence is associated with, how long it lasts, etc.
- Conduct an objective examination. Before conducting an objective examination, the patient should be explained the purpose of the procedure, the hands should be treated, and permission should be requested;
- Conduct a dialogue with the patient about the possible diagnosis/condition and differential diagnosis, explain the opinion regarding the possible diagnosis, provide information/clarification regarding the differential diagnosis.
- Assign a patient examination plan and evaluate the results of the data obtained.
- Formulate a final diagnosis.
- Determine the tactics and treatment of the patient.
- Perform the necessary manipulations.
- Wait for the signal to end the time spent at the station, leave the station and move on to the next one.

Appendix 4

SAMPLE TASKS

STATION 9 “PECULIARITIES OF THE COURSE AND TREATMENT OF MAXILLOFACIAL DISEASES IN CHILDREN”

Task 11. Measure the width of the upper dental arch in the premolar region..

You are a pediatric dentist at a dental clinic. You are dressed in a medical gown, cap, mask, and gloves. According to the treatment plan, a 10-year-old patient has arrived for a scheduled appointment to undergo diagnosis of a dentoalveolar anomaly, to establish a diagnosis, and to develop a treatment plan. The patient has no complaints. On the dentist's table, there is a phantom and a dental diagnostic tray.

Answer to the task:

| No. | The answer scheme includes |
|-----|---|
| 1. | Classifications of dental anomalies |
| 2. | Methods of selecting impression trays, materials and methods of taking dental impressions |
| 3. | What biometric methods exist for studying dental anomalies? |
| 4. | How are teeth measurements (Tone index) performed? |
| 5. | How are dentition measurements (Ponn index) performed? |

STATION ASSESSMENT CHECKLIST

| No. | Practical skills | Number of points per skill | Number of points of the applicant |
|-----|--|----------------------------|-----------------------------------|
| 1. | Methods for selecting impression trays, materials and methods for taking dental impressions. | 3.0 | |
| | -Method of tray selection – visual inspection and with the use of a dental caliper. -Trays – metal or plastic, with or without perforations, sizes XS, S, M, L. -Materials – diagnostic, verification, working, and auxiliary. Alginate and silicone. Single-stage and two-stage techniques. | 3.0 | |
| | -The method of selecting a tray is visual. Trays are metal or plastic. Materials - alginate and silicone (base with corrective mass). Methods of taking a dental impression – one- and two-stage. | 2.7 | |
| | The method of selecting a tray is visual. Trays are standard. Materials - alginate / silicone. Tone index - the relationship between the sum of the mesiodistal dimensions of the upper incisors to the sum of the mesiodistal dimensions of the lower incisors . | 2.4 | |
| | | | |
| 2. | Biometric methods for studying dental anomalies? | 1.5 | |
| | - Tonn, Pont, Korkhaus, Z.I. Dolgoplova method, Nance method | 1.5 | |
| | - <i>Tonn, Pont, Korkhaus</i> , Nance method | 1.2 | |
| | -Tonn, Pont, Corkhouse | 0.9 | |
| 3 | How are teeth measurements (Thon index) made? How are dentition measurements (Pon index) made? | 1.5 | |
| | Ton index - the relationship between the sum of the mesiodistal dimensions of the upper incisors to the sum of the mesiodistal dimensions of the lower incisors . | 1.5 | |

| | | |
|---|------------|--|
| <p>SI – the sum of the 4 upper incisors in the mesiodistal direction.</p> <p>si - the sum of the 4 lower incisors in the mesiodistal direction.</p> <p>$I = si/SI$ Norm = 1.35 determination of space deficit for upper incisors</p> <p>Pon's method – premolar and molar index.</p> <p>SI – sum of 4 upper incisors in mesiodistal direction. si – sum of 4 lower incisors in mesiodistal direction.</p> <p>premolar index $v/w = SI * 100/80$ premolar index $n/w = si * 100/80$</p> <p>molar index $v/w = SI * 100/64$ molar index $n/w = si * 100/64$</p> <p>Let's measure diagnostic models point by point.</p> | | |
| <p>Tone index - the relationship between the sum of the mesiodistal dimensions of the upper incisors to the sum of the mesiodistal dimensions of the lower incisors .</p> <p>$I = si/SI$ Norm = 1.35 determination of space deficit for upper incisors</p> <p>Pon's method – premolar and molar index.</p> <p>SI – sum of 4 upper incisors in mesiodistal direction. si – sum of 4 lower incisors in mesiodistal direction.</p> <p>premolar index $v/v = SI * 100/80$ molar index $v/v = SI$ Let's measure the diagnostic models by points.</p> | 1.2 | |
| <p>Ton index - the relationship between the sum of the mesiodistal dimensions of the upper incisors to the sum of the mesiodistal dimensions of the lower incisors .</p> <p>Pon's method - determination of the premolar and molar index to assess the narrowing of the dental arches on the upper and lower jaws.</p> | 0.9 | |
| Maximum points per station | 6.0 | |
| The amount of points the student scored | | |

Appendix 5
REGULATORY DOCUMENTS (only for the last 5 years)
on the basis of which clinical cases were created.

1. Procedure for the certification of applicants for the degree of professional pre-higher education and degrees of higher education at the first (bachelor's) and second (master's) levels in the form of a unified state qualification exam, approved by the Resolution of the Cabinet of Ministers of Ukraine dated May 19, 2021, No. 497;
2. Resolution of the Cabinet of Ministers of Ukraine No. 269 dated March 28, 2023 “On amendments to the Procedure for conducting the Unified State Qualification Exam for applicants for a master's degree in specialties of the field of knowledge ‘22 Health Care’”;
3. Procedure, conditions, and deadlines for the development and conduct of the Unified State Qualification Exam and the criteria for evaluating results, approved by the Order of the Ministry of Health of Ukraine dated February 19, 2019, No. 419 with amendments according to Order No. 900 dated May 24, 2024;
4. Higher education standard of the second (master's) level, field of knowledge 22 Health Care, specialty 221 Dentistry;
5. Regulations on the organization of the educational process at Vinnytsia National Pirogov Memorial Medical University, dated June 28, 2024;
6. Regulations on the organization, procedure, and evaluation of the Objective Structured Practical (Clinical) Examination in the field of knowledge 22 “Health Care” for the

- specialties 222 “Medicine”, 228 “Pediatrics”, 221 “Dentistry”, and 227 “Therapy and Rehabilitation” at Vinnytsia National Pirogov Memorial Medical University;
7. Propedeutics of Pediatric Therapeutic Dentistry – Khomenko L.O., Knyha Plyus, 2021, 310 p.;
 8. Pharmacotherapy in Dentistry / V.M. Bobyriov, T.A. Petrova, G.Yu. Ostrovska, M.M. Ryabushko, A.A. Kapustianska. Vinnitsia, Nova Knyha, 2020, 376 p.;
 9. Pediatric Dentistry / eds. N. Kotsanos, H. Sarnat, K. Park. Cham: Springer International Publishing, 2022;
 10. Stomatology in 2 books. Rozhko M.M., 2020, 792 p.;
 11. Kenneth M. Hargreaves, Louis G. Berman – Endodontics. Textbook, 2022, 1040 p.;
 12. Ashraf F. Fouad, Mahmoud Torabinejad, Shahrokh Shabahang – Endodontics: Principles and Practice, 2020, 496 p.;
 13. Prevention of Dental Diseases, Kaskova L.F., Amosova L.I., Kulai O.O., Magnoliya Publishing, 2022;
 14. Pharmacotherapy in Dentistry. Bobyriov V.M., Petrova T.A., Ostrovska G.Yu., Nova Knyha, 2020, 376 p.;
 15. Prevention of Dental Diseases. Textbook. Smolyar N.I., Humeniuk O.M., Magnoliya Publishing, 2021;
 16. Operative Dentistry. Endodontics: Textbook in 2 vol. Vol.1 / M.Yu. Antonenko et al.; edited by A.V. Borisenko. 2nd ed. Kyiv: AUS Medicine Publishing, 2020, 384 p.;
 17. Kenneth Eaton, Philip Ower – Practical Periodontology (Ukrainian ed. 2nd), Kyiv: VSV "Meditsyna", 2023, 325 p.;
 18. Clinical Periodontology and Implantology by Newman and Carranza, 14th ed., 2 vols., Ukrainian ed., Kyiv: VSV “Meditsyna”, 2024, 1280 p.;
 19. Examination of Children with Surgical Maxillofacial Diseases. Practical Guide – Yakovenko L., Knyha Plyus, 2022, 164 p.;
 20. Clinical Periodontology and Implantology by Newman and Carranza, 14th ed., 2 vols., Ukrainian ed., Meditsyna, 2025, 1543 p.;
 21. Kharkov L.V., Yakovenko L.M., Chekhova I.L. – Pediatric Surgical Dentistry and Maxillofacial Surgery: Textbook, 2nd ed., Meditsyna, 2022, 496 p.;
 22. Pediatric Oral and Maxillofacial Surgery: Textbook / L.V. Kharkov et al., 2nd ed., 2020, 104 p.;
 23. Pediatric Surgical Dentistry and Maxillofacial Surgery: Textbook / L.M. Yakovenko et al., 2nd ed., 2022, 496 p.;
 24. Tymofieiev O.O. – Maxillofacial Surgery: Textbook, 3rd ed., 2022, 792 p.;
 25. Tymofieiev O.O. – Surgical Dentistry and Maxillofacial Surgery. Vol. 1., 2024, 348 p.;
 26. Hutor N.S. – Practical Skills in Surgical Dentistry: Manual, Ukrmedkn., 2024, 236 p.;
 27. Tkachenko P.I., Bilokon S.O., Lokhmatoва N.M. – Acute and Chronic Maxillofacial Lymphadenitis in Children, Magnoliya, 2022, 124 p.;
 28. Malyk S.V. – Surgery for Dental Faculties, Nova Knyha, 2020, 440 p.;
 29. Yakymets A.V., Skrypnyk I.L., Leporskyi D.V. – Digital and Clinical Protocols for Orthodontic Aligner Use, PublishPro, Kyiv, 2022;
 30. Fastovets O.O., Sergienko O.I. – Results of Clinical and Functional Study of Patients with Partial Defects of Dental Arches Complicated by Dentofacial Deformities Requiring Orthodontic Treatment in Preparation for Prosthetics, Bulletin of Dentistry, 2023, 122(1), pp. 153–159;
 31. Maes M. – Precision Nomothetic Medicine in Depression Research, Journal of Personalized Medicine, 2022, 12(3), 403;
 32. Petrenko O.M. – The Role of Modern Imaging Diagnostic Methods in Determining Functional Disorders of the Masticatory-Mimetic System in Children with Distal Bite, Radiology and Radiography, 2021, 4(2), pp. 112–120;
 33. Yarova S.P. et al. – Static and Dynamic Occlusion: Collective Monograph, European Scientific Platform, 2023;

34. Temporary Anchorage Devices in Clinical Orthodontics / Edited by Jae Hyun Park,
2020.756.