

APPROVE  
Head of department of Prosthetic  
Dentistry and Orthodontics  
of BSMU, Associate Professor



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**Belarusian State Medical University**  
**Questions for examination IV course**

1. Definition of orthodontics as a science. Areas of work for an orthodontist.
2. Requirements for the orthodontic office, its material and technical equipment. Tools necessary for an orthodontist's work.
3. Classification of impression materials and requirements set for them. Impression materials used in orthodontics, their properties and application fields.
4. Methodology for taking dental impressions from children, required instruments and materials. Requirements for working models and diagnostic casts.
5. Concept of norm and pathology in orthodontics. Changes in understanding of “norm” with scientific development. Definitions of terms such as “norm”, “average norm”, “individual average norm”, “functional and aesthetic optimum”. Modern concept of norm in orthodontics.
6. Periods of occlusion formation, their morphological and functional characteristics.
7. Characteristics of period I of occlusion formation.
8. Characteristics of period II of occlusion formation.
9. Characteristics of period III of occlusion formation.
10. Characteristics of period IV of occlusion formation.
11. Characteristics of period V of occlusion formation.
12. Angle’s classification of dentofacial anomalies.
13. Persin’s classification of dentofacial anomalies.
14. Methods of diagnosing dentofacial anomalies. Clinical examination methods used by orthodontists.
15. Study of functions of the stomatognathic system: type of breathing, swallowing, speech, temporomandibular joint function.
16. Clinical functional tests by Il’ina-marcosyan and Ashler-Bitner.
17. Sequence of setting an orthodontic diagnosis according to F.Ya.Khorosilkina algorithm.
18. Anthropometric research method. Head and jaw planes.
19. Medial and lateral anthropometric points of the head and face.
20. Linear vertical and horizontal facial parameters: physiognomic height, morphologic height, width of the face.
21. Indices of facial width: Garson index, Izar index, applications.
22. Shape of the face. Evaluation of facial profile: Ricketts' esthetic plane, types of facial profiles according to F.Ya.Khoroshilkina, Schwarz profile angle.

23. Methods for studying dimensions of deciduous and permanent teeth crowns: Zubkova method, Ustimenko method.
24. Pont's method for analyzing diagnostic models of jaws.
25. Corkhouse's method for studying diagnostic models of jaws.
26. Little's, Merrifield's methods for analysis of diagnostic models during mixed dentition period.
27. Johnston-Tanaka's and Moyer's method for analysis of diagnostic models during mixed dentition period.
28. Nance's method for analysis of diagnostic models of jaws.
29. Schmudt's, Ricketts, Herlach's method for analysis of diagnostic models of jaws.
30. Snagina's method for analysis of diagnostic models of jaws.
31. Bolton's method for analysis of diagnostic models of jaws.
32. Functional investigation methods in orthodontics. Electromyography, myotonometry of muscles of the stomatognathic region.
33. Assessment of chewing efficiency.
34. Radiographic diagnostic techniques in orthodontics. Panoramic x-ray imaging, intraoral tooth and midline palatal sutural radiographs. Indications for use, procedure, radiation dose, interpretation of results.
35. Computer tomography of the jaw-face region. Indications for use in orthodontics, procedure, interpretation of findings, radiation load
36. Magnetic resonance imaging in orthodontics. Indications for use, procedure, interpretation of findings.
37. Visualization of structures of the temporomandibular joint.
38. Teleradiography of the facial skeleton. Indications for use, methodology, interpretation of study results, radiation load.
39. Determination of the position and size of the jaws using teleradiography.
40. Methods for determining the patient's bone age. Indications for use, methodology, interpretation of study results, radiation exposure.
41. General idea of methods of treatment of dental anomalies.
42. Myotherapy: purpose, objectives, indications, rules of implementation.  
Devices for myotherapy.
43. Exercises to normalize the function of the masticatory muscles, the orbicularis oris muscle, and the muscles of the tongue. Indications, methods of implementation.
44. Classification of orthodontic devices by purpose, principle of action, method and location of action, method of fixation, location, type of anchorage, design.
45. Basic principles of designing orthodontic appliances.
46. Types of tooth movement. Processes of bone tissue remodeling that accompany changes in the position of teeth.
47. Metal elements of removable orthodontic appliances: clasps. Their types and purpose.
48. Metal elements of removable orthodontic appliances: vestibular arches, their types and purpose.
49. Metal elements of removable orthodontic appliances: springs, their classification and purpose.

50. Role of baseplate in orthodontic appliance. Clinical-laboratory steps of manufacturing for one jaw removable orthodontic appliance hot polymerization method of plastic. Indication for use, advantages and disadvantages of the method.
51. Clinical and laboratory stages of manufacturing a two-jaw orthodontic device using hot polymerization of plastic. Indications for use, advantages and disadvantages of the method.
52. Clinical and laboratory stages of manufacturing single-jaw orthodontic devices by cold polymerization of plastic under high pressure. Indications for use, advantages and disadvantages of the method.
53. Clinical-laboratory phases of manufacturing orthodontic appliances via pneumovacuum forming. Indications for use, advantages and disadvantages of the method.
54. Orthodontic screws. Definition, purpose, types, structural features, guidelines for installing screws into appliances.
55. Screws for moving individual teeth or groups of teeth.
56. Orthodontic screws for normalizing the shape of the dental arch and bite.
57. Screws for even and uneven expansion of dental arches.
58. Purpose of preventive orthodontic appliances, their types, indications for use, methodology of application.
59. Removable appliances for normalizing functions of the stomatognathic area: vestibular plates, elasto-positioners.
60. Fixed preventive appliances for space maintenance in the dental arch: orthodontic ring with loop, Nance appliance, lingual arch. Indications for use, methodology of application.
61. Enamel stripping and separation of primary teeth: indications, methodology. 62. Types of orthodontic appliances depending on mechanism of action.
63. Definition and types of mechanoactive orthodontic appliances. Comparative characteristics of removable and fixed orthodontic appliances.
64. Fixed mechanoactive appliances: Derichswiller appliance, quad helix, pendulum appliance, Haas appliance, braces. Indications for use, methodology of application
65. Removable mechanoactive appliances: plates, facial arch, lip bumper, face mask, aligner system. Indications for use, methodology of application.
66. Definition of functionally directing orthodontic appliances, indications for use, specifics of construction.
67. Mechanism of action of functionally active orthodontic appliances, their types (standard and customized vestibular plates, preorthodontic trainers, LM activators, Myobrace systems, Frankel functional regulators, activators and bionators): indications for use, specifics of construction.
68. Orthodontic appliances of combined action (Fankel's activator, Wunderer activator, single-jaw combined appliances): indications for use, specifics of construction.
69. Retentive orthodontic appliances: definition, types, installation and usage protocol.
70. Prosthetic method for treating dentofacial anomalies: indications, goal of application. Etiology of dental defects and malocclusions in children and adolescents. Morphological and functional disorders following loss of teeth.
71. Prosthodontic constructions used in pediatric and adolescent patients (inlays, crowns, pin teeth, partial and complete removable plate prostheses, appliance-prosthesis combinations): indications for use, structural details, methodology of application.

72. Special features of childhood removable dental prostheses. Timelines for replacing removable prostheses dependent on stage of occlusal development.

73. Complex method of treatment of dentofacial anomalies: definition, indications for implementation.

74. Compactosteotomy, frenuloplasty, plastic surgery of the frenulum of the upper lip and tongue, vestibule plastic surgery, opening of the crown of an impacted tooth: indications and protocols.

75. Sequential tooth extraction (Hotz's method): indications for use.

76. Absolute and relative orthodontic indications for extracting permanent teeth.

77. Surgical method for treating dentofacial anomalies: indications, patient age considerations, selection of surgical intervention for different types of dentofacial deformities. Roles of the orthodontist in collaborative care with maxillofacial surgeon.

The list of issues was approved at a meeting of the department, protocol dated 12.05.2025  
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