University of Pécs
Medical School

DENTISTRY
Major

STUDY PROGRAM
2015/2016

Subjects of the
Pre-clinical module
(obligatory subjects and
criterion requirements)
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<th>5th semester</th>
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<td>OSP-FPP</td>
<td>Prosthodontics: Basics</td>
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<td>Gnathology</td>
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<td>Microbiology 1</td>
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<td>Pathology for Dental Students 1</td>
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<td>OSP-SPR</td>
<td>Surgical Propaedeutics</td>
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<td>OSP-BPR</td>
<td>Internal Medicine: Propaedeutics</td>
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<td>Oral Surgery: Basics</td>
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<td>OSR-DAS</td>
<td>Dento-alveolar Surgery - Summer Practice</td>
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### Prosthodontics: Basics

**Course director:**

**Dr. Marta Maria Radnai**, associate professor
Dept. of Dentistry, Oral-, Maxillofacial Surgery

<table>
<thead>
<tr>
<th>3 credit • semester exam • Preclinical module • autumn semester • recommended semester: 5</th>
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<tr>
<td><strong>Number of hours/semester:</strong> 28 lectures + 14 practices + 0 seminars = total of 42 hours</td>
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<td><strong>Course headcount limitations (min.-max.):</strong> 1 – 24</td>
</tr>
<tr>
<td><strong>Prerequisites:</strong> OSA-ANY completed + OSA-ET2 completed + OSA-NAN completed</td>
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#### Topic

The aim of this course is to inform students about clinical and technological aspects of fixed partial dentures. Students have to practice the clinical and dental technical steps of crown and bridge fabrication. The course shows the possible mistakes of the procedures. They also learn how to take impression in the clinic.

#### Conditions for acceptance of the semester

Requirements for students:

- Active participation on lectures and practices, based on the Study and Exam Regulations of the University,
- Attendance of lectures and practices is mandatory.
- Completion of the tasks in the laboratory
- The student receives marks for the practical tasks in the training laboratory. The average must be at least 2.0. If the student gets 3 or more failed marks during the semester for his/her practical work, then the semester can not be evaluated and accepted. The practical tasks, which are not finished, also considered as failed mark.
- Average of the marks of written or oral tests relating the theoretical knowledge which is necessary to carry out the practical work.
- Form of tests: oral test, written test, etc. If the test considered as failed, the student gets one opportunity to rewrite the test. If the student gets further failed mark, the semester/practice is not accepted, it can not be evaluated.
- If either of the above averages (for the practical work or the relating theory) does not reach 2.0 the end semester practical mark can not be evaluated and accepted, the student has to repeat the course.

Offered course mark: PTE TVSZ 2. §(15)

Consequences of coming late to the practice:

Students must come to the practice on time.

If a student is late three times, it is equal with one missing.

If a student comes more than 15 minutes late, it is regarded as an absence.

#### Mid-term exams

End-of-semester grade may be given by a) mid-term grade in the case of both theory-oriented and practice-oriented course-units on the basis of tests and assessments carried out during term-time, b) examination grade which may be defined on the basis of the performance at the examination exclusively or by taken into consideration performance on mid-term tests and the examination jointly. In the latter case the examination shall contribute to the grade by 50% at least and the mid-term tests by 50% at most.

#### Making up for missed classes

No possibility.

#### Reading material

- **Obligatory literature**
  
  

- **Literature developed by the Department**

- **Notes**

- **Recommended literature**
### Lectures

<table>
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<tr>
<th>Lecture</th>
<th>Topic</th>
<th>Instructor</th>
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<tr>
<td>1</td>
<td>History of prosthetic dentistry. Topics of prosthetic dentistry, prosthetic appliances.</td>
<td>Dr. Radnai Márta Mária</td>
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<tr>
<td>2</td>
<td>Indications for making artificial crowns, classification of crowns.</td>
<td>Dr. Radnai Márta Mária</td>
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<tr>
<td>3</td>
<td>Main principles of tooth preparation.</td>
<td>Dr. Radnai Márta Mária</td>
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<td>4</td>
<td>Rotary instruments in prosthetic work.</td>
<td>Dr. Marada Gyula</td>
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<tr>
<td>5</td>
<td>Methods of tooth preparation. Pulp protection.</td>
<td>Dr. Radnai Márta Mária</td>
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<tr>
<td>6</td>
<td>Finish line, periodontal aspects of tooth preparation. Biologic width.</td>
<td>Dr. Radnai Márta Mária</td>
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<td>7</td>
<td>Precision impression methods.</td>
<td>Dr. Radnai Márta Mária</td>
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<tr>
<td>8</td>
<td>Procedure of dental impressions. Sulcus enlargement.</td>
<td>Dr. Radnai Márta Mária</td>
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<td>9</td>
<td>Model preparation methods I.</td>
<td>Dr. Radnai Márta Mária</td>
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<td>Model preparation methods II.</td>
<td>Dr. Radnai Márta Mária</td>
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<td>12</td>
<td>Build up of destroyed tooth, materials and methods.</td>
<td>Dr. Radnai Márta Mária</td>
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<td>13</td>
<td>Provisional restorations, materials and methods.</td>
<td>Dr. Radnai Márta Mária</td>
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<tr>
<td>14</td>
<td>WRITTEN TEST</td>
<td>Dr. Radnai Márta Mária</td>
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<tr>
<td>15</td>
<td>Construction of cast metal crowns, clinical and laboratory steps I.</td>
<td>Dr. Marada Gyula</td>
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<tr>
<td>16</td>
<td>Construction of cast metal crowns, clinical and laboratory steps II.</td>
<td>Dr. Marada Gyula</td>
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<tr>
<td>17</td>
<td>Construction of resin faced and acrylic crowns, clinical and laboratory steps.</td>
<td>Dr. Radnai Márta Mária</td>
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<tr>
<td>18</td>
<td>Construction of porcelain fused to metal crowns, clinical and laboratory steps.</td>
<td>Dr. Radnai Márta Mária</td>
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<tr>
<td>19</td>
<td>Full ceramic systems.</td>
<td>Dr. Marada Gyula</td>
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<tr>
<td>20</td>
<td>Construction full ceramic crowns, clinical and laboratory steps.</td>
<td>Dr. Marada Gyula</td>
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<tr>
<td>21</td>
<td>Post and cores, indications, conditions, preparation. Types of post and cores, classification.</td>
<td>Dr. Radnai Márta Mária</td>
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<tr>
<td>22</td>
<td>Prefabricated posts, types, indications.</td>
<td>Dr. Radnai Márta Mária</td>
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<tr>
<td>23</td>
<td>Interim and definitive cementation of crowns. Removal of cemented crowns and bridges.</td>
<td>Dr. Radnai Márta Mária</td>
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<td>24</td>
<td>WRITTEN TEST</td>
<td>Dr. Radnai Márta Mária</td>
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<td>25</td>
<td>Consequences of tooth loss. Prosthetic value of the teeth. Classification of bridges, indication, planning.</td>
<td>Dr. Radnai Márta Mária</td>
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<td>26</td>
<td>Requirements of bridges.</td>
<td>Dr. Radnai Márta Mária</td>
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<tr>
<td>27</td>
<td>Procession of bridge construction, clinical and laboratory steps. Special bridges.</td>
<td>Dr. Radnai Márta Mária</td>
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<tr>
<td>28</td>
<td>Infection control in prosthodontics. Shade selection.</td>
<td>Dr. Radnai Márta Mária</td>
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</table>
Practices

1. Practising the handling of burs.
2. Preparation of a lower molar tooth for full metal crown.
3. Preparation of a lower premolar and molar tooth for a metal-ceramic crown.
4. Preparation of an upper incisor for a full ceramic crown.
5. Preparation of an upper canine and premolar tooth for a full ceramic and metal-ceramic crown.
6. Making a precision impression of the jaw and alginate antagonist impression of the upper arch. Fabricating a temporary bridge and crown.
7. Mounting the sectioned and antagonist model to the articulator. Making the wax pattern for a lower metal-ceramic bridge.
8. Making the wax pattern for a lower metal-ceramic bridge.
9. Students take a lower and upper anatomical impression and bite registration from each other. Making anatomical models and mount them to the articulator.
10. Students take a lower and upper anatomical impression and bite registration from each other. Making anatomical models and mount them to the articulator.
11. Students take a lower and upper anatomical impression and bite registration from each other. Making anatomical models and mount them to the articulator.
12. Students take a lower and upper anatomical impression and bite registration from each other. Making anatomical models and mount them to the articulator.
13. Making anatomical models and mount them to the articulator. Demonstration and practise of using a facebow. Practising the tooth preparation.

Seminars

Exam topics/questions

1. Subject of prosthodontics, types of prosthetic appliances.
2. Consequences of tooth loss.
3. The aims of prosthodontic rehabilitation.
4. Definition, classifications, indications and contraindications of crowns.
5. Characteristics of partial crowns, indications and contraindications.
6. Materials artificial crowns, and their characteristics.
10. Place of finish line compared to the marginal gingiva.
11. Different preparation-margin designs, advantages and disadvantages, indications.
15. Steps of abutment tooth preparation for full ceramic crowns.
17. Comparison of chemical and prosthetic abutment protective methods.
18. What do you have to check after completion of tooth preparation?
19. What are the typical failures during abutment preparation?
21. Core build up when the abutment tooth is severely damaged. Management of caries lesions on the abutment teeth.
22. Definition of impression, anatomic, precision impression.
23. Steps of precision impression taking with one phase method.
24. Steps of precision impression taking with two phase method.
26. Factors influencing the accuracy of the impression, evaluation of the impression.
27. Aims of abutment protection.
29. Types of impression trays, requirements relating the trays.
31. Definition of the model, precision model.
32. Classification of models.
33. Materials for making a model, and their characteristics.
34. Technique of die and cast making in case of fixed partial dentures.
35. Classification of impression materials.
36. Materials of precision impression, and their characteristics.
37. Material of anatomic impression, and its characteristics.
38. Dental burs and their use.
40. Comparison of different impression methods.
41. Preparation for complete crowns. Cast metal crowns.
42. Veneered crowns. Resin faced crowns.
43. Veneered crowns. Porcelain fused to metal crowns.
44. Dental technical process of making Jacket crowns (resin).
45. Dental technical process of making full ceramic crown with platinum-foil method.
46. Porcelain laminate veneers, definition, indication, tooth preparation.
47. Shade selection, theory and praxis.
49. Procedure of definitive cementation of crowns.
50. Removal of crowns and bridges.
51. Value of the teeth from prosthetic aspect, their use as abutments.
52. Definition of bridges, parts of bridges, classification.
54. Functions of a bridge. Static, functional and aesthetic aspects.
55. Static, functional, biological and esthetic requirements of a bridge.
56. Indications and contraindications of fixed partial dentures.
57. Factors influencing the lifespan of bridges.
60. Try-in of crowns and bridges in the dental-surgery.
61. Procedure of investing and casting.
62. Special bridges (removable bridges, adhesive bridges).
63. Alloys for cast metal crowns, and their properties.
64. Alloys for porcelain fused to metal crowns, and their properties.
65. Systems for full ceramic crowns and their processing.
66. Materials, armamentarium and steps of crown and bridge fixation.
67. Classification of post retained prosthetic appliances, indications and contraindications.
68. Indirect and direct methods for making a post-and-core.
69. Types and application of prefabricated metal posts.
70. Types and application of prefabricated non-metal posts.
71. Cementation of post-and-core.

Participants
Dr. Benke Beáta (BEBFADO.PTE), Dr. Marada Gyula (MAGFABO.PTE), Dr. Muzsek Zsófia (MUZFACO.PTE), Dr. Radnai Márta Mária (RAMVAAP.PTE)
OSP-GNA  GNATHOLOGY

Course director: DR. MÁRTA MÁRIA RADNAI, associate professor
Dept. of Dentistry, Oral-, Maxillofacial Surgery

3 credit • semester exam • Preclinical module • autumn semester • recommended semester: 5
Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours
Course headcount limitations (min.-max.): 1 – 35
Prerequisites: OFA-NAN completed + OFA-ET2 completed + OFA-ANY completed

Topic
The aim of the lectures is to acquire the knowledge of the anatomy and function of chewing apparatus. Students learn the types and use of articulators.
The aim of the practices is to learn the occlusal anatomy of the teeth, and to wax up the occlusal surfaces of premolar and molar teeth according to the technology of HC Lundeen in order the better understanding the occlusion and articulation movements. Students learn the types and use of articulators and face-bow.

Conditions for acceptance of the semester
Requirements for students
- Active participation on lectures and practices, based on the Study and Exam Regulations of the University,
- Attendance of lectures and practices is mandatory.
- Completion of the tasks in the laboratory
- The student receives marks for the practical tasks in the training laboratory. The average must be at least 2.0. If the student gets 3 or more failed marks during the semester for his/her practical work, then the semester can not be evaluated and accepted. The practical tasks, which are not finished, also considered as failed mark.
- Average of the marks of written or oral tests relating the theoretical knowledge which is necessary to carry out the practical work.
- Form of tests: oral test, written test, etc. If the test considered as failed, the student gets one opportunity to rewrite the test. If the student gets further failed mark, the semester/practice is not accepted, it can not be evaluated.
- If either of the above averages (for the practical work or the relating theory) does not reach 2.0 the end semester practical mark can not be evaluated and accepted, the student has to repeat the course.

Mid-term exams
End-of-semester grade may be given by a) mid-term grade in the case of both theory-oriented and practice-oriented course-units on the basis of tests and assessments carried out during term-time, b) examination grade which may be defined on the basis of the performance at the examination exclusively or by taken into consideration performance on mid-term tests and the examination jointly. In the latter case the examination shall contribute to the grade by 50% at least and the mid-term tests by 50% at most.

Making up for missed classes
No possibility

Reading material
- Obligatory literature
  C. McNeill: Science and Practice of Occlusion
  MG: Occlusion in Restorative Dentistry
- Literature developed by the Department
- Notes
- Recommended literature
  J P Okeson: Management of TMJ Disorders and Occlusion

Lectures
1  Introduction to Gnatology and its significance in dentistry. Functional units involved in mastication. Anatomical terminology of the mouth
   Dr. Radnai Márta Mária
2  Morphology of osseous structures involved in mastication and the temporo-mandibular joint. Anatomical terminology of the mouth
   Dr. Marada Gyula
3  Masticatory muscles, their function and innervation
   Dr. Marada Gyula
Basics of occlusal anatomy of the teeth and dental arches
Dr. Radnai Márta Mária

Occlusal contacts in central occlusion. Orientation in the oral cavity
Dr. Radnai Márta Mária

WRITTEN TEST
Dr. Radnai Márta Mária

Specific positions of the mandible
Dr. Radnai Márta Mária

Mandibular movements, tooth guidance. Dynamics of occlusal relationships, border-movements, mandibular movement envelope
Dr. Radnai Márta Mária

The process of chewing. Occlusal relations in natural dentition
Dr. Radnai Márta Mária

Articulators (arcon, non-arcon types)
Dr. Radnai Márta Mária

Mounting the casts in the articulator, articulator-programming, face-bow and its use
Dr. Radnai Márta Mária

WRITTEN TEST
Dr. Radnai Márta Mária

Modification of occlusion in adults. Christensen phenomenon
Dr. Radnai Márta Mária

Theories of occlusion in artificial dentition
Dr. Radnai Márta Mária

Introduction. Instruments and materials. Marking reference lines and points on the study cast and on the mounted lower cast. Marking the centric contacts on the upper mounted cast. Cutting off the occlusal surface of the mounted lower cast. Re-tracing the markings on the occlusal surface of the lower cast

Forming mandibular buccal cones. Marking reference lines and points on the mounted upper cast. Cutting off the occlusal surface of the mounted upper cast. Re-tracing the markings on the occlusal surface of the upper cast

Forming mandibular buccal cones. Marking reference lines and points on the mounted upper cast. Cutting off the occlusal surface of the mounted upper cast. Re-tracing the markings on the occlusal surface of the upper cast

Forming the buccal ridges of maxillary buccal cusps. Forming the buccal ridges of maxillary buccal cusps

Forming the buccal ridges of maxillary buccal cusps. Shaping the triangular ridges of the maxillary buccal cusps

Forming the buccal ridges of maxillary buccal cusps. Shaping the triangular ridges of the maxillary buccal cusps

Forming the mesial and distal cusp ridges of the maxillary and mandibular buccal cusps

Forming the mesial and distal cusp ridges of the maxillary and mandibular buccal cusps

Forming the maxillary lingual cones and the cusp ridges of the maxillary lingual cusps

Forming the maxillary lingual cones and the cusp ridges of the maxillary lingual cusps

Shaping the lingual surfaces and triangular crests of the maxillary lingual cusps

Shaping the lingual surfaces and triangular crests of the maxillary lingual cusps

Forming the mesial and distal marginal ridges of the maxillary posterior teeth. Building up the triangular ridges of the mandibular buccal cusps

Forming the mesial and distal marginal ridges of the maxillary posterior teeth. Building up the triangular ridges of the mandibular buccal cusps

Forming the mesial and distal marginal ridges of the maxillary posterior teeth. Building up the triangular ridges of the mandibular buccal cusps

Building up the mandibular lingual cones. Forming the lingual surfaces and the triangular ridges of the mandibular lingual cusps

Building up the mandibular lingual cones. Forming the lingual surfaces and the triangular ridges of the mandibular lingual cusps

Forming the mesial and distal cusp ridges of the mandibular lingual cusps. Face-bow and its use

Forming the mesial and distal cusp ridges of the mandibular lingual cusps. Face-bow and its use

Forming the mesial and distal marginal ridges of the mandibular posterior teeth. Face-bow and its use

Forming the mesial and distal marginal ridges of the mandibular posterior teeth. Face-bow and its use

Completing the mandibular and maxillary occlusal surfaces. Evaluating the completed cusps and ridges

Completing the mandibular and maxillary occlusal surfaces. Evaluating the completed cusps and ridges

Build up an upper central incisor

Build up an upper central incisor
Seminars

Exam topics/questions

1. Definition of Gnathology and components of the chewing apparatus
2. Anatomy of the temporomandibular joint
3. Ligaments of the temporomandibular joint, their role, and significance in the function of the joint
4. Classification of the chewing muscles
5. Anatomy of elevator muscles of the mandible
6. Anatomy of protractotor muscles of the mandible
7. Perioral mimic muscles, muscles of the tongue and their functions
8. Morphological characteristics of the incisors and canines from gnathological aspects
9. Characteristics of the occlusal anatomy of molars and premolars
10. Prominent positions of the mandible
11. Definition of occlusal vertical dimension and postural jaw position and their clinical significance
12. Definition of central occlusion and central relation and their significance
13. Definition of eugnath occlusion and deep-bite
14. Definition of curve of Spee and Wilson and their significance
15. Definition of occlusal plain and occlusal surface
16. Definition of retruded contact position, incisal edge-to-edge, lateral cusp- bite and maximal jaw open position.
17. Basic movements of the mandible
18. Symmetrical movements of the mandible
19. Asymmetrical movements of the mandible
20. The points of the mandible examined during the evaluation of mandibular movements according to the classical articulation doctrine
21. Movement paths of the mandibular condyle

22. Incisal guidance /in all planes/
23. Border movements of the mandible in the sagittal plain /incisal point, ectocondylare/
24. Border movements of the mandible in the horizontal plain /incisal point, ectocondylare/
25. Border movements of the mandible in the frontal plane /incisal point, ectocondylare/
26. Difference between the terms of centric occlusion and central occlusal position of the mandible
27. Difference between the terms of centric relation and central relation position of the mandible
28. Occlusal contacts in the intercuspal contact position of the mandible
29. Occlusal concepts used for artificial shaping of the occlusal surfaces of the teeth.
30. Occlusal contacts during pro- and retrusive movements of the mandible.
31. Occlusal contacts during lateral movements of the mandible.
32. Definition and components of articulators
33. Classification of appliances used for simulation of positions and movements of the mandible
34. Occludors, simple hinge articulators
35. Characteristics of semi-adjustable and fully adjustable articulators
36. Cast mounting on articulator with the use of Bonwill’s triangle
37. Cast mounting on articulator with face-bow
38. Programming the articulator
39. Definition of Bonwill’s triangle and Balkwill’s angle
40. Components of the occlusal surface
41. Anatomical and physiological occlusal surface of the teeth
42. Definition of supporting and guiding cusps
43. Classification of basic bite-types
44. Definition of Bennett-movement
45. Position of cusp-marginal ridge and cusp-fossa type occlusal contacts
46. Definition of tooth guidance
47. Masticatory movements of the mandible
48. Adaptation of cuspal teeth’s occlusal surfaces to mandibular movement paths
49. Articulation concepts of occlusal surfaces in natural and artificial dentition
50. Occlusal surface shaping of lower premolars with wax-up technique
51. Occlusal surface shaping of upper premolars with wax-up technique
52. Occlusal surface shaping of lower molars with wax-up technique
53. Occlusal surface shaping of upper molars with wax-up technique
54. Graphical recording methods
55. Direction lines and plains on the head, anthropological reference points
56. Lines determined by anthropological reference points and anthropological plains
57. Anatomy of the upper jaw
58. Anatomy of the mandible
59. Basic characteristics of human dentition
60. Changes of occlusion in adults, different types of tooth wear.
61. Sagittal Christensen phenomenon
62. Lateral Christensen phenomenon
63. Innervation of the function of the chewing apparatus

Participants

Dr. Radnai Márta Mária (RAMVAAP.PTE)
**OSP-KO1 Pathophysiology 1**

**Course director:**

**DR. MÁRTA BALÁSKÓ**, associate professor

Department of Pathophysiology and Gerontology

3 credit • semester exam • Preclinical module • autumn semester • recommended semester: 5

Number of hours/semester: 14 lectures + 0 practices + 28 seminars = total of 42 hours

Course headcount limitations (min.-max.): 3 – 30

Prerequisites: OSA-BK2 completed + OSA-ET2 completed

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**Topic**

Pathophysiology-1 connects basic functional and clinical subjects. Together with other preclinical subjects, it deals mainly with etiology, time-course, clinical symptoms and possible pharmacological or other interventions related to abnormalities of the cardiovascular, respiratory, hematological and renal systems, as well as with disorders of salt/water and pH balance.

**Conditions for acceptance of the semester**

Maximum of 15 % absence allowed

**Mid-term exams**

Minimum 50% score on the 2 mid-semester tests.

**Making up for missed classes**

Minimum 50% test score on the respective seminar topics.

**Reading material**

- **Obligatory literature**
- **Literature developed by the Department**
  
  Lecture and seminar slides will be uploaded to CooSpace.
- **Notes**
  
  M. Székely (ed.): Basic Concepts in Pathophysiology, ÁOK PTE, 2007

- **Recommended literature**
  

**Lectures**

1. **Heart failure.**
   Dr. Balaskó Márta

2. **Peripheral circulatory failure: vasovagal syncope, circulatory shock (definition, forms and their causes, phases).**
   Dr. Balaskó Márta

3. **The consequences of circulatory shock. Pathophysiology of coronary circulation.**
   Dr. Balaskó Márta

4. **Pathophysiology of the cerebral and pulmonary circulation.**
   Dr. Balaskó Márta

5. **Hypertension.**
   Dr. Balaskó Márta

6. **Pathophysiology of the regulation and mechanics of breathing.**
   Dr. Balaskó Márta

7. **Ventilation/perfusion mismatch. Disorders of the alveolo-capillary diffusion.**
   Dr. Balaskó Márta

8. **Restrictive/obstructive respiratory disorders, dyspnea.**
   Dr. Balaskó Márta

9. **Pathophysiology of the glomerular and tubular functions.**
   Dr. Balaskó Márta

10. **Chronic renal failure, uremia, uremic coma.**
    Dr. Balaskó Márta

11. **Pathophysiology of the salt-water balance.**
    Dr. Szekeres-Solymár Margit

12. **Disorders of the pH regulation.**
    Dr. Szekeres-Solymár Margit

13. **Pathophysiology of the red blood cell system.**
    Dr. Balaskó Márta
14 Pathophysiology of hemostasis.
Dr. Balaskó Mártá

Practices

Seminars
1 Heart failure I.
2 Heart failure II.
3 Vasovagal syncope, circulatory shock (definition, forms and their respective causes, phases).
4 Hemodynamic parameters of different types of circulatory shock. Consequences of circulatory shock.
5 Pathophysiology of coronary circulation.
6 Failure of the coronary circulation, reversible and irreversible consequences.
7 Pathophysiology of pulmonary circulation.
8 Etiology and general pathophysiology of hypertension.
9 Complications of hypertension, pathophysiological principles of treatment.
10 Arrhythmias in the dental practice.
11 Alveolar hypoventilation.
12 Alveolar hyperventilation.
13 Respiratory failure I.
14 Respiratory failure II.
15 Cardio-respiratory adaptation to physical exercise I.
16 Cardio-respiratory adaptation to physical exercise II.
17 Pathophysiology of glomerular and tubular functions.
18 Acute renal failure.
19 Uremia, uremic coma I.
20 Uremia, uremic coma II.
21 Abnormalities of the volume and osmoregulation I.
22 Abnormalities of the volume and osmoregulation II.
23 Metabolic acidosis.
24 Metabolic alkalosis, respiratory acidosis and alkalosis.
25 Anemias I.
26 Anemias II. Polycythemias.
27 Pathophysiology of hemostasis.
28 Disseminated intravascular coagulation (DIC).

Exam topics/questions
Cardiovascular adaptation in health and disease.
Causes and forms of heart failure.
Forward failure symptoms (left- and right-sided) in heart failure.
Backward failure symptoms (left- and right-sided) in heart failure.
High output cardiac failure.
Collaps, vasovagal syncope, and other circulatory abnormalities leading to loss of consciousness.
Definition and classification of circulatory shock. Pathophysiology of development, phases and characteristics of microcirculation.
Hypovolemic shock: causes and hemodynamics.
Cardiogenic shock: causes and hemodynamics.
Distributive shock: causes and hemodynamics.
Organ manifestations of shock.
Pathomechanism and consequences of acute myocardial infarction.
Mechanisms and consequences of chronic ischemic heart disease.
Regulation of cerebral circulation in health and disease.
Cerebral hypoxia, ischemia, stroke.
Characteristics and disorders of splanchnic blood flow.
Pulmonary hypertension.
General pathophysiology and classification of systemic hypertension. Age and blood pressure.
Hypertension and the kidneys (reciprocal connection).
Hypertension and the adrenal gland.
Primary hypertension: characteristics and etiological factors.
Consequences of hypertension.
Arrhythmias in the dental practice.
Disorders of the control of breathing. Sleep-apnea syndrome.
The work of breathing. Abnormalities of elastic resistance, restrictive disorders.

Alveolar hypoventilation: causes and consequences.
Acute and chronic alveolar hyperventilation.
Ventilation-perfusion mismatch (V/Q): causes and consequences.
Disorders of alveolo-capillary diffusion.

Global and partial respiratory failure.
Disorders of oxygen transport (abnormal hemoglobin, CO-poisoning, methemoglobinemia).
Forms and mechanisms of hypoxia. Ways of compensation. Cyanosis.
Dyspnea.
Forms, general pathophysiology and consequences of anemia.
Deficiency anemia.

Hemolytic anemia.
Polycythemia.
Bleeding abnormalities due to platelet or vascular factors.
Congenital and acquired coagulopathies.
Thrombosis: causes and consequences.

Disseminated intravascular coagulation (DIC).
Granulocytes in inflammatory processes.
Pathophysiology of glomerular filtration.
Disorders of tubular functions.
Proteinuria.

Hyposthenuria, asthenuria, osmotic diuresis.
Chronic renal failure: causes, characteristics and progression.
Metabolic disorders and organ dysfunctions in uremia.
Uremic coma.
Acute renal failure: occurrence, general features.

Compensation of pH-abnormalities (plasma and intracellular buffers, respiration, kidney) and their disturbances.
Metabolic acidosis: causes, compensation, consequences.
Metabolic alkalosis: causes, compensation, consequences.
Respiratory acidosis and alkalosis: causes, compensation, consequences.
Mechanisms and disturbances of volume regulation. States of decreased extracellular volume, and their consequences.

States of elevated extracellular volume: causes, mechanisms and consequences.
Hyperosmolarity, hypertonicity. Forms, causes, consequences.
Hypotonicity: pathogenesis and consequences.

Note: „A” chance: test-exam on basis of the above topics. For „B” and „C” chances: oral exam on basis of 3 questions from the list above.

Participants
Dr. Balaskó Márta (BAMMAAO.PTE), Dr. Rostás Ildikó (ROIOAAO.PTE), Dr. Szekeres-Solymár Margit (SOMFAAO.PTE)
OSP-MI1  MICROBIOLOGY 1

Course director: DR. JÚLIA BARTHÓ-SZEKERES, professor
Department of Medical Microbiology and Immunology

5 credit • semester exam • Preclinical module • autumn semester • recommended semester: 5

Number of hours/semester: 42 lectures + 28 practices + 0 seminars = total of 70 hours

Course headcount limitations (min.-max.): 1 – 50

Prerequisites: OSA-BK2 completed + OSA-IMM completed + OSP-PA1 parallel

Course descriptions – academic year of 2015/2016

Topic
During the course the morphology, physiology of microbes, the techniques of disinfection and sterilization, the basics of antimicrobial therapy and the drugs used will be discussed. The host-parasite interactions, the factors playing roles in the pathogenesis of infections, the defense mechanisms of the host and the modes of prevention will be detailed. The systematic microbiology part of the course will discuss the microbiological aspects of various infections caused by specific pathogens. Special emphasize will be put on the indigenous flora of the oral cavity, as well as on microorganisms playing a role in the diseases of the oral cavity and the teeth.

The objective is to provide a solid microbiological basis to understand the pathogenesis and clinical aspects of oral diseases if infectious etiology, as well as those of diseases of other organ systems of stomatological relevance.

Conditions for acceptance of the semester
Attendance of the lectures is up to the judgement of the student. On the other hand, the Department insists on the active participation in all the practices, since necessary knowledge and skills to take and handle microbiological samples can only be mastered there.

The subject of the examinations is the information provided on the lectures and practices during the semester.

Mid-term exams
Making up for missed classes

Reading material
- Obligatory literature

- Literature developed by the Department
  Lectures on the CooSpace

- Notes

- Recommended literature

Lectures
1  Introduction the subject and history of microbiology
   Dr. Emődy Levente

2  Morphology and structure of bacteria
   Dr. Tigyi Zoltán

3  Morphology and structure of bacteria
   Dr. Tigyi Zoltán

4  The physiology of bacteria
   Dr. Kocsis Béla

5  Sterilization and disinfection
   Dr. Bátaí Istvánné

6  Sterilization and disinfection
   Dr. Bátaí Istvánné
<table>
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<tr>
<th>Course Description</th>
<th>Instructor(s)</th>
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<tr>
<td>7 Chemotherapy</td>
<td>Dr. Kocsis Béla</td>
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<td>Dr. Kocsis Béla</td>
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<td>9 Chemotherapy</td>
<td>Dr. Kocsis Béla</td>
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<td>10 Microbial genetics</td>
<td>Dr. Tigyi Zoltán</td>
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<td>11 Pathogenicity, Infection</td>
<td>Dr. Emődy Levente</td>
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<td>12 Vaccinology</td>
<td>Dr. Emődy Levente</td>
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<tr>
<td>13 Immunology of infectious disease</td>
<td>Dr. Barthóné Dr. Szekeres Júlia</td>
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<td>17 Virology</td>
<td>Dr. Szereday László</td>
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<td>Dr. Szereday László</td>
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<td>22 Pyogenic bacteria</td>
<td>Dr. Báta Istvánné</td>
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<td>24 Pyogenic bacteria</td>
<td>Dr. Báta Istvánné</td>
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<td>25 Enteric bacteria and gastrointestinal pathogens</td>
<td>Dr. Tigyi Zoltán</td>
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<td>27 Enteric bacteria and gastrointestinal pathogens</td>
<td>Dr. Tigyi Zoltán</td>
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<td>28 Pathogens in respiratory tact</td>
<td>Dr. Mestyán Gyula</td>
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<td>29 Pathogens in respiratory tact</td>
<td>Dr. Mestyán Gyula</td>
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<td>30 Mycobacteria</td>
<td>Dr. Emődy Levente</td>
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<td>31 Aerobic and anaerobic spore forming bacteria</td>
<td>Dr. Kocsis Béla</td>
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<td>32 Aerobic and anaerobic spore forming bacteria</td>
<td>Dr. Kocsis Béla</td>
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<td>33 Spirochaetes</td>
<td>Dr. Kocsis Béla</td>
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<td>34 Rickettsia, Chlamydia</td>
<td>Dr. Báta Istvánné</td>
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<td>35 Mycology</td>
<td>Dr. Mestyán Gyula</td>
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36 Parazitology
   Dr. Kocsis Béla
37 Oral microbiology
   Dr. Emődy Levente
38 Oral microbiology
   Dr. Emődy Levente
39 Oral microbiology
   Dr. Emődy Levente
40 Oral microbiology
   Dr. Emődy Levente
41 Oral microbiology
   Dr. Emődy Levente
42 Oral microbiology
   Dr. Emődy Levente

Practices
1 Introduction, safety regulations. The microscope, native and stained preparation
2 Introduction, safety regulations. The microscope, native and stained preparation
3 Cultivation of bacteria, media
4 Cultivation of bacteria, media
5 Biochemical reaction in the identification
6 Biochemical reaction in the identification
7 Antibiotic sensitivity
8 Antibiotic sensitivity
9 Serology
10 Serology
11 Molecular diagnostics
12 Molecular diagnostics
13 Bacterial diagnosis of pyogenic infections; blood cultures
14 Bacterial diagnosis of pyogenic infections; blood cultures
15 Bacterial diagnosis of urinary tract infections
16 Bacterial diagnosis of urinary tract infections
17 Bacterial diagnosis of gastrointestinal infections
18 Bacterial diagnosis of gastrointestinal infections
19 Bacterial diagnosis of respiratory tract infections and meningitis
20 Bacterial diagnosis of respiratory tract infections and meningitis
21 Anaerobic infections
22 Anaerobic infections
23 Diagnostic virology
24 Diagnostic virology
25 Diagnostic mycology and parasitology
26 Diagnostic mycology and parasitology
27 Diagnostic oral microbiology
28 Diagnostic oral microbiology

Seminars

Exam topics/questions
The written exam consists of multiple choice questions

Participants
Dr. Bátai István (KEMHAAP.PTE), Dr. Emődy Levente (EMLGAAO.PTE), Dr. Kocsis Béla (KOBHACE.PTE), Dr. Kovács Krisztina (KOKFAIO.PTE), Dr. Mestyán Gyula (MELPAAP.PTE), Dr. Polgár Beáta (POBPAAP.PTE), Dr. Schneider György (SCGQAAP.PTE), Dr. Szereday László (SZLPAAP.PTE), Dr. Tigyi Zoltán (TIZHAAE.PTE)
OSP-ORR  Oral Radiology

Course director: Dr. Gyula Marada, assistant lecturer
Dept. of Dentistry, Oral-, Maxillofacial Surgery

3 credit • semester exam • Preclinical module • autumn semester • recommended semester: 5

Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours
Course headcount limitations (min.-max.): 2 – 30
Prerequisites: OSA-NAN completed + OSA-ORB completed + OSP-FPP parallel

Topic
Students should acquire all radiologic diagnostic methods used in dentistry. Students should be able to make intraoral x-ray.

Conditions for acceptance of the semester
According to the Code of Studies and Examinations

Mid-term exams
Making up for missed classes
None

Reading material
- Obligatory literature
- Literature developed by the Department
- Notes
- Recommended literature

Lectures
1 Principles of Radiology. Equipment
   Dr. Marada Gyula
2 Radiation detectors. Exposure
   Dr. Marada Gyula
3 Intraoral techniques. Anatomy of intraoral radiographs
   Dr. Marada Gyula
4 Extraoral techniques
   Dr. Marada Gyula
5 Anatomy of panoramic radiographs
   Dr. Marada Gyula
6 Radiation protection
   Dr. Marada Gyula
7 Radiological terminology, radiological diagnosis. Development of teeth.
   Dr. Marada Gyula
8 Cariology in radiology. Abrasion of teeth. Inflammation of the pulp.
   Dr. Marada Gyula
9 Diseases of apical and marginal periodontium
   Dr. Marada Gyula
10 Traumatic diseases of jaws and teeth
   Dr. Marada Gyula
11 Prosthodontic aspects of radiology
   Dr. Marada Gyula
12 Digital radiological techniques (RVG, CBCT)
   Dr. Marada Gyula
13 Endodontic aspects of radiology
   Dr. Marada Gyula
14 Radiological failures
   Dr. Marada Gyula
Practices
1-28 Intraoral x-ray exposure and processing

Seminars
Exam topics/questions
1. Oral radiologic equipment
2. Radiograph of teeth. The rule of bisecting angle and parallel technique
3. Radiographic features of periapical conditions on the lower arch
4. Radiographic features of periapical conditions on the upper arch
5. Radiographs of the crown
6. Occlusal radiographs
7. Exтарoral radiographs
8. Radiographs of the maxilla
9. Radiographs of the mandible
10. Rules of contact radiographs. Cephalographs
11. Panoramic radiographs
12. Exposure
13. Processing of dental radiographs
14. Equipment of digital intraoral radiology
15. CT and CBCT in dentistry
16. Density and contrast
17. Radiation failures. Failures before processing
18. Radiation protection
19. Protection of patients
20. Protection of staff
21. Assessment of perapical radiographs
22. Endodontic procedures and their radiologic aspects
23. Caries
24. Inflammation of apical periodontium
25. Diseases of the marginal periodontium
26. Dental trauma
27. Traumatism of the jaws
28. Osteomyelitis
Practical exam: intraoral radiograph taking for patients

Participants
Dr. Marada Gyula (MAGFABO.PTE)
OSP-PL1  Pathology for Dental Students 1  
Course director: DR. TAMÁS TORNÓCZKI, associate professor  
Department of Pathology  

6 credit • semester exam • Preclinical module • autumn semester • recommended semester: 5  
Number of hours/semester: 66 lectures + 0 practices + 28 seminars = total of 84 hours  
Course headcount limitations (min.-max.): 5 –  
Prerequisites: OSPK01 parallel + OSANAN completed  

Topic  
Basic pathological cellular responses underlying the various disease processes are taught during this course. These are discussed in the following chapters: cell death, degeneration, intra- and extracellular accumulation, growth disturbances, acute and chronic inflammatory changes, disorders of circulation, genetic disorders, diseases of immunity and neoplasia (general oncology). The most important and frequent diseases in the various chapters are going to be discussed in detail in order to provide students with comprehensive knowledge to understand autopsy practices as soon as possible. Cardiovascular pathology and pathology of the respiratory tract are two chapters of specific pathology that are also discussed during the course.  
The driving principle behind this course is to have the students understand the disease concepts as the unity of macroscopy, microscopy, clinical symptoms and laboratory changes; factors that shape the clinicopathological thinking about diseases.  
The main educational task of the subject:  
The general pathology course will form the very basis for the systemic / organ pathology as well as the subsequent clinical studies by teaching the etiology, pathogenesis and pathomechanism together with the gross morphological and microscopical changes of the various diseases. During this activity the principal and methodology of the diagnostic pathology will be covered.  

Conditions for acceptance of the semester  
Absences exceeding 15% of the histopathology classes (two absences are allowed) in either semester will result in not signing the gradebook.  
One macropreparation, one histological preparation and a theoretical question will be given to the students at the examination by the end of the first semester.  

Mid-term exams  
Making up for missed classes  
Each missed seminar has to be made up for with another group in the same week.  

Reading material  
V. Kumar: Robbins Basic Pathology, 9th edition, Saunders Company, 2012  

Lectures  
I. INTRODUCTION, POSTMORTEM CHANGES, NECROSIS (5 LECTURES)  
1. The objectives of pathology. Autopsy and surgical pathology. Pathology as a subject  
   Dr. Tornóczki Tamás  
   Dr. Tornóczki Tamás  
   Dr. Tornóczki Tamás  
4. Clinicopathology of AMI  
   Dr. Tornóczki Tamás  
5. Caseous necrosis and adiponecrosis. Apoptosis: morphology, pathomechanism  
   Dr. Tornóczki Tamás  

II. DEGENERATION, ACCUMULATION, PIGMENTS, CALCIFICATION (8 LECTURES)  
6. Degeneration and accumulation I  
   Dr. László Terézia  
7. Degeneration and accumulation II  
   Dr. László Terézia  
8. Degeneration and accumulation III  
   Dr. László Terézia  
9. Degeneration and accumulation IV  
   Dr. László Terézia  
10. Degeneration and accumulation V  
   Dr. László Terézia
11. Exogenous and endogenous pigments I
   Dr. László Terézia
12. Exogenous and endogenous pigments II
   Dr. László Terézia
13. Calcification and lithiasis
   Dr. László Terézia

III. GROWTH DISTURBANCES (3 LECTURES)
14. Regressive changes: atrophy. Organ examples. Classification of cells according to the mitotic capacity
   Dr. Kereskai László
   Dr. Kereskai László
16. Progressive changes II: hypertrophy. Left and right ventricular hypertrophy and their hemodynamic significance
   Dr. Kereskai László

IV. PATHOLOGY OF CIRCULATION (6 LECTURES)
17. Edema
   Dr. László Terézia
18. Hyperemia, congestio
   Dr. László Terézia
19. Haemorrhages
   Dr. László Terézia
20. Thrombosis and embolisation
   Dr. László Terézia
21. Hypertension
   Dr. László Terézia
22. Shock
   Dr. László Terézia

V. INFLAMMATIONS (7 LECTURES)
23. Definition of acute inflammation, cellular and vascular reactions
   Dr. Kajtár Béla
24. Mediators of acute inflammation
   Dr. Kajtár Béla
25. Resolution of acute inflammation, reparation
   Dr. Kajtár Béla
26. Clinicopathological forms of acute inflammation
   Dr. Kajtár Béla
27. Chronic inflammation
   Dr. Kajtár Béla
28. Granuloma, granulomatous inflammation
   Dr. Kajtár Béla
29. Tuberculosis
   Dr. Kajtár Béla

VI. IMMUNOPATHOLOGY (5 LECTURES)
30. Type I-IV. hypersensitivities and related disorders
   Dr. Kereskai László
31. Transplantation immunity
   Dr. Kereskai László
32. Pathogenesis of autoimmune diseases
   Dr. Kereskai László
33. Systemic lupus erythematoses (SLE)
   Dr. Kereskai László
34. Acquired immunodeficiency syndrome (AIDS)
   Dr. Kereskai László

VII. ONCOPATHOLOGY (10 LECTURES)
   Dr. Tomóczki Tamás
   Dr. Tomóczki Tamás
   Dr. Tornóczki Tamás
   Dr. Tornóczki Tamás
   Dr. Tornóczki Tamás
40. Tumour suppressor genes: RB and p53. Their role in tumorigenesis. Organ examples.
   Dr. Tornóczki Tamás
41. Tumour suppressor genes: NF1, NF2, VHL, WT-1 and WT-2. Related syndromes.
   Dr. Tornóczki Tamás
42. Chemical and radiation cancerogenesis. The multistep carcinogenesis of colorectal adenocarcinoma.
   Dr. Tornóczki Tamás
   Dr. Tornóczki Tamás
   Dr. Tornóczki Tamás

VIII. CARDIOVASCULAR PATHOLOGY (5 LECTURES)
45. Ischemic heart diseases, sudden cardiac death, angina pectoris, chronic ischemic heart disease
   Dr. Tornóczki Tamás
46. Pathology of heart valves, myocarditides
   Dr. Tornóczki Tamás
47. Cardiomyopathies, tumours of the heart and pericardial disorders
   Dr. Tornóczki Tamás
48. Congenital heart diseases
   Dr. Tornóczki Tamás
   Dr. Tornóczki Tamás

IX. PATHOLOGY OF THE RESPIRATORY TRACT (7 LECTURES)
50. Pathology of upper airways
   Dr. László Terézia
51. Congenital anomalies of the lung, pulmonary edema, atelectasis, acute lung injury
   Dr. László Terézia
52. Lower airway infections
   Dr. László Terézia
53. Chronic obstructive lung diseases
   Dr. László Terézia
54. Chronic restrictive lung diseases
   Dr. László Terézia
55. Tumours of the lung
   Dr. László Terézia
56. Pleural and mediastinal disorders
   Dr. László Terézia

Seminars
1. Introduction, postmortal changes
2. Necrosis 1
3. Necrosis 2, Degeneration
4. Accumulation, lithiasis
5. Growth abnormalities
6. Pathology of circulation
7. Acute inflammation
8. Chronic inflammation
9. Oncopathology 1
10. Oncopathology 2
11. Cardiovascular pathology 1
12. Cardiovascular pathology 2
13. Pathology of the skin
14. Consultation
Exam topics

PREPARATIONS

I. POSTMORTEM CHANGES, NECROSIS
1. Postmortem emphysema of the liver
2. Anaemic infarct of the heart
3. Anaemic infarct of the spleen and splenomegaly
4. Haemorrhagic infarct of the small intestine
5. Pseudomembranous colitis
6. Phthisis renalis (caseation)
7. Gangraena sicca of the toes
8. Cerebral abscess
9. Acute pancreatitis with adiponecrosis

II. DEGENERATION, ACCUMULATION, PIGMENTS, CALCIFICATION
10. Steatosis hepatis
11. Aortic atherosclerosis with aneurysm
12. Haemochromatosis
13. Brown atrophy of the heart
14. Systemic amyloidosis
15. Cholelithiasis, chronic cholecystitis and empyema
16. Table of frequent bilestones
17. Petrified myoma of the uterus
18. Urolithiasis – hydronephrosis
19. Nodular calcified aortic stenosis

III. GROWTH DISTURBANCES
20. Cerebral atrophy
21. Concentric hypertrophy of the left ventricle of the heart
22. Dilatative hypertrophy of the left ventricle of the heart
23. Chronic cor pulmonale
24. Prostatic hyperplasia

IV. PATHOLOGY OF CIRCULATION
25. Cerebral apoplexy
26. Cerebral purpura
27. Cerebral edema, incarceration of cerebellar tonsils
28. Abdominal aortic aneurysm – parietal thrombosis
29. Left atrial “ball” thrombus

V. INFLAMMATIONS
30. Fibrinous pericarditis - cor villosum
31. Lobar pneumonia
32. Bronchopneumonia
33. Purulent meningitis
34. Pulmonary abscess
35. Foreign body in bronchus
36. Pleural callus
37. Chronic cholecystitis
38. Sarcoidosis - BHL
39. Miliary tuberculosis of the lungs
40. Phthisis cavernosa

VI. ONCOPATHOLOGY
41. Fibroadenoma of breast
42. Carcinoma of the breast
43. Leiomyoma of uterus
44. Cysta dermoides
45. Rectal polyp
46. Rectal adenocarcinoma
47. Pulmonary metastases
48. Lymphangitis carcinomatosa
49. Linitis plastica and Krukenberg tumor
VII. CARDIOVASCULAR PATHOLOGY
50. Aneurysma thrombotisatum ventriculi sinistri cordis
51. Endocarditis septica
52. Endocarditis chronica - mitral stenosis
53. Löffler’s endocarditis
54. Congestive cardiomyopathy
55. Hypertrophic cardiomyopathy
56. Foramen ovale late apertum
57. Roger’s disease
58. Ductus Botalli persistens
59. Dissecting aortal aneurysm
60. Luetic aortitis
61. Cavernous hemangioma of the liver

VIII. PATHOLOGY OF THE RESPIRATORY TRACT
62. Supraglottic carcinoma of the larynx
63. NRDS
64. Bronchiectasis
65. Bronchial carcinoma
66. Mesothelioma
67. Silicosis

SLIDES

I. POSTMORTEM CHANGES, NECROSIS
1. Normal and postmortal pancreas (HE)
2. Apoptosis in a reactive lymph node (follicular hyperplasia)
3. Recent infarct of the heart
4. Pseudomembranous colitis
5. Hemorrhagic infarct of the lung
6. Encephalomalacia alba
7. Acute pancreatitis – adiponecrosis

II. DEGENERATION, ACCUMULATION, PIGMENTS, CALCIFICATION
8. Parenchymal degeneration in kidney
9. Steatosis heptatis
10. Haemosiderosis of liver
11. Bile pigment in cirrhotic liver
12. Brown induration of the lung
13. Melanocytic naevus
14. Anthracosis of lymph node
15. Amyloidosis of the liver
16. Calcification in breast cancer (Kossa reaction)
17. Psammoma bodies (meningioma)
18. Gaucher’s disease

III. GROWTH DISTURBANCES
19. Normal and hypertrophic cardiac muscle
20. Prostatic hyperplasia
21. Glandular cystic hyperplasia of the endometrium

IV. PATHOLOGY OF CIRCULATION
22. Hepar moschatum
23. Pulmonary edema
24. Thrombus and postmortem blood clot
25. DIC (fibrinthrombi in kidney) (fibrin stain)
26. Central hemorrhagic necrosis

V. INFLAMMATIONS
27. Fibrinous pericarditis - cor villosum
28. Bronchopneumonia
29. Lobar pneumonia
30. Purulent meningitis
31. Acute appendicitis
32. Chronic cholecystitis
33. Sarcoidosis in lymph node
34. Foreign body granuloma
35. Miliary tuberculosis of the lung
36. Myocardial infarct with organisation

VI. ONCOPATHOLOGY
37. Squamous metaplasia in bronchus
38. Cervical intraepithelial neoplasia CIN III
39. Polypus adenomatosus coli (p53)
40. Squamous carcinoma of lower lip
41. Adenocarcinoma metastasis in lymph node
42. Anaplastic carcinoma (brain metastasis)

VII. CARDIOVASCULAR PATHOLOGY
43. Viral myocarditis
44. Hypertrophic cardiomyopathy
45. Arteritis temporalis
46. Haemangioma cavernosum hepatitis
47. Kaposi sarcoma

VIII. PATHOLOGY OF RESPIRATORY TRACT
48. NRDS
49. Aspergillosis of the lung
50. CMV lung
51. Bronchial asthma
52. Silicosis
53. Microcellular carcinoma of the lung
54. Planocellular carcinoma of the lung
55. Lepidic adenocarcinoma

THEORETICAL QUESTIONS

I. POSTMORTEM CHANGES, NECROSIS
1. The objectives of pathology. Autopsy and surgical pathology. Pathology as a subject.
5. Patterns of necrosis: liquefactive type. Organ examples.
6. Caseous necrosis and adiponecrosis.

II. DEGENERATION, ACCUMULATION, PIGMENTS, CALCIFICATION
8. The definition and types of degenerations. Parenchymal and fatty degeneration. Organ examples.
9. Pathomorphology, pathogenesis and complications of atherosclerosis
12. Hemoglobinogen pigments II. Pathological forms of iron storage
14. Dystrophic calcification. Organ manifestations
15. Pathomechanism and clinicopathological forms of stone formation
17. Lysosomal storage diseases, glycogenosis, mucopolysacharidosis

III. GROWTH DISTURBANCES
18. Causes of atrophy; general gross morphology and microscopical characteristics. Pathomechanism of atrophy
20. Definition, types and organ examples of hyperplasia
21. Definition of hypertrophy (causes, morphology, changes at cell cycle)
22. Left ventricular hypertrophy. Causes, sequential compensatory changes and functional consequences.
23. Cor pulmonale chronicum
IV. PATHOLOGY OF CIRCULATION
24. Definition of edema, pathomechanism (Starling law), clinical forms
25. Classification of haemorrhages based on pathomechanism, clinical forms. Congestion and hyperemia.
26. Thrombosis and embolus: definitions, cases, types and clinical consequences
27. Causes, types and pathomechanisms of shock. Disseminated intravascular coagulation (DIC).
28. Clinicopathological classification of hypertension and complications

V. INFLAMMATIONS
29. Vascular and cellular mechanisms of acute inflammations
30. Mediators of acute inflammation.
32. Definition, causes, cellular and humoral mechanisms of chronic inflammation.
33. Pathogenesis and clinicopathology of tuberculosis
34. Granuloma, granulomatous inflammation

VI. IMMUNOPATHOLOGY
35. Type I. and type II. hypersensitivity reactions, mechanisms and related disorders.
36. Type III. and type IV. hypersensitivity reactions, related disorders.
37. Pathogenesis of autoimmune disorders
38. Systemic lupus erythematoses (SLE)
39. Transplantation immunity
40. Acquired immunodeficiency syndrome (AIDS)

VII. ONCOPATHOLOGY
42. Definition of metaplasia, dysplasia and their relation to neoplasia. Organ examples. Hamartoma and choristoma.
44. Epidemiology of cancers. Incidence and mortality. Changes in death rates of cancers in the last decades.
45. Oncogenes, protooncogenes, oncoproteins. Growth factor and growth factor receptor oncogenes (RET, KIT, PDGFR). Overexpression of normal growth factor receptors (ERBB1, ERBB2). Organ examples.
47. The myc oncogene. Types and their changes and role in tumours (c-myc, n-myc). Cell cycle regulators: p16 gene.
49. Tumour suppressor genes II: NF1, NF2, VHL, WT-1 and WT-2. Related syndromes.
50. Chemical and radiation carcinogenesis. The multistep carcinogenesis of colorectal adenocarcinoma.
53. Grading and staging. Laboratory diagnosis of cancer.

VIII. CARDIOVASCULAR PATHOLOGY
54. Angina pectoris, chronic ischemic heart disease, sudden cardiac death.
55. Clinicopathology of acute myocardial infarction.
56. Pathology of the valvular disorders (inflammatory and degenerative ones).
57. Cardiomyopathies. Tumors and tumor-like conditions of the heart.
58. Myocarditis. Pathology of the pericardium.
59. Congenital heart diseases.
60. Types and clinicopathology of the aneurysms.

IX. PATHOLOGY OF RESPIRATORY TRACT
62. Diseases of the upper airways
63. Congenital anomalies of the lungs, atelectasis, acute lung injury
64. Infectious disorders of the lower airways
65. General characteristics and types of chronic obstructive lung diseases
66. Chronic restrictive lung diseases
67. Vascular diseases of the lung
68. Lung tumors
69. Pleural and mediastinal disorders

Comment: The Department of Pathology reserves the right of minor modifications in the curriculum
Participants
Dr. Kajtár Béla (KABFAAO.PTE), Dr. Kálmán Endre (KAEMAAO.PTE), Dr. Kereskai László (KELMAAO.PTE), Dr. László Terézia (LATMAAO.PTE), Dr. Pajor László (PALGAAO.PTE), Dr. Semjén Dávid (SEDFABO.PTE), Dr. Smuk Gábor (SMGFAAO.PTE), Dr. Tornóczki Tamás (TOTMABO.PTE), Dr. Vida Livia (VILFAAO.PTE)
## OSP-SPR SURGICAL PROPAAEUTICS

**Course director:**
DR. GÁBOR MENYHEI, professor
Department of Vascular Surgery

| 3 credit • semester exam • Preclinical module • autumn semester • recommended semester: 5 |
|---|---|
| **Number of hours/semester:** | 28 lectures + 14 practices + 0 seminars = total of 42 hours |
| **Course headcount limitations (min.-max.):** | 2 – 20 |
| **Prerequisites:** | OSA-ET2 completed + OSA-NAN completed |

**Topic**

The subject provides an overview of basic principles in general, vascular, and orthopedic surgery and intensive therapy. The lectures deal with the diagnosis and treatment of the most important diseases. During practices, basic examination methods are practiced and discussed.

**Conditions for acceptance of the semester**

Maximum of 15% absence allowed

**Mid-term exams**

Making up for missed classes

According to consultation with practice leaders.

**Reading material**

- **Obligatory literature**
- Literature developed by the Department
- Notes
- **Recommended literature**


**Lectures**

1. History of surgery, asepsis, antisepsis  
   Dr. Menyhei Gábor
2. Indication in surgery, assessment of risk, basic principles in operating theatre  
   Dr. Menyhei Gábor
3. Wound healing  
   Dr. Fazekas Gábor
4. Principles of wound management, first aid  
   Dr. Fazekas Gábor
5. Surgical infections  
   Dr. Fazekas Gábor
6. Antibiotics in surgery  
   Dr. Fazekas Gábor
7. Principles of anaesthesia  
   Dr. Bátai István
8. Types of anaesthesia  
   Dr. Bátai István
9. Intensive therapy, resuscitation, shock management  
   Dr. Jáksó Krisztíán
10. Preoperative assessment and management  
    Dr. Jáksó Krisztíán
11. Principles of trauma management II.  
    Dr. Szabó Tamás
12. Principles of trauma management I.  
    Dr. Szabó Tamás
13. Pulmonary surgery  
    Dr. Szántó Zalán János
14. Non-pulmonary thoracic surgery  
    Dr. Szántó Zalán János
15. Chronic diseases of veins and lymphatics  
    Dr. Menyhei Gábor
8 Acute diseases of veins
   Dr. Menyhei Gábor
9 Vascular surgery: Occlusive diseases. Diagnosis and management
   Dr. Jancsó Gábor
9 Carotid stenosis and arterial aneurysms
   Dr. Jancsó Gábor
10 Surgery of thyroid and parathyroid glands
    Dr. Fazekas Gábor
10 Diseases of breast
    Dr. Fazekas Gábor
11 Surgery of oesophagus, stomach and duodenum
    Dr. Benkő László
11 Surgery of pancreas and spleen
    Dr. Benkő László
12 Surgery of liver
    Dr. Benkő László
12 Surgery of gallbladder and bile ducts
    Dr. Benkő László
13 Diseases of small and large bowels
    Dr. Benkő László
13 Diseases of rectum and anus
    Dr. Benkő László
14 Principles in oncology. Diagnostics and management
    Dr. Benkő László
14 Surgery of acute abdomen
    Dr. Benkő László

Practices
1 General Surgery
2 General Surgery
3 General Surgery
4 Intensive Therapy
5 Intensive Therapy
6 Traumatology
7 Thoracic surgery
8 Vascular Surgery
9 General Surgery
10 General Surgery
11 General Surgery
12 General Surgery
13 General Surgery
14 General Surgery

Seminars

Exam topics/questions
According to lecture topics.

Participants
Dr. Bátai István (BAIMABO.PTE), Dr. Benkő László (BELFAAO.PTE), Dr. Fazekas Gábor (FAGFABO.PTE), Dr. Hardi Péter (HAPFAAO.PTE), Dr. Jáksó Krisztíán (JAKFAAO.PTE), Dr. Jancsó Gábor (JAGMAAO.PTE), Dr. Szabó Tamás (SZTFAMO.PTE), Dr. Szántó Zalán János (SZZFAAO.PTE)
OSP-BPR  INTERNAL MEDICINE: PROPAEDEUTICS

Course director: DR. ISTVÁN WITTMANN, professor
2nd Department of Internal Medicine

3 credit • semester exam • Preclinical module • spring semester • recommended semester: 6

Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours
Course headcount limitations (min.-max.): 1 – 150
Prerequisites: OSA-ET1 completed + OSA-NAN completed

Topic
Introducing into internal medicine. The main aim of this topic to develop skills in history taking and physical examination.

Conditions for acceptance of the semester
Maximum of 25 % absence allowed

Mid-term exams

Making up for missed classes

The maximum permitted number of absences is 3 practices. Each further missed practice has to be made up for during the semester period.

Reading material
- Obligatory literature
- Literature developed by the Department
- Notes
- Recommended literature

Lectures

1  Introduction. The principles of physical examination.
   Dr. Fábián György
2  Techniques of physical examination. Physical examination of the head and neck region.
   Dr. Fábián György
3  History taking in chest and lung diseases.
   Dr. Bekő Viktória
4  Physical examination of the chest and lung.
   Dr. Bekő Viktória
5  Disorders of the respiratory system (pneumonia, bronchial asthma, pleural effusion, tumors).
   Dr. Fábián György
6  History taking in cardiovascular diseases. Physical examination of the cardiovascular system I.
   Dr. Bekő Viktória
7  Physical examination of the cardiovascular system II.
   Dr. Bekő Viktória
8  Symptoms and signs of common cardiovascular diseases (ischemic heart disease, valvular diseases, heart failure).
   Dr. Fábián György
9  Symptoms of the abdominal diseases.
   Dr. Fábián György
10 Physical examination of the abdomen.
    Dr. Fábián György
11 Common diseases of the gastrointestinal tract.
    Dr. Fábián György
12 Symptoms and signs of the metabolic disorders.
    Dr. Wittmann István
13 Symptoms and signs of common renal diseases (glomerulonephritis, nephrotic syndrome, urinary tract infections).
    Dr. Kelényi Gáborné
14 Symptoms and signs of common haematological diseases.
    Dr. Bekő Viktória

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Practices

1-28 The themes of the practices follow the themes of the lectures.

Seminars

Exam topics/questions

The exam is at bedside and focus on the skill of the student about history taking and physical examination.

Participants

Dr. Bekő Viktória (OKBFAA.A.JPTE), Dr. Fábián György (FAGHAAE.PTE), Dr. Molnár Gergő Attila (MOGFABO.PTE), Dr. Sebők Judit (SEJFAAO.PTE), Dr. Szigeti Nóra (SZNMAAO.PTE)
OSP-FL1  PROSTHODONTICS 1

Course director: DR. MÁRTA MÁRIA RADNÁI, associate professor
Dept. of Dentistry, Oral-, Maxillofacial Surgery

3 credit • semester exam • Preclinical module • spring semester • recommended semester: 6

Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours
Course headcount limitations (min.-max.): 1 – 30
Prerequisites: OSP-FPP completed + OSP-OFO parallel + OSP-SZP parallel

### Topic

The student should learn the clinical and laboratory procedures and methods of making a complete denture. The student learns the technic of impression taking, using the face-bow, and practices the tooth preparation.

### Conditions for acceptance of the semester

Making a lower and upper complete denture during the laboratory practises. The tooth preparations and the anatomic casts have to be accepted. If a student does not show up for the test, the test is considered as failed. If any test, marked as failed even after the retake, the semester of the student is considered as failed, and the semester has to be repeated.

Offered course mark: PTE TVSZ 2. §(15) The person responsible for the course-unit shall have the right to offer an excellent or good examination grade on the basis of outstanding mid-term performance and if it is accepted by the student, it shall qualify as a grade obtained at examination. The conditions of offering a grade shall be made public by the person responsible for the course-unit before announcing the course-unit. Due to generating examination sheets electronically, the student shall register for the examination even if he/she accepts the grade.

Based on this an excellent mark can be offered as a course mark to the student if both midsemester written test are awarded with excellent marks, and the student has an outstanding work in the practice as well. He does not need to take the exam.

### Mid-term exams

**Practices:**

1. Clinic: students take impressions from each other, bite registration. Practicing the use of face-bow
2. Laboratory practise: making a lower and upper complete acrylic denture. Practising tooth preparation on manikin, minimum 4 teeth. Prepare anatomic cast, mount on the articulator.

Exam: it contains of a written and an oral part. The first part of the exam is in a written form and passing it is the condition for the oral part of the exam. The questions and answers of the written part is available on Coospace.

### Making up for missed classes

(3) End-of-semester grade may be given by a) mid-term grade in the case of both theory-oriented and practice-oriented course-units on the basis of tests and assessments carried out during term-time, b) examination grade which may be defined on the basis of the performance at the examination exclusively or by taken into consideration performance on mid-term tests and the examination jointly. In the latter case the examination shall contribute to the grade by 50% at least and the mid-term tests by 50% at most.

### Reading material

- **Obligatory literature**
  
  G Zarb et al.: Prosthodontic Treatment for Edentulous Patients, Elsevier
  Geering A, Kundert M, Kelsey CC: Complete Denture and Overdenture Prosthetics, Thieme

- **Literature developed by the Department**

- **Notes**

- **Recommended literature**

### Lectures

1. Consequences of complete edentulism. Anamnesis and examination of the edentulous patient.
   Dr. Radnai Márta Mária
2. Clinical anatomy of the edentulous mandible I.
   Dr. Radnai Márta Mária
3. Clinical anatomy of the edentulous mandible II.
   Dr. Radnai Márta Mária
   Dr. Muzsek Zsófia
   Dr. Radnai Márta Mária
6 Midsemester written test
   Dr. Radnai Márta Mária
7 Making a functional impression on the edentulous mandible and maxilla.
   Dr. Radnai Márta Mária
8 Assessment of the occlusal plane, the occlusal vertical dimension and the centric relation. Intraoral gothic arch tracing registration.
   Dr. Marada Gyula
9 Setting up of artificial teeth: methods, static and dynamic tooth setting.
   Dr. Marada Gyula
10 Try-in, examination before processing the denture. Christensen’s phenomenon.
   Dr. Radnai Márta Mária
11 Processing of the denture in the dental laboratory, reocclusion, delivery, remountage.
   Dr. Radnai Márta Mária
12 Midsemester written test
   Dr. Radnai Márta Mária
13 Problems and problem solving during the use of a complete denture. Relining, repairing, copying the denture.
   Dr. Radnai Márta Mária
14 Maintenance of patients with complete dentures. Oral pathology of elderly edentulous patients.
   Dr. Radnai Márta Mária

Practices
1 Laboratory practise: Making a lower and upper complete acrylic denture.
2 Laboratory practise: Making a lower and upper complete acrylic denture.
3 Laboratory practise: Making a lower and upper complete acrylic denture.
4 Laboratory practise: Making a lower and upper complete acrylic denture.
5 Laboratory practise: Making a lower and upper complete acrylic denture.
6 Laboratory practise: Making a lower and upper complete acrylic denture.
7 Laboratory practise: Making a lower and upper complete acrylic denture.
8 Laboratory practise: Making a lower and upper complete acrylic denture.
9 Laboratory practise: Making a lower and upper complete acrylic denture.
10 Laboratory practise: Making a lower and upper complete acrylic denture.
11 Laboratory practise: Making a lower and upper complete acrylic denture.
12 Laboratory practise: Making a lower and upper complete acrylic denture.
13 Laboratory practise: Making a lower and upper complete acrylic denture.
14 Laboratory practise: Making a lower and upper complete acrylic denture.
15 Laboratory practise: Making a lower and upper complete acrylic denture.
16 Students take impressions from each other, bite registration.
17 Students take impressions from each other, bite registration.
18 Students take impressions from each other, bite registration.
19 Students take impressions from each other, bite registration.
20 Students take impressions from each other, bite registration.
21 Students take impressions from each other, bite registration.
22 Laboratory practise: Mounting the casts into the articulator. Practising tooth preparation on manikin.
23 Laboratory practise: Mounting the casts into the articulator. Practising tooth preparation on manikin.
24 Laboratory practise: Mounting the casts into the articulator. Practising tooth preparation on manikin.
25 Laboratory practise: Mounting the casts into the articulator. Practising tooth preparation on manikin.
26 Laboratory practise: Mounting the casts into the articulator. Practising tooth preparation on manikin.
27 Laboratory practise: Mounting the casts into the articulator. Practising tooth preparation on manikin.
28 Laboratory practise: Mounting the casts into the articulator. Practising tooth preparation on manikin.

Seminars

Exam topics/questions
1. Functions of complete removable denture.
2. Consequences of complete edentulousness.
3. History taking, patient examination, in case of complete edentulousness.
4. Preprosthetic treatment of the patients. How do you plan the treatment?
5. Stature factors affecting complete denture construction.
7. Parts and their task of the complete denture.
8. Which factors are relevant to complete denture retention? (Upper and lower jaw)
9. Functions of myofunctional factors in lower complete denture retention. Which muscles are advantageous and which are disadvantageous in complete denture retention.
10. Materials used for complete denture construction, what are the properties of these materials? (Base, artificial teeth)
15. Clinical anatomy of edentulous lower ridge. Basic forms of mandibular edentulous ridges.
16. Clinical anatomy and prosthetic significance of the mucosa of the mandibular edentulous alveolar ridge and the vestibular and lingual mandibular mucosal reflection.
17. Clinical anatomy and prosthetic significance of the mucosa over the maxillary edentulous alveolar ridge and the maxillary vestibular mucosal reflection.
18. Clinical anatomy and prosthetic significance of the maxillary edentulous alveolar ridge. The displaceable flabby ridge.
19. Clinical anatomy and prosthetic significance of retromolar pad and tubercule-masseter split. (Borders and muscles)
20. Clinical anatomy (borders and muscles) and prosthetic significance of the middle lingual vestibule (mylohyoid area/ paralingual area).
21. Clinical anatomy (borders and muscles) and prosthetic significance of the distolingual vestibule (retromylohyoid area),
22. Clinical anatomy (borders and muscles) and prosthetic significance of the anterior lingual vestibule (sublingual crescent area).
23. Clinical anatomy (borders and muscles) and prosthetic significance of the buccal shelf (accessory mandibular recession).
24. Clinical anatomy (borders and muscles) and prosthetic significance of the buccinator split.
26. Describe the fixed, mobile and displaceable mucosa, where can you find them, what are their significance in prosthodontics?
27. Borders of upper and lower complete denture base.
28. Requirements of special tray in case of complete edentulousness, material of the special tray, methods of construction.
30. Steps and materials of the lower functional impression.
31. Steps and materials of the upper functional impression.
32. Preparation of the functional cast, relief areas and procedure to achieve relief.
33. What is the difference between the occlusal plane and the occlusal surface? What is the significance of determining the occlusal plane?
34. Registration of occlusal vertical dimension and centric relation in case of complete upper and lower edentulousness, and in case of lower edentulous ridge (patient has his upper teeth
35. Materials of the occlusal rim, and its processing.
36. How can be determined the centric relation in case of complete edentulism with intraoral gothic arch tracing?
37. Definition of prosthetic curve of Spee and its role in tooth set-up for complete denture.
38. What are the functional and esthetic aspects of setting up the artificial teeth in complete dentures?
39. What are an occludor and an articulator, their role in setting up the teeth in complete denture?
40. What are the important anatomical features of front teeth, canines, premolars and molars from prosthetic point of view?
41. What and how do you check at the trial denture stage? Christensen phenomenon: definition, explanation, clinical impact.
42. Processing of complete denture, laboratory steps.
43. Development of oral and vestibular tissue surface of complete dentures.
44. Steps of upper complete denture construction with traditional method.
45. Preparation of complete denture with final denture base method. What kind of failures can occur?
46. Possible failures during complete denture processing. Importance and steps of reocclusion/laboratory remount.
47. Final insertion of upper and lower complete dentures.
48. Importance and steps of clinical remount of complete denture.
49. Definition of mucosal resilience, what is the extent of the resilience, why is it important in prosthetics? What are the reasons of complete denture sinking?
50. Complete denture reline: clinical and technical steps
51. Types and properties of artificial teeth
52. Material of the base plate, types, characteristics
53. Preparation of a copy denture
54. Problems and problem solving during the use of a complete denture.
55. Intraoral gothic arch tracing registration.

Participants
Dr. Benke Beáta (BEBFADO.PTE), Dr. Marada Gyula (MAGFABO.PTE), Dr. Muzsek Zsófia (MUZFACO.PTE), Dr. Radnai Mária Mária (RAMVAAP.PTE)

33
Pathophysiology-2 deals with the etiology, time-course and clinical symptoms, as well as with possible pharmacological and other interventions in disorders of the gastrointestinal system, energy balance, intermediary metabolism and the endocrine systems.

Conditions for acceptance of the semester

Maximum of 15 % absence allowed

Mid-term exams

Minimum 50% score on the 2 mid-semester tests.

Making up for missed classes

Minimum 50% test score on the respective seminar topics.

Reading material

- Obligatory literature

- Literature developed by the Department

Lecture and seminar slides will be uploaded to CooSpace.

- Notes

M. Székely (ed.): Basic Concepts in Pathophysiology, ÁOK PTE, 2007

- Recommended literature


Lectures

1. Gastroenterology (pathophysiology of the esophageal and gastric functions).
   Dr. Balaskó Márta

2. Diarrhea
   Dr. Balaskó Márta

3. Pathophysiology of liver functions (intermediary metabolism, jaundice).
   Dr. Balaskó Márta

   Dr. Balaskó Márta

5. Overfeeding, obesity.
   Dr. Balaskó Márta

6. Pathophysiology of thermoregulation.
   Dr. Balaskó Márta

7. Etiology and pathogenesis of diabetes mellitus syndromes.
   Dr. Balaskó Márta

8. Chronic consequences of diabetes mellitus syndromes.
   Dr. Balaskó Márta

   Dr. Szekeres-Solymár Margit

10. Abnormalities of lipid metabolism.
    Dr. Szekeres-Solymár Margit

    Dr. Balaskó Márta

12. Abnormalities if the thyroid functions (hypofunction).
    Dr. Balaskó Márta

    Dr. Balaskó Márta

    Dr. Balaskó Márta
Practices

Seminars
1. Gastroenterology (vomiting, peptic ulcer).
2. Diarrhea.
4. Pancreatitis (acute, chronic).
5. Pathophysiology of liver function (portal hypertension, ascites, cirrhosis).
7. Total starvation.
8. Partial starvation.
10. Complications of obesity, metabolic syndrome.
11. Cold-defence and cold-induced disorders. Warm-defence and heat-induced disorders.
12. Fever and sickness-behavior.
14. Acute complications of diabetes mellitus syndromes II.
15. Chronic complications of diabetes mellitus syndromes.
17. Disorders of protein metabolism.
19. Abnormalities of lipid metabolism.
20. Pathomechanisms of atherosclerosis.
22. Disorders of thyroid functions (hyperfunctions).
23. Hypo- and hyper-functions of the adrenal medulla.
24. Hypo- and hyper-functions of the adrenal cortex.
25. Parathyroidea, disorders of calcium metabolism and bone remodelling I.
26. Parathyroidea, disorders of calcium metabolism and bone remodelling II.
27. Complex topics: tissue injury, trauma, sepsis.
28. MODS (multiple organ dysfunctions).

Exam topics/questions
Saliva production and its role in dental health and oral mucosal protection.
Vomiting (acute, chronic).
Disorders of gastric juice production. Peptic ulcer.
Utilization of nutrients and its disorders. Malabsorptions. Specific malabsorption syndromes (level or substrate of disorder).

Complex malabsorption syndromes.
Diarrhea: causes, pathophysiological forms, consequences.
Bowel obstruction.
Acute pancreatitis: pathophysiology and consequences.
Pathophysiology of chronic pancreatitis.

Disorders of intermediary metabolism in general liver cell damage.
Jaundice.
Portal hypertension, ascites. Hepatorenal syndrome.
Hepatic coma.
Water-soluble vitamins.

Fat-soluble vitamins.
Complete starvation: occurrence and process.
Partial starvation, accelerated forms of energetic insufficiency. Anorexia nervosa.
Protein deficiency. Protein-calorie malnutrition. Consequences of excessive protein intake.
Etiology and pathogenesis of obesity.
Consequences of obesity. Therapeutic possibilities.
Metabolic syndrome.
Cold-defense and cold-induced disorders.
Warm-defense and heat-induced disorders.
Heat stroke and malignant hyperthermia.

Pathogenesis of fever. Fever and sickness-behavior. The biological value of fever.
Hyperglycemia and glucose-tolerance tests. Diagnosis of diabetes mellitus.
General pathobiochemistry of diabetes mellitus syndrome.
Etiology and pathogenesis of DM1.
Etiology and pathogenesis of DM2.

Diabetic ketoacidosis (DKA) and ketoacidotic coma.
Diabetic hyperosmolar syndrome (HHS) and coma.
Late complications of diabetes mellitus.
Hypoglycemia.
Disorders of nucleic acid metabolism. Gout.

Pathobiochemistry of LDL-metabolism. Primary hyperlipoproteinemia.
Secondary hyperlipoproteinemia. Atherosclerosis.
Disorders of the hypothalamo-pituitary system. Pituitary insufficiency.
Hyperprolactinemia.
Pathophysiology of growth.

Hyperthyroidism.
Hypothyroidism.
Disturbances of the adrenal medulla and the sympathetic system. Pheochromocytoma.
Adrenal (cortex) insufficiency.
Primary and secondary hyperaldosteronism.

Glucocorticoid hyperfunctional states.
Pathophysiological aspects of glucocorticoid therapy.
Parathyroid abnormalities.
Hypocalcemia, hypercalcemia.
Mechanisms and disturbances of bone remodeling. Osteoporosis, osteomalacia.

Basic pathophysiological concepts of gerontology.
Tissue injury, trauma, sepsis. MODS (multiple organ dysfunctions).

Note: „A” chance: test-exam on basis of the above topics. For „B” and „C” chances: oral exam on basis of 3 questions from the list above.

Participants
Dr. Balaskó Márta (BAMMAAO.PTE), Dr. Rostás Ildikó (ROIOAAO.PTE), Dr. Szekeres-Solymár Margit (SOMFAAO.PTE)
OSP-KRA  CLINICAL RADIOLOGY

Course director: DR. ISTVÁN BATTYÁNI, associate professor
Department of Radiology

Course description:

2 credit • semester exam • Preclinical module • spring semester • recommended semester: 6
Number of hours/semester: 14 lectures + 14 practices + 0 seminars = total of 28 hours
Course headcount limitations (min.-max.): 1 – 150
Prerequisites: OSP-PA1 completed + OSP-SPR parallel

Topic

The aim of the subject is to learn the diagnostic algorithm of main diseases, and the diagnostic information of different imaging methods.

The basic principles are the cost-effectiveness, and the risk-benefit ratio, ionizing radiation, radiation protection, and the ALARA principle.

Of course the students have to learn the different indications, contraindications, possible side effects of the imaging methods, basics of the vascular and non-vascular interventional radiology and the appropriate answer for the exam questions. After the course the students as a practitioner with a help of the known clinical data will be able to draw up the application sequence (examination shift) of the picture making diagnostic methods required for the diagnosis of certain diseases (in case of need based on the consultation with the specialist).

Conditions for acceptance of the semester

To get the index book signed, a maximum of 2 (two) seminars (4 hours) may be missed and they are not replaceable by any kind, even by participating in others seminar, since the subjects may go non-parallel in various groups. Missed seminars, caused by disease, can be certified by a written certificate obtained from the treating physician (booked in the log of his/her office)!

The exam starts with MRT. Only those students able to go to the oral exam who passed the MRT successfully. If the student fails on the MRT the exam mark is also failed.

Mid-term exams

Making up for missed classes

No possibility for the replacement.

Reading material

- Obligatory literature
- Literature developed by the Department
- Notes
- Recommended literature

In English:
- G. M. Roberts, J. P. Hughes and M. D. Hourihan: Clinical Radiology for Medical Students

In Hungarian:
- Fráter, Palkó, Makó, Kollár, Battyáni: Radiológia, Medicina, 2007

Recommended:

Lectures

   Dr. Battyáni István
   Dr. Battyáni István
3 Ultrasound. Ultrasound applications (Head and neck diseases, thyroid gland, salivary glands).
   Dr. Battyáni István
4 Computed tomography (CT), Cone beam CT.
   Dr. Battyáni István
5 Fundamentals of magnetic resonance imaging (MRI). Contrast agents and their application (contrast reactions).
   Dr. Battyáni István
6 Nuclear medicine. Head and neck examinations. Principles of radioisotope application, clinical use.
   Dr. Bódisné Dr. Zámbó Katalin

Dr. Battyáni István


Dr. Battyáni István

Radiology of the mediastinum, the most frequent mediastinal pathologies and their examination. Diagnostics of the heart.

Dr. Battyáni István

Imaging methods of the GI tract, necessary clinical information, and indications. Radiology of the oesophagus, stomach and duodenum. The relation of the endoscopic and radiologic methods. Imaging methods of the small bowel and the large bowel, their indications, the necessary clinical information. Diseases and their radiological diagnosis.

Dr. Battyáni István


Dr. Battyáni István


Dr. Battyáni István

Neuroradiology

Dr. Rostás Tamás

Interventional radiology in maxillofacial diseases.

Dr. Horváth László

Practices


3. Computed tomography (CT), Cone beam CT. Limitations and possibilities of 3D imaging in dentistry.


5. Ultrasound. Piezoelectric effect. Ultrasound applications (Head and neck diseases, thyroid gland, salivary glands).


7. Labial and intraoral tumors. Maxillofacial radiology (trauma, inflammation, tumors)


11. Imaging methods of the GI tract, necessary clinical information, and indications. Radiology of the oesophagus, stomach and duodenum. The relation of the endoscopic and radiologic methods. Imaging methods of the small bowel and the large bowel, their indications, the necessary clinical information. Diseases and their radiological diagnosis.


Seminars

Exam topics/questions

2. The differential absorption and its role in diagnostic an in therapeutic medicine.
3. Compton dispersion, pair formation.
5. The units of the diagnostic x-ray equipment.
7. The basic principles of x-ray imaging.
8. Contrast materials, their side effects, complications and treatments.
10. Radiation protection.
11. Imaging of the bone and joint. Basic pathologic changes.
12. Imagings and diseases of the facial bones.
13. Indications and methods of chest X-ray
15. Indications and methods in plural diseases.
16. Imaging of the heart and great vessels.
17. Imaging of the mediastinum.
18. Radiological examinations of the GI tract. Basic morfological changes.
20. Uroradiology. (inflammations, stones, tumors)
21. Basic principles and indications of angiography
22. Basic principles and indications of CT
23. Basic principles and indications of US
27. Diagnostic and therapeutic applications of the isotops.
29. Transcatheter embolisation.
30. Local thrombolysis. PTA. Atherectomy. Stent implantation.

Participants
Dr. Bódisné Dr. Zámbó Katalin (BOZMAAO.PTE), Dr. Farkas Orsolya (FAOFAAO.PTE), Dr. Vajdáné Dr. Demeter Nóra Mária (DENFAAO.PTE)
OSP-OFO  OPERATIVE DENTISTRY - PROPEDEUTICS

Course director: DR. EDINA LEMPEL, assistant lecturer
Dept. of Dentistry, Oral-, Maxillofacial Surgery

3 credit • semester exam • Preclinical module • spring semester • recommended semester: 6

Number of hours/semester: 28 lectures + 14 practices + 0 seminars = total of 42 hours

Course headcount limitations (min.-max.): 3 – 25

Prerequisites: OSA-ANY completed + OSA-ET2 completed + OSP-FPP completed

Topic

Students should acquire the basic treatment methods of carious lesions.

Conditions for acceptance of the semester

Attending the classes, according to the rules of the Code of Studies and Examinations (Max 15% absence is accepted from the lectures and from the practices).

Mid-term exams

During the semester 7 writing test will be held on each second week, the first 10 minutes of practice time. In case of failure of the test or absence replacement or repair is available on the next practices. If the tests do not reach the 60 % the semester will not be accepted.

Making up for missed classes

Reading material

- Obligatory literature
- Literature developed by the Department
  Topics of the oral presentations.
- Notes
- Recommended literature
  Sturdevant’s Art and Science of Operative Dentistry
  S Cohen: Pathways of the Pulp
  R G Craig: Restorative Dental Materials

Lectures

1  General rules of cavity preparation
   Dr. Lempel Edina
2  The aim of endodontic procedures, clinical diagnosis, Isolation, Anesthesia
   Dr. Lempel Edina
3  Class I. cavity preparation for amalgam filling
   Dr. Lempel Edina
4  Morphology of pulp chamber and canal
   Dr. Marada Gyula
5  Equipment of dental office. The position of patient and dentist during the treatment. Classification of cavities, nomenclature
   Dr. Marada Gyula
6  Trepanation and the armamentarium for trepanation
   Dr. Lempel Edina
7  Class III. cavity preparation for composite filling
   Dr. Kende Dóra Éva
8  Vitalalexstirpation, the armamentarium of root canal preparation, the lubrication
   Dr. Lempel Edina
9  Instruments for cavity preparation
   Dr. Lempel Edina
10 Determination of working length, step-back technique, anticurvature filling, point control
    Dr. Lempel Edina
11 Matrix and matrix retainer. Isolation
    Dr. Lempel Edina
12 Drying of root canal, provisional cavity liners, definite canal filling instrumentation
    Dr. Lempel Edina
13 Class V. cavity preparation
    Dr. Lempel Edina
14 Permanent root canal filling with lateral condensation technique  
   Dr. Lempel Edina
15 Amalgam restorations  
   Dr. Kende Dóra Éva
16 Root canal therapy of extracted tooth (practice)  
   Dr. Kende Dóra Éva
17 Composite restorations. Glass-ionomer cement restorations  
   Dr. Lempel Edina
18 Anatomy of extracted teeth (practice)  
   Dr. Kende Dóra Éva
19 Class I. cavity preparation for cast inlay  
   Dr. Lempel Edina
20 Cavity for trepanation on extracted tooth  
   Dr. Kende Dóra Éva
21 Class II. cavity preparation for cast inlay. Class V. cavity preparation for cast inlay. Inlay modeling  
   Dr. Lempel Edina
22 Root canal instrumentation wit step-back technique  
   Dr. Kende Dóra Éva
23 Direct inlay modeling. Impressions for inlays  
   Dr. Lempel Edina
24 Root canal instrumentation wit step-back technique, point control x-ray  
   Dr. Kende Dóra Éva
25 Instruments, materials and methods of polishing. Slice preparation  
   Dr. Lempel Edina
26 Root canal filling with lateral condensation technique  
   Dr. Kende Dóra Éva
27 Consultation  
   Dr. Lempel Edina
28 Consultation  
   Dr. Lempel Edina

Practices
1 Class I. cavity preparation in lower first molar (occlusal, vestibular) for amalgam and composite filling, making of the filling.
2 Class II. MO cavity preparation in lower second premolar for amalgam filling, making the filling; Class II OD cavity preparation in upper first premolar for composite filling.
3 Class II. MOD cavity preparation in upper first molar for composite filling, making of the upper molars and premolars composite filling.
4 Class III. and IV. cavity preparation for composite fillings in upper incisors; class V cavity preparation for composite filling in upper canine and lower first molar. Making the fillings.
5 Test. Making of GIC fillings
6 Class I cavity preparation for cast inlay in lower second molar, direct wax modelling.
7 Class II MOD cavity preparation for cast inlay in lower first premolar, direct wax modelling; Class II MOD cavity preparation for composite inlay in upper second molar. Making of direct composite inlay.
8 Class II Cavity preparation for ceramic onlays in lower second molar. Making the onlay from composite.
9 Test. Practicing the Rubber dam isolation procedures
10 Trepanation cavity preparation in teeth with one root, working length determination with X-ray, filing of the root canal with step-back technique.
11 Definitive root canal filling with lateral condensation technique.
12 Fiber reinforced intrapulpal post insertion into extracted teeth; core build up, ferrule preparation.
13 Direct venner preparation, making of the venner with basic layering technique.
14 Consultation.

Seminars

Exam topics/questions

Theoretical exam:
1. Units and instruments of a dental practice
2. Position of the patient and the dentist, dental unit
3. General rules of cavity preparation, classification of the cavities, nomenclature
4. Hand instruments
5. Rotary instruments
6. Isolation, matrices
7. I. class cavity-preparation for plastic filling
8. II. class cavity-preparation for amalgam filling
9. II. class cavity-preparation for composite filling
10. III. class cavity-preparation for composite filling
11. IV. class cavity-preparation for composite filling
12. V. class cavity-preparation for plastic filling
13. Steps of amalgam filling
14. Steps of composite filling
15. Steps of glass-ionomer cement filling
16. Special cavity-preparation, parapulpal posts
17. Cavity preparation for I. class metal (cast) inlay
18. Cavity preparation for II. class metal (cast) inlay
19. Cavity preparation for composite inlay
20. The aim of endodontic treatment, Step-back preparation, root-canal morphology
21. Endodontic working length determination, point-control
22. Drying of root-canal, provisional and permanent root-canal filling

Practical exam:
1. I. class cavity preparation in molar (occlusal, vestibular) for amalgam filling, carriage of the amalgam filling
2. I. class cavity preparation in molar (occlusal, vestibular) for composite filling, carriage of the composite filling
3. II. class (MO) cavity preparation in molar or premolar for amalgam filling, carriage of the amalgam filling
4. II. class (OD) cavity preparation in molar or premolar for amalgam filling, carriage of the amalgam filling
5. II. class (MOD) cavity preparation in molar or premolar for amalgam filling, carriage of the amalgam filling
6. II. class (MO) cavity preparation in molar or premolar for composite filling, carriage of the composite filling
7. II. class (OD) cavity preparation in molar or premolar for composite filling, carriage of the composite filling
8. II. class (MOD) cavity preparation in molar or premolar for composite filling, carriage of the composite filling
9. III. class cavity preparation in upper incisor for composite filling, carriage of the composite filling
10. IV. class cavity preparation in upper incisor for composite filling, carriage of the composite filling
11. V. class cavity preparation for amalgam and composite filling, carriage of the filling
12. II. class (MO) cavity preparation for cast inlay, modelling from wax
13. II. class (OD) cavity preparation for cast inlay, modelling from wax
14. II. class (MOD) cavity preparation for cast inlay, modelling from wax
15. Making of a I. and V. class direct composite inlay
16. Making of a II. class (MO) direct composite inlay in molar or premolar
17. Making of a II. class (OD) direct composite inlay in molar or premolar
18. Making of a II. class (MOD) direct composite inlay in molar or premolar
19. II. class (MOD) cavity preparation for ceramic inlay, impression, modelling from Palavit G

Participants
Dr. Dunavári Erika Katalin (DUEFAAO.PTE), Dr. Kende Dóra Éva (KEDSABO.PTE)
OSP-ORB  Oral Biology

Course director:  DR. KÁROLY ÁKOS NAGY, associate professor
Dept. of Dentistry, Oral-, Maxillofacial Surgery

<table>
<thead>
<tr>
<th>3 credit • semester exam • Preclinical module • spring semester • recommended semester: 6</th>
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<tr>
<td>Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours</td>
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<tr>
<td>Course headcount limitations (min.-max.): 2 – 60</td>
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<tr>
<td>Prerequisites: OSA-AA2 parallel + OSA-MB2 completed + OSA-BEB completed</td>
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Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours
Course headcount limitations (min.-max.): 2 – 60
Prerequisites: OSA-AA2 parallel + OSA-MB2 completed + OSA-BEB completed

Topic
During this semester the students acquire knowledge about the oral structures and these development, function and about the biochemical, molecular biological, histological processes of bone and oral environment.

Conditions for acceptance of the semester
Attending the classes, according to the rules of the Code of Rules and regulations.
Oral exam.
A score system is used for the acceptance of practices.
The score system is demonstrated on the first practice.
Mid-term exams
6th week midterm: tooth morphology
Making up for missed classes
Not possible.

Reading material
- Obligatory literature
- Literature developed by the Department
  Hand outs
- Notes
- Recommended literature
  Ferguson DB: Oral Bioscience ISBN 0443053731

Lectures
1  Development of teeth
   Dr. Nagy Ákos
2  Process of mineralization
   Dr. Nagy Ákos
   Dr. Nagy Ákos
4  Amelogenesis – tissue structure
   Dr. Nagy Ákos
5  Dentinogenesis – secondary, tertiary dentin formation
   Dr. Nagy Ákos
6  Cementogenesis. Histology and function of parodontal ligaments
   Dr. Nagy Ákos
7  Crystal-structure of bioapatites. Fluoride metabolism. Effect of fluorides on tooth structure
   Dr. Nagy Ákos
8  Eruption of teeth. Movement of teeth
   Dr. Nagy Ákos
9  Development and structure of pulp
   Dr. Nagy Ákos
    Dr. Nagy Ákos
11 Ionizing radiation. Radio-Osseo-Necrosis
    Dr. Nagy Ákos
12 Effect of diet on oral tissues. Effect of age. Systematic diseases, medicines in dental practice  
Dr. Nagy Ákos

13 Structure of oral soft tissues. Gingival sulcus, crevicular fluid  
Dr. Nagy Ákos

14 Anatomy of temporo-mandibular joint. Pathways of articulation. Mastication, swallow  
Dr. Nagy Ákos

Practices
1 Morphology and functional anatomy of the chewing organ.
2 Morphology and functional anatomy of the chewing organ.
3 Morphology and functional anatomy of the chewing organ.
4 Morphology and functional anatomy of the chewing organ.
5 Morphology and functional anatomy of the chewing organ.
6 Morphology and functional anatomy of the chewing organ.
7 Morphology and functional anatomy of the chewing organ.
8 Morphology and functional anatomy of the chewing organ.
9 Morphology and functional anatomy of the chewing organ.
10 Morphology and functional anatomy of the chewing organ.
11 MIDTERM TEST Tooth recognition.
12 Bone regeneration; osseointegration
13 Salivary Glands Saliva production
14 Salivary Glands Saliva production
15 Role of saliva proteins and peptides in caries development and protection
16 Role of saliva proteins and peptides in caries development and protection
17 Oral clearance
18 Oral clearance
19 Specific and non specific oral defense
20 Specific and non specific oral defense
22 Oral microorganisms. Plaque, like a biofilm. Biochemistry of plaque
23 Saliva as a diagnostic tool
24 Saliva as a diagnostic tool
25 Inflammation
26 Oral tumors
27 Basic research methods and application of results in dental practice
28 Basic research methods and application of results in dental practice

Seminars

Exam topics/questions
1. Development of teeth
2. Process of mineralization
3. Osteogenesis
5. Amelogenesis
6. Dentinogenesis
7. Cementogenesis.
8. Histology and function of parodontal ligaments.
22. Role of saliva proteins and peptides in caries development and protection.
23. Bone regeneration, osseointegration.
24. Inflammation
25. Specific and aspecific oral protection.
27. Plaque, like a biofilm, Biochemistry of plaque.
28. Basic research methods and application of results in dental practice.
29. Oral clearance

Participants
Dr. Frank Dorotty (FRDIAO.PTE), Dr. Sándor Balázs Attila (SABFAA.T.JPTE)
**OSP-PA2  Pathology 2 - Oral Pathology**

**Course director:**  
DR. TAMÁS TORNÓCZKI, associate professor  
Department of Pathology

- **7 credit**  
- **final exam**  
- **Preclinical module**  
- **spring semester**  
- **recommended semester:** 6

**Number of hours/semester:**  
56 lectures + 0 practices + 42 seminars = total of 98 hours

**Course headcount limitations (min.-max.):**  
5 – not limited  
**Prerequisites:** OSP-PA1 completed

**Topic**

There is a special emphasis during the course on the clinicopathological view of the diseases, i.e., understanding the relationship of the clinical symptoms, macroscopical and microscopical changes of the diseased organs. By the end of the academic year, a basic clinicopathological affinity and competence in differential diagnosis is required of the students. Fundamentals and major examples of specific, organ pathology are discussed. The systemic pathology course involves the major fields of organ pathology not discussed in Pathology 1: dermatopathology, hematopathology, pathology of the gastrointestinal tract, liver, biliary tract, pancreas, kidney, male and female genital tract, skeletal system, endocrine system and soft tissues pathology. Cardiovascular pathology and pathology of the respiratory tract have been discussed during Pathology 1 course.

**Special requirements for dentists**

The curriculum of the students (which made of pathology lectures and practices) is completed with the subject of Oral Pathology. The students should attend to this course which takes 14 hours in the second semester and organized by the teachers in the Department of Dentistry, Oral and Maxillofacial Surgery and in the Department of Pathology. The third-year students are expected to acquire the pathogenesis, the macroscopy and partly the microscopy of the main pathological changes occur in this region. This reference knowledge could be used for the ongoing dental studies and especially later in consultations with the oral pathologists.

The attendance to the Oral Pathology course and the knowledge picked up there—beside the general requirements—are obligatory to the approval of the two semesters. The details are seen below.

The main educational task of the subject: The pathology course will form the basis for later clinical studies by teaching organ specific pathology knowledge, including the etiology and pathomechanism of diseases and the entire spectrum of pathological diagnostics from macroscopy and microscopy to special ancillary techniques (ultrastructural analysis, molecular pathology) with their clinical relevance.

**Conditions for acceptance of the semester**

According to the Code of Studies and Examination.

Absences exceeding 10% each of the histopathology and oral pathology practical classes will result in not signing the gradebook.  
Maximum absence: 2 (2x45 min.) Histology and 2 (1x45 min.) Oral pathology practise.

Final exam for the dentist students includes two slides (one from the second semester Systemic Pathology and one from the Oral Pathology slide collection), and 2 EQs (one Oral Pathology + one Pathology2).

**Mid-term exams**

**Making up for missed classes**

Each missed seminar has to be made up for with another group in the same week.

**Reading material**


**Lectures**

**I.  DERMATOPATHOLOGY (4 LECTURES)**

1. Dermatopathology I  
Dr. Kálmán Endre

2. Dermatopathology II  
Dr. Kálmán Endre

3. Dermatopathology III  
Dr. Kálmán Endre

4. Dermatopathology IV  
Dr. Kálmán Endre

**II.  PATHOLOGY OF THE GASTROINTESTINAL TRACT (6 LECTURES)**

5. Congenital malformations of face, inflammatory changes, tumor-like conditions and tumours of the oral cavity  
Dr. Pajor László

6. Inflammatory diseases and tumours of the salivary glands  
Dr. Pajor László

7. Congenital and acquired diseases as well as tumors of the oesophagus  
Dr. Pajor László

8. Pathology of the stomach  
Dr. Pajor László

9. Pathology of the small intestines  
Dr. Pajor László

10. Pathology of the colon and rectum  
Dr. Pajor László
III. NEPHRO- AND UROPATHOLOGY (6 LECTURES)
11. Renal failure
   Dr. Kereskai László
12. Cystic diseases of the kidney
   Dr. Kereskai László
13. Pathogenesis and classification of glomerulonephritides
   Dr. Kereskai László
14. Tubulointerstitial and vascular diseases
   Dr. Kereskai László
15. Renal neoplasms
   Dr. Kereskai László
16. Pathology of the bladder and ureter
   Dr. Kereskai László

IV. HAEMATOPATHOLOGY (7 LECTURES)
17. Ontogenesis of the lymphoid cells, lymphoid cell populations
   Dr. Kajtár Béla
18. Reactive lymph node changes
   Dr. Kajtár Béla
19. B-cell lymphomas
   Dr. Kajtár Béla
20. T/NK cell lymphomas
   Dr. Kajtár Béla
21. Hodgkin lymphoma
   Dr. Kajtár Béla
22. Haemopoiesis. Myeloproliferative neoplasms
   Dr. Kajtár Béla
23. Acut myloid leukaemias and myelodysplastic syndromes
   Dr. Kajtár Béla

V. PATHOLOGY OF LIVER, BILIARY TRACT, PANCREAS (6 LECTURES)
24. Circulatory disorders of the liver. Non-viral inflammations in the liver. Drug hepatopathies
   Dr. Pajor László
25. Acute viral hepatitis
   Dr. Pajor László
26. Chronic viral hepatitides
   Dr. Pajor László
27. Cirrhosis and hepatic failure
   Dr. Pajor László
28. Tumor-like conditions and true neoplasia of the liver
   Dr. Pajor László
29. Pathology of the extrahepatic bile ducts and exocrine pancreas
   Dr. Pajor László

VI. PATHOLOGY OF MALE GENITAL TRACT (3 LECTURES)
30. Pathology of the testis and its appendices
   Dr. Kálmán Endre
31. Pathology of the prostate
   Dr. Kálmán Endre
32. Pathology of the penis
   Dr. Kálmán Endre

VII. PATHOLOGY FEMALE GENITAL TRACT (9 LECTURES)
33. Pathology of the vulva and the vagina
   Dr. Kálmán Endre
34. Inflammatory lesions of the female genital tract
   Dr. Kálmán Endre
35. Sexually transmitted diseases
   Dr. Kálmán Endre
36. Pathology of the cervix
   Dr. Kálmán Endre
37. Pathology of the uterine corpus
   Dr. Kálmán Endre
38. Pathology of the ovaries  
   Dr. Kálmán Endre
39. Pathology of pregnancy I (abnormalities of implantation, gestosis, trophoblastic tumours)  
   Dr. Kálmán Endre
40. Pathology of pregnancy II (transplacental infections, chromosomal aberrations)  
   Dr. Kálmán Endre
41. Pathology of the breast  
   Dr. Kálmán Endre

VIII. NEUROPATHOLOGY (6 LECTURES)
42. Malformations of the brain, hydrocephalus, cerebral edema  
   Dr. Kajtár Béla
43. Vascular disorders of the central nervous system  
   Dr. Kajtár Béla
44. Dementias, neurodegenerative disorders.  
   Dr. Kajtár Béla
45. Demyelinisation disorders, multiple sclerosis.  
   Dr. Kajtár Béla
46. Inflammations of the central nervous system  
   Dr. Kajtár Béla
47. Central nervous system tumors  
   Dr. Kajtár Béla

IX. ENDOCRINOPATHOLOGY AND PATHOLOGY OF SOFT TISSUES (6 LECTURES)
48. Pathological conditions of the hypothalamo-hypophyseal system  
   Dr. Tornóczki Tamás
49. Pathology of the thyroid gland (developmental abnormalities, hyperplasia, thyroiditis, tumours)  
   Dr. Tornóczki Tamás
50. Pathology of the parathyroid glands  
   Dr. Tornóczki Tamás
51. Pathology of the adrenal gland. MEN  
   Dr. Tornóczki Tamás
52. Pathogenesis of the soft tissue tumors. Fibrous, fibrohistiocytic neoplasms of the soft tissues and tumors of the fat tissue  
   Dr. Tornóczki Tamás
53. Tumors of the smooth- and striated muscle. Synovial neoplasms, tumors of the peripheral nerves, PNET.  
   Dr. Tornóczki Tamás

X. PATHOLOGY OF BONE (3 LECTURES)
54. Hereditary, inflammatory and metabolic bone diseases  
   Dr. Kereskai László
55. Benign bone tumors  
   Dr. Kereskai László
56. Malignant bone tumors  
   Dr. Kereskai László

Seminars
1. Introduction
2. Pathology of the gastrointestinal tract 1
3. Pathology of the gastrointestinal tract 2
4. Nephro- and uropathology
5. Hematopathology
6. Pathology of liver, bile ducts, pancreas
7. Pathology of male genital tract
8. Female genital tract 1
9. Female genital tract 2
10. Neuropathology 1
11. Neuropathology 2
12. Endocrinopathology and pathology of soft tissues 1
13. Endocrinopathology and pathology of soft tissues 1
14. Pathology of the bone
Exam topics

SLIDES

I. DERMATOPATHOLOGY
1. Seborrhoeic keratosis
2. Basal cell carcinoma
3. Nodular melanoma
4. Melanocytic nevus and superficially spreading melanoma
5. Bullous pemphigoid
6. Psoriasis

II. PATHOLOGY OF THE GASTROINTESTINAL TRACT
7. Pleomorphic adenoma
8. Helicobacter pylori infection (Warthin-Starry)
9. Coeliac disease – subtotal/total villus atrophy (Marsh 3c)
10. Crohn's disease
11. Carcinoid of the appendix
12. Rectal adenocarcinoma

III. NEPHRO- AND UROPATHOLOGY
13. Rapidly progressive GN with crescents
14. Hyalinised glomeruli
15. Kimmelstiel Wilson syndrome
16. Clear cell carcinoma of the kidney
17. Urothelial carcinoma of the renal pelvis

IV. HAEMATOPATHOLOGY
18. Toxoplasma lymphadenitis
19. Follicular lymphoma
20. CLL/SLL infiltration in lymph node
21. Diffuse large B-cell lymphoma
22. Hodgkin lymphoma
23. CML, CP smear

V. PATHOLOGY OF LIVER, BILE TRACT, PANCREAS
24. Fibrocystic liver lesion
25. HBs-antigen positivism (Shikata-orcein)
26. Alcoholic hepatitis
27. Hepatocellular carcinoma in cirrhosis

VI. PATHOLOGY OF MALE GENITAL TRACT
28. Prostatic adenocarcinoma
29. Seminoma
30. Mixed germ cell tumor: teratoma and embryonal carcinoma

VII. PATHOLOGY OF FEMALE GENITAL TRACT
31. Endometrial adenocarcinoma (curettage)
32. Serous papillary cystadenocarcinoma of the ovary
33. Hydatidiform mole
34. Intraductal papilloma
35. Paget-disease
36. Invasive ductal carcinoma
37. Mucinous carcinoma

VIII. NEUROPATHOLOGY
38. Oligodendrogliaoma
39. Glioblastoma
40. Senile plaques and neurofibrillar degeneration
41. Prion disease, spongiform encephalopathy

IX. ENDOCRINOPATHOLOGY AND PATHOLOGY OF SOFT TISSUES
42. Subacute granulomatous thyreoiditis (De Quervain)
43. Papillary carcinoma of the thyroid
44. Graves disease
45. Hashimoto thyreoiditis
46. Parathyroid adenoma
47. Phaeochromocytoma
48. Leiomyosarcoma
49. Myxoid liposarcoma

X. PATHOLOGY OF BONES
50. Giant cell tumor of bone (osteoclastoma)

THEORETICAL QUESTIONS

I. DERMATOPATHOLOGY
1. Melanocytic lesions
2. Epithelial tumours of the skin
3. Inflammatory skin diseases

II. PATHOLOGY OF THE GASTROINTESTINAL TRACT
4. Developmental malformations of the face. Inflammatory and tumorous diseases of the oral cavity.
5. Pathology of the salivary glands
6. Diseases of the oesophagus
7. Inflammatory and ulcerative disorders of the stomach
8. The benign and malignant tumours of the stomach
10. Diverticulosis of the colon. Pathology of colonic polyps
11. Crohn’s disease and ulcerative colitis
12. Colorectal malignancies and their relationship to polyposis lesions.
13. Diseases of the appendix and the peritoneum (appendicitis, mucocele, peritonitis, retroperitoneal sclerosis, pseudomyxoma of the peritoneum).

III. NEPHRO- AND UROPATHOLOGY
15. Glomerulonephritis: classification according to clinical symptoms. Histologic alterations in glomerulonephritides
17. IgA nephropathy, chronic glomerulonephritis. Glomerular lesions associated with systemic disorders (SLE, Henoch-Schönlein purpura, Wegener’s granulomatosis, amyloidosis)
19. Acute tubular necrosis (ischaemic and toxic). Drug-induced (hypersensitive) interstitial nephritis, anagletic nephropathy, urate nephropathy. Acute and chronic pyelonephritis (pathogenesis, morphology, consequences and clinical course)
20. Benign and malignant nephrosclerosis and diffuse cortical necrosis. Urolithiasis and obstructive uropathy
21. Renal tumours (oncocytoma, renocellular cancer, Wilms’ tumor, urothelial carcinoma of the renal pelvis)
22. Cystitides, tumours of the bladder and ureter

IV. HAEMATOPATHOLOGY
23. Reactive lymph node changes
24. Indolent B cell lymphomas (FL, CLL, MCL, MZL)
25. High grade B cell lymphomas (BL, DLBCL). Plasma cell neoplasms
26. Hodgkin lymphoma
27. T/NK cell lymphomas.
28. Non-neoplastic bone marrow disorders
29. AML and MDS
30. Myeloproliferative neoplasms

V. PATHOLOGY OF LIVER, BILE DUCTS, PANCREAS
32. Acute viral hepatitis (aetiology, pathomorphology, complicated forms)
33. Chronic viral hepatitis (aetiology, types; pathomorphology and differential diagnostics, detection of virus associated antigens and their significance)
34. Cirrhosis and hepatic failure
35. Tumours and tumor-like conditions of the liver
36. Cholelithiasis (aetiology and complications) and pathology of the extrahepatic biliary tract
37. Acute and chronic pancreatitis. Tumours of the pancreas

VI. PATHOLOGY MALE GENITAL TRACT
38. Congenital malformations, inflammations and tumors of the penis
39. Prostatitides. Hyperplasia of the prostate, complications
40. Tumours of the prostate
41. Congenital abnormalities and inflammatory diseases of the testes. Pathology of the appendices of the testis (epididymis, spermatic cord)
42. Testicular tumours, classification, tumour markers

VII. PATHOLOGY OF FEMALE GENITAL TRACT
43. Vulvovaginitides, venereal infections, PID
44. Benign epithelial lesions of the vulva. Tumors of the vulva and vagina.
45. Inflammations, tumour-like lesions and tumours of the cervix. Carcinoma of the cervix (pathogenesis, pathomorphology, screening).
47. Epithelial benign and malignant tumours of the uterine corpus.
49. Cysts and tumours of the ovaries (surface epithelial, germ cell, sex cord-stromal tumours, metastases)
50. Pathology of pregnancy I (implantation disorders, gestosis, trophoblastic tumours)
51. Pathology of pregnancy II (transplacental infections, chromosomal aberrations)
52. Mastitides (lactational, ductus ectasia, fat necrosis, galactocele). Mastopathies (fibrocystic change). Fibroepithelial tumours.

VIII. NEUROPATHOLOGY
54. Cerebral edema, hydrocephalus, malformations of the brain
55. Dementias and neurodegenerative disorders
56. Demyelination disorders
57. Infectious diseases of the CNS
58. Cerebrovascular diseases, intracranial haemorrhages
59. Glial central nervous system tumors
60. Non-glial central nervous system tumors

IX. ENDOCRINOPATHOLOGY AND PATHOLOGY OF SOFT TISSUES
61. Anterior lobe pituitary tumours and their consequences. Posterior lobe syndromes. Disorders associated with hypopituitarism (Sheehan’s syndrome, chromophobic adenoma, empty sella syndrome, suprasellar tumours)
62. Inflammatory, tumorous diseases as well as disorders associated with hyperplasia of the thyroid gland.
63. Pathology of the parathyroid glands (hyperplasia, adenoma, causes of hypoparathyroidism). Multiple endocrine neoplasia syndromes.
66. Tumours of adipose tissue, synovia and peripheral nerves.
67. Tumours of smooth- and striated muscle (leiomyoma, leiomyosarcoma, rhabdomyoma and rhabdomyosarcoma, types)

X. PATHOLOGY OF BONES
68. Hereditary, inflammatory and metabolic bone diseases
69. Benign and malignant bone tumours

From Pathology 1

CARDIOVASCULAR PATHOLOGY
70. Angina pectoris, chronic ischemic heart disease, sudden cardiac death.
71. Clinicopathology of acute myocardial infarction.
72. Pathology of the valvular disorders (inflammatory and degenerative ones).
73. Cardiomyopathies. Tumors and tumor-like conditions of the heart.
74. Myocarditis. Pathology of the pericardium.
75. Congenital heart diseases.
76. Arteriosclerosis. Types and clinicopathology of the aneurysms.

PATHOLOGY OF THE RESPIRATORY TRACT
78. Diseases of the upper airways
80. Infectious disorders of the lower airways.
81. General characteristics and types of chronic obstructive lung diseases.
82. Chronic restrictive lung diseases
83. Vascular diseases of the lung
84. Lung tumors
85. Pleural and mediastinal disorders
Seminars in Oral Pathology:

6. Benign and malignant mesenchymal lesions of the oral cavity and the jaws. Slides: Epulis (peripheral giant cell granuloma), Plasmocellular granuloma (epulis), Pyogenic granuloma, Buccal fibroma, Granular cell tumour (Abrikosoff), Fibrous dysplasia of the jaw
7-8. Inflammatory diseases of the salivary glands: sialoadenitis, sialolithiasis, Mikulicz syndrome, Sjögren syndrome. Tumour-like lesions of the salivary glands and oral mucosa. Slides: Sialoadenitis chronica in the submandibular gland (Küttner's tumour), Lymphoepithelial cyst (intraparotideal), Mucokele (extravasating type), Sjögren syndrome
9-10. Benign tumours of the salivary glands. Slides: Mixed tumour (pleiomorph adenoma), Warthin tumour (cystadenoma papillare lymphomatous)

Oral Pathology Practice (slide seminar):

1. Squamous cell papilloma
2. Keratoacanthoma
3. Squamous cell carcinoma
4. Nasopharyngeal carcinoma (lymphoepithelioma)
5. Keratinizing squamous metaplasia
6. Epulis (peripheral giant cell granuloma)
7. Pyogenic granuloma
8. Buccal fibroma
9. Granular cell tumour (Abrikosoff)
10. Orofacial actinomycosis
11. Sialoadenitis chronica in the submandibular gland (Küttner’s tumour)
12. Lymphoepithelial cyst (intraparotideal)
13. Mucokele (extravasating type)
14. Sjögren syndrome
15. Mixed tumour (pleiomorph adenoma)
16. Warthin tumor (cystadenoma papillare lymphomatous)
17. Adenoid cystic carcinoma
18. Mucoepidermoid carcinoma
19. Fibrous dysplasia of the jaw
20. Ameloblastoma (unicystic)
21. Oral lichen
22. Verrucous squamous cell carcinoma
23. Plasmocellular granuloma (epulis)
24. Radicular cyst
25. Odontogenic keratocyst (keratocystic odontogenic tumour).

Exam questions in Oral pathology:

1. Infective inflammatory diseases of oral mucosa.
2. Non-infective inflammatory diseases of the oral mucosa
4. Role of the HPV subtypes in the pathogenesis of benign and malignant oral lesions.
7. Benign and malignant mesenchymal lesions of the oral cavity and the jaws.
8. Malignant mesenchymal lesions of the oral cavity and the jaws.
12. Malignant salivary gland tumours.
13. Odontogenic and non-odontogenic cysts.

Comment: The Department of Pathology reserves the right of minor modifications in the curriculum.
Participants
Dr. Kajtár Béla (KABFAAO.PTE), Dr. Kálmán Endre (KAEMAAO.PTE), Dr. Kereskai László (KELMAAO.PTE), Dr. László Terézia (LATMAAO.PTE), Dr. Pajor László (PALGAAO.PTE), Dr. Semjén Dávid (SEDFABO.PTE), Dr. Smuk Gábor (SMGFAAO.PTE), Dr. Tornóczki Tamás (TOTMABO.PTE), Dr. Vida Livia (VILFAAO.PTE)
**OSP-SZP  ORAL SURGERY: BASICS**

**Course director:** DR. LAJOS OLASZ, professor
Dept. of Dentistry, Oral-, Maxillofacial Surgery

2 credit • semester exam • Preclinical module • spring semester • recommended semester: 6

Number of hours/semester: 14 lectures + 14 practices + 0 seminars = total of 28 hours

Course headcount limitations (min.-max.): 1 – 25

Prerequisites: OSA-ANY completed + OSA-NAN completed + OSP-FPP completed

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**Topic**

The aim of this subject is to introduce the fundamentals of oral and maxillofacial surgery. Especially dental local anesthesia and tooth extractions.

Exercising dental local anesthetic methods and to become experienced in daily tooth extractions.

**Conditions for acceptance of the semester**

Attendance on lectures and practices is obligatory. No make up for missed classes. Missing more than 20% will automatically reject semester acceptance and the semester has to be repeated.

**Mid-term exams**

Making up for missed classes
No possibility.

**Reading material**

- **Obligatory literature**
  - Stanley F. Malamed: Local Anesthesia, Mosby 1990
- **Literature developed by the Department**
  - Lecture notes
- **Notes**
- **Recommended literature**

**Lectures**

1. Principles of dentoalveolar surgery and the relationship with dental practice
   Dr. Szalma József
2. Maxillofacial clinical anatomy
   Dr. Szalma József
3. Principles of asepsis and antisepsis
   Dr. Szalma József
4. Instrumentation of a clinical oral surgery practice
   Dr. Szalma József
5. Clinical pharmacology of local anesthesia, physiology of pain
   Dr. Szalma József
6. Local anesthetic methods in the maxilla.
   Dr. Szalma József
7. Local anesthetic methods in the mandible
   Dr. Szalma József
8. Extraoral anesthetic methods, the complications of local anesthesia
   Dr. Olasz Lajos
9. Typical tooth extractions (using forceps).
   Dr. Szalma József
10. Instructions and motivating after extractions
    Dr. Szalma József
11. General systemic diseases in dental practice
    Dr. Olasz Lajos
12. Prevention and management of medical emergencies in the dental chair
    Dr. Szalma József
13  Antibiotic prophylaxis and therapy
   Dr. Szalma József
14  The role of diagnostic methods making diagnosis
   Dr. Olasz Lajos

Practices

1-14  To get experience in dental routine anesthesia and extracting more than 30 teeth

Seminars

Exam topics/questions

1. Disinfection, sterilization and aseptic methods in dental practice.
2. The kind of local anesthetic solutions and their pharmacology.
3. The equipment of local anesthesia.
4. Armamentarium for basic oral surgery.
5. Typical tooth extractions.
6. The pharmacology of antibiotics.
7. The complications of dental local anesthesia.
8. Maxillofacial anatomy and the fundaments of oral surgery.
10. Type of elevators.
11. The physiology of pain.
13. Extraoral anesthetic methods.
15. Extraction forceps.
17. Specification for the use of elevators.
18. The anatomic property of the teeth by extraction.
20. Instructions and motivating after extractions.
21. The armamentarium for tooth removing.
22. Anatomy of mandibular nerve (V/3).
24. The branches of carotid artery. (Art. carotis int. and ext.)
25. The connection between upper teeth and the maxillary sinus.
27. Management of dental emergency.
28. The type of diagnostic methods making diagnosis in oral surgery.
29. The lymphatic system of head and neck.

Participants

Dr. Gelecsér Gábor (GELADOB.PTE), Dr. Olasz Lajos (OLLPAAP.PTE), Dr. Orsi Enikő (OREFABO.PTE), Dr. Szalma József (SZJFACO.PTE), Dr. Vajta László Ferenc (VALMAAO.PTE)
OSR-DAS DENTO-ALVEOLAR SURGERY - SUMMER PRACTICE

Course director: DR. LAJOS OLASZ, professor
Dept. of Dentistry, Oral-, Maxillofacial Surgery

Course description:

0 credit • signature • Criterion requirement module • spring semester • recommended semester: 6

Number of hours/semester: 0 lectures + 120 practices + 0 seminars = total of 120 hours
Course headcount limitations (min.-max.): 1 – 50
Prerequisites: OSP-ORB parallel + OSP-FPP completed + OSP-MI1 completed

Topic

The aim of training: students have to make oneself master of base element of dento-alveolar surgery. They have to get information about directive and every day practice of cross infection control. They have to get practical safety in patient treatment, before therapy they have to question their own patients and plan the steps of therapy. They have to do 30 extractions of teeth with the necessary adjuvant treatment.

Conditions for acceptance of the semester

Maximum of 15 % absence allowed

Mid-term exams
Making up for missed classes
No possibility

Reading material
- Obligatory literature
- Literature developed by the Department
- Notes
- Recommended literature
  Stanley F. Malamed: Local Anesthesia, Mosby 1990

Lectures
Practices
1-120 Patient treatment in the clinical practice
Seminars
Exam topics/questions
Participants
Dr. Gélencsér Gábor (GELADOB.PTE), Dr. Olasz Lajos (OLLPAAP.PTE), Dr. Orsi Enikő (OREFABO.PTE), Dr. Szalma József (SZJFACO.PTE), Dr. Vajta László Ferenc (VALMAAO.PTE)