University of Pécs Medical School

GENERAL MEDICINE Major

STUDY PROGRAM 2014/2015

Subjects of the Clinical module (obligatory subjects and criterion requirements)
### 7th semester
- **OAK-BOR** — Dermatology
- **OAK-FUL** — Otolaryngology
- **OAK-GT3** — Pharmacology 3
- **OAK-HAE** — Internal Medicine: Haematology
- **OAK-KBK** — Clinical Biochemistry
- **OAK-KRA** — Clinical Radiology
- **OAK-REP** — Public Health 5 (Detailed Epidemiology)
- **OAR-VTA** — Basics of Bloodtransfusion

### 8th semester
- **OAK-KAR** — Internal Medicine: Cardiology
- **OAK-KIR** — Internal Medicine: Clinical Immunology - Rheumatology
- **OAK-MUF** — Public Health 6 (Occupational Hygiene and Occupational Medicine)
- **OAK-ONK** — Oncology
- **OAK-ORM** — Oral Medicine
- **OAK-ORT** — Orthopaedics
- **OAK-ROL** — Urology
- **OAK-SE1** — Surgery 1
- **OAK-TRA** — Traumatology
- **OAR-SEB** — Summer Practice in Surgery

### 9th semester
- **OAK-CSA** — Family Medicine
- **OAK-DAN** — Internal Medicine: Diabetes - Angiology
- **OAK-GAS** — Internal Medicine: Gastroenterology
- **OAK-GY1** — Paediatrics 1
- **OAK-IGU** — Forensic Medicine
- **OAK-NE1** — Neurology 1
- **OAK-PS1** — Psychiatry 1
- **OAK-SE2** — Surgery 2
- **OAK-ST1** — Obstetrics and Gynaecology 1
- **OAK-SZE** — Ophthalmology

### 10th semester
- **OAK-AIT** — Anaesthesia and Intensive Care
- **OAK-EAB** — Internal Medicine: Endocrinology and Metabolic Diseases
- **OAK-GY2** — Paediatrics 2
- **OAK-INF** — Internal Medicine: Clinical Infectology
- **OAK-NE2** — Neurology 2
- **OAK-NHA** — Internal Medicine: Nephrology, Hypertension
- **OAK-OGE** — Medical Genetics
- **OAK-PS2** — Psychiatry 2
- **OAK-PUL** — Internal Medicine: Pulmonology
- **OAK-ST2** — Obstetrics and Gynaecology 2
OAK-BOR DERMATOLOGY

Course director: DR. ROLLAND PÉTER GYULAI, associate professor
Department of Dermatology and Venereology

4 credit • semester exam • Clinical module • autumn semester • recommended semester: 7

Number of hours/semester: 28 lectures + 28 practices + 0 seminars = total of 56 hours
Course headcount limitations (min-max.): min. 5 – max. 140
Prerequisites: OAA-IMM completed + OAP-BPR completed + OAP-GT2 completed

Topic
Aim of the subject:
The purpose of the education in Dermatology is to get the students acquainted with the clinical and epidemic features of dermatological and venereal diseases in the general medical practice, moreover their pathomechanisms and therapeutic possibilities.
The students pick up a reliable and necessary knowledge on the treatment of the most common dermatological disorders throughout the patient examinations and interventions/procedures under the auspices of practical education.

Postulates:
Dermatology is taught for a semester in the 4th year at the Medical School. Two hours of theoretical and two hours of practical education are provided each week. Participation in the lectures is facultative. Participation in the practical education is obligatory. Maximum six hours of absence from the practical education are allowed to have the semester accepted by the Department of Dermatology.

Conditions for acceptance of the semester

Examination:
At the end of the semester of Dermatology education the students are obliged to take a semester examination. The examination is divided into two parts: patient examination and theoretical examination in the oral test.

Making up for missed classes
Attending the practices is obligatory. If someone misses a practice for any reason, he/she is asked to attend the practice in question given to another group.
Acceptance of the semester: if not more than 1/3 of the obligatory clinical practices is missed.

Reading material

Lectures

1. Introduction. The anatomy and physiology of the skin.
   Dr. Gyulai Rolland Péter
2. Types of skin lesions.
   Dr. Gyulai Rolland Péter
3. Basic immune-pathologic reactions.
   Dr. Gyulai Rolland Péter
4. Vasculitis and purpura.
   Dr. Gyulai Rolland Péter
5. Allergic skin diseases and urticaria.
   Dr. Kinyó Ágnes
6. Drug eruptions.
   Dr. Kinyó Ágnes
   Dr. Kinyó Ágnes
8. Autoimmune skin diseases.
   Dr. Kinyó Ágnes
   Dr. Kinyó Ágnes
10. Bacterial diseases with cutaneous involvement.
    Dr. Moezzi Mehdi
11 Fungal diseases with cutaneous involvement.
   Dr. Szepes Éva
12 Viral diseases with cutaneous involvement.
   Dr. Szepes Éva
13 Sexually transmitted diseases. Syphilis and gonorrhoea
   Dr. Gyulai Rolland Péter
14 Other sexually transmitted diseases
   Dr. Gyulai Rolland Péter
15 Dermatoses caused by parasites
   Dr. Moezzi Mehdi
16 Leprosy and other tropical diseases
   Dr. Szepes Éva
17 Skin tumors. Disorders of the cutaneous melanocytes I.
   Dr. Lengyel Zsuzsanna
18 Skin tumors. Disorders of the cutaneous melanocytes II.
   Dr. Lengyel Zsuzsanna
19 Paraneoplastic skin lesions.
   Dr. Lengyel Zsuzsanna
20 Photodermatoses and phototherapy.
   Dr. Gyulai Rolland Péter
21 Psoriasis and other papulosquamous diseases.
   Dr. Gyulai Rolland Péter
22 Seborrhoeic dermatoses. Acne, rosacea, perioral dermatitis.
   Dr. Gyulai Rolland Péter
23 Disorders of mucocutaneous integument. Disorders of the hair and nails.
   Dr. Moezzi Mehdi
24 The skin in systemic diseases. Diabetes, PCT, granulomatous disorders.
   Dr. Moezzi Mehdi
25 Leg ulcer.
   Dr. Kádár Zsolt
26 Skin surgery. Thermally injured skin.
   Dr. Kádár Zsolt
27 Topical therapy in dermatology
   Dr. Kinyó Ágnes
28 Systemic therapy in dermatology
   Dr. Lengyel Zsuzsanna

Practices
1 Patient examination
2 Patient examination
3 Dermatological history
4 Dermatological history
5 Bacterial skin infection
6 Bacterial skin infection
7 Viral skin infection
8 Viral skin infection
9 Fungal skin infection
10 Fungal skin infection
11 Examination of STD patient
12 Examination of STD patient
13 Tests in allergic disorders
14 Tests in allergic disorders
15 Investigations in auto-immune diseases
16 Examinations of skin ageing
17 Examinations of skin ageing
18 Sampling in fungal infections
19 Drug eruptions treatment
20 Psoriasis and its variant
21 Phototherapy
22 Venous leg ulcers
23 Venous leg ulcers
24 Topical skin therapy
25 Topical skin therapy
26 Essential systemic therapy in dermatology
27 Essential systemic therapy in dermatology
28 Care of atopic patients

Seminars

Exam topics/questions

A. Basic topics

1. Psoriasis
2. Pyoderma
3. Non-melanoma skin cancer
4. Atopic dermatitis
5. Leg ulcer
6. Skin diseases caused by human papilloma virus (HPV)
7. Herpes simplex virus (HSV) infections of the skin
8. Skin diseases caused by varicella zoster virus
9. Autoimmune bullous skin diseases
10. Lupus erythematosus and its variants
11. Scleroderma and its variants
12. Malignant melanoma
13. Cutaneous manifestation of diabetes mellitus
14. Fungal diseases of the skin and its appendages
15. Primary skin lesions, basics of dermatohistopathology
16. Secondary skin lesions, basics of dermatohistopathology
17. Drug allergy
18. Urticaria
19. Scabies, pediculosis
20. Pigmented nevi
21. Vasculitides
22. Contact dermatitis
23. Pre-cancerous lesions and intraepidermal carcinomas
24. Cutaneous and mucosal manifestations and treatment of syphilis
25. Diagnosis and treatment of gonorrhoea
26. Systemic therapy in dermatology
27. Local therapy in dermatology
28. Cutaneous T-cell lymphomas

B. topics

1. The structure of the skin and its function
2. Alopecias
3. Acne and its treatment
4. Dermatomyositis
5. Thermal (heat and cold) injury of the skin
6. Symptoms, diagnosis and treatment of non-gonorrhoeic urethritis
7. Clinical forms and treatment of Kaposi’s sarcoma
8. Lichen planus
9. Clinical outcome and symptoms of AIDS
10. Benign tumours of the skin
11. Paraneoplastic skin disorders
12. Rosacea, rhinophyma
13. Tuberculosis of the skin and its treatment
14. Photodermatoses and phototherapy
15. Malignant skin tumours of mesenchimal origin
16. Types of allergic skin reactions

Participants
Dr. Kinyó Ágnes (KIAVACO.PTE), Dr. Lengyel Zsuzsanna (LEZFAAO.PTE), Dr. Moezzi Mehdi (MOMSAAP.PTE), Dr. Szepes Éva (SZEGACO.PTE)
OAK-FUL OTOLARYNGOLOGY

Course director: DR. IMRE GERLINGER, professor
Department of Oto-rhino-laryngology

3 credit • semester exam • Clinical module • autumn semester • recommended semester: 7

Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours
Course headcount limitations (min-max.): min. 1 –
Prerequisites: OAP-PA2 completed

Topic
Short description of the course: Selections from the fundamental parts of the ORL
The main educational task of the subject: Learning the basics of ORL.

Conditions for acceptance of the semester
Acceptance of the semester: Participation in the lectures and practices. Missing of two lectures accepted.

Making up for missed classes
There is no possibility.

Reading material
Readings: Karmody: Otorhinolaryngology

Lectures
1. Introduction into Otorhinolaryngology
   Dr. Gerlinger Imre
2. Anatomy of the ear, physiology of hearing
   Dr. Pytel József
3. Subjective and objective audiometry
   Dr. Gerlinger Imre
4. Diseases of the external ear and tympanic membrane
   Dr. Gerlinger Imre
5. Acute serous /suppurative otitis media
   Dr. Gerlinger Imre
6. Otitis media suppurativa chronica and complications
   Dr. Gerlinger Imre
7. Acute and chronic infections of the nose and paranasal sinuses
   Dr. Gerlinger Imre
8. Rhinitis allergica, nasal obstruction
   Dr. Gerlinger Imre
9. Tumors of the paranasal sinuses
   Dr. Gerlinger Imre
10. Diseases of the salivary glands, Facial nerve palsy,
    Dr. Lujber László
11. Diseases of the oral cavity (benign and malignant)
    Dr. Gerlinger Imre
12. Benign tumors of the larynx. TOP TEN ENT.
    Dr. Gerlinger Imre
13. Malignant tumors of the larynx and hypopharynx
    Dr. Gerlinger Imre
14. Answeres, questions ( date and location discussed later)
    Dr. Gerlinger Imre

Practices
1. Examine the patient’s ear
2. Examine the patient’s nose and nasal cavities /anterior rhinoscopy/
3. Examine the patient’s oral cavity
4. Examine the patient’s larynx and hypopharynx /indirect laryngoscopy/
Examine the patient’s nasopharynx /posterior rhinoscopy/
Tests of the patient’s hearing /voice, Weber test, Rinne test/
Tests of the patient’s vestibular system /spontaneous nystagmus Romberg test, past-pointing, walking/
Test s of the patient’s neck
Tests of the patient’s function of the facial nerve
Tests of the patient’s signs of meningitis
Tests of the patient’s Eustachian tube function
Caloric test
Control of epistaxis
Myringotomy
Feeding by nasogastric tube
Tracheal tubes
X-ray films
Hearing aids
Antral lavage
Draining of a peritonsillar abscess
Irrigation of external ear canal, removal of foreign bodies from the external ear canal and nose
Pure tone audiometry
Speech audiometry
Otoacoustic emissions
Brainstem evoked response audiometry
CT, MR, US demonstration
Repetition
Repetition

Seminars

Exam topics/questions

Requirements of the final examination

I. Physical examination by head-mirror /headlight/
Examine the patient’s
1. ear
2. nose and nasal cavities /anterior rhinoscopy/
3. oral cavity
4. larynx and hypopharynx /indirect laryngoscopy/
5. nasopharynx /posterior rhinoscopy/

II. A. Clinical tests
1. 6. different examinations
II. B. Demonstrate how to use the instruments of
1. control of epistaxis
   - anterior nasal packing
   - posterior nasal packing
2. myringotomy
3. feeding by nasogastric tube
4. tracheal tubes
5. antral lavage
6. draining of a peritonsillar abscess
7. irrigation of external ear canal
8. removal of foreign bodies from the external ear canal and nose

III. Theoretical questions
1. Pure tone audiometry
2. Speech audiometry
3. Otoacoustic emissions
4. Brainstem evoked response audiometry
5. Diseases of the pinna
6. Diseases of the external ear canal
7. Disorders of the tympanic membrane
8. Tumours of the external ear (benign tumours, praecancerous disorders, malignant tumours)
9. Serous otitis media (acute, chronic)
10. Suppurative otitis media (acute, chronic)
11. Complications of suppurative otitis media
12. Idiopathic facial nerve palsy. Bell-palsy
13. Disorders of the inner ears, congenital malformations, hereditary deafness
14. Trauma to the inner ear
15. Otosclerosis
16. Fluid systems of the labyrinth. Pathological disorders. Ménière diseases
17. Acoustic tumours
18. Tinnitus
19. Noise induced hearing losses
20. Cochlear implantation
21. Disorders of the internal auditory canal (fractures, tumours, toxic lesions)
22. Sleep apnoea
23. Diseases of the external nose (congenital malformations, trauma, infection, tumours. Furunculus nasi)
24. Obstruction of the nasal airway. Rhinitis
25. Allergic rhinitis
26. Fractures of the paranasal sinuses. Fronto-basal, maxillo-facial, blow out fractures, Le-Fort fractures
27. Paranasal sinusitis
28. Tumours of the salivary glands (benign and malignant)
29. Sialadenitis
30. Differential diagnosis of the neck masses
31. Infectious diseases of the oral cavity and pharynx (peritonsillar abscess)
32. Pathology of Waldeyer ring
33. Praecancerous disorders in the oral cavity, pharynx, larynx and oesophagus
34. Malignant tumours in the oral cavity and pharynx (nasopharyngeal tumours)
35. Clinical symptoms and signs of the diseases of the larynx
36. Sensory and motor innervation of the larynx, signs of the disorders
37. Acute and chronic infections of the larynx
38. Acute epiglottitis. Phlegmonous epiglottitis. Abscess of the epiglottis
39. Benign tumours of the larynx
40. Laryngeal cancer
41. Classifications of laryngeal cancers. TNM
42. Congenital malformations in the neck
43. Lymphadenitis of the neck
44. Benign tumours of the neck
45. Malignant disorders in the lymph nodes of the neck
46. Thyroiditis
47. Malignant tumours of the thyroid gland
48. Clinical signs of obstructions of the upper airways. Conicotomy. Tracheotomy
49. Foreign bodies in the bronchial system. Foreign bodies of the oesophagus
50. Tumours of the oesophagus
51. Dysphagia

Participants

Dr. Gerlinger Imre (GEIOAAK.PTE), Dr. Járai Tamás (JATFAAO.PTE), Dr. Lujber László (LULPAAP.PTE), Dr. Németh Adrienne (NEASAAP.PTE), Dr. Pytel József (PYJGAAO.PTE), Dr. Szanyi István (SZIFABO.PTE)
OAK-GT3 PHARMACOLOGY 3
Course director: DR. ERIKA PINTÉR, professor
Department of Pharmacology and Pharmacotherapy

3 credit • final exam • Clinical module • autumn semester • recommended semester: 7

Number of hours/semester: 14 lectures + 0 practices + 28 seminars = total of 42 hours
Course headcount limitations (min-max.): min. 5 –
Prerequisites: OAP-GT2 completed + OAP-MI2 completed

Topic
The general aim of the subject is to provide the medical students with all the basic information in pharmacology necessary to understand the actions of drugs and the clinical pharmacotherapy and to pass the Foreign Medical Graduate Examination in Medical Sciences. Pharmacology can be defined as the study of the manner in which the function of living systems is affected by chemical agents. Therefore, the students should be familiar with the basic knowledge of the physiological, pathophysiological and biochemical background of the pharmacological and therapeutic approaches. On the other hand, drug therapy is closely related to the clinical aspects of diseases.


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

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

Reading material

Lectures

1. Corticosteroids I
   Tamásikné Dr. Helyes Zsuzsanna

2. Corticosteroids II
   Tamásikné Dr. Helyes Zsuzsanna

3. Oestrogens, antioestrogens, progestins and antiprogestins
   Dr. Pethő Gábor

4. Postmenopausal hormone therapy and hormonal contraceptives
   Dr. Pethő Gábor

5. Androgens, anabolic steroids and antiandrogens
   Dr. Pethő Gábor

6. Thyroid hormones, antithyroid drugs
   Tamásikné Dr. Helyes Zsuzsanna

7. Hypothalamic and pituitary hormones
   Dr. Gregus Zoltán

8. Insulin, insulin analogs
   Sánticsné Dr. Pintér Erika

   Sánticsné Dr. Pintér Erika

10. Parathyroid hormone, calcitonin, vitamin D and drug treatment of osteoporosis
    Tamásikné Dr. Helyes Zsuzsanna

11. Drugs used in chemotherapy of neoplastic diseases I
    Dr. Németi Balázs Ferenc

12. Drugs used in chemotherapy of neoplastic diseases II
    Dr. Németi Balázs Ferenc
13  Principles of immunopharmacology I  
Sánticsné Dr. Pintér Erika  
14  Principles of immunopharmacology II. Drug treatment of rheumatoid arthritis  
Sánticsné Dr. Pintér Erika  

**Practices**

**Seminars**

1  Basic principles of chemotherapy  
2  Sulphonamides and trimethoprim. Fluoroquinolones  
3  Antibiotics impairing bacterial cell envelope function: penicillins, cephalosporins  
4  Antibiotics impairing bacterial cell envelope function: carbapenems, monobactams, lactamase inhibitors  
5  Antibiotics impairing bacterial cell envelope function: glycopeptides, lipopeptides, polymixins, garmicidins  
6  Nitroimidazole drugs  
7  Antibiotics inhibiting protein synthesis: clindamycin, chloramphenicol, macrolides  
8  Antibiotics inhibiting protein synthesis: aminoglycosides, tetracyclines  
9  Antibiotics inhibiting protein synthesis: spectinomycin, linezolid, streptogramins  
10  Antitubercolic drugs I  
11  Antitubercolic drugs II  
12  Treatment of leprosy; Anthelminthic agents  
13  Antiviral drugs I  
14  Antiviral drugs II  
15  Antiviral drugs III  
16  Antifungal drugs  
17  Antiprotozoal drugs I  
18  Antiprotozoal drugs II  
19  Antiseptics and disinfectants I  
20  Antiseptics and disinfectants II  
21  Cytotoxic/embryotoxic effects of drugs  
22  Drug allergy  
23  Pharmacogenetics. Effects of age, diet and disease on drug action  
24  Drug interactions  
25  Toxicology: management of the poisoned patient I  
26  Toxicology: management of the poisoned patient II  
27  Toxicology: drug intoxications I  
28  Toxicology: drug intoxications II  

**Exam topics/questions**

1. Definition of pharmacology and the related subjects. Drug development  
2. Drug names, drug compendia. Prescription writing  
3. Drug formulations  
4. Basic mechanisms of drug actions (examples of drug effects on receptors, ion channels, enzymes, carrier systems and effects mediated by physicochemical interactions)  
5. Characterisation of agonist-receptor interaction: occupancy, affinity, dose-response curve, potency, efficacy  
6. Significance of signal transduction mechanisms in the effects of drugs. Tachyphylaxis and tolerance to drugs  
7. Mechanisms of drug antagonisms  
8. Transport of drugs across membranes  
9. Absorption of drugs, oral bioavailability and presystemic elimination  
10. Plasma protein binding and tissue distribution of drugs  
11. Biotransformation of drugs  
12. Excretion of drugs  
13. Pharmacokinetics: zero and first order elimination, volume of distribution, clearance, elimination half-life, oral bioavailability, calculation of loading and maintenance doses  
14. Mechanisms and manifestations of drug allergy, cytotoxic/embryotoxic effects of drugs  
15. Pharmacogenetics. The effects of age, diet and disease on drug action  
16. Drug interactions  
17. Cholinergic agonists and cholinesterase inhibitors  
18. Muscarinic receptor antagonists
19. Neuromuscular blocking agents. Drugs acting on autonomic ganglia
20. Agents acting on the biosynthesis, storage, release and elimination of catecholamines
21. Adrenergic receptor agonists
22. Adrenergic receptor antagonists
23. Local anaesthetics
24. Calcium channel blockers
25. Drugs acting on the renin-angiotensin-aldosterone system
26. Diuretic drugs
27. Drugs used to treat congestive heart failure
28. Antianginal drugs. Drugs that increase regional blood flow
29. Antihypertensive drugs
30. Antiarrhythmic drugs
31. Drugs used to treat hyperlipoproteinaemias
32. Drugs affecting haemostasis
33. Drugs affecting haematopoiesis
34. Histamine, histamine H1 and H2 receptor antagonists
35. Serotonin, serotonin receptor agonists and antagonists
36. Pharmacology of eicosanoids. Drugs acting on the smooth muscle: smooth muscle relaxants, pharmacology of the uterine muscle
37. Drugs used in bronchial asthma
38. Drugs used in allergic rhinitis. Antitussive, expectorant and mucolytic drugs
39. Drugs used in the treatment of peptic ulcer
40. Emetics, antiemetics and prokinetic drugs
41. Laxatives, anti diarrhoeal agents, drug treatment of inflammatory bowel disease and paralytic ileus, digestives, drugs used in cholelithiasis
42. Antianxiety and hypnotic drugs
43. Alcohols: pharmacology, toxicology
44. Antipsychotic drugs
45. Antidepressants
46. Antiepileptic drugs
47. Psychomotor stimulants and nootropic agents
48. Drug treatment of neurodegenerative disorders
49. General anaesthetics
50. Opioid analgesic drugs: morphine and codeine
51. Opioid analgesic drugs: semi-synthetic, synthetic opioids, opioid antagonists
52. Drug abuse and dependence: general principles, opioids, anti-anxiety and hypnotic drugs, inhalants, ethanol
53. Drug abuse and dependence: psychomotor stimulants, psychedelics, cannabis
54. Non-steroidal anti inflamatory drugs: aspirin, paracetamol
55. Non-steroidal anti inflamatory drugs: drugs other than aspirin or paracetamol
56. Adjutant analgesics. Drugs used to treat gout. Centrally-acting muscle relaxants
57. Hypothalamic and pituitary hormones
58. Corticosteroids
59. Oestrogens, antioestrogens, progestins, antiprogestins
60. Postmenopausal hormone therapy and hormonal contraceptives
61. Androgens, anabolic steroids, antiandrogens
62. Thyroid hormones, antithyroid drugs
63. Insulin and oral hypoglycaemic agents. Glucagon
64. Parathyroid hormone, calcitonin and vitamin D, drugs used to treat osteoporosis
65. Sulphonamides and trimethoprim. Fluoroquinolones
66. Beta-lactam antibiotics
67. Tetracyclines, chloramphenicol, macrolide antibiotics
68. Clindamycin, polymixins, vancomycin
69. Aminoglycosides
70. Antituberculotic drugs. Anti-leprosy drugs
71. Antifungal drugs
72. Antiviral drugs
73. Antiseptics and disinfectants
74. Antiprotozoal drugs
75. Anthelminthic drugs
76. Drugs used in the chemotherapy of neoplastic diseases: alkylating agents, antimetabolites
77. Drugs used in the chemotherapy of neoplastic diseases: alkaloids, antibiotics, hormonal agents, biological therapy
78. Immunosuppressants and immunomodulators. Drug treatment of rheumatoid arthritis
79. The treatment of the intoxicated patient: decontamination, facilitation of toxicant elimination, antidote administration, supportive treatment
80. Drug intoxications: mechanisms, symptoms, treatment

Upon the oral exam, 3 exam topics are chosen. In addition to these exam topics, important parts of the exam are the questions that aim at assessing the general knowledge of the student. Bad performance in this part of the exam may lead to failure regardless of the answers to exam topics.

Participants
Dr. Gregus Zoltán (GRZMAO.PTE), Dr. Németi Balázs Ferenc (NEBMAO.PTE), Dr. Pethő Gábor (PEGGAAO.PTE), Dr. Pozsgai Gábor (POGFAAO.PTE), Sánticsné Dr. Pintér Erika (PIEMAAO.PTE), Tamásikné Dr. Helyes Zsuzsanna (HEZFAAO.PTE)
OAK-HAE INTERNAL MEDICINE: HAEMATOLOGY

Course director: DR. ÁRPÁD SZOMOR, assistant professor
1st Department of Internal Medicine

3 credit • semester exam • Clinical module • autumn semester • recommended semester: 7

Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours
Course headcount limitations (min-max.): min. 1 – max. 100
Prerequisites: OAP-BPR completed + OAP-KO2 completed + OAP-GT2 completed

Topic

Short description of the course: The course involves two topics, Haematology and Haemostasis. Haematology will be lectured in 1 hour/week through 10 weeks. Etiology, pathophysiology, genetic background of malignant hematological diseases, clinical symptoms, physical disturbances, diagnostic procedures will be highlighted. Detailed therapeutic possibilities will also be discussed. Haemostasis education will be given for 4 weeks, involving thromboembolic and bleeding disorders with their therapies. Each lecture will be followed by 2 hours practice. The topic of the practices will be adjusted to the lecture of the week.

The main educational task of the subject: In Haematology the recognition of the most important entities of benign and malignant haematological illnesses will be emphasized. The competence level at the different working places, according to the nature and severity of the disease as well as therapeutic intervention must be recognized and on the basis of that knowledge capability to send patient to the most appropriate hospital has to be reached. In Haemostasis the students have to recognize inherited and acquired thrombophilias, bleeding tendencies on the basis of symptoms and the laboratory results. Therapeutic strategies of prevention and therapy will be discussed.

Conditions for acceptance of the semester

Acceptance of the semester: 15% absences from the practices are allowed.

Making up for missed classes

Reading material

R. Hoffman (ed.): Hematology, Churchill-Livingstone 2005

Lectures

   Dr. Vereczkei Lajosné
2. Iron deficiency, and megaloblastic anaemias
   Dr. Egyed Miklós
3. Inherited and acquired haemolytic anaemias
   Dr. Nagy Ágnes
4. Immune thrombocytopenia (ITP), microangiopathic haemolytic anaemias (TTP, HUS)
   Dr. Alizadeh Hussain
5. Aplastic anaemia. Allogeneic stem cell transplantation
   Dr. Szomor Árpád
6. Autologous stem cell transplantation
   Dr. Szomor Árpád
7. Acute leukaemias. Myelodysplastic syndrome
   Dr. Csalódi Renáta
8. CLL and low-grade non-Hodgkin’s lymphomas
   Dr. Vereczkei Lajosné
9. Hodgkin and non-Hodgkin malignant lymphomas
   Dr. Szomor Árpád
10. Monoclonal gammopathies. Multiple myeloma. Chronic lymphocytic leukaemia
    Dr. Kosztolányi Szabolcs
11. Chronic myeloproliferative diseases (PV, CML, OMF, ET)
    Dr. Vereczkei Lajosné
12. Haemostasis, Inherited and acquired thrombophilias, venous and arterial thromboembolic disorders
    Dr. Nagy Ágnes
13. Prevention and therapy of thromboembolic diseases. DIC, HIT Fibrinolytic and antiplatelet therapies
    Dr. Nagy Ágnes
Bleeding disorders (inherited and acquired)
Dr. Nagy Ágnes

Practices
1. Physical examination and characteristic alterations in hematologic patient.
2. Normal blood counts, peripheral blood smear, and bone marrow slide viewing.
3. Examination of patients with iron deficiency and megaloblastic anaemia.
4. Peripheral blood smears of patients with microcytic and macrocytic anaemia.
5. Haemolytic anaemia, inherited and acquired.
7. ITP – clinical features, diagnosis and therapeutical options.
8. Thrombotic microangiopathies: TTP, HUS
9. Diagnostic procedure and treatment of acute myelocytic leukaemias, peripheral blood smears.
10. Diagnostic procedure and treatment of acute lymphocytic leukaemias, peripheral blood smears.
12. Diagnosis and treatment of chronic myelocytic leukaemia, peripheral blood smears.
13. Diagnosis and treatment of chronic lymphocytic leukaemia, peripheral blood smears.
15. Multiple myeloma and other plasma cell dyscrasias.
16. The practice of autologous stem cell transplantation.
17. Visit to the haemapheresis laboratory (stem cell collection, and freezing). the transplantation unit.
19. Haemostasis, platelets, fibrinolysis and evaluation of laboratory tests.
20. Diffuse intravascular coagulation.
22. Evaluation of the blood coagulation tests.
23. Thrombophilias.
25. Heparin induced thrombocytopenia.
27. Fibrinolytic treatment.
28. Antiplatelet therapies.

Seminars

Exam topics/questions
1. Iron deficiency anaemia.
2. Pernicious anaemia.
3. Haemolytic anaemias (inherited and acquired).
5. Osteomyelofibrosis.
6. Polycythaemia vera.
7. Essential thrombocythaemia.
8. Acute leukaemias.
9. Chronic myelogenous leukaemia.
10. Myelodysplastic syndrome.
11. Aplastic anaemia.
17. Haematopoietic growth factors and their role in the therapy.
18. Platelet disorders.
19. Coagulopathies (inherited and acquired bleeding disorders).
20. Therapy of different haemorrhagic diatheses.
22. Prevention of venous thromboembolic diseases in internal medicine.
23. Prevention of arterial thrombosis
24. Anticoagulant therapy
25. Diseases of the spleen
26. Stem cell transplantation
27. Haemopoiesis

Participants
Dr. Alizadeh Hussain (ALHWAAP.PTE), Dr. Csalódi Renáta (CSRSAAO.PTE), Dr. Kosztolányi Szabolcs (KOSFABO.PTE), Dr. Nagy Ágnes (NAAMAAO.PTE), Dr. Szomor Árpád (SZAMACO.PTE), Dr. Vereczkei Lajosné (LOHGAO.PTE)
OAK-KBK CLINICAL BIOCHEMISTRY

Course director: DR. ATTILA MISETA, professor
Institute of Laboratory Medicine

2 credit • semester exam • Clinical module • autumn semester • recommended semester: 7

Number of hours/semester: 14 lectures + 14 practices + 0 seminars = total of 28 hours
Course headcount limitations (min-max.): min. 5 – max. 100
Prerequisites: OAA-BH2 completed + OAP-PA2 completed

Topic
The aim of clinical biochemistry is to improve the ability of medical students to integrate information provided by the clinical laboratory with other clinical diagnostic disciplines and thus, to form an accurate diagnosis. We will give you a guideline how to request and interpret laboratory tests to diagnose, evaluate the prognosis and monitor the therapy of the patients. The subject „Clinical Biochemistry” requires your existing knowledge in biochemistry and pathology. We will teach you how to select from a variety of laboratory parameters, provide you with a strategy on how and when to order these tests, and help you to develop a molecular approach to medicine. Clinical biochemistry includes classic subfields such as clinical chemistry, hematology, hemostaseology, immunology, however the lectures and seminars will emphasize that instead of sub-categories it is more important to treat patients and their diseases with the educated use of the complete arsenal of the clinical laboratory.

Conditions for acceptance of the semester
Attending the lectures and practices is obligatory. Absences up to 25% are accepted.

Making up for missed classes
Attending the practices is obligatory. If someone misses a practice for any reason, he/she is asked to attend the practice in question given to another group.

Reading material

Lectures
1 Role of clinical laboratory in the current healthcare system. Informative value of laboratory tests
   Dr. Miseta Attila
2 Disorders of water, Na+ and K+ balance
   Dr. Miseta Attila
3 Plasma protein abnormalities
   Dr. Miseta Attila
4 Plasma enzymes
   Dr. Kellermayer Miklós
5 Laboratory diagnostics of the heart and striated muscle diseases
   Dr. Miseta Attila
6 Iron, porphyrin and haemoglobin metabolism
   Dr. Kellermayer Miklós
7 Lipid metabolism, its disorders and laboratory diagnostics
   Dr. Kellermayer Miklós
8 Diseases of the liver and the gastrointestinal tract
   Dr. Kovács Gábor László
9 Carbohydrate metabolism and the significance of laboratory tests in different endocrine disorders
   Dr. Kőszegi Tamás Antal
10 Acid/base balance
   Dr. Miseta Attila
11 Renal diseases
   Dr. Kovács Gábor László
12 Disorders of calcium and magnesium metabolism, laboratory diagnostics of bone and joint diseases
   Dr. Kőszegi Tamás Antal
13 Nutrition and age. Laboratory diagnostic approaches in toxicology and therapeutic drug monitoring
   Dr. Kovács Gábor László
Inherited (genetic) diseases. Tumours and tumour markers
Dr. Miseta Attila

Practices
1. General introduction to the use of clinical laboratory tests - Patient preparation, sampling and sample handling - Requesting a lab test - The informational value of the test results
2. Hematology - Laboratory tests involved in blood cell quantification
3. Hematology - Laboratory tests in the diagnosis and monitoring of inflammatory and malignant blood disorders
4. Laboratory monitoring of blood coagulation
5. Analysis of the soluble components of blood - Electrolytes, metals, trace elements
6. Analysis of the soluble components of blood - carbohydrates, lipids, metabolites
7. Examination of plasma proteins - Analytical alternatives in studying plasma enzymes, isoenzymes, immunoglobulin, transport proteins
8. Laboratory analysis of the endocrine systems: thyroid, parathyroid and adrenal glands
9. Laboratory analysis of the endocrine systems: hypophysis and sex hormones
10. Toxicology and therapeutic drug monitoring
11. Urinalysis - Bedside and chemical (quantitative) urine tests and their interpretation
12. Laboratory tests of liquor and other body fluids
13. Basic bedside laboratory tests (POCT)
14. Age-related considerations: interpretation of lab tests of infants, children and elderly people

Seminars

Exam topics/questions

Questions for the oral examination

1. Purpose of laboratory test requests (screening, diagnosis, differential-diagnosis, validation, monitoring).
2. Factors influencing laboratory test results. Alterations due to errors in sample collection, sample preparation and application of different analytical methodologies. The effect of individual biological variations on the test results. Patient preparation before sampling.
3. Proper method to carry out blood collection (venous, capillary) and urine collection. Type of tubes, rules to obey during sample collection. Sampling errors; recognition and troubleshooting.
4. Reference values and ranges, specificity, sensitivity and predictive value of laboratory tests.
5. Interpretation of laboratory results (results influencing the therapy, differential-diagnosis, ordering additional, confirmatory or repeated tests, „panic values”).
6. Broad-spectrum analysis of proteins in the plasma and urine (total protein levels, proteinuria, electrophoresis).
7. Disorders of water and sodium homeostasis.
10. Disorders of immunoglobulins and paraproteins.
11. Laboratory analysis of plasma proteins.
12. Blood coagulation: cellular components (platelets, endothelial cells) and their laboratory analysis.
14. Laboratory diagnostic approaches in anemias.
15. Hemoglobinopathies: Disorders in porphyrin metabolism.
16. Disorders of hemoglobin and iron metabolism. Laboratory approaches.
17. Diagnostic value of complete blood count in acute inflammation.
18. Laboratory diagnosis of malignant hematologic disorders – complete blood count and flow cytometry
20. Laboratory monitoring the therapy of acute myocardial infarction (reperfusion, fibrinolysis). Laboratory approaches in chronic heart failure (BNP, proBNP, electrolytes).
22. Laboratory diagnostics of the striated muscle diseases.
23. Lipids and lipoproteins in the blood plasma.
24. Laboratory tests that predict hepatic disorders.
26. Laboratory diagnostics of alcoholic liver damage. Laboratory tests to assess liver cirrhosis.
27. Disorders of bilirubin metabolism.
28. Diagnostic value of testing acute phase proteins, diagnosis and monitoring of sepsis.
29. Laboratory diagnosis of acute and chronic pancreatitis.
30. Diagnostic criteria of diabetes mellitus (WHO criteria)
31. The most important laboratory tests for the diagnosis of diabetes mellitus.
32. Clinical biochemistry of hypoglycemia and hyperglycemia.
33. Clinical biochemistry of metabolic syndrome.
34. Laboratory diagnosis of acute renal diseases (salt and water balance, acid-base balance, urea, creatinine).
35. Laboratory diagnosis and monitoring of chronic renal diseases (GFR, clearance, creatinine, Ca and P, etc.).
36. Laboratory findings in proteinuria and hematuria.
37. Laboratory tests of liquor and other body fluids.
38. Laboratory findings in metabolic type changes of the acid/base balance.
39. Laboratory findings in respiratory type changes of the acid/base balance.
40. Laboratory approaches for the detection of disorders in calcium, magnesium and phosphate homeostasis.
41. Clinical biochemistry of osteoporosis. Laboratory tests to assess joint and bone disorders.
42. Laboratory assessment of thyroid function.
43. Pre-analytical considerations of hormone tests.
44. Clinical biochemistry of hypothalamus, hypophysis (endocrine regulation).
45. Clinical biochemistry of the disorders of adrenal medulla/cortex.
46. Clinical biochemistry of the disorders of the human reproductive system.
47. Laboratory assessment of increased serum uric acid levels (causes, metabolism, consequences).
48. The most important non-specific laboratory tests that suggest the presence of malignant diseases (sedimentation rate, metabolites, enzyme activities, etc.).
49. Tumor markers and their informational value in the clinical laboratory practice.
50. Therapeutic drug monitoring (TDM).
52. Toxicology tests in the clinical laboratory.
53. Bedside/point of care tests (POCT) and their informational value.
54. Molecular biology applications in the practice of clinical laboratories (implications, advantages, methods).

Participants
Dr. Czéh Boldizsár (CZBUABP.PTE), Dr. Kellermayer Miklós (KEMGAAO.PTE), Dr. Köszegi Tamás Antal (KOTHAAE.PTE), Dr. Nagy Tamás II (NATFABO.PTE)
OAK-KRA CLINICAL RADIOLOGY

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

4 credit • semester exam • Clinical module • autumn semester • recommended semester: 7

Number of hours/semester:
28 lectures + 28 practices + 0 seminars = total of 56 hours

Course headcount limitations (min-max.):
min. 1 – max. 150

Prerequisites:
OAP-PA2 completed + OAP-SPR completed

Topic

Students will be familiarised with the methods and information contents of diagnostic procedures; the basic terms of Radiology; the preparing procedure for the examination; clinical data required for the examinations; the indications, contraindications and risks of different interventional radiological and diagnostic methods.(They have to be able to fit the clinical data into the diagnostic algorithm).

Students become well trained for the synthesis of clinical data and medical diagnostic methods, likewise the perfect strategy of highest rated radiological diagnosis.

Demonstrating the interventional radiological methods, their points, appliances; presenting relations to previous therapeutic processes (surgery, drugs etc.); therapeutic and financial advantages.

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). At any time with this end in view the proportions of the smallest risk, the invested amount compare to the greatest benefit of diagnostic.

To make possible the predomination of ALARA principle by the representation of the genetic and somatic risks of ionising radiation and the bases of X ray-protection.

To settle the ability to synthesise the educated radiology knowledge with the former learned studies and to create the solid bases of practicable clinical diagnostic mentality.

To check the knowledge of the students a test will be held at the beginning of November.

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)!

Making up for missed classes

No possibility for the replacement.

Reading material

In English:
R. B. Gunderman: Essential Radiology, Thieme, 2006
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:
Davit Sutton: Textbook of Radiology and Imaging, latest edition, ELSEVIER

Lectures

Dr. Battyáni István

2 Conventional and digital radiography, DSA,
Dr. Battyáni István

3 Ultrasonography. (Different US modes, vascular examinations, UCA)
Dr. Battyáni István

4 CT
Dr. Battyáni István

5 MR
Dr. Battyáni István

6 Contrast materials and their application (mild reaction, side effects, complication).
Dr. Rostás Tamás
Chest diagnostic imaging methods. The examination methods of the lung, the necessary clinical information, indications, contents of information. Basic terms, roentgen anatomy, basic findings. The normal and pathologic lung.
Dr. Battyáni István

Dr. Battyáni István

Dr. Battyáni István

The roentgen anatomy and imaging methods of the mediastinal diseases (inflammation, lymphnode enlargement, tumors, large vessel diseases and congenital malformations, etc.).
Dr. Battyáni István

Dr. Battyáni István

Imaging methods of the GI tract, necessary clinical information, indications. Radiology of the oesophagus, stomach and duodenum. Operated (resected) stomach. The relation of the endoscopic and radiologic methods.
Dr. Battyáni István

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

Pancreas, retroperitoneum, spleen (imaging methods, indications, clinical information).
Dr. Battyáni István

Imaging of the urinary system (kidney, adrenal gland, ureter, urinary bladder). Indications, clinical information, differential diagnosis.
Dr. Battyáni István

Radiology of the genital system.
Dr. Horváth László

Imaging methods of the breast and the superficial soft tissues.
Dr. Battyáni István

Dr. Battyáni István

Neuroradiology I. Tumors, Vascular diseases and their complications.
Dr. Rostás Tamás

Neuroradiology II. Trauma of the skull and spine. Imaging methods in ear-nose-throat and ophthalmological diseases.
Dr. Rostás Tamás

Dr. Horváth László

Terms of interventional radiology (past, today, future). Interventional radiology in the vascular system (embolisation, selective blood sampling, foreign body removal).
Dr. Battyáni István

The methods of vascular interventional radiology (Thrombolysis, thrombus aspiration, catheter therapy in atherosclerosis. Stents. TIPS.
Dr. Battyáni István

Interventional oncoradiology. (Vascular methods)
Dr. Battyáni István

Non vascular interventional radiological methods (liver, bile duct, urogenital system, pancreas interventions, percutan tissue and blood sampling, core biopsy, cyst sclerotisation, CT guided procedures)
Dr. Battyáni István

Nuclear Medicine (SPECT, SPECT-CT, PET-CT, isotope therapy)
Dr. Bódisné Dr. Zámbó Katalin

Radiation protection.
Dr. Battyáni István
Practices

3. Computer tomography (CT) during it’s working activity. CT technology and functional units. Digital image archiving. VRT reconstruction, virtual endoscopy, multiplanar imaging, MIP, MinIP, images manipulation. Window setting (density scale, double window, special postprocessing programs). Calculations.
6. Different types of the contrast agents. Applications in different imaging modalities and its appearance on the image. Precautions, side effects, complications. Necessary clinical information before contrast examinations. Interactions with different medical treatments.
7. Imaging of the thorax (lung, the thoracic cavity, diaphragm, pleura). The image of the non-pathologic thorax: differentiation of normal against pathologic shadows (blood vessel, hilar components, normal air content, size of vessels, normal connective tissue appearance, etc.). Units of the lungs and their 3D localization on the films made in 2 perpendicular projections. Basic pathologic lesions of the lung as they appear on the image (shadow, spot, nodule, infiltrate, round lesion, atelectasis, linear densities, hyperlucenses).
10. Clinical cases. I.
12. Examination of the heart by conventional radiography, CT, MRI, PET and SPECT. Shape of the heart in normal and pathologic conditions. Cardiac diseases of the pericardium.
17. Clinical cases II.
23. Clinical cases III.

27 Nuclear Medicine methods in practice.

28 Clinical cases IV.

**Seminars**

**Exam topics/questions**

**Group „A”**

2. Major units of an X-ray equipment.
7. Medical ultrasound methods.
8. Combined imaging technologies, image fusion.
10. The biological effect of radiation.
11. Stochastic and deterministic radiation effect.
13. Radiation protection.
15. Diagnosis of pulmonary embolism.
17. Hepatic chemoembolization.
18. Indication and technique of tumor ablation.
20. ALARA principle. RBF, LET.
21. MRI in vertebral disorders.
22. Personal dosimetry.
24. Interventional radiology in pancreatic diseases.
25. High resolution CT.
26. Interventional radiology.
27. Interventional radiology in the liver and bile ducts.
28. Interventional radiology in the kidney, ureter and bladder.
29. Treatment of internal bleeding by catheter techniques.
32. Guided tissue and cytologic sampling.
33. Percutaneous drainages.
34. Imaging of musculo-skeletal disorders.
35. Interventional radiology in the small pelvis.

**Group „B”**

1. Imaging of bones and joints. Basic pathologic lesions on bone image and their terminology.
2. Acute inflammation of bones and joints and their clinical appearance.
3. Tuberculosis of the bones and joints.
5. Benign and malignant bone tumors. The necessary clinical data.
14. Radiology of the heart. Role of different imaging techniques.
19. Imaging of the esophagus. Imaging techniques. Interventional radiology: stent, esophageal bleeding, TIPS.
23. Imaging of the liver and bile ducts. Indications, techniques and information obtained by the examinations.
28. Phlebography (venography).
30. Mammography. Galactography, pneumocystography, cyst puncture, tissue and cytologic sampling, tumor marking by wire.
31. Indication and technique of neurological imaging.
32. Congenital cardiac diseases.
33. Imaging of acute abdominal conditions and the postoperative abdomen.
34. Diagnosis of acute cerebral vascular diseases.
35. Differential diagnosis of abdominal cysts.

Participants
Dr. Battyáni István (BAIHABO.PTE), Dr. Bódisné Dr. Zámbó Katalin (BOZMAAO.PTE), Dr. Giyab Omar (ABJHAAO.PTE), Dr. Rostás Tamás (ROTMAAO.PTE), Dr. Szukits Sándor (SZSFAIO.PTE)
OAK-REP Public Health 5 (Detailed Epidemiology)

Course director:

Dr. István Kiss, professor
Department of Public Health Medicine

1 credit • semester exam • Clinical module • autumn semester • recommended semester: 7

Number of hours/semester: 14 lectures + 0 practices + 0 seminars = total of 14 hours
Course headcount limitations (min-max.): min. 1 –
Prerequisites: OAP-NOT completed

Topic
The aim of the subject is the introduction into the epidemiology of non-communicable diseases, focusing on the primary and secondary prevention possibilities.

Conditions for acceptance of the semester

- Making up for missed classes
- Reading material

PPT-presentations (Coospace)

Lectures

1 Most important public health related problems of developed countries (mortality and morbidity trends, changes, risk factors)
   Dr. Kiss István
2 Epidemiology and prevention of cardiovascular diseases I. (Ischemic heart disease)
   Dr. Kiss István
3 Epidemiology and prevention of cardiovascular diseases II. (Cerebrovascular diseases, hypertension)
   Dr. Kiss István
4 Epidemiology and prevention of diabetes mellitus and obesity
   Dr. Pataczainé Dr. Göcze Katalin Réka
5 Epidemiology and prevention of cancers I.
   Dr. Kiss István
6 Epidemiology and prevention of cancers II.
   Dr. Kiss István
7 Epidemiology and prevention of osteoporosis.
   Dr. Pataczainé Dr. Göcze Katalin Réka
8 Epidemiology and prevention of asthma bronchiale and allergic rhinitis
   Dr. Pataczainé Dr. Göcze Katalin Réka
9 Epidemiology and prevention of chronic obstructive pulmonary disease and hepatic cirrhosis
   Dr. Pataczainé Dr. Göcze Katalin Réka
10 Epidemiology and prevention of non-communicable gastrointestinal diseases (ulcer, inflammatory bowel diseases)
   Dr. Gombos Katalin
11 Epidemiology and prevention of mental disorders (depression, anxiety, schizophrenia, Alzheimer disease)
   Dr. Kiss István
12 Epidemiology and prevention of addictions (alcohol, smoking, drug addiction)
   Dr. Gyöngyi Zoltán
13 Epidemiology and prevention of suicide
   Dr. Kiss István
14 Prevention of non-communicable diseases; compulsory and recommended screening methods
   Dr. Kiss István

Practices

Seminars
Exam topics/questions
Public Health 5. (Detailed Epidemiology)

1. Importance of non-communicable diseases in developed countries (mortality, morbidity, trends)
2. Epidemiology of ischaemic heart disease
3. Main modifiable risk factors of coronary heart disease
4. Other modifiable risk factors of coronary heart disease
5. Risk factors of coronary heart disease (excluding main and other modifiable risk factors)
6. Epidemiology and prevention of cerebrovascular diseases
7. Epidemiology and prevention of hypertension
8. Cardiovascular diseases: risk assessment and prevention
9. Morbidity and mortality of malignant diseases
10. Role of infectious diseases in tumour development
11. Risk factors of malignant diseases
12. Screening of malignant diseases
13. Epidemiology and prevention of lung cancer
14. Epidemiology and prevention of colorectal cancer
15. Epidemiology and prevention of breast cancer
16. Epidemiology and prevention of prostate and cervix cancer
17. Epidemiology and prevention of liver-, pancreas- and gastric cancer
18. Epidemiology and prevention of head and neck cancers and skin cancers
19. Epidemiology and prevention of diabetes
20. Epidemiology and prevention of obesity
21. Epidemiology and prevention of osteoporosis
22. Epidemiology and prevention of chronic obstructive pulmonary disease
23. Epidemiology and prevention of asthma
24. Epidemiology and prevention of allergic rhinitis
25. Epidemiology and prevention of hepatic cirrhosis
26. Epidemiology and prevention of ulcer disease
27. Epidemiology and prevention of inflammatory bowel diseases
28. Epidemiology and prevention of suicide
29. Epidemiology and prevention of depression and mood disorders
30. Epidemiology and prevention of anxiety disorders
31. Epidemiology and prevention of schizophrenia and dementias
32. Epidemiology and prevention of addictions
33. Recommended and compulsory screening methods for non-communicable diseases (excluding cancers)

Participants
OAR-VTA Basics of Blood Transfusion

Course director: Dr. Árpád Szomor, assistant professor
1st Department of Internal Medicine

Course headcount limitations (min-max.): min. 1 – 
Prerequisites: OAP-BPR completed + OAP-KO2 completed + OAP-GT2 completed

Topic

The aim of the subject is to provide the theoretical and practical basics necessary for transfusion therapy.

The topic of the subject: blood products, transfusion complications, ABO and RhD blood groups, blood grouping in theory and practice. The subject is based on physiological, pathophysiological, haematological, and emergency medical studies.

Number of classes: 3 hour lectures, 4 hour practices

Lecture

1. Presentation of blood, blood products and their indications
   1.1. Place of transfusion medicine in medical sciences
   1.2. Principle of transfusion
   1.3. Theory of blood conservation
   1.4. Production of blood products and their types
   1.5. Administration of blood products, their indication and hazards
   1.6. Future of transfusion medicine

2. Complications of transfusion
   2.1. Transfusion guidelines - Who can perform transfusion?
   2.2. Symptoms indicating transfusion side effects
   2.3. Categorisation of transfusion complications
   2.4. Symptoms, treatment, and prevention of transfusion complications
   2.5. Infection transmission with blood products
   2.6. Haemovigilance

3. Resource management in blood supply

A prerequisite of the hospitals’ safe supply with blood components is the conscious and efficient management of scarce resources. A most important such resource is the healthy, group-specific full-blood, the so called national blood treasure being beared by the national donor-pool. The management of the national donor-pool - with particular focus on the donor- and recipient age-trees changing and aging in different ways - is a most important task. The institutional (both blood-bank and hospital) management of the completed blood-components is impossible without an integrated information system that takes into consideration logistics, expiration and possible disposal of the preparations. The Hungarian National Blood Transfusion Service has reached an eminent position in the region so its experience can serve as adaptable benchmark for other countries, as well.

Practices

1. Practice - ABO blood group system - ABO blood grouping
   (the test must be performed on two blood samples)
   1.2. Theoretical studies relevant to practice
      1.2.1. Concepts of antibody, antigen
      1.2.2. Properties of red blood cell antigens
      1.2.3. Properties of antibodies against red blood cell antigens
      1.2.4. Landsteiner’s rule
      1.2.5. Agglutination reaction
      1.2.6. Blood group serological test methods
      1.2.7. Concept of clinical and laboratory blood grouping and their application
   1.3. ABO blood grouping on slide
      1.3.1. Signing of blood sample tubes, administration of slides
      1.3.2. Preparation of cell suspensions (50% and 10%)
      1.3.3. Test procedure
      1.3.4. Sources of errors
1.3.5. Individual evaluation of test results

2. Practice - Rh blood group system, antibody tests - RhD blood grouping
(the test must be performed on two blood samples)

2.1. Theoretical overview
2.1.1. Antigens of the Rh system - Rh phenotype
2.1.2. Specificity of RhD antigen
2.1.3. Properties of antibodies against Rh antigens
2.2. RhD grouping on slide
2.2.1. Administration of blood sample tube and slide
2.2.2. Preparation of cell suspension (50%)
2.2.3. Test procedure
2.2.4. Sources of errors
2.2.5. Individual evaluation of test results
2.3. Bed side card usage
2.3.1. Purpose of bed side card
2.3.2. Principle of function
2.3.3. Test procedure
2.3.4. Sources of error
2.3.5. Individual evaluation of test results
2.4. Antibody tests - presentation
2.4.1. Elements and concept of compatibility
2.4.2. Purpose and principle of the test
2.4.3. Antibody screening and identification
2.4.4. Presentation of gel card method, evaluation of tests in small groups - discussion of results

Conditions for acceptance of the semester
Successful test exam - min 80%
Making up for missed classes
Additional practices at another group

Reading material
National Blood Transfusion Service Pécs Regional Blood Transfusion Center Educational materials

Lectures
1 Basics of transfusion medicine: Presentation of blood, blood products and their indications
   Dr. Csernus Zita
2 Basics of transfusion medicine: Complications of transfusion
   Dr. Csernus Zita
3 Resource management in blood supply
   Dr. Zoltán Szabó

Practices
1 Basics of transfusion medicine: ABO blood group system - ABO blood grouping
2 Basics of transfusion medicine: ABO blood group system - ABO blood grouping
3 Basics of transfusion medicine: Rh blood group system, antibody tests - RhD blood grouping
4 Basics of transfusion medicine: Rh blood group system, antibody tests - RhD blood grouping

Seminars
Exam topics/questions
Included in the detailed thematic
Participants
Dr. Csernus Zita (CSZQAAP.PTE)
OAK-KAR INTERNAL MEDICINE: CARDIOLOGY

Course director:

DR. KÁLMÁN TÓTH, professor
1st Department of Internal Medicine

3 credit • semester exam • Clinical module • spring semester • recommended semester: 8

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

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

Prerequisites: OAP-BPR completed + OAP-KO2 completed + OAP-GT2 parallel

Topic

The subject provides general theoretical and practical baselines to the state of the art of cardiological diagnostics and therapy and their application in the everyday medical practice. Interactions and differential diagnostic features with other internal diseases are emphasized.

Cardiovascular diseases represent the largest patient population requiring medical attention in general practice. This subject includes special topics of case history and physical examination of cardiac patients, the most important characteristics of cardiological diseases, non-invasive and invasive cardiological diagnostic procedures, therapeutic possibilities and an introduction to the basics of heart surgery.

Conditions for acceptance of the semester

Semester exam
Oral retake/upgrading exam
Maximal 15% absences are tolerated during the semester at the lectures and practices. More absences result in automatic exclusion from the exam.

Making up for missed classes

To make up absences, students have a chance to join a practice of another group at the same week or on the same topic.

Reading material

First Department of Medicine lecture slides


Further recommended literature:


Houghton AR, Gray D: Making Sense of the ECG - A hands-on guide

Lectures

1. Introduction to cardiology. Noninvasive cardiological diagnostics I (electrocardiology: ECG, stress tests, Holter monitoring, transtelphoneic ECG)
   Dr. Tóth Kálmán

2. Noninvasive cardiological diagnostics II (echocardiography, nuclear cardiology, heart MRI and coronary CT)
   Dr. Cziráki Attila / Dr. Tamás Simor

3. Invasive cardiological diagnostics (coronary angiography, IVUS, FFR)
   Dr. Horváth Iván Gábor

4. Arrhythmias and their pharmacological treatment
   Dr. Tóth Kálmán

5. Invasive clinical electrophysiology, diagnostics and non-pharmacological treatment of arrhythmias (pacemakers, CRT, ICD)
   Dr. Simor Tamás

6. Hypertension
   Dr. Czopf László József

7. Heart failure
   Dr. Habon Tamás

8. Stable coronary heart disease. Cardiovascular prevention
   Dr. Tóth Kálmán

9. Acute coronary syndromes. PCI
   Dr. Horváth Iván Gábor

    Dr. Lénárd László I
11 Inflammatory diseases of the heart. Valvular heart diseases  
Dr. Cziráki Attila  
12 Congenital heart diseases in adults. Heart transplantation  
Dr. Szabados Sándor  
13 Cardiomyopathies  
Dr. Habon Tamás  
14 Cardiac rehabilitation  
Dr. Szabados Eszter  

Practices  
1 An introduction to cardiology. Noninvasive cardiological diagnostics I (electrocardiology: ECG, stress tests, Holter monitoring, transtelephonic ECG)  
2 An introduction to cardiology. Noninvasive cardiological diagnostics I (electrocardiology: ECG, stress tests, Holter monitoring, transtelephonic ECG)  
3 Noninvasive cardiological diagnostics II (echocardiography, nuclear cardiology, heart MRI and coronary CT)  
4 Noninvasive cardiological diagnostics II (echocardiography, nuclear cardiology, heart MRI and coronary CT)  
5 Invasive cardiological diagnostics (coronary angiography, IVUS, FFR)  
6 Invasive cardiological diagnostics (coronary angiography, IVUS, FFR)  
7 Arrhythmias and their pharmacological treatment  
8 Arrhythmias and their pharmacological treatment  
9 Invasive clinical electrophysiology, diagnostics and non-pharmacological treatment of arrhythmias (pacemakers, CRT, ICD)  
10 Invasive clinical electrophysiology, diagnostics and non-pharmacological treatment of arrhythmias (pacemakers, CRT, ICD)  
11 Hypertension  
12 Hypertension  
13 Heart failure  
14 Heart failure  
15 Stable coronary heart disease. Cardiovascular prevention  
16 Stable coronary heart disease. Cardiovascular prevention  
17 Acute coronary syndromes. PCI  
18 Acute coronary syndromes. PCI  
19 Coronary surgery, Valvular surgery  
20 Coronary surgery, Valvular surgery  
21 Inflammatory diseases of the heart. Valvular heart diseases  
22 Inflammatory diseases of the heart. Valvular heart diseases  
23 Congenital heart diseases in adults. Heart transplantation  
24 Congenital heart diseases in adults. Heart transplantation  
25 Cardiomyopathies  
26 Cardiomyopathies  
27 Cardiac rehabilitation  
28 Cardiac rehabilitation  

Seminars  

Exam topics/questions  
The exam consists of three parts:  
A. Written entry questions of the most important simple facts relevant in the diagnostics and treatment of cardiological patients.  
B. Oral practical exam: taking of case history and physical examination of a patient (students have at least 20 minutes), review of the patient’s file, summary of the results, and finally the evaluation of an ECG.  
C. Oral theoretical part: two should be drawn and be presented in detail, followed by short questions and answers.  
If one part of the exam results in a grade „failed (1)”, the whole exam is considered unsuccessful.  
There is a possibility to improve grade at repeated exam, but a decrease of grade is also possible.  

Cardiology Theses:  
1. Basic principles of ECG analysis  
2. Special cardiological investigations I: Stress tests, Holter monitoring and Ambulatory Blood Pressure Monitoring (ABPM)  
3. Special cardiological investigations II: Echocardiography, nuclear methods, computed tomography, cardiac MRI  
4. Special cardiological investigations III: Invasive studies (electrophysiology, heart catheterization, coronary angiography and coronary interventions)
5. Mechanisms of arrhythmias
6. Sinus and atrial arrhythmias
7. Arrhythmias involving the AV node and accessory pathways
8. Ventricular arrhythmias
9. AV blocks and ventricular conduction defects
10. Syncope and sudden cardiac death
11. Antiarrhythmic drugs
12. Pacemakers and implantable cardioverter defibrillators
13. Epidemiology and risk factors of ischemic heart disease (IHD), primary prevention
14. Types of ischemic heart disease (IHD) (types of angina pectoris)
15. The diagnostics of ischemic heart disease (IHD)
16. The drug treatment of ischemic heart disease (IHD)
17. The revascularisation treatment (PCI, CABG) of ischemic heart disease (IHD)
18. Types and diagnostics of acute coronary syndromes (ACS)
19. The treatment of acute coronary syndromes with ST segment elevation (STEMI)
20. The treatment of acute coronary syndromes without persistent ST segment elevation (NSTEMI)
21. The most important complications of acute myocardial infarction (AMI) and their treatment
22. Risk stratification after acute myocardial infarction (AMI), secondary prevention
23. Risk factors, pathogenesis, epidemiology and types of hypertension.
24. The treatment of hypertension
25. Epidemiology, risk factors and pathomechanism of heart failure
26. The clinical syndromes of heart failure
27. The drug treatment of chronic heart failure
28. The non-pharmacological treatment of heart failure
29. The treatment of acute heart failure
30. Classification of cardiomyopathies
31. Dilated cardiomyopathy
32. Hypertrophic and restrictive cardiomyopathy, arrhythmogenic right ventricular cardiomyopathy
33. Myocarditis and rheumatic fever
34. The diseases of the pericardium, cardiac tamponade
35. Infective endocarditis
36. Diseases of the mitral valve
37. Diseases of the aortic valve
38. Combined and multiple valve diseases
39. Pulmonary embolism and primary pulmonary hypertension
40. Anticoagulant and fibrinolytic therapy in cardiovascular diseases
41. Antiplatelet therapy in cardiovascular diseases
42. Laboratory diagnostics in cardiology, biomarkers
43. Pregnancy and heart disease
44. Cardiac rehabilitation
45. The role of multicenter, international clinical studies in the therapy of heart diseases (arrhythmias, ACS, secondary prevention, etc.)

Participants

Dr. Cziráki Attila (CZAMAAO.PTE), Dr. Czopf László József (CZLMAAO.PTE), Dr. Faludi Réka (FARRAAO.PTE), Dr. Gaszner Balázs (GABFADO.PTE), Dr. Habon Tamás (HATMAAO.PTE), Dr. Halmosi Róbert (HARFABO.PTE), Dr. Horváth Iván Gábor (HOIMAAO.PTE), Dr. Késmárky Gábor Róbert (KEGFACO.PTE), Dr. Kónyi Attila (KOASAAP.PTE), Dr. Lénárd László I (LELGAAO.PTE), Dr. Nógrádi Ágnes (NOATAA0.PTE), Dr. Simor Tamás (SITMAAO.PTE), Dr. Szabados Eszter (SZEMAAO.PTE), Dr. Szabados Sándor (SZSMAAO.PTE), Dr. Tóth Kálmán (TOKGAAO.PTE)
OAK-KIR  INTERNAL MEDICINE: CLINICAL IMMUNOLOGY - RHEUMATOLOGY

Course director: DR. LÁSZLÓ CZIRJÁK, professor
Department of Immunology and Rheumatology

2 credit • semester exam • Clinical module • spring semester • recommended semester: 8

Number of hours/semester: 14 lectures + 14 practices + 0 seminars = total of 28 hours
Course headcount limitations (min-max.): min. 1 –
Prerequisites: OAA-IMM completed + OAP-BPR completed + OAP-PA2 completed

Topic

The goal of this course is to learn the basic knowledge of clinical immunology and rheumatology, to practice the examination of patient with musculoskeletal and joint complaints, to learn the diagnosis and therapy of epidemics of rheumatology and to learn the basics of clinical immunological problems, autoimmune diseases, tumor immunology, allergy, transplantation, immunodeficiency.

Conditions for acceptance of the semester

Examination of the musculoskeletal system.

Making up for missed classes

During the practice of other group.

Reading material

Presentations: on Intranet
Philip Seo (with Alan J. Hakim, Gavin P. R. Cluine, Inam Haq): Oxford American Handbook of Rheumatology, Oxford University Press

Lectures

1 General characteristics of systemic autoimmune diseases.
   Dr. Czirják László István
2 Sjögren’s syndrome. Inflammatory myopathies.
   Dr. Czirják László István
3 Systemic sclerosis.
   Dr. Czirják László István
4 Systemic lupus erythematosus.
   Dr. Sütő Gábor
5 Systemic vasculitis. Secondary immunodeficiencies.
   Dr. Czirják László István
6 Spondylarthropathies.
   Dr. Sütő Gábor
7 Rheumatoid arthritis. Diagnosis. Differential diagnostics of arthritis.
   Dr. Czirják László István
8 Rheumatoid arthritis. Treatment and monitoring of patients
   Dr. Sütő Gábor
9 Psoriatic arthritis. Juvenile idiopathic arthritis.
   Dr. Horváth Gábor
10 Cervical pain, brachialgia - diagnostics and therapy. Tunnel syndromes. Soft tissue rheumatism.
   Dr. Sarlós Gézáné
   Dr. Horváth Gábor
12 Osteoporosis, osteoarthrosis. Osteonecrosis.
   Dr. Sarlós Gézáné
13 Diagnosis and treatment of gout and crystal induced arthropathies. Clinical characteristics of metabolic disorders.
   Dr. Czirják László István
14 Fibromyalgia. Physiotherapy of rheumatic disorders. Rehabilitation in rheumatology.
   Dr. Sarlós Gézáné
Practices

1. Learn and practice the examination of patient with musculoskeletal complaints. GALS assessment.
2. Learn and practice the examination of patient with musculoskeletal complaint
3. Rheumatoid arthritis, systemic lupus erythematosus, scleroderma, Sjögren’s syndrome
4. Rheumatoid arthritis, systemic lupus erythematosus, scleroderma, Sjögren’s syndrome
5. Ancylosing spondylitis (Bechterew diseases), arthritis psoriatica, SNSA
6. Ancylosing spondylitis (Bechterew diseases), arthritis psoriatica, SNSA
7. Ancylosing spondylitis (Bechterew diseases), arthritis psoriatica, SNSA
8. Gout, crystal-induced arthropathy
9. Gout, crystal-induced arthropathy
10. Osteoporosis
11. Osteoporosis
12. Osteoarthritis
13. Osteoarthritis
14. Spinal osteoarthritis

Seminars

Exam topics/questions

Exam’s questions A
1. Musculoskeletal examination. GALS assessment.
2. What are the general characteristics of connective tissue diseases?
5. Differential diagnosis of polyarthritis.
10. Juvenile idiopathic arthritis.
11. SLE. General characteristics, diagnostic steps.
12. Organ manifestations in lupus. Laboratory tests in lupus.
15. Primary, secondary antiphospholipid syndrome. Laboratory diagnostics, symptoms, treatment.
16. Primary and secondary Sjögren syndrome - general characteristics.
24. Crystal induced arthropathies. Diagnosis and treatment of gout.

Exam’s questions B
1. Disease modifying drugs in rheumatoid arthritis. Dosage, side effects, monitoring of patients during treatment with sulphasalazine, methotrexate, leflunomide.
2. Disease modifying drugs in rheumatoid arthritis. Dosage, side effects, monitoring of patients during treatment with biologics. Combination therapy with disease modifying drugs.
3. Therapeutical principals in rheumatoid arthritis. Early treatment, principals of treat to target.
4. What are the indications for switching disease modifying therapy in rheumatoid arthritis?
5. Diagnostics and therapeutical principals in Sjögren syndrome.
7. Therapeutic options in systemic sclerosis.
12. Effects and side effects of nonsteroidal antiinflammatory drugs.
13. TNF antagonist biological therapy.
14. Other biologic treatments in inflammatory rheumatological diseases (rituximab, tocilizumab)
15. Pain relief in rheumatology
18. Pharmacological and nonpharmacological treatment of fibromyalgia syndrome.
19. Risk factors of osteoporosis. FRAX index. Calcium, vitamin D substitution, bisphosphonates in the management of osteoporosis.

Exam’s questions C
2. Soft tissue disorders.
4. Infectious side effects during pharmacological treatment of rheumatic disorders (methotrexate, azathioprin, cyclophosphamide, corticosteroid, biological therapy).
5. Bacterial infective arthritis.
6. Diagnosis and treatment of osteoarthritis.
8. Degenerative disorders of the cervical and thoracic spine.
12. Osteonecrosis.
13. Compression tunnel syndromes.

Mandatory requirements for a successful exam:
1. Management of anaphylactic shock.
2. Clinical features of connective tissue disorders (systemic autoimmune diseases) - which symptoms should indicate these illnesses?
3. Typical clinical signs, laboratory and radiographic abnormalities in rheumatoid arthritis.
4. Diagnostic criteria of rheumatoid arthritis.
5. Typical clinical signs of ankylosing spondylitis.
6. Side effects of NSAIDs.
7. Side effects of corticosteroids.
8. Doses of medications and obligatory monitoring measures in methotrexate, leflunomide, azathioprine therapy.

Participants
Dr. Czirják László István (CZLHAAE.PTE), Dr. Horváth Gábor (HOGPAAP.PTE), Dr. Kurucz Grácia Katalin (KUGGAIO.PTE),
Dr. Minier Tünde (MITMAAO.PTE), Dr. Sarlós Gézáné (VACPAAP.PTE), Dr. Sütő Gábor (SUGPAAP.PTE), Dr. Tamaskó Mónika (TAMFAAO.PTE), Dr. Tuba Éva (TUEMAAO.PTE), Szendelbacherné Dr. T. Kovács Katalin (TKODBAO.PTE)
OAK-MUF Public Health 6 (Occupational Hygiene and Occupational Medicine)

Course director: Dr. István Kiss, professor
Department of Public Health Medicine

1 credit • final exam • Clinical module • spring semester • recommended semester: 8

Number of hours/semester: 7 lectures + 7 practices + 0 seminars = total of 14 hours
Course headcount limitations (min-max.): min. 1 –
Prerequisites: OAK-REP completed

Topic
The aim of the subject is to present the basics of occupational medicine and major risk factors in work environment and possibilities of prevention of occupational diseases.

Conditions for acceptance of the semester
Participation in practicals is obligatory which is registered.
Absences should not exceed 15% of practicals (1x45 min). Otherwise signature of grade book is denied.
A written test must be successfully completed during the semester for the acceptance of the semester.

Making up for missed classes
Students may attend the practical of another group on the same week. Pre-consultation with practical leader is needed.

Reading material
PPT-presentations (Coospace)

Lectures
1. History and development of occupational health.
   Dr. Balogh Sándor
2. Organization and levels of occupational health services. Labour safety.
   Dr. Balogh Sándor
3. Chemical hazards.
   Dr. Benkő András Antal
4. Occupational toxicology; chemical safety.
   Dr. Benkő András Antal
5. Psychosocial and biological hazards.
   Dr. Tibold Antal
   Dr. Tibold Antal
7. Occupational cancers.
   Dr. Kiss István

Practices
1. Medical and occupational health aspects of migration and disasters I.
2. Medical and occupational health aspects of migration and disasters II.
3. Increased exposures at workplace and risk assessment I.
4. Increased exposures at workplace and risk assessment II.
5. Genotoxicity laboratory practical I.
6. Genotoxicity laboratory practical II.
7. Physical, ergonomic hazards.

Seminars
Exam topics/questions
After Public Health 6 the students must take a public health final exam which includes the material of all the Public Health subjects (Public Health 1 - 6).

Public Health Final Exam
1. History and objectives of public health
2. Definition of health and disease
3. Determinants of health
4. Social risk factors
5. Levels of prevention
6. Health promotion
7. Health politics
8. Maternal and newborn health
9. Child and adolescent health
10. Health concerns of elderly. Aging societies
11. Minorities: Health issues and disparities
12. Health issues and disparities of people living with disabilities
13. Evidence-based medicine and prevention
14. History and objectives of epidemiology
15. Causation in epidemiology: association and causation
16. Epidemiological indicators I.: indicators of disease frequency and populational impact of a disease
17. Epidemiological indicators II.: definition and measures of relative risk and odds ratio
18. Standardization
19. Epidemiological studies: parameters, design
20. Descriptive epidemiological studies, cross-sectional studies
21. Ecological studies. Immigrant studies
22. Case-control studies
23. Cohort studies
24. Experimental (interventional) epidemiological studies
25. Meta-analysis, systematic review
26. Confounders, effect modifiers and possibilities for elimination
27. Molecular epidemiology
28. Basic principles of screening
29. Optional and mandatory screening
30. Demography: definition, methods, data sources
31. Demographic indicators: measures of mortality
32. Demographic indicators: measures describing population groups. Population pyramids
33. Demographic indicators: measures of birth and fertility
34. Role of nutrition in prevention of cardiovascular diseases
35. Role of nutrition in prevention of cancers
36. Principles of healthy diet
37. Epidemiology of malnutrition and nutritional deficiencies
38. Dietary guidelines
39. Special nutritional considerations: vegetarianism
40. Special nutritional considerations: Mediterranean diet, DASH- (Dietary Approaches to Stop Hypertension) diet
41. Special nutritional considerations: trendy diets
42. Assessment of nutritional status, nutritional screening
43. Dietary supplements and functional foods
44. Food additives
45. Food safety, food safety testing
46. Chemoprevention
47. Genetically modified organisms
48. Interaction of environmental and genetical factors in disease development
49. Genomics and epigenetics in public health. Nutrigenomics
50. Molecular basics of carcinogenesis
51. Primary and secondary factors of epidemic process (virulence, source of infection, means of transmission, susceptible host)
52. Nosocomial infections. Sterilization, disinfection
53. Infectious diseases worldwide
54. Prevention of infectious diseases: vaccination, chemoprophylaxis
55. Epidemiology and prevention of vaccine-preventable diseases, mandatory immunisation for children
56. Epidemiology and prevention of airborne bacterial infections
57. Epidemiology and prevention of airborne viral infections
58. Characteristics, types, occurrence and prevention of enteric infections
59. Epidemiology and prevention of enteric bacterial infections
60. Epidemiology and prevention of enteric viral infections
61. Epidemiology and prevention of enteric helminth and protozoon infections
62. Epidemiology and prevention of viral hepatitides
63. Epidemiology and prevention of haematogenic and lymphogenic infections
64. Epidemiology and prevention of infections transmitted through the skin
65. Epidemiology and prevention of zoonotic helminth and bacterial infections
66. Epidemiology and prevention of zoonotic protozoon and viral infections
67. Epidemiology and prevention of sexually transmitted diseases (excluding AIDS)
68. Epidemiology and prevention of AIDS
69. Epidemiology and prevention of prion diseases
70. New infectious diseases. Bioterrorism
71. Importance of non-communicable diseases in developed countries (mortality, morbidity, trends)
72. Epidemiology of ischaemic heart disease
73. Main modifiable risk factors of coronary heart disease
74. Other modifiable risk factors of coronary heart disease
75. Risk factors of coronary heart disease (excluding main and other modifiable risk factors)
76. Epidemiology and prevention of cerebrovascular diseases
77. Epidemiology and prevention of hypertension
78. Cardiovascular diseases: risk assessment and prevention
79. Morbidity and mortality of malignant diseases
80. Role of infectious diseases in tumour development
81. Risk factors of malignant diseases
82. Screening of malignant diseases
83. Epidemiology and prevention of lung cancer
84. Epidemiology and prevention of colorectal cancer
85. Epidemiology and prevention of breast cancer
86. Epidemiology and prevention of prostate and cervix cancer
87. Epidemiology and prevention of liver-, pancreas- and gastric cancer
88. Epidemiology and prevention of head and neck cancers and skin cancers
89. Epidemiology and prevention of diabetes
90. Epidemiology and prevention of obesity
91. Epidemiology and prevention of osteoporosis
92. Epidemiology and prevention of chronic obstructive pulmonary disease
93. Epidemiology and prevention of asthma
94. Epidemiology and prevention of allergic rhinitis
95. Epidemiology and prevention of hepatic cirrhosis
96. Epidemiology and prevention of ulcer disease
97. Epidemiology and prevention of inflammatory bowel diseases
98. Epidemiology and prevention of suicide
99. Epidemiology and prevention of depression and mood disorders
100. Epidemiology and prevention of anxiety disorders
101. Epidemiology and prevention of schizophrenia and dementias
102. Epidemiology and prevention of addictions
103. Recommended and compulsory screening methods for non-communicable diseases (excluding cancers)
105. Settlement health, transportation and health. Health effects of interiors, health and the built environment
106. Environmental monitoring and protection. Health effects of global environmental issues
107. Air pollutants and their health effects
108. Health effects of microbiological and chemical water pollutants, water quality testing
109. Health effects of soil contamination. Health effects and management of waste water, wastes and hazardous wastes
110. History of occupational health. Organization and levels of occupational health services.
111. Work safety.
112. Risk assessment, management and communication
113. Occupational toxicology, chemical safety
114. Occupational cancers
115. Physical hazards: health effects of low and high temperature
116. Physical hazards: disorders caused by noise and vibration and their prevention
117. Chemical hazards: Industrial and agricultural toxicology of organic compounds
118. Chemical hazards: Industrial and agricultural toxicology of inorganic compounds
119. Psychosocial and biological hazards
120. Health effects of ionizing and non-ionizing radiations
121. Ergonomic factors. Health effects of inorganic and organic dusts and their prevention
122. New and emerging risks in occupational medicine
124. Migration and catastrophes, medical and occupational health considerations

Participants
Dr. Szendi Katalin (SZKFAP.O.PTE), Dr. Szilárd István (SZIQAAP.O.PTE), Dr. Tibold Antal (TIFABO.O.PTE), Dr. Varga Csaba (VACMAAO.O.PTE)
OAK-ONK Oncology

Course director: DR. LÁSZLÓ MANGEL, associate professor
Department of Oncotherapy

2 credit • semester exam • Clinical module • spring semester • recommended semester: 8

Number of hours/semester: 14 lectures + 14 practices + 0 seminars = total of 28 hours
Course headcount limitations (min-max.): min. 1 –
Prerequisites: OAP-PA2 completed + OAP-SPR completed

Topic
The main educational task of the subject: An introduction to the biological and clinical properties of tumors, that a successful treatment is only possible with the help of dynamic teamwork and especially if the detection of the tumor happens at an early stage. The role of practicing physicians in the prevention of tumors, in their early detection and during the treatment of the patients.

Short description of the course: The aetiology, development and progression of tumors. The epidemiology, classification and identification of tumors, the examinations needed to classify the tumors into certain stages. The current possible therapies (surgery, radio-, chemo-, hormone-, and immune therapy) and their success in the treatment of different types of tumors. The early and late complications of these therapies and their possible prevention. Acute cases in oncology and their treatment. Supportive and palliative treatment, painkilling and the psychological support of patients.

Conditions for acceptance of the semester
Acceptance of the semester: The student with two unjustified absences (including either the lecture or the practice) is allowed to take the exam. In the case of three or more unjustified absences he/she cannot take the exam.

Making up for missed classes

Reading material

Lectures
1. Statement of the Clinical Oncologic Problem. The Biology of Cancer
   Dr. Mangel László
2. Radiation Physics as Applied to Clinical Radiation Oncology
   Dr. Sebestyén Zsolt
3. Basic Principles of Radiobiology. Radiation Protection
   Dr. Sáfrány Géza
4. Principles of Surgical Oncology
   Dr. Papp András
5. Principals of Medical Oncology
   Dr. Rúzsa Ágnes
6. Tumors of the Head and Neck
   Dr. Takácsi-Nagy Zoltán
7. Alimentary tract cancer
   Dr. Farkas Róbert
8. Lung Cancer
   Dr. Lőwei József
9. Breast Cancer
   Dr. Mangel László
10. Urologic and Male Genital Cancers
    Dr. Farkas Róbert
11. Gynecologic Tumors
    Dr. Bellyei Szabolcs
12. Nervous System Tumors
    Dr. Mangel László
    Dr. Bellyei Szabolcs
14. Supportive Care, Palliative treatment, Cancer Pain Management
    Dr. Boronkai Árpád
Practices

1. Decision making in the practice of oncology. Quality control, quality assurance, oncoteam. (Szabolcs Bellyei, Róbert Farkas)
2. Chemo-, hormonal, -immune, -biological treatments. (Arpad Boronkai)
3. The equipments used in radiation oncology. Implementation of treatments. (Peter Kovacs)
4. Planning systems and fusion. (Zsolt Sebestyén)
5. Alimentary tract cancer in practice (Andras Szigeti)
6. Head and neck cancer, lung cancer in practice (Szabolcs Bellyei)
7. Breast cancer, skin cancer in practice (Laszlo Mangel)
8. Nervous system cancer in practice (Laszlo Mangel)
9. Urologic and male genital cancers in practice (Robert Farkas)
10. Gynecological cancer in practice (Szabolcs Bellyei)
11. Metastases and disseminated disease (Robert Farkas)
12. Palliative care, oncologic emergencies (Arpad Boronkai)
13. Principles of psychosocial oncology (Andras Szigeti)

Seminars

Exam topics/questions

Type of exam1: written
Type of retake-exam: oral
1. The basis principals of tumor biology
2. Principles of surgical oncology
3. Radiation physics
4. The equipment used in radiation oncology
5. Treatment planning, radiation protection
6. Basic concepts of chemotherapy
7. Basic concepts of hormone therapy
8. Biological treatment
9. Cancer pain management
10. Psycho oncology
11. Oncologic emergencies
12. Palliative care
13. Tumors of head and neck
14. Lung cancer
15. Breast Cancer
16. Cancer of the esophagus and the stomach
17. Cancer of the pancreas and the liver
18. Colorectal cancer
19. Skin cancer
20. Melanoma
21. Soft tissue sarcomas and bone tumors
22. Nervous system tumors
23. Gynecologic tumors
24. Urologic and male genital cancers

Participants

Dr. Bellyei Szabolcs (BESFAAO.PTE), Dr. Farkas Róbert (FARFAAO.PTE), Dr. Mangel László (MALPAAO.PTE), Dr. Szigeti András (SZAFAHO.PTE)
OAK-ORM Oral Medicine

Course director: Dr. Ákos Nagy, associate professor
Dept. of Dentistry, Oral-, Maxillofacial Surgery

2 credit • semester exam • Clinical module • spring semester • recommended semester: 8

Number of hours/semester: 14 lectures + 14 practices + 0 seminars = total of 28 hours
Course headcount limitations (min-max.): min. 2 – max. 100
Prerequisites: OAP-KO2 completed + OAP-MI2 completed + OAP-PA2 completed

Topic
The main message of this course is to get informed students about frequent oral diseases, hard and soft tissue lesions in the oral cavity. In addition to this malformations, inflammations, tumors on maxillofacial region are also the topics in this course. Students should collect information in maxillofacial traumatology and pain disorders. The organic part of that programme is to deal with manifestations of general diseases in the oral cavity.

Conditions for acceptance of the semester
Written test in the 14th week of the semester.

Making up for missed classes
None

Reading material
Harrit S. Goldman; Michael Z. Marder: Physicians’ Guide to Diseases of the Oral Cavity

Lectures
1 Diagnostic procedures in oral diseases
   Dr. Nagy Ákos
2 The basics of dental prevention
   Dr. Nagy Ákos
3 Treatments and acute cases in pediatric dentistry
   Dr. Balánsné Dr. Szántó Ildikó
4 The ethiology, pathology and therapy of dental caries. Disease of the pulp.
   Dr. Lempel Edina
5 Inflammation diseases. Focal infections. Periostitis. Phlegmone
   Dr. Gelencsér Gábor
6 Periodontal diseases.
   Dr. Mandel Iván
7 Precancerous state of maxillofacial region. Benign tumours of the oral cavity
   Dr. Olasz Lajos
8 Malignant tumours of the oral cavity
   Dr. Olasz Lajos
9 Implantology. Dentures. Geriatric Considerations in Oral Medicine
   Dr. Benke Beáta
10 Malformations and disorders in maxillofacial region
   Dr. Gurdán Zsuzsanna
11 Maxillofacial traumatology
   Dr. Gelencsér Gábor
12 Facial pain and TMJ disorders
   Dr. Radnai Márta Mária
13 Oral manifestation od systemic diseases
   Dr. Mandel Iván
14 Consultation
   Dr. Balánsné Dr. Szántó Ildikó
Practices

1. Oral examinations of patients (interview, first examination, dental equipment)
2. Oral examinations (X-ray, treatment plan) restorative dental treatments
3. Edentulous state. Dental treatment for elderly people
4. Classification of fixed and removable dentures. Bruxism and myofacial pain dysfunction
5. Preventive methods in pediatric dentistry
6. Patient examination in pediatric dentistry. Acute treatments
7. Methods of removal plaque and calculus
8. Oral hygiene self care. Tooth pastes, toothbrushes, dental floss
9. Orthodontic methods. Slideshow
10. Orthodontic methods. Introduction of patients
11. Maxillofacial traumatology. Examination and treatment of injured patients
13. Patient examination
14. Patient examination. Consultation

Seminars

Exam topics/questions

1. Medical history, dental history, oral examination
2. Clinical examination of the lips, labial mucosa, buccal mucosa, gingivae, palate, tongue, floor of the mouth and salivary glands
3. Caries prevention
4. The correct oral hygiene for adults
5. Intra- and extraoral radiographics, types of intraoral views to take for endodontic therapy
6. The aethiology of carious laesion
7. The clinical features of carious laesion
8. The diseases based on carious laesion: Pulp diseases
9. The diseases based on carious laesion: periapical inflammation
10. Examination of children in dentistry
11. Acute cases in pediatric dentistry: inflammatory cases
12. Acute cases in pediatric dentistry: injury cases
13. Advantages of oral hygiene in childhood
14. Eruption of teeth, sequence and age-range of eruption
15. Disturbed eruption of teeth
16. Local factors affecting delayed eruption
17. Alterations in number of teeth: amelogenesis imperfecta, dentinogenesis imperfecta
18. Cleft palate
19. Lip diseases
20. Adult and juvenile periodontitis
21. Focal infection
22. Alterations in shape of teeth
23. The diseases o tongue
24. Oral lichen planus
25. Salivary gland diseases. Sjögren’s syndrome
26. Acute ulcerative gingivitis
27. Oral manifestations of viral infections
28. Minor-,major aphthous ulcers
29. The oral signs and symptoms in anaemia, leukaemia
30. Candidiasis
31. The oral manifestations of AIDS
32. Inflammatory tumours
33. The leukoplaikia
34. The clinical locations of oral cancer
35. The clinical aspects of oral cancer
36. The treatment of oral cancer
37. The TNM system for staging oral cancer
38. Malignant potential of oral pre-cancerous lesions
39. The treatment of leukoplakia
40. Fibromas, papillomas, hemangiomas
41. The investigation of facial pain
42. Trigeminal neuralgia, post-herpetic neuralgia, migraine
43. Temporal headache, Bell’s palsy, anaesthesia and paraesthesia of the trigeminal nerve
44. The examination of the TM joint
45. TMJ dysfunction syndrome
46. Occlusion, articulation in partial and total toothless stage.
47. Partial and total toothless stage
48. Advantages and disadvantages of fixed dentures
49. Advantages and disadvantages of removable dentures
51. Etiology and diagnosis of mandibular fractures
52. Treatment of mandibular fractures
53. Classification and diagnosis of maxillary fractures
54. Treatment of maxillofacial fractures
55. Etiology and progression of odontogenic infections
56. Osteomyelitis of upper and lower jaws
57. Dental abscess
58. Phlegmone

Participants
Dr. Balásné Dr. Szántó Ildikó (SZINAJP.PTE), Dr. Benke Beáta (BEBFADO.PTE), Dr. Gelencsér Gábor (GELADOB.PTE), Dr. Lempel Edina (LEEFABO.PTE), Dr. Marada Gyula (MAGFABO.PTE), Dr. Nagy Ákos (NAARADP.PTE), Dr. Szabó Gyula Tamás (SZGFAOO.PTE)
# Oak-Orthopaedics

**Course director:**

Dr. Miklós Tunyogi Csapó, assistant professor  
Department of Orthopaedics

**3 credit • semester exam • Clinical module • spring semester • recommended semester: 8**

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

**Course headcount limitations (min-max.):** min. 5 – max. 100

**Prerequisites:**  
OAA-NEA completed + OAP-PA2 completed

**Topic**

Orthopaedics is concerned with disease of the musculoskeletal system and forms an important part of essential medical knowledge. Our aim is to provide a well-rounded education of aetiopathology, pathomechanism, clinical signs, diagnosis, conservative and surgical treatment and rehabilitation of congenital and acquired degenerative disorders, from which students should be able to carry on continued learning for the reminder of their career.

**Conditions for acceptance of the semester**

Maximum of 15% absence allowed

**Making up for missed classes**

Absence from practices can be redeemed in case the time of the practice does not interfere with other practices and lectures. Redeem can be completed under the circumstances of regular practices. Absences from up to two practices can be redeemed with other groups, but require confirmation.

**Reading material**

Mark D Miller: Review of Orthopedics, Saunders, 2004  
Dr. Szendrői Miklós: Az ortopédia tankönyve, Semmelweis Kiadó, Budapest 2005.

**Lectures**

1. Introduction, gait cycle, symptoms in orthopedic disorders  
   Dr. Than Péter
2. Congenital dyslocation of the hip  
   Dr. Than Péter
3. Congenital foot deformities  
   Dr. Than Péter
4. Spine deformities  
   Dr. Tunyogi Csapó Miklós
5. Cerebral palsy  
   Dr. Than Péter
6. Pediatric hip diseases (Perthes, Epiphyseolysis)  
   Dr. Than Péter
7. Shoulder disorders  
   Dr. Tunyogi Csapó Miklós
8. Prearthrotic conditions, osteoarthritis  
   Dr. Vermes Csaba
9. Joint arthroplasty  
   Dr. Than Péter
10. Complications of joint replacement and revision arthroplasty  
    Dr. Vermes Csaba
11. Adult foot deformities  
    Dr. Vermes Csaba
12. Acut injuries and degenerative diseases of the knee joint  
    Dr. Tunyogi Csapó Miklós
13. Low back pain  
    Dr. Tunyogi Csapó Miklós
14. Bone tumors  
    Dr. Tunyogi Csapó Miklós
Practices

1. Introduction
2. History
3. Physical examination
4. Physical examination
5. Physical examination
6. Physical examination
7. Physical examination
8. Physical examination
9. Physical examination
10. Physical examination
11. Physical examination
12. Physical examination
13. Physical examination
14. Physical examination
15. Physical examination
16. Physical examination
17. Physical examination
18. Physical examination
19. Physical examination
20. Physical examination
21. Physical examination
22. Physical examination
23. Physical examination
24. Physical examination
25. Physical examination
26. Physical examination
27. Physical examination
28. Physical examination

Seminars

Exam topics/questions

Questions for the exam
Exam will be oral.

1. Brachial plexus injury after birth
2. Praearthritic conditions
3. Pes planovalgus
4. Benigne bone tumours
5. Protrusio acetabuli
6. Tendovaginites
7. Aetiology and pathology of DDH
8. Ewing sarcoma
9. Hallux valgus, digitus malleus, digitus quintus varus
10. Popliteal cysts, knee effusions
11. Types of limping
12. Chronic osteomyelitis, osteomyelitis sec. Garré, Brodie abscess
13. Epiphyseolysis capitii femoris in adolescents
14. Rheumatoid arthritis and its surgical aspects
15. Ultrasound diagnostics in orthopaedics
16. Clinical features and conservative treatment of coxarthrosis
17. Infantile cerebral palsy
18. Scheuermann disease
19. Torticollis congenita
20. Spondylosis, spondylolisthesis, sacralisation, lumbalisation
21. Epicondylitis humeri
22. Aetiology and pathology of clubfoot
23. Coxa vara congenita and symptomatica  
24. Treatment of clubfoot  
25. Madelung deformity  
26. Limb equalisation  
27. Osteochondritis deformans juvenilis coxae  
29. Habitual shoulder dislocation  
30. Spondylarthitis ankylopetica.  
31. Functional scoliosis, postural deformities.  
32. Posttraumatic dystrophy of the lower extremity (Sudeck)  
33. Sterile necrosis of bones of the foot  
34. Osteoarthritis cubiti.  
35. Periarthritis humeroscapularis  
36. Alternative surgical treatment options of degenerative joint disorders  
37. Degenerative spine disorders (lumbago, lumbo-ischialgia)  
38. Osteoclastoma  
39. Clinical and radiological features of DDH  
40. Cervical rib, thoracic outlet syndrome (TOS)  
41. Syndroma cervicobrachialis  
42. Conservative treatment of DDH  
43. Types and treatment possibilities of scoliosis with known aetiology  
44. Habitual patella dislocation: diagnostics and treatment  
45. Early and late symptoms of knee arthritis, conservative treatment options  
46. Prognostic significance of septic hip conditions in newborn  
47. Knee ligament injuries  
48. Necrosis capitis femoris  
49. Meniscus injuries  
50. Coxitis tuberculosa  
51. Joint motions, measurement of muscle strength  
52. Idiopathic structural scoliosis  
53. Surgical treatment of DDH  
54. Chondromalatia patellae  
55. Transitory coxitis, coxa saltans  
56. Rehabilitation after limb amputation. Orthoses, paediatric and adult orthopaedic shoes  
57. Osteomyelitis acuta  
58. Complications of joint replacements  
59. Endoprostheses  
60. rocker bottom foot  
61. Injection contractures  
62. Orthopaedic aspects of osteoporosis  
63. Bone substitution in orthopaedics  
64. Diagnostics and treatment baselines of bone tumours  
65. Arthroscopy  
66. Clinical and radiological features of osteogenic sarcoma, treatment options  
67. Closure abnormalities of the spinal cord  
68. Discus hernia  
69. Aseptic bone necroses.  

Participants

Dr. Antal Hunor (ANHGAO.PTE), Dr. Bogyó Csaba (BOCTAA0.PTE), Dr. Than Péter (TAPHAAE.PTE), Dr. Tunyogi Csapó Miklós (TUCEAA.K.JPTE), Dr. Vermes Csaba (VECFAAO.PTE)
OAK-ROL UROLOGY

Course director: DR. LÁSZLÓ FARKAS, professor
Department of Urology

3 credit • semester exam • Clinical module • spring semester • recommended semester: 8

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

Course headcount limitations (min-max.): min. 5 – max. 90

Prerequisites: OAP-PA2 completed + OAK-SE1 parallel + OAK-GT3 completed

Topic
We start the English program practice in urology with a review of the anatomy and physiology of genitourinary organs. Thereafter, instruments, catheters and diagnostic equipment used in general urology will be introduced to the students. In the following practices, they will take part in patient examination, catheterization, and some other routine urologic procedures. In the following practices, specific urologic diseases, differential diagnosis, and alternative treatments will be discussed as a bedside practice. The emphasis will be on genitourinary congenital diseases, obstructive uropathy, urolithiasis, uro-infections, male infertility, erectile dysfunction, urinary incontinence and other minor urologic diseases. The etiology, risk factors, diagnosis, alternative treatments, and follow up of these diseases will be discussed in detail.

Conditions for acceptance of the semester
Presence in at least 80% of the practices is mandatory.
Passing the final oral exam held at the end of the semester is necessary. In the exam, any topic discussed in lectures and/or the practices may be required

Making up for missed classes
In case of an excused absence, the tutor can decide on the method of compensation

Reading material

Lectures
1 Anatomy & physiology of the GUT. Physical examination of the GUT
   Dr. Farkas László
2 Diagnostic uro-radiology. Radioisotopic kidney studies.
   Dr. Jávorházy András
3 Disorders & anomalies of the GUT in childhood
   Dr. Pintér András
4 Urinary Tract Infections. Antibiotics
   Dr. Villányi Kinga
5 Tumors of the bladder: Diagnosis & treatment
   Dr. Pytel Ákos
6 Tumors of the testis: Diagnosis & treatment
   Dr. Farkas László
7 Urinary stones: Clinical features, diagnosis and treatment
   Dr. Villányi Kinga
8 Tumors of the Kidney, Renal Pelvis, Ureter, Penis, Urethra & Scrotum
   Dr. Pytel Ákos
9 Benign prostatic hyperplasia (BPH): Diagnosis & treatment
   Dr. Damásdi Miklós
10 Carcinoma of the prostate: Diagnosis & treatment
    Dr. Pytel Ákos
11 Emergency room urology
    Dr. Pusztai Csaba
12 Role of minimal invasive procedures in urology
    Dr. Pusztai Csaba
13 Urinary incontinence. Urodynamic studies
    Dr. Pytel Ákos
14 Male sexual dysfunction. Male infertility
    Dr. Szántó Árpád
Practices
1-28 The practices usually follow the lectures according to the availability of such patients in the given day.

Seminars
Exam topics/questions
1. Physical examination of the genitourinary tract
2. Symptoms of disorders of the genitourinary tract and differential diagnosis
3. Urologic laboratory examination. Urinalysis and urine culture
4. Symptoms related to the act of urination and quantitative changes of the urine
5. Urinary storage and voiding dysfunction
6. Pyuria and its examination
7. Hematuria and its evaluation
8. Urethral catheterization: Types, indications, and technique
9. Cystourethroscopy: Requirements, technique, and indications
10. Urinary tract imaging: Purpose, and indications
11. Interventional uro-radiology: Principles, technique, indications, and contraindications
12. Radionuclide imaging in urology
13. Kidney function investigations
14. Genitourinary tract biopsy: Indications and technique
15. Evaluation and management of urological emergencies: Renal colic, suprapubic pain, acute scrotum, gross hematuria, anuria, and urinary retention
16. Role of minimal invasive procedures in urology
17. Congenital anomalies of the nephric system (kidney, pyelon, ureter)
18. Congenital anomalies of the gonads and vesicourethral unit (bladder, urethra)
19. Lower urinary tract infections in women: Classification, pathogenesis, and management
20. Prostatitis and lower urinary tract infections in men: Diagnosis and treatment
22. Specific infections of the genitourinary tract
23. Urinary stone: Epidemiology, composition, and etiology of specific stone types
24. Clinical manifestations and diagnosis of urolithiasis
25. Management and medical treatment of patients with urinary stones
26. Non-medical treatment of urolithiasis: Therapeutic modalities, indications, and contraindications
27. Urinary obstruction and stasis: Differential diagnosis and management
28. Ptosis of the kidney: Symptoms, diagnosis and treatments
29. Injuries of the kidney and ureter: Etiology, evaluation, classification, and management
30. Injuries of the bladder, urethra, penis, and scrotum
31. Foreign bodies in the urinary tract
32. Non-malignant intrascrotal disorders: Differential diagnosis, and treatment
33. Non-tumorous diseases of the penis and urethra
34. Urinary incontinence and urodynamic studies
35. Male sexual dysfunction, male infertility
36. Renal parenchymal neoplasms: Types, clinical features, diagnosis, and treatment
37. Urothelial carcinoma: Location, clinical features, diagnosis and staging
38. Urothelial carcinoma: Treatment modalities
39. Benign prostatic hyperplasia (BPH): Clinical features and diagnosis
40. Benign prostatic hyperplasia (BPH): Medical and surgical treatment
41. Carcinoma of the prostate gland: Incidence, diagnosis, grading, and staging
42. Carcinoma of the prostate: Treatment modalities
43. Tumors of the testis: Risk factors, classification, diagnosis and staging
44. Complex treatment of testis tumors
45. Tumors of the penis, scrotum and urethra.

Participants
Dr. Benkő Tamás (BETFACO.PTE), Dr. Beöthe Tamás (BETFAAO.PTE), Dr. Damášdi Miklós (DAMFAAO.PTE), Dr. Jávorházy András (JAAFACO.PTE), Dr. Pusztai Csaba (PUCMAAO.PTE), Dr. Pytel Ákos (PYAPAAP.PTE), Dr. Szántó Arpád (SZAMABO.PTE), Dr. Villányi Kinga (VIKMAAO.PTE)
OAK-SE1 SURGERY 1

Course director: DR. ANDRÁS GÁBOR VERECZKEI, professor Surgery Clinic

2 credit • semester exam • Clinical module • spring semester • recommended semester: 8

Number of hours/semester: 14 lectures + 14 practices + 0 seminars = total of 28 hours
Course headcount limitations (min-max.): min. 5 – max. 300
Prerequisites: OAP-PA2 completed + OAP-SPR completed + OAP-GT2 completed

Topic
Surgery 1. includes selected chapters of special surgery (vascular and cardiac surgery). This subject conveys a basic knowledge to the future general doctors to be able to cope up with the surgical problems of every day life.

Conditions for acceptance of the semester
Attendance to the lectures is optional, participation at the bedside exercises is obligatory, max. two absences can be accepted if certified by medical certificate. Otherwise the semester will not be accepted.

Making up for missed classes
Unfulfilled exercises are to be replaced at an other time according to appointments with the group leader.

Reading material
Porter and Malt: Oxford Textbook of Surgery (CD-ROM, available in the library of the computer of the clinic)
Dr. Acsády György, Dr. Nemes Attila: Az érbebetegségek klinikai és műtéttani atlasza, Medicina 2005
Dr. Acsády György, Dr. Nemes Attila: Az érsebészet tankönyve, Medicina 2007
Braunvald: Heart Disease A Textbook of Cardiovascular Medicine
D.J. Whectley: Surgery of Coronary Artery Disease
Edmunds: Cardiac Surgery in the Adult
Cooper-Müller-Patterson: The transplantation and Replacement of Thoracic Organs
Castaneda-Jonas-Meyer-Hanley: Cardiac Surgery of the Neonate and Infant
Ebert: Atlas of Congenital Cardiac Surgery
K.A. Ellenbogen: Cardiac Pacing

Lectures
1 Imaging of Vascular Anomalies
   Dr. Battyáni István
2 Surgical treatment of the supraaortic branches
   Dr. Menyhei Gábor
3 Surgical treatment of peripheral arterial disease. Thoracic outlet syndrome
   Dr. Arató Endre
4 Surgical treatment of aneurysms
   Dr. Sínay László
5 Endovascular interventions. Mesenteric vascular diseases
   Dr. Benkő László
6 Acute venous disease. Anomalies of the lymphatic vessels
   Dr. Menyhei Gábor
7 Chronic venous disease
   Dr. Menyhei Gábor
8 The development of cardiac surgery, extracorporal circulation, myocardial protection
   Dr. Szabados Sándor
9 The cardiac surgical treatment of ischemic heart disease
   Dr. Szabados Sándor
10 The treatment of valvular heart diseases with cardiac surgery
    ifj. Dr. Lénárd László
11 The treatment of congenital heart disease receiving cardiac surgery
    Dr. Hejjel László
12 The treatment of heart failure cardiac surgery. Heart transplantation  
Dr. Szabados Sándor  
13 Cardiac surgical treatment of ascendent aorta and the aortic  
Dr. Donauer Elemér  
14 Pacemaker treatment of cardiac arrhythmias  
Dr. Holczer Lórin

Practices
1 Examination of vascular circulatory pathologies  
2 Examination of vascular circulatory pathologies  
3 Peripheral arterial disease. Aneurysm  
4 Peripheral arterial disease. Aneurysm  
5 Surgery of supraaortic branches  
6 Surgery of supraaortic branches  
7 Acute venous disease.  
8 Chronic venous disease.  
9 Examination before heart surgery  
10 Heart surgery  
11 Surgery of ischaemic heart disease  
12 Surgery of ischaemic heart disease  
13 Surgery of valvular diseases  
14 Surgery of valvular diseases

Seminars
Exam topics/questions
Semester exam questions for the subject „Surgery 1”:  
-----------------------------------------------------
1. Indications and complications of carotid endarterectomy  
2 Open and endovascular surgery in the treatment of abdominal aortic aneurysm  
3 Endovascular and hybrid procedures in the arteries of the lower extremity  
4 Epidemiology and pathophysiology of peripheral occlusive arterial disease  
5 Imaging of Vascular Disease  
6 The pathophysiology and symptoms of chronic venous insufficiency  
7 Surgical treatment of chronic venous insufficiency  
8 Diagnosis and treatment of acute deep vein thrombosis and superficial thrombophlebitis  
9 Mesenteric and renal artery disease. Symptomatology and management  
10 Physical and instrumental examination of vascular anomalies  
11 The conservative treatment options for peripheral arterial disease  
12 Acute clinical symptoms and treatment of peripheral arterial disease  
13 Symptoms and Treatment of Thoracic Outlet Syndrome  
14 Clinical manifestations and treatment of upper extremity arterial disease  
15 Surgical treatment options of the chronic lower extremity arterial disease  
16 A brief history of heart surgery. Overview of the cardiac surgery interventions.  
17 Extracorporeal circulation, hypothermia, cardioprotection.  
18 Cardiac surgery anesthesia, perioperative intensive therapy.  
19 The surgery of pericardial diseases. Heart tumors.  
20 Surgical treatment of ischemic heart disease.  
21 Surgical management of valvular heart disease.  
22 Aortic atherosclerosis, aneurysm, dissection. Injuries of the heart and the great arteries.  
23 The surgical treatment of heart failure.  
24 Surgical treatment of arrhythmias.  
25 Atrial septal defect (ASD), Partial pulmonary vein transposition.  
26 Ventricular septal defect (VSD). Persistent ductus arteriosus (PDA).  
27 Atrio-ventricular septal defect (AVSD).  
28 Aortic stenosis, pulmonary stenosis. Transposition of the great arteries.  
29 Complete Pulmonary vein transposition. Transposition of the great arteries.  
30 Tetralogy of Fallott. Tricuspid atresia, Ebstein anomaly.
Participants
Dr. Arató Endre (AREPAAP.PTE), Dr. Fazekas Gábor (FAGFABO.PTE), Dr. Hejjel László (HELOABP.PTE), Dr. Holczer Lőrinc (HOLHAAO.PTE), Dr. Jancsó Gábor (JAGMAAO.PTE), Dr. Kasza Gábor (KAGQAAP.PTE), Dr. Lénárd László I (LELGAAO.PTE), Dr. Menyhei Gábor (MEGMABO.PTE), Dr. Pintér Örs (PIOFAAO.PTE), Dr. Szabados Sándor (SZSMAAO.PTE)
Course director: DR. NORBERT WIEGAND, assistant professor
Department of Traumatology and Hand Surgery

OAK-TRA  TRAUMATOLOGY

3 credit • semester exam • Clinical module • spring semester • recommended semester: 8
Number of hours/semester: 14 lectures + 8 practices + 20 seminars = total of 42 hours
Course headcount limitations (min-max.): min. 5 – max. 50
Prerequisites: OAA-NEA completed + OAP-SPR completed

Topic
Trauma curriculum:
Socio-economic and medical importance of the trauma care.
Diagnostical and therapeutical options of different injuries.
Outpatient care: rehabilitation
Basic interventions in the trauma care (wound treatment, casting techniques, basic osteosynthesis forms, basic treatment options of hand injuries)
In duty service.

Conditions for acceptance of the semester
Participation on lectures and practices. Short presentation of a given topic on practice (10 minutes).

Making up for missed classes
Participation at practises and seminars are mandatory. Any absence should replace with extra in-duty time.

Reading material
Basic books
Traumatology, lecture Notes of Szeged University
Handbook

Lectures
1 Socio-economic importance of traumatology, rehabilitation. General classification and description of fractures, bone healing process.
   Dr. Vámhidy László
2 Joint injuries. Wound, wound care, soft tissue injuries.
   Dr. Vámhidy László
3 Polytrauma. Posttraumatic problems, possible pitfalls.
   Dr. Vámhidy László
4 Open fractures. General rules of non-operative and operative fracture treatments.
   Dr. Vámhidy László
5 Septic bone problems.
   Dr. Vámhidy László
6 Neurotrauma - brain injuries.
   Dr. Dóczi Tamás
7 Skeletal injuries of the upper extremity.
   Dr. Vámhidy László
8 Hand injuries. Microsurgery.
   Dr. Vámhidy László
9 Peripheriel nerve injuries.
   Dr. Máthé Tibor
10 Neurotrauma - Spine injuries.
    Dr. Dóczi Tamás
11 Pelvic fractures. Fractures around the hip.
   Dr. Vámhidy László
12 Femoral and crural fractures. Knee injuries  
Dr. Wiegand Norbert  
13 Ankle fractures. Foot injuries.  
Dr. Mintál Tibor  
14 Chest and abdominal injuries  
Dr. Vámhidy László  

Practices  
1 Basic principles of wound treatment (Anaesthesia, excision, closure).  
2 Basic forms of osteosynthesis. (Screw OS, plate OS).  
3 Forms of cast. Casting.  
4 The base of the ATLS  
5 Principles of microsurgery  
6 Physical diagnostic of the hand  
7 Duty  
8 Duty  

Seminars  
1 Bone healing  
2 Possibilities for fracture treatment  
3 Types of wounds. Wound treatment.  
4 Femoral neck fracture  
5 Fractures around the hip.  
6 Fractures of the upper extremity  
7 Fractures of the femoral and the crural diaphysis  
8 Fractures around the knee  
9 Pathophysiology of the knee. Treatment of the ligament and meniscal injuries  
10 Fractures of the ankle  
11 Fractures of the foot.  
12 Tendon injuries of the hand.  
13 Microsurgery  
14 Injuries of the thorax  
15 Injuries of the abdomen  
16 Injuries of the spine and pelvis  
17 X-ray practice  
18 X-ray practice  
19 X-ray practice  
20 X-ray practice  

Exam topics/questions  

A.  
1. Basic characteristics of fractures (signs, forms etc.)  
2. Open fractures. Rules of primary care, complications  
3. Biomechanical conditions of bone healing (primary-, secondary bone healing)  
4. Delayed union, pseudoarthrosis, the difference between them and their treatment (dealing with the economic view)  
5. Operative or non-operative fracture treatment (the up-to-date view!)  
6. Basic principles of stable osteosynthesis. Role of the AO/ASIF group  
7. Intramedullar osteosynthesis (Kuntscher nailing, unreamed intramedullary nailing)  
8. Böhler’s three rules in fractures treatment (reduction, fixation, physiotherapy)  
9. Possibilities of skin transplantation in traumatology (free flap transfer, pedicle flap, tubular flap, jump flap, microsurgery in flap transplantation)  
10. Medical first aid on the scene of the trauma, transportation  
11. Monotrauma, multiple trauma, polytrauma  
12. Application of different metals and plastic materials in traumatology  
13. Types of wounds, rules of wound treatment  
14. Inactivity atrophy, reflex sympathetic dystrophy  
15. Intraarticular fractures. Soft tissue injuries of the joint (ligaments!)  
16. Burn disease
17. General rules of non-operative fracture treatment
18. Basic principles of fracture treatment in childhood

B.
1. Fractures of the scapula and clavicle. Acromioclavicular and sternoclavicular dislocations
2. Dislocations of the shoulder
3. Fractures of the proximal humerus
4. Fractures of the shaft of the humerus
5. Fractures and dislocations about the elbow
6. Fractures of the shaft, radius and ulna
7. Fracture radii in loco typico. Colles, Smith fracture
8. Fractures and pseudoarthrosis of the scaphoid. Perilunar dislocations
9. Fractures of the fingers and metacarpals
10. Examination of the sensory and motor function of the hand. Symptoms of radial, ulnar and median nerve injury
11. Flexor tendon injuries of the hand
12. Extensor tendon injuries of the hand
13. Surgical infections of the hand
14. Severe hand injuries: revascularisation, replantation
15. Microsurgery
16. Possibilities of reconstruction in peripheral nerve injuries
17. Possibilities of reconstruction in tendon injuries of the hand
18. Dislocations of the elbow

C.
1. Pelvic fractures and associated injuries
2. Fractures and dislocations of the hip joint
3. Femoral neck fractures
4. Complications of femoral neck fractures
5. Per- and subtrochanteric fractures
6. Fractures of the femoral shaft
7. Fractures around the knee
8. Ligaments injuries of the knee. Injuries of the menisci
9. Fractures of the tibia and fibula shaft
10. Malleolar fractures
11. Ligaments injuries of the ankle. Achilles tendon injury
12. Fractures of the talus and calcaneus. Fractures and dislocations of the foot
13. Posttraumatic infected bone processes of the lower extremity
14. Injuries of the spine
15. Diagnostic and therapeutic principles of abdominal injuries
16. Injuries of the chest (rib fractures and complications, open chest injuries)
17. Principles of the treatment of a polytraumatised patient
18. Retroperitoneal injuries

Participants
Dr. Kromek Lóránd (KRLBAA.AJPT), Dr. Patczai Balázs (PABFAO.PTE), Dr. Szabó Tamás (SZTFAMO.PTE), Dr. Wiegand Norbert (WINPAAAP.PTE)
OAR-SEB Summer Practice in Surgery

Course director: Dr. András Gábor Vereczkei, professor

0 credit • signature • Criterion requirement module • spring semester • recommended semester: 8

Number of hours/semester: 0 lectures + 120 practices + 0 seminars = total of 120 hours
Course headcount limitations (min-max.): min. 5 – max. 300
Prerequisites: OAP-SPR completed + OAK-SE1 parallel

Topic
It includes the obligatory 4 weeks summer practice for 4th year students in surgical departments. The mainly bedside practice of 4th year students provides a better knowledge of patient care and management (know-how of patient examination, evaluation of diagnostic finds, observer-activity at operations, wound care, change of dressing, etc.)

Conditions for acceptance of the semester
No exam. The duration of the practice is at least 4 weeks and at least 300 hours.

Making up for missed classes
The summer practice is obligatory. To do it abroad a special consent is needed from the head of the clinic, and the vice-dean for medical education.

Reading material
CD-ROM, clinical computers

Lectures
Practices
Bedside practice at the thoracic surgical unit:
- Control of sucking pressure: and peripheral O2-saturation
- Investigation of respiratory capacity (functional tests)
- Postoperative assisted ventilation and supporting physiotherapy
- Supportive treatment of venous disorders (elastic bandage, elastic stockings, local ointments)
- How to check the effectivity of sympathectomy?
- Bedside investigation of the limbs in obstructive vascular disease
- Change of pads and bandages
- Administration of pain-killers in patients operated on for gastrointestinal disease
- How long should abdominal drainage be maintained?
- Enteral and parenteral nutrition in surgical patients
- Starting of oral nutrition following GI surgery
- Evaluation of patients in the outpatient and emergency ambulance?
- Necessary measures at the admission of acute cases
- The importance of the patient’s consent to the planned surgery
- Thromboembolic prophylaxis in surgical patients

Seminars
Exam topics/questions
No questions.

Participants
Dr. Baracs József (BAJFADO.PTE), Dr. Ember Ágoston (EMAFAAO.PTE), Dr. Papp András (PAAOABP.PTE), Dr. Szántó Zalán János (SZZFAAO.PTE), Dr. Vereczkei András Gábor (VEAGAAO.PTE)
OAK-CSA FAMILY MEDICINE

Course director: DR. SÁNDOR BALOGH, associate professor
Family Medicine Inst.

1 credit • midsemester grade • Clinical module • autumn semester • recommended semester: 9

Number of hours/semester: 4 lectures + 0 practices + 10 seminars = total of 14 hours
Course headcount limitations (min-max.): min. 5 – max. 200
Prerequisites: OAP-BPR completed + OAK-IGU parallel

Topic

Conditions for acceptance of the semester
The attendance is obligatory. Missing more than 20% (3 hours) of the classes means that the course is not accepted.
Written test after the lectures and on the seminars. Based on the test results grade will be offered, if the grade is not accepted by the student oral exam can be taken.

Making up for missed classes
Missing less than 20% of the classes and miss written tests will modify the offered grade.

Reading material

Lectures
2. Migration and Family Medicine Dr. Szilárd István
3. Special aspects of Medical Care of different Ethnics Dr. Heim Szilvia
4. Ethical aspects of Family Medicine. Care for the Family. Várbirolnő Dr. Csikós Ágnes

Practices

Seminars
1. Crisis in the Family
2. Care of Homeless. Visit the TAMASZ Foundation.
3. Acute Care in the Practice
4. End-of-life Care in Family Practice
5. End-of-life Care in Family Practice
6. Addictology.
7. Pediatric Care in Family Practice
8. Art of Family Medicine
9. Patient Education
10. Patient care at home

Exam topics/questions
Tests are based on the previous class materials (slides and presentation).

Participants
Dr. Bán Ildikó (BAIFACO.PTE), Dr. Heim Szilvia (HESPAAP.PTE), Dr. Rinfel József (REJPAAP.PTE), Dr. Sándor György (SAGMAAO.PTE), Dr. Somogyi Lászlóné (SOLTAE0.PTE), Dr. Szilárd István (SZIQAAP.PTE), Várbirolnő Dr. Csikós Ágnes (VACTAB0.PTE)
**OAK-DAN INTERNAL MEDICINE: DIABETES - ANGIOLOGY**

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

1 credit • semester exam • Clinical module • autumn semester • recommended semester: 9

**Number of hours/semester:**
- 4 lectures + 8 practices + 0 seminars = total of 12 hours

**Course headcount limitations (min-max.):**
- min. 5 – max. 100

**Prerequisites:**
- OAP-BPR completed + OAK-GT3 completed

**Topic**

The purpose of the subject is to teach the students the major carbohydrate and metabolic disorders. The theoretical knowledge is accompanied with the next clinical skills: specific history taking and physical examination of patients with carbohydrate metabolic abnormalities and angiological diseases, blood glucose measurement, carotid intima-media thickness measurement, detection of diabetic neuropathy (vegetative, sensoric), use of insulins, PENs, diagnosis and treatment of ulcus cruris, demonstration of continuous glucose monitoring system and insulin pump, measurement of waist-hip ratio, calculation of body mass index and LDL-cholesterol, calculation of a diabetic diet. Importance of Ankle-brachial index test.

**Conditions for acceptance of the semester**

1 absence allowed.

**Making up for missed classes**

Making up the absences is not allowed.

**Reading material**

Harrison’s Principles of Internal Medicine, McGrew-Hill Book Company

**Lectures**

1. Metabolic diseases and atherosclerosis, pre-diabetes.
   - Dr. Wittmann István
2. Type 2 diabetes mellitus and acute complications of diabetes.
   - Dr. Wittmann István
3. Type 1 diabetes mellitus and pancreoprive diabetes, the metabolic syndrome.
   - Dr. Wittmann István
   - Dr. Wittmann István

**Practices**

1. As the themes of the lectures.

**Seminars**

**Exam topics/questions**

1) Role of metabolic diseases in the development of atherosclerosis
2) Pre-diabetic states
3) Type 1 diabetes mellitus
4) Type 2 diabetes mellitus
5) Pancreoprive diabetes mellitus
6) Insulin therapy
7) Oral antidiabetic agents
8) Acute complications of diabetes mellitus
9) Chronic complications of diabetes mellitus
10) Dietetotherapy in diabetes mellitus.
11) Preoperative care of diabetic patients and the therapy of hypertension
12) The metabolic syndrome
13) Gout (hyperuricaemia)
14) Diagnosis and treatment of patients with other metabolic diseases.
Participants
Dr. Csíky Botond (CSBMAO.PTE), Dr. Édel Zsófia (EDZFAAO.PTE), Dr. Halmai Richárd (HARFACO.PTE), Dr. Kassai Gábor (KAGMABO.PTE), Dr. Kovács Tibor József (KOTMABO.PTE), Dr. Molnár Gergő Attila (MOGFABO.PTE)
OAK-GAS INTERNAL MEDICINE: GASTROENTEROLOGY

Course director: DR. ÁRON ENDRE VINCZE, associate professor
1st Department of Internal Medicine

3 credit • semester exam • Clinical module • autumn semester • recommended semester: 9

Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours
Course headcount limitations (min-max.): min. 5 – max. 160
Prerequisites: OAP-BPR completed + OAP-KO2 completed + OAP-GT2 parallel

Topic
As a subspecialty of internal medicine, gastroenterology training combines a weekly lecture and weekly bedside practice to overview main issues of digestive system disorders, and bedside training to promote skills in physical examination and management of patients with gastrointestinal, pancreatic, and hepatic disorders.

Conditions for acceptance of the semester
According to the Code of Studies and Examinations.
Exam: bed-side skills and oral exam.

Making up for missed classes
No organized extra lectures and training for missed ones. Individual options might be discussed with the study coordinator on a case-by-case basis.
Maximum 15% absences are tolerated during the semester at the lectures and practices. More absences result in automatic exclusion from the exam.

Reading material
Tierney LM, McPhee SJ, Papadakis MA. Current Medical Diagnosis and Treatment. current ed. Lange/McGraw-Hill, New York, NY

Lectures
1. Introduction. Esophageal diseases.
   Dr. Vincze Áron Endre
   Dr. Szabó Imre
3. Gastrointestinal bleeding.
   Dr. Vincze Áron Endre
4. Abdominal emergencies.
   Dr. Czimmer József
5. Functional gastrointestinal disorders.
   Dr. Vincze Áron Endre
   Dr. Mózsik Gyula
7. Inflammatory bowel diseases.
   Dr. Vincze Áron Endre
8. Diverticular disease. Premalignant lesions of the colon
   Dr. Vincze Áron Endre
9. Chronic viral hepatitis.
   Dr. Pár Gabriella
    Dr. Pár Alajos
11. Autoimmune hepatitis, PBC, PSC.
    Dr. Pár Gabriella
    Dr. Hunyady Béla
    Dr. Pakodi Ferenc
    Dr. Szabó Imre
Practices

1. History taking, physical examination in patients with GI disorders
2. Reflux disease
3. Peptic ulcer disease
4. Complications of peptic ulcer disease
5. Upper gastrointestinal bleeding
6. Lower gastrointestinal bleeding
7. Acute abdomen
8. Ileus
9. Functional disorders of the upper GI tract
10. Functional disorders of the lower GI tract
11. Malabsorption
12. Gluten sensitive enteropathy
13. Ulcerative colitis
14. Crohn’s disease
15. Precancerous conditions in the upper GI tract
16. Precancerous conditions in the lower GI tract
17. Chronic HBV-hepatitis
18. Chronic HCV-hepatitis
19. Alcoholic liver disease
20. Non alcoholic steatohepatitis
21. Autoimmune hepatitis, Wilson’s disease, hemochromatosis
22. Primary sclerosing cholangitis, primary biliary cirrhosis
23. Acute and chronic liver failure
24. Liver cirrhosis
25. Gallstone disease
26. Complications of gallstone disease
27. Acute pancreatitis
28. Chronic pancreatitis

Seminars

Exam topics/questions

1. Gastroesophageal reflux disease
2. Esophageal motility disorders
3. Gastritis
4. Peptic ulcer disease
5. Non-variceal gastrointestinal bleeding
6. Variceal gastrointestinal bleeding
7. Malabsorption syndrome
8. Gluten sensitive enteropathy
9. Crohn’s disease
10. Ulcerative colitis
11. Intestinal obstruction, ileus
12. Diverticular disease
13. Premalignant lesions of the colon
14. Appendicitis
15. Toxic and drug-induced liver injury
16. Non-alcoholic steatohepatitis
17. Alcoholic liver disease
18. Chronic viral hepatitis
19. Autoimmune hepatitis
20. Primary biliary cirrhosis
21. Primary sclerosing cholangitis
22. Liver cirrhosis
23. Haemochromatosis
24. Wilson’s disease
25. Tumors of the liver
26. Hyperbilirubinaemias
27. Gallstone disease
28. Acute pancreatitis
29. Chronic pancreatitis

Participants
Dr. Czimmer József (CZIFA.AO.PTE), Dr. Gödi Szilárd (GOSAAA.T.JPTE), Dr. Illés Anita (ILAF.AAO.PTE), Dr. Mózsik Gyula (MOGG.ABO.PTE), Dr. Pár Alajos (PAAMA.AO.PTE), Dr. Pár Gabriella (PAGFA.AO.PTE), Dr. Szabó Imre (SZIHAFE.PTE), Dr. Vincze Áron Endre (VIAQA.AAP.PTE)
OAK-GY1 PAEDIATRICS 1

Course director: DR. KATALIN OHMACHT-HOLLÓDY, associate professor
Department of Paediatrics

4 credit • semester exam • Clinical module • autumn semester • recommended semester: 9

Number of hours/semester: 28 lectures + 28 practices + 0 seminars = total of 56 hours
Course headcount limitations (min-max.): min. 5 – max. 200
Prerequisites: OAP-BPR completed + OAP-KO2 completed + OAK-GT3 completed

Topic
The basic goal is to get a good general knowledge from paediatrics. To acquire a good skill in examining patients and to be able to make plans for diagnostic procedures and to bring up therapeutic proposals.

Conditions for acceptance of the semester
Oral exam.
The attendance of the practices is compulsory, the teachers will check it regularly. The maximum permitted number of absences is 4, independently of the reason. In case of more than 4 absences, the signing of the index will be refused with the consequent invalidation of the semester.

Making up for missed classes
It can be appreciated only in very special cases.

Reading material

Lectures
1 Paediatrics and child health. Introduction
   Dr. Molnár Dénes
2 The characteristics of the premature and mature baby. Infant mortality, statistical data. Neonatal screening
   Dr. Molnár Dénes
3 Neonatal pulmonar pathology
   Dr. Molnár Dénes
4 Neonatal neurology (Hypoxic-ischaemic encephalopathy, intracranial haemorrhage, birth injuries)
   Dr. Molnár Dénes
5 Neonatal haematology
   Dr. Molnár Dénes
6 Perinatal infections
   Dr. Molnár Dénes
7 Surgical diseases in the neonatal period
   Dr. Farkas András
8 Congenital heart malformations
   Dr. Török Katalin
9 Infant feeding
   Dr. Decsi Tamás
10 Nutritional disorders (malnutrition, vitamins, minerals)
   Dr. Decsi Tamás
11 Inborn errors of metabolism
   Dr. Decsi Tamás
12 Normal and abnormal psychomotor development
   Dr. Ohmachtné Dr. Hollódy Katalin
13 Pneumonias in the infancy and childhood
   Dr. Molnár Dénes
14 Obstructive respiratory disorders
   Dr. Molnár Dénes
15 The most common ear-nose-throat diseases
   Dr. Ráth Gábor
16 Carditis, disturbances of rate and rhythm, heart failure  
Dr. Masszi György
17 Gastrointestinal infections  
Dr. Tárnok András
18 Gastrointestinal motility disorders  
Dr. Tárnok András
19 Malabsorption syndrome. Food allergy.  
Dr. Tárnok András
20 Disturbances of the body composition.  
Dr. Molnár Dénes
21 Chronic inflammatory bowel diseases  
Dr. Molnár Dénes
22 The types of dehydration and their treatment  
Dr. Molnár Dénes
23 Enteral and parenteral nutrition  
Dr. Stankovics József
24 Liver and spleen disorders  
Dr. Molnár Dénes
25 Glomerulonephritis. Acut and chronic renal failure  
Dr. Molnár Dénes
26 Urinary tract infections  
Dr. Molnár Dénes
27 Nephrosis syndrome  
Dr. Molnár Dénes
28 Acid-base balance  
Dr. Molnár Dénes

Practices
1 Taking the patient history
2 Communication with children and parents
3 Examination of the healthy neonate
4 Examination of the healthy infant
5 Examination of the healthy child
6 The physical examination in detail, according to organ systems
7 Development, growth, body ratios, percentile tables (eutrophia, dystrophia definitions)
8 Development, growth, body ratios, percentile tables (eutrophia, dystrophia definitions)
9 Independent recording of physical status
10 The guidelines and methods of blood sampling, i.v. line placement, and infusions
11 Guidelines for fluid therapy (the use of different types of infusions)
12 Indication for use of blood products, total blood transfusion in practice
13 Examination of the blood smear
14 Ordering and interpreting blood test results
15 The technique of lumbar puncture. Examination of CSF.
16 Techniques of blood pressure measurement in infants and children
17 Obtaining urine samples and interpreting urine test results
18 Treatment of convulsions in infants and children (rectal, i.v. Diazepam dose)
19 Mechanical ventilation in the neonatal period, practical use of surfactant
20 Mechanical ventilation guidelines
21 Injection techniques (i.c., s.c., i.m., i.v.)
22 The technique of examining reflexes. Reflexes in the infant and neonate.
23 Independent recording of physical status
24 Practical aspects of infant nutrition (nursing, weaning, feeding in general)
25 Fever treatment
26 Ordering and interpreting blood test results
27 Use of antibiotics in everyday practice
28 Assessment of the unconscious patient (Glasgow Coma Scale)
Seminars

Exam topics/questions
The list of the questions can be found on the homepage of our department.
aok.pte.hu → Departments → Paediatrics → Documents

Participants
Dr. Csábi Györgyi (CSGPAAP.PTE), Dr. Erhardt Éva (EREMAAO.PTE), Dr. Farkas András (FAAMAAO.PTE), Dr. Mosdósi Bernadett (MOBFAAO.PTE), Dr. Oberritter Zsolt (OBZMAAO.PTE), Dr. Ohmachtné Dr. Hollódy Katalin (HOKPAAP.PTE), Dr. Stankovics József (STJMAAO.PTE), Dr. Tárnok András (TAAPABP.PTE), Dr. Török Katalin (TOKFADO.PTE), Dr. Vástyán Attila (VAAMAAO.PTE)
OAK-IGU FORENSIC MEDICINE

Course director: DR. FRANCISKA KÖNCZÖL, associate professor
Department of Forensic Medicine

4 credit • semester exam • Clinical module • autumn semester • recommended semester: 9

Number of hours/semester: 28 lectures + 28 practices + 0 seminars = total of 56 hours

Course headcount limitations (min-max.): min. 5 –

Prerequisites: OAP-PA2 completed

Topic

Forensic medicine is a branch of medicine applied for the purposes of justice. For the achievement of these purposes in practice forensic medicine uses the knowledge comprised in various theoretical and clinical parts of medicine. Therefore, forensic medicine is a very complex science, which has different specialties, e.g. serology, toxicology, traumatology, genetics, etc.

Conditions for acceptance of the semester

Colloquium
Absences accepted according to the exam rules.

Making up for missed classes

Individual agreement

Reading material

P. Sótonyi (ed.): Lecture Notes of Forensic Medicine, Semmelweis University of Medicine, Budapest
B. Knight (ed.: E. Arnold): Simpson’s Forensic Medicine, 10th edition

Lectures

1. Introduction.
   Dr. Simon Gábor
2. Rules of Autopsy
   Dr. Simon Gábor
3. Human Identification
   Dr. Simon Gábor
4. Human Identification
   Dr. Simon Gábor
5. Causes of death
   Dr. Simon Gábor
   Dr. Simon Gábor
7. Asphyxia
   Dr. Simon Gábor
8. Asphyxia
   Dr. Simon Gábor
9. Law for MD’s
   Dr. Simon Gábor
10. Law for MD’s
    Dr. Simon Gábor
11. Healthcare Law
    Dr. Simon Gábor
12. Medical Malpractice
    Dr. Simon Gábor
13. Sexual offences
    Dr. Simon Gábor
14. Sexual Offences
    Dr. Simon Gábor
15. Traffic Accidents
    Dr. Simon Gábor
16. Traffic Accidents
    Dr. Simon Gábor
17 Firearms
 Dr. Simon Gábor
18 Firearms
 Dr. Simon Gábor
19 Illegal drugs in Forensic Medicine
 Dr. Benkő András Antal
20 Illegal drugs in Forensic Medicine
 Dr. Benkő András Antal
21 Toxicology
 Dr. Porpáczy Zoltán
22 Toxicology
 Dr. Porpáczy Zoltán
23 Abortion
 Dr. Simon Gábor
24 Infanticide
 Dr. Simon Gábor
25 Forensic psychiatry
 Dr. Fekete Sándor
26 Forensic psychiatry
 Dr. Fekete Sándor
27 Consultation
 Dr. Simon Gábor
28 Consultation
 Dr. Simon Gábor

Practices

1 Changes after death
2 Changes after death
3 Autopsy case demonstration
4 Autopsy case demonstration
5 Vital signs and reactions
6 Vital signs and reactions
7 Wounds and injuries
8 Wounds and injuries
9 Head and spinal injuries I.
10 Head and spinal injuries II.
11 Burns
12 electrocution
13 Serology, paternity tests
14 Serology, paternity tests
15 Alcohol (introduction)
16 Alcohol (introduction)
17 Toxicology (introduction)
18 Toxicology (introduction)
19 Identification, skeletal remains
20 Identification, skeletal remains
21 Organ Transplantation
22 Forensic Histology
23 Autopsy case demonstration (changes after death, post-mortem examination)
24 Autopsy case demonstration (changes after death, post-mortem examination)
25 Autopsy case demonstration (changes after death, post-mortem examination)
26 Autopsy case demonstration (changes after death, post-mortem examination)
27 Autopsy case demonstration
28 Autopsy case demonstration
Seminars

Exam topics/questions

A/1. Patient’s and physician’s rights
A/2. Medical negligence and malpractice
A/4. Post-mortem examination, Exhumation
A/5. Rules of autopsy. Autopsy Report
A/6. Sexual deviations. Sexual crimes (excluding rape)
A/7. Illegal drugs: depressants
A/8. Illegal drugs: stimulants, hallucinogenics
A/10. Ethylene glycol, methanol intoxication. Paraquat, DDT
A/11. Carbon-Monoxide intoxication. Cyanide
A/12. Drunkenness. Absorption and elimination of ethanol. Pathologic drunkenness
A/13. Organ transplantation: Law and ethics
A/14. DNA Fingerprinting
A/15. Vital signs and reactions
A/16. Legal aspects of mental disorders. Criminal responsibility. Wills and testamentary capacity
A/17. Forensic Histopathology

B/1. Sudden natural death in adult. SIDS
B/2. Post-mortem changes of the body
B/3. Hypothermia, electrocution
B/4. Injuries caused by blunt force
B/5. Injuries caused by sharp force
B/6. Firearm injuries
B/7. Motor vehicle accidents
B/8. Asphyxial death: suffocation, choking, traumatic asphyxia
B/9. Fatal pressure of the neck
B/10. Immersion Death
B/11. Rape and unlawful sexual intercourse
B/12. Abortion
B/13. Battered child, infanticide
B/15. Identification of skeletal remains
B/16. Head injuries
B/17. Chest and abdominal injuries
B/18. Burns

Participants

Dr. Mayer Mátyás (MAMSABP.PTE), Dr. Porpácz Zoltán (POZHAAE.PTE), Dr. Simon Gábor (SIGFACO.PTE), Dr. Sipos Katalin (SIKMAAO.PTE), Nagy Gergely (NAGQAAP.PTE)
# OAK-NE1 Neurology 1

**Course director:** Dr. Sáml Kómoly, professor  
Department of Neurology

<table>
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<th>3 credit</th>
<th>midsemester grade</th>
<th>Clinical module</th>
<th>autumn semester</th>
<th>recommended semester: 9</th>
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**Number of hours/semester:** 14 lectures + 28 practices + 0 seminars = total of 42 hours

**Course headcount limitations (min-max.):** min. 5 – max. 130

**Prerequisites:** OAA-NEA completed + OAP-PA2 completed + OAK-GT3 completed

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**Topic**

How to approach to the patients with neurologic disease: history taking, neurological examination (testing higher critical function, cranial nerves, motor function, reflex function, sensory function, gait and stance. Recognize common neurological disorders. Recognize neurological emergencies (e.g. comatose patient).

**Conditions for acceptance of the semester**

Maximum of 15% absence allowed

**Making up for missed classes**

Extra scheduled practices

**Reading material**


**Lectures**

1. History taking in Neurology  
   Dr. Komoly Sámuel
2. Neuro diagnostic procedures  
   Dr. Komoly Sámuel
3. Vertigo  
   Dr. Mike Andrea
4. Multiple sclerosis  
   Dr. Illés Zsolt
5. Neurogenetic  
   Dr. Illés Zsolt
6. Parkinson diseases, Parkinson plus syndromes  
   Dr. Komoly Sámuel
7. Headaches  
   Dr. Pfund Zoltán
8. Myopathies  
   Dr. Sebők Ágnes
9. Sclerosis Multiplex  
   Dr. Illés Zsolt
10. Dementia  
    Dr. Sebők Ágnes
11. Focal Dystonias  
    Dr. Komoly Sámuel
12. Stroke  
    Dr. Szapáry László
13. ALS  
    Dr. Pfund Zoltán
14. Polyneuropathies  
    Dr. Pfund Zoltán
Practices

1. Reflexes
2. Testing of cranial nerves
3. Testing of cranial nerves
4. Tests of motor functions
5. Tests of motor functions
6. Testing of sensory functions
7. Testing of sensory functions
8. Testing of cerebellar and vestibular functions
9. Testing of cerebellar and vestibular functions
10. Testing of gait and stance
11. Testing of gait and stance
12. Testing of higher cortical functions
13. Testing of higher cortical functions
14. Testing of higher cortical functions
15. Reflexes
16. Reflexes
17. Testing of cranial nerves
18. Testing of cranial nerves
19. Tests of motor functions
20. Tests of motor functions
21. Testing of sensory functions
22. Testing of sensory functions
23. Testing of cerebellar and vestibular functions
24. Testing of cerebellar and vestibular functions
25. Testing of gait and stance
26. Testing of gait and stance
27. Testing of higher cortical functions
28. Testing of higher cortical functions

Seminars

Exam topics/questions
- Physical examination of the skull and vertebral column
- Signs of meningeal irritation
- Investigation of cranial nerves
- Investigation of motility
- Investigation of somatic sensation
- Investigation of deep tendon and superficial reflexes
- Pathological reflexes
- Investigation of coordination
- Hyperkinesias
- Investigation of speech, gnostic and cognitive functions
- Investigation of the unconscious patient. Confusional status
- Signs of increased intracranial pressure. Main intracranial herniations
- Signs of temporal lobe lesions
- Signs of frontal lobe lesions
- Signs of parietal lobe lesions.
- Signs of occipital lobe lesions
- Signs of blood circulation disturbances (internal carotid artery, basilar artery)

Participants

Dr. Ács Péter (ACPNAAO.PTE), Dr. Faludi Béla (FABHAAE.PTE), Dr. Illés Zsolt (ILZPAAP.PTE), Dr. Komoly Sámuel (KOSMABP.PTE), Dr. Kovács Norbert (KONFAAO.PTE), Dr. Mike Andrea (MIAFAAO.PTE), Dr. Pál Endre (PAEHABE.PTE), Dr. Pfund Zoltán (PFZMAAO.PTE), Dr. Sebők Ágnes (SEASAAP.PTE), Dr. Szapáry László (SZLRAAO.PTE)
OAK-PS1 PSYCHIATRY 1
Course director: DR. SÁNDOR FEKETE, professor
Department of Psychiatry and Psychotherapy

3 credit • semester exam • Clinical module • autumn semester • recommended semester: 9

Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours
Course headcount limitations (min-max.): min. 5 – max. 50
Prerequisities: OAP-MT5 completed + OAP-PA2 completed + OAP-GT2 completed

Topic
Requirements
To acquire the knowledge and skills of clinical psychiatry in the general practice
Themes:
- The essential psychopathological symptoms and syndromes
- The treatment of the ill patient’s emotional responses
- Psychological first aid and psychiatric emergencies in crisis and stress situations
- Exploration, evaluation of the psychiatric patients
- Biological and psychological therapeutic interventions
- Prevention and postvention of psychiatric disorders
- Psychiatric care and mentalhygienic activity in the general practice (Psychiatric interview in Hungarian)
- Practices (first and second semesters)
- Psychiatric evaluation (interview, psychiatric history, mental status examination) /2 x 2 hrs/
- Anxiety disorders (amiety, phobias, obsessive compulsive disorder, panic disorder) /2 x 2 hrs/
- Conditions which mimic physical disease (somatisation disorders, conversion disorder, hypochondriasis, somatoform pain disorder) /2 x 2 hrs/
- Psychosomatic disorders /2 x 2 hrs/
- Psychosexual disorders/dysfunction and paraphilia /2 hrs/
Practices:
- Observation, description and evaluation of the patients’ behaviour

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

Making up for missed classes
According to the Code of Studies and Examinations

Reading material

Lectures
1 History and context of psychiatry
   Dr. Fekete Sándor
2 Classification of mental disorders
   Dr. Fekete Sándor
3 Neurobiology and genetics of mental disorders
   Dr. Fekete Sándor
4 Anxiety disorders
   Dr. Fekete Sándor
5 Impulse control disorders and obsessive-compulsive disorder
   Dr. Fekete Sándor
6 Emergency psychiatry
   Dr. Fekete Sándor
7 Suicidal behaviour from genetics to cultural approach
   Dr. Fekete Sándor
8 Neurotic disorders I. - history and classification  
Dr. Osváth Péter
9 Neurotic disorders II. - Somatoform and dissociative disorders  
Dr. Osváth Péter
10 Psychomatic disorders- eating disorders  
Dr. Gáti Ágnes
11 Sexual dysfunctions and paraphilic disorders  
Dr. Fekete Sándor
12 Sleep-wake disorders  
Dr. Fekete Sándor
13 Dynamic psychotherapies  
Dr. Fekete Sándor
14 Cognitive-behaviour and client centered psychotherapies  
Dr. Fekete Sándor

Practices
1 Psychopathology I.
2 Psychopathology II.
3 Psychopathology III.
4 Psychopathology IV.
5 Psychopathology V.
6 Psychopathology VI.
7 Anxiety I.
8 Anxiety II.
9 Crisis intervention I.
10 Crisis intervention II.
11 Personality disorders I.
12 Personality disorders II.
13 Personality disorders III.
14 Personality disorders IV.
15 Psychosomatic disorders I.
16 Psychosomatic disorders II.
17 Psychosomatic disorders III.
18 Psychosomatic disorders IV.
19 Sleep disorders I.
20 Sleep disorders II.
21 Adjustment disorders I.
22 Adjustment disorders II.
23 Adjustment disorders III.
24 Adjustment disorders IV.
25 Suicide I.
26 Suicide II.
27 Suicide III.
28 Suicide IV.

Seminars

Exam topics/questions
1./ Psychiatric anamnesis and interview  
Classification of anxiety disorder
2./ The mental status  
Sleep-wake disorders
3./ Diagnosis and differential diagnosis of psychosis  
Somatic symptom and related disorders
4./ Disturbances of consciousness  
Sexual dysfunctions
5./ Disturbances of orientation  
Psychosomatic disorders
6. / Disturbances of memory
   Impulse-control, and factitious disorders
7. / Disturbances of attention
   The most important features of psychotherapy
8. / Disturbances of perception
   Panic and generalised anxiety disorders
9. / Disturbances of thinking
   Suicidal behaviour - treatment and prevention
10. / Disturbances of affectivity
    Dissociative disorders
11. / History of psychiatry
    Emergency psychiatry
12. / The symptoms of anxiety
    Dynamic psychotherapies
13. / Disturbances and examination of intelligence
    Cognitive and behaviour psychotherapies
14. / Disturbances of motor behaviour
    Adjustment disorders and psychological crisis, crisis-intervention
15. / Disturbances of instincts
    Client-centered psychotherapy
16. / Disturbances of judgment and insight
    Obsessive-compulsive disorder
17. / Symptoms of delirium
    Classification of mental disorders
18. / Concept and types of delusions
    The main factors of suicidal behaviour from neurobiology to culture
19. / Differential diagnosis of anxiety disorders
    The main factors of emergency psychiatry
20. / The Ekbom-symptom
    Conversion disorder
21. / The clinical significance of hallucinations and illusions
    The examination and treatment of desorientated patient
22. / The symptoms of catatonia
    Psychosocial crisis, presuicidal syndrome, cry for help
23. / Types of phobias
    The examination and treatment of aggressive patients

Participants
Dr. Gáti Ágnes (GAAHAPE), Dr. Herold Róbert (HERMAAPTE), Dr. Kovács Attila (KOAMAPTE), Dr. Osváth Péter (OSPMAAPTE), Dr. Tényi Tamás (TETGAAPE), Dr. Vörös Viktor (VOVFAAPTE)
## OAK-SE2 SURGERY 2

**Course director:** Dr. András Gábor Vereczkei, professor

**Surgery Clinic**

<table>
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<th>Number of hours/semester:</th>
<th>14 lectures + 28 practices + 0 seminars = total of 42 hours</th>
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<td>Prerequisites:</td>
<td>OAK-SE1 completed</td>
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### Topic

Further important chapters of special surgery (surgery of the gastrointestinal tract from the esophagus to rectum, and thoracic surgery). Preparation of future home doctors to decision making how to handle surgical cases according to indication of surgical interventions or other treatment modalities.

### Conditions for acceptance of the semester

Admission and physical examination of new patients. Participation in endoscopic investigations and attendance at rounds, actually also at operations. Transfusion of blood preparates, blood group matching, ability to evaluate imaging diagnostic finds and labpanels. Attendance to the lectures is optional while participation on exercises is obligatory with max. two absences including medical certificate.

### Making up for missed classes

Missed exercises are to be made up for at a later time according to appointments with the group leader.

### Reading material

- Porter and Malt: Oxford Textbook of Surgery (CD-ROM, available through the computers of the surgical clinic)

### Lectures

1. Thoracic surgery (mediastinum, surgery, deformities of the chest wall, HTX, PTX)
   - Dr. Szántó Zalán János
2. Thoracic surgery (lung surgery, HTX, PTX)
   - Dr. Szántó Zalán János
3. Thoracic surgery (lung surgery, Tumor)
   - Dr. Szántó Zalán János
4. Surgery of the gallbladder and bile ducts
   - Dr. Papp Róbert
5. Surgery of benign liver tumors
   - Dr. Papp András
6. Surgery of malignant liver tumors
   - Dr. Kalmár Nagy Károly
7. Surgery of acute and chronic pancreatitis
   - Dr. Kelemen Dezső Tamás
8. Pancreatic tumors
   - Dr. Kelemen Dezső Tamás
9. Esophageal surgery of benign diseases
   - Dr. Horváth Örs Péter
10. Esophageal surgery of malignant diseases
    - Dr. Papp András
11. Gastric surgery
    - Dr. Verczkei András Gábor
12. Clinical pictures of proctology
    - Dr. Barács József
13. Inflammatory disease of the appendix
    - Dr. Papp Róbert
14. Malignant colorectal diseases
    - Dr. Verczkei András Gábor
Practices

1. Examination of thoracic patients
2. Instrumental examination of thoracic patients
3. Postoperative treatment of thoracic patients
4. Surgery of the bile duct
5. Examination of liver diseases
6. Postoperative treatment of liver patients
7. Acute pancreatitis
8. Chronic pancreatitis
9. Surgery of pancreatic tumors
10. Benign oesophageal disease
11. Malignant oesophageal disease
12. Investigation of gastric cancer
13. Surgery of gastric cancer
14. Proctology
15. IBD
16. Surgery of IBD
17. Colorectal tumor investigation
18. Surgery of colorectal tumors
19. Investigation of the mediastinum
20. Surgery of the mediastinum

Seminars

Exam topics/questions

Semester exam questions for the subject „SURGERY 2“:

Types of PTX, treatment, surgical indications

2. Surgical treatment of lung cancer, operability, resectability
3. Empyema thoracis, surgical treatment of TBC
4. Preoperative examination of thoracic surgery, risks of operation and post operative complications
5. Mediastinal tumors
6. Malignant gastric tumors (adenocarcinomas)
7. Gastrointestinal Lymphomas and GIST
8. Epithelial tumors of the esophagus and treatment
9. Adenocarcinomas of the esophagus and surgical therapy
10. GERD and treatment
11. Diaphragmatic hernia, hiatal hernias and esophageal diverticula
12. Esophageal injury
13. Bilestone disease and treatment
14. Tumors of the gallbladder and bile ducts
15. Icterus. Etiology. Surgical therapy, Biliodigestive anastomosis
16. Surgical anatomy of the liver and types of resection
17. Benign tumors of the liver, cystic diseases
18. Malignant liver tumors and their treatment
19. Surgical indications and treatment options of acute pancreatitis
20. Surgical therapy and types of chronic pancreatitis
21. Pancreatic tumors. Surgical therapy, palliative therapy
22. Differential diagnosis of haematochezia, importance of Rectal Digital Examination
23. Perianal abscess. Surgical therapy
24. Surgical treatment of hemorrhoids
25. Surgical treatment of large bowel polyps
26. Malignant tumors of the large bowel and their surgical treatment
27. Surgical treatment of rectal tumors
28. Colostomy
29. Surgical treatment of Crohn’s disease
30. Surgical treatment of Colitis ulcerosa

Participants

Dr. Baracs József (BAJFADO.PTE), Dr. Kalmár Nagy Károly (KAKNAFP.PTE), Dr. Kelemen Dezső Tamás (KEDMAAO.PTE), Dr. Lukács László (LULHAAE.PTE), Dr. Papp András (PAAOABP.PTE), Dr. Szántó Zalán János (SZZFAAO.PTE), Dr. Vereczkei András Gábor (VEAGAAO.PTE)
OAK-ST1 Obstetrics and Gynaecology 1

Course director: Dr. József Bódis, professor

Department of Obstetrics and Gynaecology

4 credit • semester exam • Clinical module • autumn semester • recommended semester: 9

Number of hours/semester: 28 lectures + 28 practices + 0 seminars = total of 56 hours

Course headcount limitations (min-max.): min. 5 – max. 100

Prerequisites: OAK-SE1 completed

Topic

All aspects of obstetrics are discussed during one semester: physiology of pregnancy: fertilisation of oocyte, implantation; adaptation of maternal endocrine and circulatory system to pregnancy; embryonic, fetal development; diagnostic tools for evaluating fetal well-being; pregnancy pathology: diseases of the mother and the embryo/fetus, and diagnostic and therapeutical opportunities to manage them; physiological and pathological puerperium; the newborn: physiology of adaptation and management of diseases of the newborn.

The purpose of this teaching program is to give a basic knowledge in the field of obstetrics, however, novel scientific results are also reported. The program, with its practical part, makes students capable of

- distinguishing normal and pathologic pregnancies,
- evaluating fetal well-being,
- managing normal labor,
- assisting in newborn adaptation, and
- revealing puerperal pathologies.

The program gives the opportunity to progress the knowledge obtained by the end of the semester.

Conditions for acceptance of the semester

Semester exam (written or oral)
Licence for exam: absences less than 20 % of practices

Making up for missed classes

See above
Absences due to medical problem: student(s) should attend the department during the hours of duty services (organized for individuals).

Reading material

- Subject of lectures - hand-out of lecturers;
  www.merck.com/mmpe/sec18.html
  www.acog.org
  www.fpnotebook.com/OB.htm
  www.obgyn.net/

Lectures

1. Physiology of pregnancy / Maternal diseases and pregnancy
   Dr. Csermely Tamás
2. Endocrine physiology of pregnancy / Endocrine function of the placenta
   Dr. Szilágyi András
3. Prenatal care / Hypertension in pregnancy
   Dr. Tamás Péter
4. Ultrasound examinations in pregnancy
   Dr. Vizer Miklós
5. Assessment of fetal well-being
   Dr. Vizer Miklós
6. Diabetes and pregnancy / Haemolytic disease of the newborn
   Dr. Szilágyi András
7. Prenatal genetics
   Dr. Vizer Miklós
8 Bleeding during late pregnancy
   Dr. Koppán Miklós Endre
9 Physiology of normal labour
   Dr. Göcze Péter
10 Breech presentation and breech delivery / Dystocia and prolonged labor; malpresentations
   Dr. Göcze Péter
11 Preterm labour, premature rupture of the membranes
   Dr. Vizer Miklós
12 Twin pregnancy and twin labor
   Dr. Vizer Miklós
13 Labour induction, obstetrical anaesthesia and analgesia
   Dr. Tamás Péter
14 Operative delivery
   Dr. Tamás Péter
15 Rupture of the uterus, coagulation defects, amniotic fluid embolism
   Dr. Tamás Péter
16 Abortion / Ectopic pregnancy
   Dr. Csermely Tamás
17 Physiology of adaptation after birth
   Dr. Ertl Tibor
18 Birth asphyxia and resuscitation
   Dr. Ertl Tibor
19 Puerperium and its complications
   Dr. Tamás Péter
20 Family planning methods
   Dr. Koppán Miklós Endre
21 Anatomy of the genital tract
   Dr. Koppán Miklós Endre
22 Physiology of the menstrual cycle
   Dr. Szilágyi András
23 Abnormal uterine bleeding
   Dr. Bódis József
24 Dysmenorrhoea and premenstrual syndrome. Anovulatory cycle
   Dr. Csermely Tamás
25 Amenorrhoea
   Dr. Csermely Tamás
26 Intersexuality
   Dr. Göcze Péter
27 Gynecological infections I
   Dr. Tamás Péter
28 Gynecological infections II
   Dr. Tamás Péter

Practices
1 Diagnosis of pregnancy, medical history
2 Diagnosis of pregnancy, medical history
3 Physical, bimanual examination of pregnant women, diagnosis of intrauterine positioning
4 of the fetus in the last trimester; intrauterine death
5 Assessment of foetal well-being
6 Recording of uterine activity and foetal hearth rate; demonstration in labour-ward
7 Examination of amniotic fluid, prenatal genetics; ultrasound examination
8 Examination of amniotic fluid, prenatal genetics; ultrasound examination
9 Conduction of normal labour
10 Puerperium
11 Abnormal labour I.
12 Abnormal labour I.
Abnormal labour II.
Abnormal labour II.
Preterm delivery, the signs of threatened abortion and preterm delivery
Preterm delivery, the signs of threatened abortion and preterm delivery
Adaptation of the newborn after birth
Adaptation of the newborn after birth
Birth asphyxia and resuscitation
Birth asphyxia and resuscitation
Placental and postplacental bleeding; manual separation of the placenta
Placental and postplacental bleeding; manual separation of the placenta
Operative delivery
Operative delivery
Pregnancy termination during the first and second trimester
Pregnancy termination during the first and second trimester
Contraceptive methods
Contraceptive methods

Seminars

Exam topics/questions

1. a. Placental steroid and peptide hormones. The “fetal-placental unit”.
   b. Abnormal bleeding during labor.
2. a. Assessment of fetal well-being.
   b. Abnormalities in lie position and presentation.
3. a. Forceps delivery and vacuum extraction.
   b. Prenatal genetics.
4. a. Cesarean section.
   b. Hypertension in pregnancy.
5. a. Breech presentation and breech delivery.
   b. Abortion; classification, management.
   b. Rh-isoimmunisation.
7. a. Principles in the management of preterm delivery.
   b. Hyperemesis gravidarum.
8. a. Birth asphyxia and resuscitation.
   b. Significance of urinary tract infection during pregnancy.
   b. Placenta previa.
10. a. Rupture of uterus.
    b. Amniotic fluid examinations during the third trimester.
11. a. Ultrasound examination in pregnancy.
    b. Complications of the puerperium.
    b. Oligohydramnios.
    b. Abruptio placentae.
14. a. Postdate pregnancy, diagnosis and management.
    b. Indications and requirements of forceps delivery.
15. a. Abnormalities of placental detachment; disorders of the umbilical cord.
    b. Indications of cesarean section.
    b. Asynclitism.
17. a. Obstructed labor.
    b. Disseminated intravascular coagulation in pregnancy.
18. a. Significance and screening of gestational diabetes.
    b. Fetal pulmonary maturation.
19. a. Apgar score.
   b. Labor induction.
   b. Early and late decelerations.
   b. Polyhydramnios.
22. a. Cardiotocography in the assessment of fetal well-being.
   b. Differential diagnosis of placenta previa and abruptio placentae.
23. a. Signs and management of threatened preterm delivery.
   b. Significance of hCG secretion in the first trimester of pregnancy.
   b. Opportunities in the management of preterm premature rupture of the membrane.
   b. Evaluation of intrauterine positioning of the fetus in the last trimester.
27. a. Definitions and clinical importance of prematurity and postmaturity.
   b. Abnormalities in the engagement, rotation, position and presentation.
   b. Etiology, diagnosis, and management of cervical incompetence.
29. a. Perinatal mortality.
   b. Fetal hypoxia during labour.
30. a. Forelying and prolapsed umbilical cord.
   b. Infectious diseases during pregnancy.
31. a. Definition and diagnosis of intrauterine growth retardation.
   b. Puerperal infections.
32. a. Significance of fetal scalp blood sampling during labor.
   b. Therapeutic opportunities to increase fetal pulmonary maturation.
33. a. Intrauterine fetal demise.
   b. Acute and chronic tocolysis.
34. a. Definitions of live-birth, perinatal, neonatal and infant mortality.
   b. Deep vein thrombosis in the puerperium.
35. a. Spontaneous abortions - etiology and management.
   b. Anomalies of uterine contractions during delivery.

Participants

Dr. Bódis József (BOJHAAE.PTE), Dr. Bózsa Szabolcs (BOSFAKO.PTE), Dr. Csermely Tamás (CSTGABO.PTE), Dr. Ertl Tibor (ERTMAAO.PTE), Dr. Farkas Bálint (FABFACO.PTE), Dr. Göcze Péter (GOPMAAO.PTE), Dr. Koppán Miklós Endre (KOMHADE.PTE), Dr. Kovács Kálmán András (KOKFAFO.PTE), Dr. Tamás Péter (TAPMAAO.PTE), Dr. Vizer Miklós (VIMRAAO.PTE)
OAK-SZE OPHTHALMOLOGY

Course director: DR. BALÁZS VARSÁNYI, assistant lecturer
Department of Ophthalmology

3 credit • semester exam • Clinical module • autumn semester • recommended semester: 9

Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours
Course headcount limitations (min-max.): min. 1 – max. 15
Prerequisites: OAP-PA2 completed + OAK-SE1 completed

Topic
The diagnostic tools and therapies of ophthalmic diseases will be discussed highlighting the diseases occurring frequently in the general practices and emergency ambulancies. The basic diagnostic methods needed also in non-ophthalmical offices are trained.

Conditions for acceptance of the semester
It is obligatory to attend all the lectures and practices.

Making up for missed classes

Reading material
G. Lang: Ophthalmology, Thieme

Lectures
1 Introduction. The globe (embryology, anatomy, growth and development)
   Dr. Biró Zsolt
2 The eyelids. The lacrimal apparatus
   Dr. Balla Zsolt
3 The conjunctiva. Allergic eye diseases
   Dr. Varsányi László Balázs
4 The cornea. The sclera
   Dr. Varsányi László Balázs
5 The uveal tract: iris, ciliary body and choroid. Intraocular inflammation
   Dr. Horváth Zoltánné
6 The lens
   Dr. Biró Zsolt
7 The glaucoma. The classification, diagnosis, pathogenesis and treatment
   Dr. Balla Zsolt
8 The vitreous and the vitreoretinal diseases. Retinal detachment
   Dr. Szomorné Dr. Szijártó Zsuzsanna
9 Retina I. Vascular abnormalities, retinopathies
   Dr. Szomorné Dr. Szijártó Zsuzsanna
10 Retina II. Central and peripheral retinal dystrophies and degenerations
    Dr. Szomorné Dr. Szijártó Zsuzsanna
11 Neuroophthalmology (the optic nerve, the visual pathway, the pupil) Electrophysiology (ERG, EOG, VEP)
   Dr. Varsányi László Balázs
12 Intraocular tumours. The orbit
   Dr. Horváth Zoltánné
13 Strabismus. Nystagmus
   Dr. Horváth Zoltánné
14 Ocular injuries. The evaluation of permanent impairments. The rehabilitation of the blind.
   Dr. Biró Zsolt

Practices
1 Taking the history. Testing of visual acuity and optical defects. Light and colour perception. The methods of morphological examination
2 Taking the history. Testing of visual acuity and optical defects. Light and colour perception. The methods of morphological examination
3 Eyelids and lacrimal apparatus. Eversion of the upper eyelid. Examination of the lacrimal system. Irrigation of the nasolacrimal duct
Eyelids and lacrimal apparatus. Eversion of the upper eyelid. Examination of the lacrimal system. Irrigation of the nasolacrimal duct

Conjunctiva. Irrigation of the conjunctival sac. The application of drops and ointments into the conjunctival sac. Patching and bandage of the eye

Conjunctiva. Irrigation of the conjunctival sac. The application of drops and ointments into the conjunctival sac. Patching and bandage of the eye


Lens. Slit-lamp examination before and after cataract surgery. Cataract surgery: ICCE, ECCE, lensectomy, ultrasonic phakoemulsification (video demonstration)

Lens. Slit-lamp examination before and after cataract surgery. Cataract surgery: ICCE, ECCE, lensectomy, ultrasonic phakoemulsification (video demonstration)

Glaucoma (gonioscopy, ophthalmoscopy, visual field evaluation, measuring intraocular pressure). Treatment. Glaucoma surgery (video demonstration)

Glaucoma (gonioscopy, ophthalmoscopy, visual field evaluation, measuring intraocular pressure). Treatment. Glaucoma surgery (video demonstration)

Vitreous, retinal detachment. Fundus examination. Vitrectomy. Detachment surgery (video demonstration)

Vitreous, retinal detachment. Fundus examination. Vitrectomy. Detachment surgery (video demonstration)

Retina I. Fundus examination. Fluorescein angiography. Diabetic and hypertensive retinopathy

Retina I. Fundus examination. Fluorescein angiography. Diabetic and hypertensive retinopathy

Retina II. Colour vision. Dark adaptation. Electrophysiology, fundus examination, genetic counselling

Retina II. Colour vision. Dark adaptation. Electrophysiology, fundus examination, genetic counselling

Visual pathway, pupil, orbit. Perimetry, Hertel, CT, MRI. The differential diagnosis of blurred disc margin. Pharmacology of the iris and pupil

Visual pathway, pupil, orbit. Perimetry, Hertel, CT, MRI. The differential diagnosis of blurred disc margin. Pharmacology of the iris and pupil

Intraocular tumours. The clinical picture, diagnosis, differential diagnosis of white pupil, ultrasonography (video demonstration)

Intraocular tumours. The clinical picture, diagnosis, differential diagnosis of white pupil, ultrasonography (video demonstration)

Strabismus. Extraocular muscles, testing for strabismus. Amblyopia treatment (video demonstration)

Strabismus. Extraocular muscles, testing for strabismus. Amblyopia treatment (video demonstration)

Ocular injuries. Low vision aids (video demonstration)

Ocular injuries. Low vision aids (video demonstration)

Seminars

Exam topics/questions

1. A) Gross anatomy of globe
   B) Ophthalmological complications of hypertension and diabetes mellitus

2. A) Anatomy of the ocular adnexa
   B) Vascular diseases of the retina

3. A) The methods of examination, special ophthalmologic examinations
   B) Treatment of strabismus

4. A) Ophthalmoscopy and its significance, the blurred disc margin
   B) Diseases of the eyelids and their treatment

5. A) Physiology and pathophysiology of the tears
   B) Retinal detachment and its treatment

6. A) Applying bandage, ointment and drop to the eye, irrigation of the nasolacrimal duct
   B) Ophthalmological traumatology

7. A) The significance of the vitreous body
   B) Diseases of the conjunctiva and their treatment

8. A) Anatomy and physiology of the retina
   B) Diseases of the lacrimal apparatus and their treatment
9. A) The classification of the glaucoma
   B) Tumors of the lids, of the globe and of the orbita
10. A) Anatomy and physiology of the extraocular muscles
    B) Chief complaints in ophthalmology; taking the patients history
11. A) The significance and diagnosis of strabismus
    B) Treatment of cataracta
12. A) The sensory visual pathway
    B) Diseases of the cornea and their treatment
13. A) Emergency situations in ophthalmology
    B) Diseases of the sclera and their treatment
14. A) Lethal diseases in ophthalmology
    B) Glaucomas - other than chronic open angle glaucoma
15. A) Causes of sudden monocular loss of vision
    B) Inflammation of the uveal tract
16. A) Differential diagnosis of red eye
    B) The blindness: main causes, prevention
17. A) Pharmacology of the eye, commonly used eye medications
    B) The orbit and its diseases
18. A) Nervous innervations of the globe and its adnexa
    B) Diseases of the macula and their treatment
19. A) Significance of ophthalmology in the choice of profession
    B) Diagnosis and therapy of chronic open angle glaucoma
20. A) Pediatric ophthalmology. Special subjects of pediatric interests
    B) Significant degenerations of the retina
21. A) Genetic aspects of the eye diseases
    B) Diseases of the optic nerve

Participants

Dr. Balla Zsolt (BAZFAO.PTE), Dr. Biró Zsolt (BIZMAAO.PTE), Dr. Horváth Zoltánné (HOZTAD0.PTE), Dr. Pámer Zsuzsanna (PAZMAAO.PTE), Dr. Szomorné Dr. Szijártó Zsuzsanna (SZZSAEP.PTE)
OAK-AIT Anaesthesia and Intensive Care

Course director: DR. LAJOS BOGÁR, professor
Department of Anaesthesia and Intensive Therapy

3 credit • semester exam • Clinical module • spring semester • recommended semester: 10

Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours
Course headcount limitations (min-max.): min. 5 – max. 200
Prerequisites: OAK-GT3 completed + OAK-SE2 completed

Topic

The 14 lectures and 28 classes will provide information and practical skills on basic and advanced life support, general and regional anesthesia as well as the main elements of the critical care. It is of primary importance to provide skill training to identify the clinical sings of the cardiac arrest and a number of life threatening conditions may require immediate medical interventions. Furthermore, the students will receive lectures and practices how to provide analgesia for patients during and after operation and how to avoid serious complications of general and regional anesthesia. The discipline contains the diagnostic and therapeutic methods of major shock states (hemorrhagic, septic and cardiogenic). Students will receive lectures and bedside demonstrations on severe poisoning, organ support (mechanical ventilation, renal replacement therapy, cardiovascular support etc.) and intensive care monitoring devices.

Conditions for acceptance of the semester

Maximum 2 absences are acceptable.
Minimum requirements
In practice:
- Performing cardiopulmonary resuscitation
In theory:
- The management of upper airway obstruction, status asthmaticus
- The differential diagnostic signs of acute circulatory failure
- The early treatment of the intoxicated patient
- The management of multiple trauma care

Making up for missed classes

Student can join other group for the supplementation.

Reading material

Key Topics in Anesthesia, R. Bonnett: Taylor and Francis Group, 2000, ISBN: 1859961320

Lectures

1. Fluid management and clinical nutrition.
   Dr. Jáksó Krisztián
2. Invasive haemodynamic monitoring.
   Dr. Csontos Csaba
3. Acute respiratory failure. ARDS
   Dr. Kiss Tamás
4. Oxygen therapy and mechanical ventilation.
   Dr. Kiss Tamás
5. Diagnosis of brain death and donor management.
   Dr. Molnár Tihamér
   Dr. Weiling Zsolt
   Dr. Csontos Csaba
8. Intensive care management of acute pulmonary embolism (PE).
   Dr. Kiss Tamás
9. Pathophysiology and management of sepsis, septic shock and multiple organ dysfunction syndrome.
   Dr. Bogár Lajos
10. Acute renal failure and renal replacement therapy in intensive care.
    Dr. Nagy Bálint János
11 Preoperative assessment, risks and complications of anaesthesia.
   Dr. Rendeki Szilárd
12 General anaesthesia.
   Dr. Bátaí István
13 Regional anaesthetic techniques.
   Dr. Szabó Zoltán
14 Emergency anaesthesia.
   Dr. Márton Sándor

Practices
1 Recognition of the peri-arrest state. Emergency ECG analysis.
2 Cardiopulmonary resuscitation: Basic life support. (BLS)
3 Resuscitation: Advanced life support. (ALS)
4 Resuscitation: Advanced life support, defibrillation.
5 Monitoring of the critically ill.
6 Invasive haemodynamic monitoring. Practical approach.
7 Management of severe hepatic failure.
8 Intensive care management of acute pancreatitis.
10 Management of heart attack and cardiogenic shock.
11 Management of electrolyte abnormalities and acid-base disturbances.
12 Fluid therapy. Intensive care management of severe hemorrhage, hypovolaemic hemorrhagic shock.
13 Acute respiratory failure, (Pneumonia, ARDS, PTX, acute exacerbation of COPD, severe asthma).
14 Oxygen therapy and mechanical ventilation. Practical approaches.
15 Management of polytrauma.
16 Intensive care management of seriously burn injured patients.
18 Clinical toxicology.
19 Neurointensive care.
20 Neurointensive care
21 Management of distributional shock.
22 Anaphylaxis, severe sepsis, septic shock. Practical approaches.
23 Anaesthetic equipment. The anaesthetic machine.
25 Preoperative management and general anaesthesia.
26 Monitoring in the operating theatre.
27 Pain management. Practical approaches.
28 Regional anaesthesia. Practical approaches.

Seminars

Exam topics/questions

Examination requirements
   One question in anaesthesia and a second one in intensive care.

Examination questions in intensive care
1. Definition and emergency treatment of shock
2. Syndromes with acute chest pain (aortic dissection, acute myocardial infarction, pneumothorax)
3. The acute management of massive pulmonary embolism
4. Management of acute rhythm disturbances
5. Hemodynamic monitoring (arterial line, central line insertion, invasive hemodynamic monitoring)
6. Acute management of fluid imbalance
7. Acid-base disorders and management
8. Infection and infection control on the ICU
9. Basic management of sepsis, severe sepsis and septic shock
10. Multiple organ failure
11. ARDS, definition and basic ventilatory management
12. Indications and basis of mechanical ventilation
13. Management of acute respiratory illnesses (acute exacerbation of COPD, asthma)
14. Monitoring and treatment of acute renal failure
15. Intensive therapy of acute liver failure
16. Nutrition of the critically ill (types of nutrition and indications)
17. Mental disorders, drug overdosed patients
18. Critical care of polytrauma victims
19. Critical care after central nervous system injury, treatment elevated intracranial pressure
20. Critical care of severely burned patients
21. Cardio-pulmonary resuscitation
22. Definition and ethical aspects of brain-stem death

Examination questions in anaesthesia
1. Preoperative patient assessment and risk stratification, preparation for anaesthesia
2. Airway maintenance, respiratory systems
3. Anaesthetic machine
4. Pharmacology of inhalational anaesthetics
5. Pharmacology of intravenous anaesthetics
6. Pharmacology of muscle relaxants
7. Peripheral and central regional anaesthetic techniques: pharmacology, indications, contraindications
8. Patient monitoring during anaesthesia: depth of anaesthesia, peripheral muscle relaxation, gas exchange, circulation
9. Postoperative analgesia
10. Chronic pain treatment

Participants
Dr. Bátai István (BAIMABO.PTE), Dr. Bogár Lajos (BOLGAO.PTE), Dr. Csontos Csaba (CSCSAAP.PTE), Dr. Kiss Tamás (KITFAAO.PTE), Dr. Molnár Tihamér (MOTTAO.PTE), Dr. Weiling Zsolt (WEZMAAO.PTE)
UP MS General Medicine major – subjects of the Clinical module - Course descriptions – academic year of 2014/2015

OAK-EAB INTERNAL MEDICINE: ENDOCRINOLOGY AND METABOLIC DISEASES

Course director: DR. EMÉSE MEZŐSI, associate professor
1st Department of Internal Medicine

2 credit • semester exam • Clinical module • spring semester • recommended semester: 10

Number of hours/semester: 10 lectures + 20 practices = total of 30 hours
Course headcount limitations (min-max.): min. 3 –
Prerequisites: OAP-BPR completed + OAP-KG2 completed + OAP-GT2 parallel

Topic
Endocrine and metabolic disorders are common in the population and their incidence is increased continuously. Knowledge of these disorders is essential for the practitioners.
Topics: Disorders of the hypothalamus and pituitary gland, thyroid diseases, problems in the calcium homeostasis, disorders of the adrenal gland, endocrine tumors, obesity, primary and secondary hyperlipoproteinemias.

Conditions for acceptance of the semester
The attendance of the lectures and practices is compulsory.
The total number of justified and unjustified absences may not exceed 25%, while the number of unjustified absences may not exceed 15% of lectures and practices, otherwise the semester should be repeated.

Making up for missed classes
During the semester.

Reading material

Lectures
1 Disorders of the hypothalamus and pituitary gland 1.
   Dr. Mezősi Emese
2 Disorders of the pituitary gland 2.
   Dr. Mezősi Emese
3 Thyroid disorders 1.
   Dr. Mezősi Emese
4 Thyroid disorders 2.
   Dr. Mezősi Emese
5 Disorders of the calcium homeostasis, MEN syndromes
   Dr. Mezősi Emese
6 Disorders of the adrenal gland 1.
   Dr. Mezősi Emese
7 Disorders of the adrenal gland 2.
   Dr. Mezősi Emese
8 Weight disorders.
   Dr. Bajnok László Zoltán
9 Dyslipidemias 1.
   Dr. Bajnok László Zoltán
10 Dyslipidemias 2.
   Dr. Bajnok László Zoltán

Practices
1 Disorders of the hypothalamus and pituitary gland 1.
2 Disorders of the hypothalamus and pituitary gland 1.
3 Disorders of the pituitary gland 2.
4 Disorders of the pituitary gland 2.
5 Thyroid disorders 1.
6 Thyroid disorders 1.
7 Thyroid disorders 2.
8 Thyroid disorders 2.
Disorders of the calcium homeostasis, MEN syndromes
Disorders of the calcium homeostasis, MEN syndromes
Disorders of the adrenal gland 1.
Disorders of the adrenal gland 1.
Disorders of the adrenal gland 2.
Disorders of the adrenal gland 2.
Weight disorders
Weight disorders
Dyslipidemias 1.
Dyslipidemias 1.
Dyslipidemias 2.
Dyslipidemias 2.

Seminars

Exam topics/questions
1. Diagnosis of hypothalamic-pituitary axis
2. Pituitary neoplasms
3. Gigantism and acromegaly
4. Hyperprolactinnaemia
5. Hypopituitarism
6. Diabetes insipidus
7. Syndrome of inappropriate ADH section
8. Diagnosis of thyroid disorders
9. Iodine metabolism, iodine deficiency
10. Euthyroid goiter
11. Thyroiditis
12. Hypothyroidism
13. Graves disease
14. Endocrine ophtalmopathy
15. Thyrotoxic crisis
16. Non-immune hyperthyroidism
17. Diagnosis of thyroid nodules
18. Thyroid cancer.
19. Diagnosis of pituitary-adrenal axis
20. Adrenal insufficiency
21. Addison crisis
22. Side effects of chronic corticosteroid treatment
23. Cushing syndrome
24. Primary and secondary hyperaldosteronism
25. Pheochromocytoma
26. Basic and advanced investigations in suspected endocrine hypertension
27. Diagnosis of parathyroid disorders
28. Hyperparathyroidism
29. Hypoparathyroidism
30. Medullary thyroid cancer, multiple endocrine neoplasias
31. Carcinoid
32. Insulinoma
33. Polycystic ovarian syndrome
34. Main parts and processes of lipoprotein metabolism
35. Forms of dyslipidemias
36. Laboratory diagnosis of lipoprotein metabolism and definitions of dyslipidemias
37. Primary hyperlipoproteinemias
38. Secondary dyslipidemias
39. Target values in lipidology
40. Drug treatments of dyslipidemias
41. Indications, contraindications, side effects, and complications of statins
42. Theory and clinical practice of cardio-vascular risk stratification
43. Steps of lifestyle modification therapy
44. Definition and types of obesity and overweight. Methods for their measurements
45. Causes and pathomechanism of obesity and overweight
46. Pathomechanisms of obesity related complications
47. Obesity related complications
48. Lifestyle treatments of obesity and overweight
49. Drug treatment of obesity and overweight. Indications, contraindications, and side effects
50. Invasive treatments of obesity and overweight. Indications, contraindications, and side effects

Participants
Dr. Bajnok László Zoltán (BALPAB.PTE), Dr. Bódis Beáta (BOBHAAE.PTE), Dr. Mezősi Emese (MEENAAO.PTE), Dr. Nemes Orsolya (NEOFABO.PTE)
OAK-GY2 Paediatrics 2

Course director: DR. KATALIN OHMACHT-HOLLÓDY, associate professor
Department of Paediatrics

4 credit • semester exam • Clinical module • spring semester • recommended semester: 10

Number of hours/semester: 28 lectures + 28 practices + 0 seminars = total of 56 hours
Course headcount limitations (min-max.): min. 5 – max. 200
Prerequisites: OAK-GY1 completed

Topic
The basic goal is to get a good general knowledge from paediatrics. To acquire a good skill in examining patients and to be able to make plans for diagnostic procedures and to bring up therapeutic proposals.

Conditions for acceptance of the semester
Written exam.
The attendance of the practices is compulsory, the teachers will check it regularly. The maximum permitted number of absences is 4, independently of the reason. In case of more than 4 absences, the signing of the index will be refused with the consequent invalidation of the semester.

Making up for missed classes
It can be accepted only in very special cases.

Reading material

Lectures
1 Hypertension in childhood
   Dr. Molnár Dénes
2 Normal and abnormal growth and development
   Dr. Erhardt Éva
3 Endocrine disorders in the infancy and childhood
   Dr. Erhardt Éva
4 Hypoglycaemias
   Dr. Erhardt Éva
5 Hyperglycaemias, diabetes mellitus
   Dr. Erhardt Éva
6 Anaemias
   Dr. Molnár Dénes
7 Leukemias in the childhood
   Dr. Kajtár Pál
8 Solid tumours
   Dr. Kajtár Pál
9 Differential diagnosis of the hemorrhagic diseases
   Dr. Molnár Dénes
10 The disorders of the consciousness (traumas of the brain, poisoning)
   Dr. Stankovics József
11 Infections of the central nervous system
   Dr. Ohmachtné Dr. Hollódy Katalin
12 Convulsive disorders, epilepsy
   Dr. Ohmachtné Dr. Hollódy Katalin
13 Congenital and acquired immunodeficiencies
   Dr. Mosdósi Bernadett
14 The most common immunological disorders
   Dr. Mosdósi Bernadett
15 Shock and its treatment
   Dr. Stankovics József
<table>
<thead>
<tr>
<th></th>
<th>Subject</th>
<th>Instructor(s)</th>
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<tbody>
<tr>
<td>16</td>
<td>Child with special needs</td>
<td>Dr. Ohmachtné Dr. Hollódy Katalin</td>
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<td>17</td>
<td>The most common surgical diseases in the childhood I.</td>
<td>Dr. Pintér András</td>
</tr>
<tr>
<td>18</td>
<td>The most common surgical diseases in the childhood II.</td>
<td>Dr. Pintér András</td>
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<td>19</td>
<td>Burns</td>
<td>Dr. Molnár Dénes</td>
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<td>20</td>
<td>Resuscitation of the infant and child</td>
<td>Dr. Kövesi Tamás</td>
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<td>21</td>
<td>Psychosomatic disorders</td>
<td>Dr. Molnár Dénes</td>
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<td>22</td>
<td>Adolescent medicine</td>
<td>Dr. Molnár Dénes</td>
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<td>23</td>
<td>Clinical neuroimaging in the infancy and childhood</td>
<td>Dr. Péleyné Dr. Mohay Gabriella</td>
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<tr>
<td>24</td>
<td>Dermatology in the childhood</td>
<td>Dr. Molnár Dénes</td>
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<tr>
<td>25</td>
<td>Infectious diseases in childhood</td>
<td>Dr. Nyul Zoltán</td>
</tr>
<tr>
<td>26</td>
<td>The significance of physical signs and symptoms</td>
<td>Dr. Molnár Dénes</td>
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<tr>
<td>27</td>
<td>Vaccination</td>
<td>Dr. Nyul Zoltán</td>
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<tr>
<td>28</td>
<td>Prevention of the adult diseases in childhood</td>
<td>Dr. Molnár Dénes</td>
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</tbody>
</table>

**Practices**

1-28 Physical examination, evaluation of the data

**Seminars**

Exam topics/questions

The questions of the written exams will be taken from the topics of the spring semester.

aok.pte.hu → Departments → Paediatrics → Documents

**Participants**

Dr. Erhardt Éva (EREMAAO.PTE), Dr. Farkas András (FAAMAAO.PTE), Dr. Mosdósi Bernadett (MOBFAAO.PTE), Dr. Nyul Zoltán (NYZIAAE.PTE), Dr. Oberitter Zsolt (OBZMAAO.PTE), Dr. Ohmachtné Dr. Hollódy Katalin (HOKPAAP.PTE), Dr. Ottóffy Gábor (OTGMAAO.PTE), Dr. Stankovics József (STJMAAO.PTE), Dr. Török Katalin (TOKFADO.PTE), Dr. Vajda Péter (VAPFAAO.PTE), Dr. Vástyán Attila (VAAMAAO.PTE)
OAK-INF  INTERNAL MEDICINE: CLINICAL INFECTOLOGY

Course director:  DR. ZOLTÁN PÉTERFI, associate professor
1st Department of Internal Medicine

3 credit • semester exam • Clinical module • spring semester • recommended semester: 10
Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours
Course headcount limitations (min-max.): min. 5 –
Prerequisites: OAP-BPR completed + OAP-MI2 completed + OAK-GT3 completed

Topic
The role of the subject in the fulfillment of the educational targets, short summary of the topics: The main goal is to acquire knowledge and understanding of the etiology, epidemiology, clinical appearance, differential diagnosis, therapy and the prevention of infectious diseases. The topic includes the immunological aspects of the infectious diseases, hospital hygiene, clinical epidemiology, nosocomial infections, sepsis, and the differential diagnosis of feverish diseases, antibiotic policy also. During practical teachings, the students will be taught on taking the patient’s history suspected for infectious diseases, to perform simple laboratory tests, like reading of blood smear, performing abdominal, chest and lumbar taps.

Conditions for acceptance of the semester
The attendance of the practices is obligatory. Only 2 absences are permitted (max 15%) from practices. The head of dep. can permit four practices to be fulfilled at different times, beyond the scheduled time table. The students are obligated to perform exam (practical and oral) at the end of the semester.

Making up for missed classes
The absences can be substituted by joining to another group.
Compensation of absences: obtaining permission from the head of the dept.

Reading material
Proposed books (English):
Mandel’s Principles and Practices of Infectious Diseases
Manson’s Tropical Diseases

Lectures
1  Differential diagnosis of fever, fever of unknown origin (FUO)
   Dr. Nemes Zsuzsanna
2  Clinical microbiology
   Dr. Kocsis Béla
3  Clinical microbiology
   Dr. Kocsis Béla
4  Antimicrobial therapy
   Dr. Rókus László
5  Respiratory tract infections
   Dr. Ternák Gábor
6  Zoonoses
   Dr. Péterfi Zoltán
7  Migration related infectious diseases (malaria)
   Dr. Ternák Gábor
8  Infective endocarditis
   Dr. Péterfi Zoltán
9  Infectious diseases of the childhood
   Dr. Ternák Gábor
10 Infections of the central nervous system
    Dr. Péterfi Zoltán
11 AIDS
    Dr. Ternák Gábor
12 bloodstream infections
    Dr. Rókus László
13 Hepatitis
    Dr. Nemes Zsuzsanna
14 Food and waterborne diseases
   Dr. Nemes Zsuzsanna

Practices
1  Introduction in infectology
2  Infections of skin and soft tissues
3  Infections of skin and soft tissues
4  Infections of skin and soft tissues
5  Zoonoses
6  Zoonoses
7  Zoonoses
8  Zoonoses
9  Infectious diseases of the childhood
10 Infectious diseases of the childhood
11 Infections of the central nervous system
12 Infections of the central nervous system
13 Migration-related infectious diseases (malaria)
14 Migration-related infectious diseases (malaria)
15 Food and waterborne diseases
16 Food and waterborne diseases
17 Hepatitis
18 Hepatitis
19 Bloodstream infections
20 Bloodstream infections
21 Infective endocarditis
22 Infective endocarditis
23 Differential diagnosis of fever, fever of unknown origin (FUO)
24 Differential diagnosis of fever, fever of unknown origin (FUO)
25 Antimicrobial therapy
26 Antimicrobial therapy
27 Practice exam
28 Practice exam

Seminars
Exam topics/questions
1. The strategies of antibiotic treatment
2. The main groups and the antibiotics
3. The possible reasons of the unsuccessful antibiotic treatment
4. The beta lactame antibiotics groups and their indications for treatment
5. Differential diagnosis of fever of unknown origin (FUO)
6. Emerging infectious diseases
7. Cat scratch disease
8. Salmonellosis gastroenteritica
9. Dysentery syndrome
10. Cholera
11. E. coli gastroenteritis
12. Campylobacter infection (gastroenteritis)
13. Viral enteritis
14. Traveller’s diarrhea
15. Pseudo membranous enteritis (Clostridium difficile infection)
16. Amoebiasis
17. Giardiasis
18. Ascariasis
19. Teniasis
20. Echinococcosis
21. Enterobiosis
22. Trichinellosis
23. Toxocariasis
24. Common cold
25. Influenza
26. Streptococcal infections (S. pyogenes, S. agalactiae, S. pneumoniae, S. bovis, stb.)
27. Infectious mononucleosis, mononucleosis syndrome
28. Plaut-Vincent angina
29. Q-fever
30. Psittacosis
31. Legionellosis
32. Parotitis epidemic
33. Acut viral hepatitis A-SEN
34. Clinical signs and symptoms of acut hepatitis
35. The epidemiology of viral hepatitis
36. The profilaxis of viral hepatitis
37. Chronic viral hepatitis
38. Scarlatina
39. Measles
40. Rubella
41. Exanthema subitum
42. Varicella-zooster (chickenpox, shingles)
43. Herpes simplex virus infections
44. Pyodermas
45. Erysipelas
46. Toxic shock syndrome, necrotising fasciitis
47. Anthrax
48. Tularemia
49. Leptospirosis
50. Toxoplasmosis
51. Sepsis, sepsis syndrome
52. Botulism
53. Lyme disease
54. Meningitis serous
55. Meningitis purulent
56. Meningitis epidemic (meningococcal meningitis)
57. The treatment possibilities of purulent meningitis
58. Tick-borne encephalitis
59. Infections in immunocompromised patients
60. Epidemiology of AIDS
61. Clinical stages of AIDS
62. Treatment and prevention possibilities of AIDS
63. Rabies
64. Travel/related imported diseases
65. Malaria
66. Nosocomial infections
67. Tick-borne transmitted diseases

Participants
Dr. Nemes Zsuzsanna (NEZHABE.PTE), Dr. Péterfi Zoltán (PEZFAAO.PTE)
**OAK-NE2 NEUROLOGY 2**

**Course director:** Dr. Sámuel Komoly, professor

**Department of Neurology**

3 credit • semester exam • Clinical module • spring semester • recommended semester: 10

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

**Course headcount limitations (min-max.):** min. 5 – max. 130

**Prerequisites:** OAK-NE1 completed

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**Topic**

How to approach the patients with neurologic disease: history taking, neurological examination (testing higher critical function, cranial nerves, motor function, reflex function, sensory function, gait and stance) Be able to recognize patients who have neurological problem. Recognize the common neurological disorders. Recognize neurological emergencies (e.g. comatose patient) and initiate treatment. Management of common neurological disorders, using drug when appropriate, appreciate other aspects of general management, and to know what neurosurgery may offer. To integrate basic neuroscience and anatomy and clinical neurology as far as possible. Clinical neurology will be taught both in out patients clinics and on the ward.

**Conditions for acceptance of the semester**

Maximum of 15 % absence allowed

**Making up for missed classes**

Extra scheduled practices

**Reading material**


**Lectures**

1. Peripheral neuropathies
   Dr. Pfund Zoltán
2. Sleep disorders
   Dr. Faludi Béla
3. Vascular malformations and SAH
   Dr. Dóczi Tamás
4. Prion disease
   Dr. Komoly Sámuel
5. Traumatic brain injuries
   Dr. Dóczi Tamás
6. Paraneoplastic syndromes
   Dr. Illés Zsolt
7. Diagnosis of epilepsy
   Dr. Janszky József Vladimir
8. Stroke II.
   Dr. Szapáry László
9. Treatment of epilepsy
   Dr. Janszky József Vladimir
10. Brain and spinal cord tumors
    Dr. Dóczi Tamás
11. Myasthenia gravis and LEMS
    Dr. Komoly Sámuel
12. Dysimmune neuropathies
    Dr. Komoly Sámuel
13. Meningitis, encephalitis, neuroborreliosis
    Dr. Komoly Sámuel
14. Neurology
    Dr. Komoly Sámuel
Practices

1. Examination of stroke patients
2. Examination of stroke patients
3. Examination of patients with multiple sclerosis
4. Examination of patients suffering from neuropathy
5. EMG, ENG, EEG examinations
6. EMG, ENG, EEG examinations
7. Observe lumbar puncture and visit the CSF laboratory
8. How to do basic CSF examinations?
9. Visit to the CT MRI facility
10. Visit to the CT MRI facility
11. Examination of patients suffering from muscle disorders
12. Consultation of patients with neurogenetics problem
13. Coma and related disorders of consciousness I.
14. Coma and related disorders of consciousness II.
15. Examination of stroke patients
16. Examination of stroke patients
17. Examination of patients with multiple sclerosis
18. Examination of patients suffering from neuropathy
19. EMG, ENG, EEG examinations
20. EMG ENG EEG examinations
21. Observe lumbar puncture and visit the CSF laboratory
22. How to do basic CSF examinations?
23. Visit to the CT MRI facility
24. Visit to the CT MRI facility
25. Examination of patients suffering from muscle disorders
26. Consultation of patients with neurogenetics problem
27. Coma and related disorders of consciousness I.
28. Coma and related disorders of consciousness II.

Seminars

Exam topics/questions

1. Symptoms of myopathies (knowledge of genetically determined myopathies is required)
   - Accidental (provoked) epileptic seizures
2. Benign paroxysmal positional vertigo (Bárány)
   - Transient ischemic attack, and its significance
   - Basics of acute stroke management
4. Myasthenia gravis
   - Temporal lobe epilepsy
5. Metabolic polyneuropathies
   - Subarachnoid hemorrhage
6. Dysimmune neuropathies (Guillain-Barré syndrome, Chronic inflammatory demyelinating polyneuropathy)
   - Alzheimer disease
7. Carpal tunnel syndrome
   - Idiopathic generalized epilepsies
8. Glial tumors
   - Parkinson disease
9. Peripheral facial palsy (Bell-paresis)
   - Venous thrombosis of the brain
10. Acute meningitis
    - Intracerebral hemorrhage
11. Phobic postural vertigo (Brandt)
    - Focal epilepsies
12. Herpes simplex encephalitis
   Primary prevention of stroke
13. Radiculopathies in neck and low back regions
   Clinical symptoms of multiple sclerosis
14. Motoneuron disorders
   Diagnosis of MS
15. Trigeminal neuralgia
   Main pathologies of the spinal cord
16. Characteristic clinical vascular symptoms of the carotid and vertebral arteries
   Differential diagnosis of short unconsciousness
17. Main categories of the neurodegenerative disorders
   Status epilepticus
18. Migraine and other primary headaches
   Urinary incontinence
19. Neurological complications of skull and brain trauma
   Herpes zoster. Postherpetic neuralgia
20. Traumatic injuries of the spinal cord
   Alzheimer disease
21. Meningeoma
   Neurological disorders of the alcoholism
22. Hydrocephalus
   Neurofibromatosis (M. Reclinghausen)
23. Secunder prevention of stroke
   Neurological complications of AIDS
24. Nonspecific low back pain
   Somatisation, atypical depression
25. Neurofibromatosis (M. Reclinghausen)
   Paraneoplastic neurological disorders
26. Symptoms of increased intracranial pressure
   Focal dystonias
27. Creutzfeldt-Jakob disease
   Frequent vascular brainstem syndromes (Locked-in, Weber, Wallenberg, basilar artery occlusion)
28. Subacute combined degeneration of the spinal cord
   Wilson disease
29. Major categories of neuropathies
   Sleep apnoea syndrome. Narcolepsia
30. Chorea. Huntington chorea
   Restless leg syndrome

Participants

Dr. Ács Péter (ACPNAAO.PTE), Dr. Faludi Béla (FABHAAE.PTE), Dr. Illés Zsolt (ILZPAAP.PTE), Dr. Janszky József Vladimir
(JAJNAAO.PTE), Dr. Komoly Sámuel (KOSMABP.PTE), Dr. Kovács Norbert (KONFAAO.PTE), Dr. Mike Andrea
(MIAFAAO.PTE), Dr. Pfund Zoltán (PFZMAAP.PTE), Dr. Sebők Ágnes (SEASAAP.PTE), Dr. Szapáry László (SZLRAAO.PTE)
OAK-NHA INTERNAL MEDICINE: NEPHROLOGY, HYPERTENSION

Course director:
DR. TIBOR KOVÁCS, associate professor
2nd Department of Internal Medicine

Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours
Course headcount limitations (min-max.): min. 2 – max. 100
Prerequisites: OAP-BPR completed + OAK-EAB parallel

Topic
The importance of nephrology and hypertension is growing among the subspecialties of internal medicine. The topic of this curriculum is to introduce into classical nephrology (nephrotic syndrome, acute glomerulonephritides, urinary tract infections, hereditary kidney disease etc.) and hypertension. We also focus on the complications of diabetes, hypertension and peripheral arterial diseases which are leading causes of end stage renal failure all over the world.

Conditions for acceptance of the semester
The attendance of the lectures and practices is compulsory. The maximum permitted number of absences is 3 lectures and 3 practices.

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

Reading material

Lectures
1. The classification of renal diseases. Examination of the kidney.
   Dr. Wittmann István
2. Hereditary diseases of kidney (polycystic kidney, Alport syndrome)
   Dr. Kovács Tibor József
3. Acute glomerulonephritis. Rapidly progressive glomerulonephritis.
   Dr. Wittmann István
   Dr. Wittmann István
   Dr. Wittmann István
6. Renal involvement in systemic diseases: SLE, HUS (haemolytic uraemic syndrome), Henoch-Schönlein syndrome.
   Dr. Wittmann István
7. Diabetic nephropathy.
   Dr. Wittmann István
8. Microalbuminuria and atherosclerosis.
   Dr. Wittmann István
9. Hypertension and the kidney, atheromatous renovascular disease.
   Dr. Kovács Tibor József
10. Urinary tract infections.
    Dr. Kovács Tibor József
    Dr. Wittmann István
    Dr. Kovács Tibor József
13. Chronic renal failure.
    Dr. Csiky Botond
    Dr. Wittmann István
**Practices**

1. Case history taking, physical examination of renal patients.1
2. Case history taking, physical examination of renal patients.2
3. The tests evaluating renal function.1
4. The tests evaluating renal function.2
5. How to evaluate the results of renal imaging procedures?
6. Examination of patients with rapidly progressive glomerulonephritis.
7. Indications/contraindications of renal biopsy.1
8. Indications/contraindications of renal biopsy.2
9. Examination of patients with IgA nephropathy.
10. The differential diagnosis of oedema.
11. The causes, forms and differential diagnosis of hematuria and proteinuria. Urine analysis. 1
12. The causes, forms and differential diagnosis of hematuria and proteinuria. Urine analysis. 2.
13. Diagnosis and treatment of primary and secondary forms of glomerulonephritis.
15. Early diagnosis, treatment, follow-up of diabetic nephropathy.1
16. Early diagnosis, treatment, follow-up of diabetic nephropathy.2
17. Examination of patients with microalbuminuria.
18. Examination of patients with microalbuminuria.
19. Diagnosis and treatment of hypertension in renal patients.
20. Diagnosis and treatment of hypertension in renal patients.
21. Follow-up of renal patients.
22. Diagnosis, treatment of urinary tract infection, pyelonephritis.
23. Inherited kidney diseases.1
24. Inherited kidney diseases.2
25. Examination of patients with chronic renal failure.
27. Peritoneal dialysis, haemodialysis.

**Seminars**

**Exam topics/questions**

The evaluation of renal diseases.
The differential diagnosis of hematuria.
The differential diagnosis of proteinuria.
The differential diagnosis of oedema.
The methods suitable to measure glomerular function.
The methods suitable to measure tubular function.
The imaging techniques in nephrology.
Indications/contraindications of renal biopsy.
Acute glomerulonephritis.
Rapidly progressive glomerulonephritis.
Nephrotic syndrome.
Asymptomatic diseases - the importance of screening.
Urinary tract infection, acute and chronic pyelonephritis.
Acute and chronic tubulointerstitial nephritis.
Analgesic nephropathy.
Follow-up of renal diseases.
Hypertension and the kidney.
Diabetic nephropathy.
Renal involvement in systemic diseases: SLE, vasculitides, atherosclerosis, HUS.
Acute renal failure.
Chronic renal failure.
Peritoneal dialysis.
Haemodialysis.
Inherited kidney diseases.
Participants

Dr. Bekő Viktória (OKBFAA.AJPTE), Dr. Brasnyó Pál (BRPRAAO.PTE), Dr. Halmai Richárd (HARFACO.PTE), Dr. Kovács Tibor József (KOTMABO.PTE), Dr. Molnár Gergő Attila (MOGFABO.PTE), Dr. Vas Tibor (VATFACO.PTE), Dr. Wittmann István (WIILAAO.PTE)
OAK-OGÉ MEDICAL GENETICS

Course director: DR. BÉLA MELEGH, professor
Medical Genetics and Child Development

1 credit • semester exam • Clinical module • spring semester • recommended semester: 10

Number of hours/semester: 14 lectures + 0 practices + 0 seminars = total of 14 hours
Course headcount limitations (min-max.): min. 5 – max. 50
Prerequisites: OAK-EAB parallel + OAK-GY1 completed + OAK-NE1 completed

Topic
The aim of this course is to aid the students in understanding the coherences of the phenome-genome from a molecular genetic point of view with the involvement of the new, post-genomic approach. Its goal is to introduce the specific characteristics of a basic group of genetic disorders and to discuss major elements of genetic counselling along with the related legal and ethical aspects. During the course, the attention of the audience will be directed towards the available and rapidly developing modern molecular methods and their adequate and relevant applications in diagnostics and research as well as towards the advantages, limitations and potential risks of genetic tests for an individual.

Conditions for acceptance of the semester
Written exam

Making up for missed classes
None.

Reading material
The basis is the topics of the lectures.
Further readings:
- Nelson Textbook of Paediatrics
- Emery and Mueller: Elements of Medical Genetics

Lectures

1. Introduction to medical genetics: history of genetics, Human Genome Project, databases (OMIM, HapMap, Orphanet), variability of the human genome, SNP, susceptibility genes.
Dr. Melegh Béla

2. Metabolomic, DTC-s, next generation methods, new paradigm, 10th anniversary of the Human Genome Project, ENCODE Project.
Dr. Melegh Béla

3. Classification of diseases
Dr. Halmainé Dr. Komlósi Katalin

4. Characteristics of mendelian and non-mendelian inheritance, basic principles; polygenic inheritance, pleiotropic e., incomplete dominance, codominance, epistasis, construction of pedigree, basic types of mendelian inheritance, consanguinity. Mitochondrial inheritance, diseases with trinucleotide extension, uniparental disomy.
Dr. Halmainé Dr. Komlósi Katalin

5. Cytogenetics, chromosome analysis, chromosomal rearrangements, FISH and CGH, chromosomal syndromes, microdeletion syndromes.
Dr. Hadzsiev Kinga

Dr. Hadzsiev Kinga

7. Variability of the human genome, pharmacogenetics, personalized medicine I.
Dr. Melegh Béla

8. Variability of the human genome, pharmacogenetics, personalized medicine II.
Dr. Melegh Béla

9. Genetic counselling, dysmorphology, the genetic patient; types of genetic tests, indications, results.
Dr. Hadzsiev Kinga

10. Rare diseases; genomic disorders, syndrome identification.
Dr. Hadzsiev Kinga

Dr. Berenténé Dr. Bene Judit Ágnes
| 12 | Diseases of the connective tissue, inborn errors of metabolism. Inherited disorders of the skin and skeletal system, cyliopathies. |
|    | Dr. Halmainé Dr. Komlósi Katalin |
| 13 | Genetic investigation methods II. Chromosome analysis, FISH, CGH, array technique, biochemical methods, enzyme diagnostics. Haplotype, LOD score, linkage, association, genetic mapping, GWAS. |
|    | Dr. Berenténé Dr. Bene Judit Ágnes |
| 14 | Neurodegenerative disorders |
|    | Dr. Hadzsiev Kinga |

** Practices  

**Seminars**

**Exam topics/questions**

Coospace system.

The detailed knowledge of the following anomalies is required:
- cystic fibrosis, Duchenne and Becker muscular dystrophy, myotonic dystrophy, Angelman syndrome,
- Prader-Willi syndrome, Down syndrome /Edwards syndrome /Patau syndrome, Fragile X syndrome,
- Hemophilia A and B, Huntington disease, Klinefelter syndrome, Turner syndrome /Triple X syndrome, phenylketonuria, Rett syndrome, neurofibromatosis, DiGeorge syndrome /spectrum,
- Cri du Chat syndrome.

The knowledge of the following anomalies is required:
- mucopolysaccharidoses, biotinidase deficiency, Galactosemia, hypothyroidism, maple syrup urine disease, Lesch-Nyhan syndrome, Williams syndrome.

Mitochondrial diseases:
- MELAS (mitochondrial encephalopathy with lactic acidosis and stroke-like episodes)
- LHON (Leber’s hereditary optic neuropathy)
- maternally inherited deafness
- maternally inherited diabetes mellitus

**Participants**

Dr. Melegh Béla (MEBMABO.PTE)
# OAK-PS2 Psychiatry 2

**Course director:**

DR. SÁNDOR FEKETE, professor  
Department of Psychiatry and Psychotherapy

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<table>
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<th>3 credit • semester exam • Clinical module • spring semester • recommended semester: 10</th>
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<td><strong>Course headcount limitations (min-max.):</strong></td>
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<tr>
<td><strong>Prerequisites:</strong></td>
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**Topic**

To acquire the knowledge and skills of clinical psychiatry in the general practice

**Themes:**

- The essential psychopathological symptoms and syndromes
- The treatment of the ill patient’s emotional responses
- Psychological first aid and psychiatric emergencies in crisis and stress situations
- Exploration, evaluation of the psychiatric patients
- Biological and psychological therapeutic interventions
- Prevention and postvention of psychiatric disorders
- Psychiatric care and mentalhygienic activity in the general practice (Psychiatric interview in Hungarian)

**Practices (first and second semesters)**

- Psychiatric evaluation (interview, psychiatric history, mental status examination) /2 x 2 hrs/
- Anxiety disorders (anxiety, phobias, obsessive compulsive disorder, panic disorder) /2 x 2 hrs/
- Conditions which mimic physical disease (somatisation disorders, conversion disorder, hypochondriasis, somatoform pain disorder) /2 x 2 hrs/
- Psychosomatic disorders /2 x 2 hrs/
- Psychosexual disorders/dysfunction and paraphilia /2 hrs/

**Practices:**

- Observation, description and evaluation of the patients’ behaviour

**Conditions for acceptance of the semester**

According to the Code of Studies and Examinations

**Making up for missed classes**

According to the Code of Studies and Examinations

**Reading material**


**Lectures**

0 | Personality disorders  
Dr. Fekete Sándor

0 | Affective disorders I. - classification of depressive disorders  
Dr. Fekete Sándor

0 | Affective disorders II. - classification of bipolar disorders  
Dr. Fekete Sándor

0 | Schizophrenia spectrum disorders  
Dr. Fekete Sándor

0 | Delusive and other psychotic disorders  
Dr. Herold Róbert

0 | Substance-related and addictive disorders I. - alcohol addiction  
Dr. Fekete Sándor

0 | Substance-related and addictive disorders II. - drug addictions  
Dr. Fekete Sándor

0 | Gerontopsychiatry  
Dr. Fekete Sándor

0 | Organic mental disorders  
Dr. Fekete Sándor
0 Dementia (neurocognitive disorders)
   Dr. Fekete Sándor
0 Child and adolescent psychiatry
   Dr. Tényi Tamás
0 Mental retardation
   Dr. Tényi Tamás
0 Biological therapies - psychopharmacology
   Dr. Fekete Sándor
0 Psychosocial rehabilitation (group therapies, social therapies, self-help groups)
   Dr. Fekete Sándor

Practices
0 Delusional disorders II.
0 Dementia III.
0 Delusional disorders I.
0 Biological therapies II.
0 Organic psychiatric disorders IV.
0 Affective disorders I.
0 Affective disorders II.
0 Affective disorders IV.
0 Dementia I.
0 Mental retardation II.
0 Eating disorders II.
0 Organic psychiatric disorders I.
0 Dementia II.
0 Mental retardation I.
0 Biological therapies I.
0 Dementia IV.
0 Schizophrenia III.
0 Eating disorders I.
0 Alcohol related disorders I.
0 Schizophrenia IV.
0 Affective disorders III.
0 Organic psychiatric disorders II.
0 Schizophrenia II.
0 Alcohol related disorders IV.
0 Alcohol related disorders II.
0 Alcohol related disorders III.
0 Organic psychiatric disorders III.
0 Schizophrenia I.

Seminars

Exam topics/questions

II. semester
1. Delusional, schizoid and schizotyp personality disorders
   The examination of cognition
2. Narcissistic, borderline, histrionic and antisocial personality disorders
   Acute and chronic drug-related mental disorders
3. Avoidant, dependent and obsessive personality disorders
   The complex treatment of schizophrenia
4. Classification and etiology of mood disorders
   The most important mental disorders in childhood
5. The symptomatology and treatment of depressive disorders
   Cannabis and cocaine related mental disorders
6. The symptomatology and treatment of manic disorders
   Classification and treatment of alcohol related mental disorders
7. Cyvclothymia and dysthymia
   Diagnosis and treatment of pathological alcohol intoxication
8. Classification and symptoms of organic mental disorders
   Non-pharmacological treatment of mood disorders (ECT, light-therapy, sleep-deprivation, TMS)
9. Mental disorders caused by organic brain injury (lobe syndromes)
   ADHD and conduct disorders
10. Psychopathological symptoms caused by somatic and neurological disorders
    Neurobiological background of psychopharmacological treatment
11. Depression and psychosis in elderly
    Complex treatment of alcohol addiction
12. Classification, symptomatology and treatment of eating disorders
    Complex treatment of alcohol withdrawal
13. Classification and etiology of mental retardation
    Complex treatment of mood disorders
14. Antipsychotic medication - indication, effects and side-effects
    Etiology, symptomatology and treatment of Korsakow syndrome
15. Antidepressants - indication, effects and side-effects
    Group psychotherapy and self-helps groups in psychiatry
16. Agitated behaviour in elderly - etiology, symptomatology and treatment
    Treatment of alcohol related hallucinations
17. Etiology, symptomatology and treatment of Alzheimer dementia
    Complex treatment of bipolar disorder
18. Epidemiology and etiology of schizophrenia
    Opiates related mental disorders
19. Classification and prognosis of schizophrenia
    Biological and psychological factors of sedatives related addiction
20. Symptomatology and differential diagnosis of schizoaffective psychosis
    Psychostimulant related mental disorders
21. Delusive disorders
    Anxiolitics and sedatives in psychiatry
22. Etiology, symptomatology and treatment of vascular dementia
    Mood-stabilisers
23. Classification and differential diagnosis of dementias
    Types, effects and side-effects of psychopharmacons

Participants
Dr. Gáti Ágnes (GAAHAAE.PTE), Dr. Herold Róbert (HERMAAO.PTE), Dr. Kovács Attila (KOAM AAO.PTE), Dr. Osváth Péter (OSPMAAO.PTE), Dr. Tényi Tamás (TETGAAO.PTE), Dr. Vörös Viktor (VOVFAAO.PTE)
OAK-PUL INTERNAL MEDICINE: PULMONOLOGY

Course director: DR. VERONIKA MÁRK-SÁROSI, clinical head physician
1st Department of Internal Medicine

2 credit • semester exam • Clinical module • spring semester • recommended semester: 10

Number of hours/semester: 12 lectures + 16 practices + 0 seminars = total of 28 hours
Course headcount limitations (min-max.): min. 5 – max. 65
Prerequisites: OAP-BPR completed + OAP-KO2 completed + OAP-GT2 completed

Topic
The aim of the seminar is to demonstrate the clinical pictures of the frequent respiratory diseases and to teach the differential diagnostic procedures applied on the field of the respiratory medicine. The lectures are dedicated to introduce the most important respiratory diseases and their diagnosis and therapy. During the course we present the invasive and the noninvasive diagnostic methods at the bedside. The case reports presented in the ward illustrate the usual diagnostic and therapeutic procedures. We ensure to fulfil the practices prescribed in the lecture book.

Conditions for acceptance of the semester
More than 2 absences of practice is not accepted

Making up for missed classes
It is a question of agreement.

Reading material

Lectures
1  Pneumonia. Abscess pulm. Bronchiectasia
   Dr. Illés Miklós Balázs
2  Lung cancer.
   Dr. Balikó Zoltán
3  Lung cancer-treatment.
   Dr. Balikó Zoltán
4  Asthma bronchiale.
   Dr. Illés Miklós Balázs
5  COPD and emphysema pulm.
   Dr. Illés Miklós Balázs
6  Mycobacterium tuberculosis infection
   Dr. Ruzsics István
7  Interstitial lung diseases.
   Dr. Ruzsics István
8  Diseases of the pleura and mediastinum
   Dr. Ruzsics István
9  Radiologic diagnosis of respiratory diseases
   Dr. Battyáni István
10 Obstructive sleep apnoe syndrome.
    Dr. Balikó Zoltán
11 Isotope diagnostic in Respiratory Medicine
    Dr. Bódisné Dr. Zámbó Katalin
12 Respiratory failure.
    Dr. Ruzsics István
Practices

1. Lung function tests I.
2. Lung function tests II.
3. Chest sonography, pleura or lung biopsy under fluoroscopy and ultrasound examination I.
4. Chest sonography, pleura or lung biopsy under fluoroscopy and ultrasound examination of the lung II.
5. Allergy in the respiratory medicine: Tuberculin test, PPD result evaluation, skin prick test, etc.
6. Intensive care in pulmonology (blood gas values, blood sampling for gas measurement.
7. Non-invasive mechanical ventilation
8. Bronchoscopy I.
9. Bronchoscopy II.
10. Practice in the ward: patients with COPD
11. Practice in the ward: patients with asthma bronchiale
12. Practice in the ward: patients with pulmonary embolism
13. Practice in the ward: patients with lung cancer
14. Practice in the ward: patients with pneumonia
15. Practice in the ward: patients with respiratory failure
16. Practice in the ward: patients with Mycobacterium tuberculosis infection

Seminars

Exam topics/questions

1.) Imaging techniques: indications of CT, MRI and isotope methods.
3.) Mediastinoscopy, pleuroscopy, VATS and the perthoracic needle biopsy. Techniques and indications.
4.) Differential diagnosis of the pleural fluid.
5.) Differential diagnosis and treatment of the haemoptysis.
6.) Differential diagnosis of the dyspnoe.
8.) Pharmacospirometry, the bronchial provocation tests.
9.) Execution of the blood gas analysis. Evaluation of the results.
10.) Definition of the chronic obstructive lung diseases. Classification, epidemiology and pathogenesis.
11.) Therapy of COPD, prevention and prognosis.
12.) Definition, classification, pathogenesis and pathology of the asthma bronchiale.
13.) Symptoms, differential diagnosis and prognosis of the asthma bronchiale. Roles and technique of the examinations of allergy.
14.) Guideline of the treatment of asthma bronchiale.
15.) Treatment of the acute asthma attack.
16.) Etiology and treatment of cases with the community acquired pneumonia treated at home or in the hospital.
17.) Classification, etiology and treatment of the nosocomial pneumonia.
18.) Pulmonary abscess, bronchiectasis and the cystic fibrosis.
19.) Technique and evaluation of the tuberculin test. The interferon gamma test.
20.) Epidemiology, etiology and the natural course of the pulmonary tuberculosis.
21.) Principles of the treatment of the pulmonary tuberculosis. First line and second line antituberculotic agents.
22.) The extrapulmonary tuberculosis. Manifestations and treatment of diseases caused by nontuberculotic Mycobacteria.
23.) The most frequent fungal infections of the lung.
24.) Epidemiology, clinical symptoms and treatment of the pulmonary embolism.
25.) Symptoms and causes of the pulmonary oedema (left heart failure, ARDS) and the principles of it’s therapy.
26.) Classification, symptoms, diagnosis and therapy of the pulmonary hypertension.
27.) Epidemiology, pathogenesis, symptoms and diagnostic methods of the lung cancer.
28.) Histologic subgroups of the lung cancer. Basic principles and therapeutic consequences of the staging. Importance of the histology as a parameter for choosing the appropriate therapy of non small cell lung cancer.
29.) Paraneoplastic syndromes of the lung cancer.
30.) Diseases of the pleura, diaphragma and the mediastinum.
31.) Classification, diagnosis and therapy of the interstitial lung diseases.
32.) Clinical manifestation, diagnosis and therapy of the hypersensitive pneumonitis.
33.) Epidemiology, pathogenesis, symptoms and signs and therapy of the Boeck sarcoidosis.
34.) Aetiology, symptoms and therapy of the pneumothorax.
35.) Forms, causes, diagnosis and treatment of the respiratory failure. Non invasive mechanical ventilation.
36.) Obstructive sleep apnoe syndrome; symptoms, diagnosis and treatment.

Participants
Dr. Illés Miklós Balázs (ILMFAAO.PTE), Dr. Ruzsics István (RUIFAAO.PTE), Dr. Sarlós Géza (SAGSAA0.PTE), Márkné Dr. Sárosi Veronika (SAVMAAO.PTE)
OAK-ST2 Obstetrics and Gynaecology 2

Course director: DR. JÓZSEF BÓDIS, professor
Department of Obstetrics and Gynaecology

3 credit • semester exam • Clinical module • spring semester • recommended semester: 10

Number of hours/semester: 14 lectures + 28 practices + 0 seminars = total of 42 hours
Course headcount limitations (min-max.): min. 5 – max. 120
Prerequisites: OAK-ST1 completed

Topic
During this semester, all aspects of gynaecology are discussed: anatomy of female genital tract; physiology of menstrual cycle; gynaecological bleeding abnormalities; benign and malignant tumours; gynaecological infections; congenital anomalies of genital tract; contraception; examination of infertile couple; assisted reproduction; physiology of postmenopause; diagnostic tools and therapeutic opportunities in gynaecology.

The purpose of this teaching program is to give a general basic knowledge in the field of gynaecology.
This program makes students capable of recognizing gynaecological tumours, infections, and other abnormalities and choosing the proper management. The program ensures the opportunity to insert new information.

Conditions for acceptance of the semester
Absences less than 20% of practices;
Semester examination
Making up for missed classes
Absences due to medical reason: extra practices organized during the hours of duty services.

Reading material
- Subject of lectures - lecturers’ hand-out
www.merck.com/mmpe/sec18.html
www.acog.org
www.fpnotebook.com/OB.htm
www.obgyn.net/

Lectures
1  Infertility I
   Dr. Kovács Kálmán András
2  Infertility II
   Dr. Kovács Kálmán András
3  Diseases of the vulva and vagina / Congenital anomalies of the genital tract
   Dr. Vizer Miklós
4  Assisted reproductive techniques
   Dr. Kovács Kálmán András
5  Gynaecological endoscopies
   Dr. Koppán Miklós Endre
6  Descensus and prolapsus of the uterus. Urinary incontinence
   Dr. Koppán Miklós Endre
7  Paediatric gynaecology / Contraception
   Dr. Csermely Tamás
8  Polycystic ovary syndrome
   Dr. Szilágyi András
9  The menopause and climacteric
   Dr. Gőcze Péter
10 Endometriosis
    Dr. Bódis József
11 Gestational trophoblastic neoplasm
    Dr. Gőcze Péter
12 Praemalignant disease of the cervix / Benign diseases of the uterus  
Dr. Tamás Péter
13 Malignant disease of the cervix / Malignant disease of the uterus  
Dr. Bózsa Szabolcs
14 Benign and malignant tumours of the ovary  
Dr. Göcze Péter

Practices

1 Diagnostic methods. Making a gynaecological diagnosis
2 Diagnostic methods. Making a gynaecological diagnosis
3 Vaginal smear, hormonal cytodiagnosis, BBT chart, examination of the cervical mucus
4 Vaginal smear, hormonal cytodiagnosis, BBT chart, examination of the cervical mucus
5 The evaluation of female infertility
6 The evaluation of female infertility
7 Abnormal bleeding during reproductive decades
8 Abnormal bleeding during reproductive decades
9 Gynaecological infections
10 Gynaecological infections
11 The significance of laparoscopy and hysteroscopy in gynaecology
12 The significance of laparoscopy and hysteroscopy in gynaecology
13 Malposition of the genital tract
14 Malposition of the genital tract
15 Praemalignant and malignant disease of the cervix
16 Praemalignant and malignant disease of the cervix
17 Pediatric gynaecology
18 Pediatric gynaecology
19 Climacterium femininum. Hormonal therapy in gynaecology
20 Climacterium femininum. Hormonal therapy in gynaecology
21 Benign tumours of the uterus
22 Benign tumours of the uterus
23 Radiotherapy of cervical and endometrial cancer
24 Radiotherapy of cervical and endometrial cancer
25 Ovarian tumours. Complex therapy of ovarian carcinoma
26 Ovarian tumours. Complex therapy of ovarian carcinoma
27 Contraception, tubal cautery
28 Contraception, tubal cautery

Seminars

Exam topics/questions

1. a. Galactorrhoea  
b. Endometrial cycle
2. a. Pre- and postoperative radiation therapy  
b. Diagnosis of anovulatory cycle
3. a. Classification, diagnosis and management of amenorrhoea  
b. Ovulation induction
4. a. Use of gestagens in the practice of gynaecology  
b. Endocrine causes of hirsutism
5. a. Fibroid of the uterus  
b. Management of urinary incontinence
6. a. Management of uterine and vaginal vault prolapse in the reproductive age and postmenopause  
b. Aetiology and management of dysfunctional uterine bleeding
7. a. Pathological positioning of the internal genital tract  
b. Use of antibiotics in gynaecology
8. a. Indications of extended abdominal hysterectomy  
b. Significance of colposcopy in gynaecology
9. a. Pelvic inflammatory disease (PID)  
b. Klinefelter’s syndrome
10. a. Therapy of cervical cancer
   b. Diagnosis and therapy of anovulatory cycle
11. a. Aetiology, clinical presentation and therapy of polycystic ovary syndrome
   b. Infectious diseases of the lower genital tract
12. a. Congenital abnormalities of the female genital tract
   b. Glandular cystic hyperplasia of the endometrium
13. a. Significance of ultrasound diagnostics in gynecology
   b. Abnormal bleeding in postmenopause
14. a. Operative procedures for improving the position of the reproductive organs
   b. Cervical intraepithelial neoplasia (CIN)
15. a. Juvenile metrorrhagia
   b. Chemotherapy in gynaecologic malignancies
16. a. Dysmenorrhoea and premenstrual syndrome
   b. Pruritus and kraurosis vulvae
17. a. Postmenopausal hormone therapy
   b. Dysfunctional uterine bleeding
18. a. Premenopause and menopause
   b. Turner’s syndrome
19. a. Diagnosis and management of ovarian cancer
   b. Congenital abnormalities of the genital tract
20. a. Significance of hysteroscopy
   b. Significance of the genetic examinations in the field of gynaecological endocrinology
21. a. Therapy of anovulatory cycles
   b. Management of endometrial cancer
22. a. Sterility and infertility
   b. Bacterial vaginosis
23. a. Preoperative preparation of the patient and postoperative care
   b. Carcinoma of the vulva
24. a. Hormonal cytodiagnosis
   b. Oral and intrauterine contraception
25. a. Endometriosis
   b. Dysgerminoma
26. a. Teratogen ovarian tumours
   b. Prostaglandins and their significance in gynaecology
27. a. Intrauterine contraceptive device
   b. Laparoscopy in gynaecology
28. a. Acute abdomen due to gynecological reason
   b. Assisted reproductive techniques
29. a. Climacteric
   b. Sterilisation. Surgical contraception
30. a. Vulvovaginitis
   b. Pearl index

Participants
Dr. Bódis József (BOJHAAE.PTE), Dr. Bózsa Szabolcs (BOSFABO.PTE), Dr. Csermely Tamás (CSTGABO.PTE), Dr. Farkas Bálint (FABFACO.PTE), Dr. Göcze Péter (GOPMAAO.PTE), Dr. Koppán Miklós Endre (KOMHADE.PTE), Dr. Kovács Kálmán András (KOKFAFO.PTE), Dr. Tamás Péter (TAPMAAO.PTE)