

Topics for the students of medicine to prepare for the 6th year graduation examination and recommended study literature

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1. Infectious diseases (2019)

1.1 Diseases and clinical syndromes

Etiology, epidemiology, pathogenesis and clinical picture. Diagnosis. Treatment. Prevention.

- 1.1. Respiratory infection: respiratory viral infection, tonsillopharyngitis, otitis, sinusitis, bronchitis, pneumonia
- 1.2. Gastrointestinal infection and food poisoning: bacterial and viral gastroenteritis, antibiotic associated diarrhea
- 1.3. Skin and soft tissue infection: erysipelas, cellulitis
- 1.4. Urinary tract infection: cystitis, pyelonephritis
- 1.5. Viral hepatitis
- 1.6. HIV infection
- 1.7. Herpesvirus infection: Herpes simplex, Varicella-zoster, EBV, CMV
- 1.8. Tick-borne infection: tick-borne encephalitis, Lyme disease
- 1.9. Protozoal infection: malaria
- 1.10. Helminthoses: ascariasis, enterobiasis, diphyllbothriasis
- 1.11. Health-care associated infection: catheter-associated urinary tract infection, catheter-associated bloodstream infection, ventilator-associated pneumonia, surgical-site infection
- 1.12. Antimicrobial resistance (ESBL, MRSA)

1.2 Treatment and prophylaxis

Group characteristics. Comparison within the groups. Clinically relevant spectrum. Major indications. Side effects and interactions.

- 2.1. Betalactam antibiotics: penicillins, cephalosporins, carbapenems, combinations with betalactamase inhibitors
- 2.2. Aminoglycosides and tetracyclines
- 2.3. Macrolides and lincosamides
- 2.4. Sulphonamides and trimethoprim
- 2.5. Fluoroquinolones
- 2.6. Glycopeptides and oxazolidinones
- 2.7. Nitroimidazoles
- 2.8. Nitrofurantoin
- 2.9. Vaccines and immune globulins (national immunisation programme, vaccination of risk groups)
- 2.10. Health-care associated infection: hand hygiene, isolation guidelines

Literature:

Mandatory

1. Study/lecture materials/handouts on Infectious Diseases (ARKS.04.001) in the Moodle: <https://moodle.ut.ee/course/view.php?id=4525>

Recommended supplementary study literature (to cover the topics not in the Moodle):

1. Harrison's Principles of Internal Medicine 20th ed. Eds.: J. L. Jameson e.a. McGraw Hill Professional, 2018.
<https://accessmedicine.mhmedical.com/book.aspx?bookID=2129#159213878>

2. Hematology (2019)

1. Iron deficiency anemia, causes and laboratory diagnosis
2. Iron deficiency anemia, treatment principles of iron substitution
3. Megaloblastic anemia, causes
4. Megaloblastic anemia, diagnosis and treatment
5. Hemolytic anemia, clinical and laboratory features
6. Pancytopenia, causes
7. Bone marrow hypo- and aplasia, etiology and pathogenesis
8. Bleedings from primary hemostasis deficiency, clinical features, laboratory diagnosis and treatment principles
9. Bleedings from coagulation system deficiency, clinical features, laboratory diagnosis and treatment principles
10. Reactive leukocytosis, causes
11. Chronic myeloproliferative neoplasms, similar aspects and differential diagnosis
12. Chronic myeloid leukemia, diagnosis, stages and treatment options
13. Polycythemia, secondary erythrocytosis and relative erythrocytosis, differential diagnosis
14. Polycythemia vera, clinical features and treatment
15. Thrombocytosis, causes
16. Hodgkin's and non-Hodgkin's lymphoma, diagnosis
17. Multiple myeloma, clinical features and laboratory diagnosis
18. Acute leukemia, clinical and laboratory features, treatment principles

Mandatory literature:

Hematology course (ARHO.02.004) teaching materials in the Moodle:
<https://moodle.ut.ee/course/view.php?id=6425>

Literature:

1. Williams Hematology (from the 5th edition)
2. Harrison's Principles of Internal Medicine (from the 13th edition)
3. Essentials of Hematology (Hoffbrand's)
4. Sandoz Atlas of Clinical Hematology

3. Nephrology (2019)

1. Kidney disease diagnostics: urinalysis, kidney function assessment, radiological investigations, kidney biopsy.
2. Urinary tract infections (UTI), epidemiology, etiology, pathogenesis, diagnostics, predisposing factors, treatment, prognosis.
3. Causes of hematuria, diagnostics; nephritic syndrome, pathogenesis, diagnostics
4. Acute poststreptococcal glomerulonephritis (GN): etiology, pathogenesis, epidemiology, clinical signs, diagnostics, treatment, prognosis.
5. Rapidly progressive GN (RPGN): etiopathogenesis, diagnostics, differential diagnosis, treatment, prognosis. (ANCA-associated systemic vasculitis, anti-GBM disease, lupusnephritis).
6. IgA nephropathy (IgA NP): etiology, pathogenesis, epidemiology, clinical signs, diagnostics, treatment, prognosis.
7. Membranoproliferative (mesangiocapillary) glomerulonephritis (MPGN): etiology, pathogenesis, epidemiology, clinical signs, diagnostics, treatment, prognosis.
8. Proteinuria, edema and nephrotic syndrome; pathogenesis, diagnostics

9. Minimal change disease: etiology, pathogenesis, epidemiology, clinical signs, diagnostics, treatment, prognosis.
10. Membranous glomerulonephritis (membranous nephropathy): etiology, pathogenesis, epidemiology, clinical signs, diagnostics, treatment, prognosis.
11. Focal-segmental glomerulosclerosis (FSGS): etiology, pathogenesis, epidemiology, clinical signs, diagnostics, treatment, prognosis.
12. Glomerular deposit disease (light chain deposition disease, renal amyloidosis): etiology, pathogenesis, epidemiology, clinical signs, management
13. Diabetic nephropathy: etiology, pathogenesis, epidemiology, clinical signs, clinical course, diagnostics, treatment, prognosis.
14. Hypertensive nephrosclerosis, etiology, pathogenesis, epidemiology, clinical signs, management
15. Hemolytic-uremic syndrome (HUS) ja trombotic microangiopathy: etiology, pathogenesis, epidemiology, clinical signs, diagnostics, treatment, prognosis.
16. Diabetic- and non-diabetic chronic kidney disease (CKD) progression, etiology, pathogenesis, clinical signs
17. Management of patients with CKD; drug- and non-drug treatment in patients with CKD in different categories (progression prevention).
18. Anemia in patients with CKD, diagnosis, management.
19. Chronic Kidney Disease -Mineral and Bone Disorder (CKD-MBD), diagnosis, management.
20. Acute kidney injury (AKI): main causes (prerenal, intrinsic, postrenal), pathophysiology, clinical signs, diagnosis, management, prognosis.
21. Dyskalemia and dysnatremia, causes, management.
22. Acid-base disturbances in CKD and AKI patients, management
23. Renal replacement therapy (RRT): main causes of end-stage kidney disease; predialysis education and preparation for RRT
24. Peritoneal dialysis and hemodialysis procedure: principles, complications.
25. General aspects of kidney transplantation: inclusion to waiting list, post-transplant treatment, complications, prognosis.

Literature:

1. Textbook "*Harrison's Principles of Internal Medicine*", 20th ed. 2018
2. Nephrology lectures and study materials in Moodle.
3. AMBOSS

Desirable:

1. UpToDate
2. Web pages:
 - <http://www.european-renal-best-practice.org/>
 - <https://www.theisn.org/education-external/isn-academy>
 - www.kdigo.org
 - www.kidney.org
 - www.worldkidneyday.org

4. Cardiology and cardiac surgery (2019)

1. Heart anatomy (see Anatomy course)
2. Basic characteristics of the cardiovascular system (see Physiology course)
3. Risk factors of ischemic heart disease
4. Classification of heart diseases, surgeries and devices (ICD-10 classification)
5. Etiology and classification of ischemic heart disease
6. Diagnosing ischemic heart disease
7. Treatment of ischemic heart disease
8. Etiology and differential diagnosis of chest pain
9. Diagnosing myocardial infarction (3rd Universal Definition)
10. ECG in myocardial infarction
11. Non-ST elevation acute coronary syndrome
12. ST-elevation myocardial infarction
13. Basic principles of treatment of myocardial infarction
14. Reperfusion in myocardial infarction
15. Coronary angiography: indications and diagnostic significance
16. Etiology and classification of cardiac arrhythmias
17. Testing of cardiac arrhythmias
18. Bradyarrhythmias and their treatment
19. Disorders of impulse generation and their treatment
20. Paroxysmal tachyarrhythmias and pre-excitation syndrome
21. Management of atrial fibrillation
22. Classification of antiarrhythmic drugs
23. Non-pharmacological treatment of arrhythmias
24. Etiology and pathogenesis of chronic heart failure
25. Diagnosing, clinical presentation and stages of chronic heart failure
26. Heart failure with reduced ejection fraction and heart failure with preserved ejection fraction
27. Pharmacological treatment of chronic heart failure
28. Non-pharmacological treatment of chronic heart failure (cardiac resynchronisation therapy and implantable cardioverter-defibrillator)
29. Use of cardiac glycosides in heart failure
30. Use of diuretics in heart failure and arterial hypertension
31. End-stage heart failure
32. Clinical manifestation and basic treatment principles of acute heart failure
33. Pharmacological treatment of acute heart failure
34. Mechanical circulatory support in acute heart failure
35. Acute hypertensive heart failure
36. Cardiogenic pulmonary edema
37. Acute heart failure following myocardial infarction
38. Diagnosis and treatment of cardiogenic shock
39. Indications for surgical treatment of acquired valvular heart disease
40. Aortic valve insufficiency
41. Mitral valve stenosis
42. Mitral valve insufficiency
43. Aortic valve stenosis
44. Diagnosis and treatment of infective endocarditis
45. Pericarditis
46. Primary cardiomyopathies

47. Clinical manifestation, diagnosis and treatment of hypertrophic cardiomyopathy
48. Clinical manifestation, diagnosis and treatment of dilative cardiomyopathy
49. Etiology, pathogenesis and clinical types of myocarditis
50. Differential diagnosis of myocarditis
51. Basic treatment principles of myocarditis
52. Prevalence and complications of arterial hypertension
53. Basic diagnostic principles of arterial hypertension (correct measurement of blood pressure, patient history, physical examination, laboratory and other tests)
54. Classification of arterial hypertension according to blood pressure
55. Assessment of additional cardiovascular risk in hypertension (risk factors, organ damage)
56. Correct coding of arterial hypertension diagnosis (grade, organ damage, risk group)
57. ECG criteria for left ventricular hypertrophy
58. Basic treatment principles of arterial hypertension (treatment initiation, target blood pressure)
59. Non-pharmacological therapy of arterial hypertension
60. Pharmacological therapy of arterial hypertension (first and second line drugs, mechanisms of action, contraindications, frequent side effects, combination therapy)
61. Arterial hypertension and associated conditions (diabetes mellitus, ischemic heart disease, heart failure, dyslipidemia)
62. Treatment-resistant hypertension (definition and therapy)
63. Hypertensive crisis
64. Cardiac rehabilitation
65. Exercise ECG: common methods and their conditions
66. Exercise ECG: indications, contraindications, and interpretation
67. Imaging stress tests: common tests and indications
68. Use of computed tomography and magnet resonance imaging in diagnosing heart diseases
69. Basics of echocardiography and diagnostic possibilities in common heart diseases
70. X-ray assessment of the size and dimensions of the heart
71. Nuclear imaging in cardiovascular diseases
72. Antiplatelet treatment in patients with heart disease
73. Anticoagulant treatment in patients with heart disease
74. Cardiac tamponade: diagnosis and treatment
75. Sudden cardiac death: causes and prevention
76. Indications and contraindications of using angiotensin converting enzyme (ACE) inhibitors
77. Digoxin intoxication: causes, clinical signs, diagnosing, and treatment
78. Beta blockers: their use, indications, and contraindications
79. Calcium channel blockers: their use, indications, and contraindications
80. Nitroglycerin and long acting nitrates
81. Lipid lowering drugs
82. Antiarrhythmic drugs and their classification
83. Coronary interventions and stenting: indications, implementation
84. Indications and methods of surgical revascularization of the myocardium
85. Indications and methods of surgical treatment of valvular heart disease
86. Classification of aortic dissection and treatment methods
87. Diagnosing and surgical treatment of congenital heart diseases

Literature:

1. Euroopa Kardioloogide Seltsi ravijuhised www.escardio.org/guidelines
2. The ESC Textbook of Cardiovascular Medicine, Second edition Oxford University Press, 2009, ed. A.J. Camm, T. F. Lüscher, P.W. Serruys
3. Harrison's Principles Of Internal Medicine. Mc Graw-Hill, 18-th edition, 2012. (Kardioloogiale pühendatud osa).
4. E. Braunwald, D. P. Zipes, P. Libby. Heart Disease A Textbook of Cardiovascular Medicine., 2008 (8th Edition ja hilisemad).
5. International Statistical Classification of Diseases and Related Health Problems (Tenth revision) WHO, Geneva 1992 (diseases of circulatory system, I 00-99; Factors influencing health status and contact with health services, Z 00 - 99)
<http://apps.who.int/classifications/icd10/browse/2010/en>
6. Ü. Lepp. Elektrokardiograafia. Tartu 1990
7. John R. Jampton. EKG Praktikas, Krisostomus, 2006..
8. Marriott's Practical Electrocardiography, 2008 (11th edition); 2014 (12th edition)
9. Zamorano J.-L., Bax J.J., Rademakers F.E., Knuuti J. The ESC Textbook of Cardiovascular Imaging, Springer, 2010.
10. Ary L. Goldberger, Clinical Electrocardiography a Simplified Approach, 2012 (8th edition)
11. Froelicher V.F., Myers J.N. Manual of Exercise Testing. Mosby, 2007 (3rd edition).
12. Kaddoura S. ECHO Made Easy. Churchill Livingstone, 2009 (2nd edition)
13. Euroopa Hüpertensiooni Ravijuhis 2013. Euroopa ja Eesti Hüpertensiooni Ühingu koduleheküljed www.ehy.ee; www.eshonline.org
14. Täiskasvanute kõrgvererõhutõve käsitlus esmatasandil. Eesti Ravijuhend 2012 (www.ravijuhend.ee)
15. R. Teesalu, T. Ristimäe, H. Uuetoa. Südamepuudulikkus, 2008 (NB ! ravi puudutavad seisukohad on osaliselt muutunud)
16. SA TÜK Ühendlabori käsiraamat IV, 2012
<http://www.kliinikum.ee/yhendlabor/>
17. [Cardiothoracic Surgery 2nd Ed, Oxford Specialists Handbooks in Surgery.](http://www.oxfordjournals.org/) Oxford University Press 2013
18. „Multimedia Manual of Cardiothoracic Surgery“
<http://mmcts.oxfordjournals.org/>
19. www.ravimiamet.ee, (registrid, humanravimite register)

5. Pulmonary (muudetud 2022)

1. Major symptoms and signs of respiratory diseases (cough, sputum production, hemoptysis, dyspnea, wheeze, stridor, chest pain, snoring, daytime sleepiness etc.): variations and combinations with respective clinical interpretation.
2. Physical examination of the pulmonary patient. Variants of the findings on inspection, palpation, percussion, and auscultation of the chest and links to different respective respiratory diseases and clinical conditions. The significance of extrapulmonary signs and symptoms.

3. Principles and methods of lung function testing. Spirometry. Major patterns of the ventilation failure: airflow obstruction and restrictive pattern. Bronchodilator reversibility test, understanding and application of the results of this test. Measurement of the peak expiratory flow (PEF). Standardized exercise tests. Bronchial challenge tests, measurement of the diffusing capacity of the lung, principles of body plethysmography. Blood gas analyses and pulse oximetry, understanding the clinical significance of the results.
4. Pulmonary radiological diagnostics: fluoroscopy of the chest; chest X-ray, most widely used projections. Computed tomography (CT) of the chest, high-resolution CT (HRCT), CT with use of contrast media, CT-angiography; magnetic resonance imaging (MRI), positron emission tomography (PET), and single photon emission computed tomography (SPECT): indications and the diagnostic value in pulmonary medicine.
5. Endoscopic and other invasive methods of diagnostics in pulmonary medicine: bronchoscopy with ancillary methods of investigation, classification of bronchoscopy by its purpose (investigational and therapeutic). Trans-pleural ultrasound, transthoracic core needle biopsy, thoracentesis with its diagnostic role and performance, and pleural biopsy.
6. Biochemical and immunological mechanisms of defense in the lower respiratory tract (in the conducting airways and at the alveolar level), the innate and acquired immunity.
7. Bronchial asthma: definition and nature of the disease, pathogenesis of asthma.
8. Asthma: basics on epidemiology. Risk factors and clinical signs and symptoms of asthma. Diagnostic criteria and practical diagnosis of asthma in different clinical settings and in patients with various degrees of severity of asthma.
9. Classification of asthma: degrees of severity and clinically significant phenotypes of asthma. Differential diagnosis of asthma; differentiation of asthma from chronic obstructive pulmonary disease (COPD) and asthma and COPD overlap syndrome (ACOS).
10. Goals of treatment in asthma. Principles of treatment of stable asthma. Asthma medicines that are in use: applied classification. Practical treatment of asthma at different degrees of severity, as well as according to the clinical phenotypes. Guidance of the management of asthma.
11. Exacerbations of asthma: typical reasons and triggers. Signs and symptoms of exacerbations of asthma. The diagnosis, assessment of severity, and management in outpatient and emergency room/hospital settings. Indications for hospitalization in exacerbations of asthma.
12. Chronic obstructive pulmonary disease (COPD): the nature of the disease, its epidemiology with current trends. Etiology, risk factors, and pathogenetic mechanisms of COPD. The two main substrates of COPD: emphysema and „small airway disease“ (in „airway-type COPD“), their nature and mechanisms of fixed airway obstruction and gas exchange disturbances in these conditions.
13. Clinical COPD: symptoms, signs, appearance, and course of the disease. Difference between „airway-type COPD“ and emphysema-based COPD. The diagnosis and differential diagnosis of COPD.

14. The goals and principles of the present-day treatment of COPD. The medicines used for treatment of COPD. Rehabilitation in chronic respiratory diseases (the essence of pulmonary rehabilitation (PR), components, methods, and goals of PR; assessment of the patient in association with PR)). The significance of smoking cessation in medicine; possibilities and means of smoking cessation.
15. Exacerbations of COPD: more frequent reasons, symptoms and signs; assessment of severity, criteria for hospitalization, and management, both in outpatient and hospital settings.
16. Acute tracheitis and bronchitis: etiology, clinical presentation, differential diagnosis, and treatment. Significance of acute bronchitis in the context of other lower respiratory tract infections (LRTI).
17. Chronic bronchitis: definition, etiology, clinical presentation, diagnosis, differential diagnosis, and treatment. Acute exacerbations of chronic bronchitis (AECB): symptoms and signs; antibacterial treatment and its indications in AECB.
18. Pneumonias: definition and principles of classification. Etiology in general; etiology in the context of clinical-demographic properties of the patient, as well as with the type of pneumonia. Pathogenesis of pneumonia.
19. Typical pneumonia: clinical signs and symptoms, diagnosis, diagnostic criteria, and course of the disease. More frequent and more severe complications of pneumonia, methods of their prevention.
20. Differential diagnosis of pneumonias.
21. Principles of the management of pneumonia. Categories of patients according to the risks and treatments applied. Treatment of pneumonia in different clinical circumstances (in- and outpatient settings). Principles for making decisions for hospitalization in patients with pneumonia.
22. Assessment of adequacy of the response to treatment in pneumonia; non-responding and slowly responding pneumonia; management of the non-responding pneumonia.
23. Nosocomial pneumonia: its essence and major differences from community-acquired pneumonia with regard to etiology, classification, clinical course, and treatment.
24. Pleural empyema, lung abscess, and pyopneumothorax as major complications of pneumonia: mechanisms, etiology, diagnosis, course, and principles of management.
25. Bronchiectasis (BE): its nature, classification, etiology, clinical presentation, contemporary diagnostics, and treatment. Goals and possibilities of non-surgical management of BE. Indications and principles of surgical treatment of BE.
26. Respiratory manifestations of cystic fibrosis (CF): diagnosis and course of the disease. Contemporary principles of management.

27. Pleural effusions: the major mechanisms of accumulation of the fluid in the pleural cavities, involvement of particular mechanisms in various diseases that may affect the pleura or that can be characterized by accumulation of the fluid. Clinical signs and symptoms that derive from the presence of pleural effusions. Diagnostic goals, methods, and strategies in patients with pleural effusions. Classification of the pleural effusions, criteria for distinguishing between transudates and exudates, clinical significance of pleural effusions with various parameters.
28. Pleural mesothelioma: clinical presentation, diagnosis, and principles of management.
29. Neoplasms of the airways and lung: benign and malign tumors. Lung cancer: epidemiology, etiology, and histopathological classification; approximate incidence and prevalence of the different histopathological types of lung cancer.
30. Lung cancer: disease detection, clinical signs and symptoms (rising from the growth of the primary tumor, from the spread of the tumor, and from secondary changes occurring in the tumor); major paraneoplastic syndromes.
31. Lung cancer: various aspects of the diagnosis and practical diagnostic workup: necessary investigations. Prognosis of lung cancer, based on the histopathological types and stages.
32. Pulmonary embolism. Classification. Pulmonary thromboembolism (PE): risk factors and pathophysiology. Deep venous thrombosis (DVT) and PE. Clinical presentation, diagnostic methods, and ancillary investigations in PE. Diagnostic algorithm of PE. Assessment of probability of PE and confirmation of the diagnosis.
33. Classification of PE according to its clinical severity and risks to the patient, risk assessment-based approach to the patient management. Methods of treatment of PE, practical management and prognosis of PE.
34. Pulmonary hypertension (PH): the nature of this group of conditions, classification, core clinical presentations. Causes of PH by the valid classification. Pulmonary arterial hypertension (PAH): sub-classification according to the etiology. The diagnostic work-up (diagnostic algorithm), methods of assessment of the patient and response to treatment, principles of contemporary management (incl. major groups of PAH medications) and prognosis of PAH. Chronic thromboembolic pulmonary hypertension (CTEPH).
35. Interstitial lung diseases (resp. diffuse parenchymal lung diseases): the essence and classification; groups of the diseases that are included in this major group.
36. Idiopathic interstitial pneumonias (IIP): members of this group. Idiopathic pulmonary fibrosis (IPF): the essence, clinical presentation, diagnosis, differential diagnosis, and current treatment. Acute exacerbation of IPF.
37. Hypersensitivity pneumonitis (HP): the nature of this assembly of pulmonary conditions, etiology, and major pathogenetic mechanisms. Types of HP (acute inflammatory and chronic fibrotic form), their clinical presentations, diagnosis, management, and prognosis.
38. Sarcoidosis: nature of this disease, epidemiology, and general pathogenesis. Variants of the clinical course of sarcoidosis: acute and chronic. Pulmonary manifestations of sarcoidosis

with radiological stages. Main extra-pulmonary manifestations of sarcoidosis. Diagnosis of sarcoidosis, necessary investigations, differential diagnosis, indications for treatment, and pharmacotherapy of sarcoidosis. Prognosis according to the type of the course of the disease, organ involvement, and radiological stage of the pulmonary lesions.

39. Major forms of the respiratory manifestations of systemic connective tissue diseases (rheumatoid arthritis, systemic lupus erythematosus, systemic sclerosis, dermatopolymyositis, mixed connective tissue disease etc.).

40. Vasculitis involving the lungs. Pulmonary manifestations of the major forms of vasculitis: granulomatosis with polyangiitis (formerly Wegener's granulomatosis), eosinophilic granulomatosis with polyangiitis (formerly Churg-Strauss syndrome), microscopic polyangiitis), diagnosis and treatment.

41. Sleep-disordered breathing: classification, clinical manifestations, main diagnostic methods, and distinguishing between different forms. Obstructive sleep apnea-hypopnea syndrome (OSA(H)S): main mechanisms, clinical signs and presentation, diagnosis, and current means of management.

42. Tuberculosis: epidemiology, reasons for deterioration of the epidemiological situation.

43. Getting infected with tuberculosis, major mechanisms of transmission of tuberculosis; pathogenesis of tuberculosis. Various clinical forms of pulmonary tuberculosis with the respective clinical presentations. More frequent forms (localizations) of extrapulmonary tuberculosis with the respective signs, symptoms, and diagnosis.

44. Current principles of the diagnosis of tuberculosis. Immunodiagnosis of tuberculosis (tuberculin skin test, interferon-gamma releasing assay (IGRA)). Main tests performed in the laboratory of mycobacteriology. The issues of drug-resistance in tuberculosis: reasons for development and means for prevention. Multidrug-resistance and polyresistance.

45. Pharmacotherapy of tuberculosis. Applied classification of anti-tuberculosis drugs, principles of composing drug regimens to treat drug-sensitive and drug-resistant tuberculosis. Main side effects of the anti-tuberculosis drugs. Treatment of extra-pulmonary tuberculosis. Organizational aspects of the anti-tuberculosis treatment. Principles of the directly observed treatment (DOTS).

46. Current principles and methods of tuberculosis control. Vaccinations against tuberculosis and non-specific prophylaxis. Causative agents and current principles of the diagnosis and management of the more frequent non-tuberculous mycobacterioses.

Mandatory literature:

1. Study/lecture materials/handouts on Pulmonary Medicine and Thoracic Surgery (ARKS.01.024) in the Moodle: <https://moodle.ut.ee/course/view.php?id=5056>

Recommended supplementary study literature (textbooks/essentials and websites – to cover the topics not in the Moodle). In terms of the topics not in the Moodle, at least one of the sources listed below is regarded as mandatory literature (the newer sources are preferred).

The textbook of choice:

1. ERS Handbook of Respiratory Medicine, Palange P and Rohde G (Eds.) European Respiratory Society. European Respiratory Society Journals Ltd. 2019. (ISBN: 978-1-84984-079-8; 978-1-84984-080-4; 978-1-84984-114-6). <https://utlib.ut.ee/> → E-books and E-journals or https://www.ester.ee/search~S58*est/?searchtype=X&searcharg=ERS%20handbook or directly: <http://eds.b.ebscohost.com/eds/detail/detail?vid=0&sid=c45d89a0-e973-463b-a679-0b61ec7daae7%40pdc-v-sessmgr06&bdata=JnNpdGU9ZWRzLWxpdmU%3d#AN=2258273&db=nlebk>

Other options:

2. Essentials of Clinical Pulmonology, Gerard J Criner, Pallav L Shah, YC Gary Lee, Felix JF Herth (Eds.). CRC Press, Boca Raton, FL, USA *et al.* 2020. 754 pp. (ISBN-10: 0367571021; ISBN-13: 9780367571023)
3. Current Medical Diagnosis and Treatment 2020. Maxine A. Papadakis, Stephen J. McPhee, Michael W. Rabow (Eds.). McGraw-Hill Education, 2020; (ISBN 978-1-26-045528-1). (Part 9: Pulmonary Disorders)
<https://accessmedicine.mhmedical.com/book.aspx?bookID=2683#225030790>
4. Harrison's Principles of Internal Medicine, 20th Ed. J. Larry Jameson, Anthony S. Fauci, Dennis L. Kasper, Stephen L. Hauser, Dan L. Longo, Joseph Loscalzo (Eds.). McGraw-Hill Education, 2018; (ISBN 978-1-259-64404-7) (Part 7: Disorders of the Respiratory System)
<https://accessmedicine.mhmedical.com/book.aspx?bookID=2129#159214067>
5. Current Medical Diagnosis and Treatment. 58th Edition. Maxine A. Papadakis, Stephen J. McPhee, Michael W. Rabow (Eds.). McGraw-Hill Education, New York *et al.*, 2019; (ISBN: ISBN 978-1-26-011743-1). (Chapter 9: Pulmonary Disorders)
<https://accessmedicine.mhmedical.com/content.aspx?bookid=2449§ionid=194434470>
6. Current Medical Diagnosis and Treatment. 56th Edition. Maxine A. Papadakis, Stephen J. McPhee, Michael W. Rabow (Eds.). Lange Medical Books/McGraw-Hill, New York *et al.*, 2017; 481 pp. (ISBN: 978-1-25-958512-8). Pulmonary Disorders (pp. 241-321)
http://gynecology.sbm.u.ac.ir/uploads/4_575973715896959827.pdf
7. Harrison's Pulmonary and Critical Care Medicine. 3rd Edition. Joseph Loscalzo (Ed.), McGraw-Hill Professional Publishing, Columbus, OH, USA 2017; 656 pp. (ISBN-10: 1259835804; ISBN-13: 9781259835803).
8. Principles of Pulmonary Medicine, 7th Edition. Steven E. Weinberger, Barbara A. Cockrill, and Jess Mandel (Eds.), Elsevier, Philadelphia, PA, USA 2019; 424 pp. (ISBN: 978-0-323-52371-4). <https://www.elsevier.com/books/principles-of-pulmonary-medicine/9780323523714>
9. Manual for Pulmonary and Critical Care Medicine. Judd W. Landsberg (Ed.), Elsevier, Philadelphia, PA, USA 2018; 352 pp. (ISBN-13: 978-0323399524; ISBN-13: 978-0323399524).
10. Respiratory: An Integrated Approach to Disease. Lechner AJ, Matuschak GM, Brink DS (Eds.), Lange Medical Books/McGraw-Hill, New York *et al.*, 2012; 424 pp. (ISBN 978-0-07-163501-7). <https://accessmedicine.mhmedical.com/book.aspx?bookid=1623>
11. Harrison's Pulmonary and Critical Care Medicine. Joseph Loscalzo (Ed.), McGraw Hill Medical, New York *et al.* 2010; 580 pp. (ISBN: 978-0-07-166338-0). Derived from Harrison's Principles of Internal Medicine, 17th Edition.
http://umsha.ac.ir/uploads/Harrisons_Pulmonary_and_Critical.pdf

Major textbooks (for additional information):

1. Murray and Nadel's Textbook of Respiratory Medicine, 6th Edition. V. Courtney Broaddus *et al.* (Eds.), Elsevier Saunders, 2016; 2064 pp. (ISBN: 978-1455733835).
2. Fishman's Pulmonary Diseases and Disorders, Fifth Edition, Michael A. Grippi *et al.* (Eds.), McGraw-Hill Education, 2015; 2400 pp. (ISBN 978-0-07-180728-9; MHID 0-07-180728-4).

6. Laboratory medicine (2022)

1. Pre-laboratory factors affecting the results of laboratory analysis.
2. Blood collection for laboratory analysis, available vacutainers and additives therein.
3. Analytical and biological variability of laboratory test results.
4. Sensitivity and specificity of the laboratory tests.
5. The least significant change of laboratory tests.
6. Requirements for sampling of urine analysis, ways of collecting urine.
7. Test strips for urine analysis (which analytes can be determined, options for evaluating and expressing results, opportunities for false positive and false negative results). Indications for urine sediment examination.
8. Urine analysis findings present in various urinary tract diseases.
9. Laboratory tests used to assess renal function.
10. Parameters available with haematological automatic analyser - indexes (MCV, MCH, RDW etc.). What kind of findings in the blood smear correlate with the changes of the indexes?
11. Indications for leukocyte differential count and the options for its determination. Age-related features of leukocyte differential count. More frequent shifts in the leukocyte differential count.
12. Definition, morphological classification and laboratory diagnosis of anaemias.
13. Laboratory differential diagnosis of microcytic anaemia, laboratory tests for evaluation of the iron metabolism.
14. Laboratory characteristics specific to haemolytic anaemia.
15. Causes of macrocytic anaemia, laboratory finding in megaloblastic anaemia.
16. Laboratory tests for diagnosis of diabetes. Different sample materials and devices used to determine blood glucose concentration (comparison of glucometers and laboratory analysers). Diagnostic criteria for diabetes.
17. Glycated haemoglobin, its clinical use and diagnostic decision limits.
18. Determination of occult blood in faeces and the test indications. Used laboratory methods and reasons for false positive and false negative results of the methods. Faeces collection requirements for laboratory testing.
19. Clinical indications for the determination of calprotectin.
20. Laboratory tests for evaluation of serum proteins, more frequent indications of serum protein testing. Specific proteins that are determined from the serum.
21. Serum and urine protein evaluation in monoclonal gammopathies (serum protein electrophoresis, serum protein immunofixation, determination of serum free light chains, urine protein electrophoresis and immunofixation).
22. Definition of proteinuria, selective and non-selective proteinuria.
23. Definition of microalbuminuria, meaning of microalbuminuria in clinical practice.
24. Laboratory studies to diagnose a nephrotic syndrome.
25. Opportunities for laboratory diagnostics of inflammation. Comparison of serum C-reactive protein and erythrocyte sedimentation rate. Inflammatory markers for the diagnosis of sepsis.
26. Laboratory diagnosis of neuroinfection based on cerebrospinal fluid finding.

27. Human body fluid compartments, and electrolyte contained therein, serum osmolality (measured and calculated osmolality, osmolar gap (OG)).
28. Laboratory tests for electrolyte-water balance evaluation. Reasons of hypo- and hyperkalaemia. Anion gap (AG).
29. Determination of drug concentrations, importance of sampling time and factors to be considered for interpretation of results.
30. Laboratory screening tests for haemostasis. Platelet count, platelet function, prothrombin time (PT) and its different derived measures, aPTT (activated partial thromboplastin time), D-dimers.
31. Laboratory monitoring of anticoagulant therapy.
32. Coagulation tests for the diagnosis of thrombophilia.
33. Observation of enzymes in clinical practice. The main enzymes used in clinical practice (ALAT, ASAT, GGT, ALP, CK, amylase, lipase, lactase, LDH). Indications for the determination of ALP isoenzymes.
34. Laboratory markers of myocardial infarction (cardiac troponins, CK-MBm).
35. Laboratory tests reflecting liver status (bilirubin, ASAT, ALAT, ALP, GGT, protein, albumin, PT time).

Mandatory literature:

<https://moodle.ut.ee> (Laboratory medicine III and IV course (ARSK.03.007 and ARSK.03.012))

Recommended supplementary study literature

1. Tietz Fundamentals of Clinical Chemistry and Molecular Diagnostics, 8th By Nader Rifai.
2. <https://www.kliinikum.ee/yhendlabor/analueueside-taehestikuline-register>

7. Rheumatology 2022

1. General investigations in rheumatology:
 - a. Differentiating inflammatory and mechanical pain. Characteristics of arthritis. Enthesopathy and dactylitis.
 - b. X-Ray and ultrasound examination, their usage in rheumatology and interpretation of results.
 - c. Synovial fluid analysis in the diagnosis of rheumatic diseases. Autoantibodies.
2. Rheumatoid arthritis
 - a. Clinical features (pattern of arthritis, typical deformities, extra- articular manifestations). Main diagnostic principles. Prognostic factors.
 - b. Treatment- acute phase and disease modifying medications
3. Spondyloarthropathies- characteristics, types.
 - a. Characteristics of inflammatory back pain. Articular and extra- articular manifestations of spondyloarthropathies.
 - b. Ankylosing spondylitis and axial spondyloarthritis- characteristics.
 - c. Reactive arthritis- definition, clinical characteristics.
 - d. Psoriatic arthritis- types, manifestations.
4. Septic arthritis- diagnostic principles.
5. Systemic connective tissue diseases: Clinical characteristics and Principles of diagnosis.
 - a. Systemic lupus erythematosus. Antiphospholipid syndrome
 - b. Dermato- and polymyositis
 - c. Systemic sclerosis. Raynaud phenomenon

- d. Sjogren's syndrome
- e. Vasculitides- definition, main syndromes
- 6. Crystal induced arthropathies
 - a. Gout
 - b. Calcium pyrophosphate arthropathy
- 7. Osteoarthritis- types, clinical characteristics, principles of treatment.
- 8. Osteoporosis: risk factors, principles of diagnosis, treatment and prophylaxis.
- 9. Differential diagnosis:
 - a. Principles of differential diagnosis in acute arthritic syndromes; arthritis and osteoarthritis.
 - b. Systemic connective tissue diseases
- 10. Main treatment principles of rheumatic syndromes.
 - a. NSAID: indications, side- effects
 - b. Glucocorticoid treatment- indications, routes of administration, side- effects.
 - c. Principles of disease modifying treatment in rheumatic diseases (incl biologic medications), side- effects.

The topics are based on the material learned in 4th year assuming that the student is able to understand and answer the questions on a general practitioner level.

Literature:

1. Rheumatology study guide. Moodle
2. EULAR Compendium of Rheumatic Diseases
3. Harrison's Principles of Internal Medicine
3. EULAR Compendium of rheumatic Diseases
4. Harrison's Principles of Internal Medicine
5. <https://www.rheumatology.org/ACR> recommendations
6. <https://www.eular.org/recommendations>

8. Gastroenterology (2019)

1. Gastrointestinal endoscopy (gastroscopy, colonoscopy, endoscopic retrograde cholangiopancreatography): indications, preparation, complications. Therapeutic endoscopy.
2. Gastroesophageal reflux disease (without oesophagitis, with erosive oesophagitis): definition, clinical appearance, diagnosis, complications, treatment.
3. Other diseases of oesophagus: achalasia (definition, clinical appearance, diagnosis, treatment), esophagitis, diverticulosis (Zenker), hiatus hernia, Mallory-Weiss syndrome.
4. Gastric physiology in relation to peptic ulcer (gastric hydrochloric acid, mucosal defence factors).
5. Peptic ulcer: definition, clinical appearance, diagnosis.
6. Helicobacter pylori: definition, clinical appearance, diagnosis, indications of eradication therapy.
7. Treatment of peptic ulcer disease: antacids, H2 receptor antagonists, proton-pump inhibitors, prostaglandin analogues; treatment during exacerbation and maintenance therapy.
8. NSAID-associated peptic ulcer disease: definition, risk factors, treatment.

9. Acute gastritis, chronic gastritis (definition, diagnosis). Functional dyspepsia: classification, symptoms, diagnosis, treatment. Zollinger-Ellison syndrome: definition, clinical appearance, diagnosis, treatment.
10. Malabsorption syndrome: definition, diagnosis.
11. Classification of diarrhoea.
12. Lactose intolerance: epidemiology, diagnosis.
13. Gluten enteropathy: definition, diagnosis, treatment.
14. Indications of intestinal biopsy, diagnostic significance.
15. Irritable bowel syndrome: diagnosis, treatment options.
16. Inflammatory bowel disease: classification.
17. Extraintestinal manifestations of inflammatory bowel disease.
18. Differential diagnosis of ulcerative colitis and Crohn's disease.
19. Ulcerative colitis: classification according disease severity, diagnosis.
20. Treatment of ulcerative colitis: glucocorticoids, 5-ASA, maintenance therapy, surgical therapy.
21. Crohn's disease: clinical appearance, diagnosis, treatment.
22. Classification of chronic hepatitis.
23. Chronic hepatitis B: course, diagnosis, treatment.
24. Chronic hepatitis C: course, diagnosis, treatment.
25. Extrahepatic manifestations of viral hepatitis.
26. Alcoholic liver disease.
27. Autoimmune hepatitis: definition, subclassification, diagnosis, treatment.
28. Primary biliary cholangitis: definition, diagnosis, course and treatment.
29. Liver cirrhosis: definition, clinical classification, diagnosis.
30. Portal hypertension: definition, pathogenesis, treatment.
31. Ascites: pathogenesis and therapy. Spontaneous bacterial peritonitis.
32. Hepatic encephalopathy: definition, pathogenesis, diagnosis, treatment.
33. Benign hyperbilirubinemas: definition, classification.
34. Gallstone disease: epidemiology, risk factors. Mechanism of gallstones formation.
35. Gallstone disease: course and symptoms.
36. Gallstone disease: treatment. Common bile duct stones: treatment.
37. Acute pancreatitis: pathogenesis, course, symptoms, treatment.
38. Chronic pancreatitis: definition, diagnosis, treatment.

Mandatory literature:

Harrison's Principles of Internal Medicine: Disorders of the Gastrointestinal System (disorders of the alimentary tract, liver and biliary tract disease, disorders of the pancreas).

9. Endocrinology (2019)

1. Risk factors for prediabetes and type 2 diabetes.
2. Classification and diagnosis of diabetes.
3. Interpretation of oral glucose tolerance test (OGTT).
4. Etiology, pathogenesis and comparison of type 1 and type 2 diabetes.
5. Oral medications for diabetes (biguanides, sulfonylureas, DPP-4 inhibitors, glitazones, SGLT2 inhibitors) – main representatives, mechanism of action, main side effects, advantages and disadvantages.

6. Injectable medications for diabetes (GLP-1 receptor agonists and insulins) - main representatives (types of insulins), mechanism of action, main side effects, advantages and disadvantages.
7. Treatment of type 1 diabetes.
8. Treatment of type 2 diabetes.
9. Monitoring of diabetic patients and goals of treatment.
10. Individualized glycemic targets and diabetes treatment in patients with type 2 diabetes.
11. Acute complications of diabetes, its prevention and treatment.
12. Chronic complication of diabetes, its prevention, screening and treatment.
13. Classification, causes and types of goiter.
14. Diagnosis of thyroid diseases.
15. Hyperthyroidism: causes, symptoms, diagnosis and treatment.
16. Clinical features and treatment of Graves ophthalmopathy.
17. Subclinical hyperthyroidism – definition and treatment indications.
18. Hypothyroidism – causes, clinical presentation and treatment.
19. Subclinical hypothyroidism – definition and treatment indications.
20. Subacute thyroiditis – causes, clinical presentation, diagnosis and treatment.
21. Thyroid cancer – classification, diagnosis, general principles of treatment and surveillance.
22. Cushing`s syndrome – causes, clinical presentation, diagnosis and treatment.
23. Primary aldosteronism – causes, clinical presentation, screening, diagnosis and treatment.
24. Pheochromocytoma – causes, clinical presentation, screening, diagnosis and treatment.
25. Management of adrenal incidentalomas.
26. Hypocorticism - causes, clinical presentation, diagnosis, treatment.
27. Pituitary adenomas – classification, clinical presentation, diagnosis, treatment.
28. Diabetes insipidus – causes, clinical presentation, diagnosis, treatment.
29. Hyper- and hypocalcemia - causes, clinical presentation, diagnosis, treatment.
30. Hypogonadism – causes, clinical presentation, diagnosis, treatment.

Mandatory literature:

Study/lecture materials/handouts on Endocrinology (ARSK.01.030) in the Moodle

Recommended supplementary study literature:

1. Davies MJ et al. Management of hyperglycaemia in type 2 diabetes, 2018. A consensus report by the ADA and the EASD. *Diabetologia* 2018; <https://doi.org/10.1007/s00125-018-4729-5>.
2. Wass J et al. *Oxford Handbook of Endocrinology and Diabetes*. Third Edition, 2014.
3. Wass J et al. *Oxford Textbook of Endocrinology and Diabetes*, Second Edition, 2011.
4. Kronenberg HM et al. *Williams Textbook of Endocrinology*. 11th Edition, 2008.

10. Cardiac surgery (2019)

Following diseases essence, indications for treatment and surgical treatment options is required to know

1. Patent ductus arteriosus
2. Aortic coarctation
3. Atrial septal defect

4. Ventricular septal defect
5. Ischemic heart disease
6. Mitral valve diseases (stenosis, regurgitation)
7. Aortic valve diseases (stenosis, regurgitation)
8. Aortic dissection

Literature:

1. Lecture and seminar materials in Moodle system
2. Multimedia Manual of Cardiothoracic Surgery- mmcts.org<<http://mmcts.org>>
3. „Oxford Specialist Handbook of Cardiothoracic Surgery“ J. Chikwe, DT. Cooke, A. Weiss, Oxford University Press 2013
4. “John Hopkins Textbook of Cardiothoracic Surgery” DD. Yuh, LA. Vricell, SC. Yang, JR. Doty, 2014 by McGraw-Hill Education

11. Thoracic surgery (2019)

1. Diagnostic investigations in thoracic surgery – risk factors of various diseases, symptomatology, physical investigations, radiological investigations (radiography, computed tomography, magnetic resonance tomography, positron emission tomography and scintigraphy), endoscopic and invasive diagnostic methods (transthoracic biopsy, surgical diagnostic methods).
2. Surgical access to the thoracic cavity – thoracoscopy, mediastinoscopy, thoracotomy, sternotomy. Surgical access in elective and emergency surgery.
3. Lung resections (wedge resection, segmentectomy, (bi)lobectomy, pneumonectomy, extended resections).
4. Thoracentesis and pleural drainage. Indications, contraindications, surgical technique and complications. Pleurodesis – indications, surgical technique and results.
5. Pneumothorax. Aetiology (primary, secondary spontaneous pneumothorax). Diagnostic methods, treatment strategy. Indications and technique of surgical treatment.
6. Pleural empyema – various causes, symptomatology, diagnostic methods and treatment strategy (indications for pleural drainage, intrapleural fibrinolytic therapy, thoracoscopy and thoracotomy; decortication, thoracoplasty, myoplasty and omentoplasty).
7. Lung cancer – symptomatology, diagnostic steps, indications and limits of surgical management. Preoperative investigations, evaluation of operability. TNM classification. Survival of patients according to the extent of the disease.
8. Solitary pulmonary nodule – definition, possible aetiology, differential diagnosis, criteria for observation of the patient.
9. Indications and limits of surgical treatment of lung metastases.
10. Oesophageal surgical diseases. Symptomatology and diagnostic methods of benign oesophageal diseases – oesophagoscopy, oesophagography. Indications of surgical treatment of oesophageal diverticula.
11. Iatrogenic oesophageal perforations. Causes of perforation, symptomatology, diagnostic methods and treatment.

Moodle:

- Thoracic Surgery learning material

Major Textbooks:

- ESTS Textbook of Thoracic Surgery. 2014
- Shields’ General Thoracic Surgery. 8th edition. Joseph LoCicero. 2018

Pneumothorax:

- WI Choi. Pneumothorax. Review. Tuberc Respir Dis 2014;76:99-104.
<https://doi.org/10.4046/trd.2014.76.3.99>
- MacDuff A et al. Management of spontaneous pneumothorax: British Thoracic Society pleural disease guideline 2010. Thorax 2010; 65(Suppl 2):ii18-ii31
- ERS task force statement: diagnosis and treatment of primary spontaneous pneumothorax. <https://erj.ersjournals.com/content/erj/46/2/321.full.pdf>
- Pneumothorax. <https://www.clinicaladvisor.com/pulmonary-medicine/pneumothorax/article/625125/>

Lung Cancer:

- Latimer KM et al. Lung Cancer: Diagnosis, Treatment Principles, and Screening. <http://www.aafp.org/afp/2015/0215/p250.pdf>
- Medscape: <https://emedicine.medscape.com/article/279960-overview>

Diagnostic investigations in thoracic surgery and pleural procedures:

- Pleural procedures and thoracic ultrasound: British Thoracic Society pleural disease guideline 2010 http://thorax.bmj.com/content/65/Suppl_2/i61.full.pdf+html
- Multimedia Manual of Cardiothoracic Surgery <https://mmcts.org/category/4>

Pleural empyema:

- Ahmed AEH, Yacoub TE. Empyema thoracis. Review. Circulatory, Respiratory and Pulmonary Medicine 2010;4 1–8
<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2998927/pdf/ccrpm-2010-001.pdf>
- Davies HE et al. Management of pleural infection in adults: British Thoracic Society pleural disease guideline 2010. Thorax 2010; 65: ii41-ii53
http://thorax.bmj.com/content/65/Suppl_2/ii41.full.pdf+html

Oesophageal diseases:

- Oesophageal perforation: diagnostic work-up and clinical decision-making in the first 24 hours. <https://doi.org/10.1186/1757-7241-19-66>

Oesophageal Diverticula. <https://emedicine.medscape.com/article/174402-overview>

12. Vascular Surgery (2019)

1. Chronic ischaemia of lower extremities, concept, causes (diseases)
2. Obliterating arterial atherosclerosis of lower extremities (*peripheral artery disease*, PAD), risk factors, clinical stages (incl concept of critical ischaemia).
3. Obliterating arterial atherosclerosis of lower extremities, diagnostics, comparison of different diagnostic methods (advantages, disadvantages)
4. Differential diagnostics of obliterating arterial diseases of lower extremities.
5. Treatment of obliterating arterial atherosclerosis of lower extremities depending on disease stage, indications for surgical/endovascular treatment, comparison of different options (advantages, disadvantages).
6. Extracranial cerebral artery diseases (stenosing/occlusive): clinical picture, complications and diagnostics.
7. Extracranial cerebral artery diseases: treatment options: indications for surgical treatment,

comparison of different options

8. Abdominal aortic aneurysm: concept, clinical picture, diagnostics, treatment principles, indications for surgical treatment.
9. Ruptured abdominal aortic aneurysm, clinical picture, diagnostics, treatment principles.
10. Acute ischaemia of lower extremities, concept, causes, clinical picture, classification, diagnostics, differential diagnostics of embolism and thrombosis.
11. Acute ischaemia of lower extremities: treatment principles depending on clinical stage, comparison of different treatment tactics.
12. Indications and contraindications for intraarterial thrombolytic therapy.
13. Compartment syndrome of lower extremities: concept, clinical picture, treatment principles.
14. Varicosis: clinical picture, classification, diagnostics, treatment principles.
15. Phlebothrombosis: concept, clinical picture, diagnostics, treatment principles.
16. Postthrombotic syndrome: concept, clinical picture, diagnostics
17. Postthrombotic syndrome: complications, their prophylaxis, treatment principles.

Literature:

- 1) Lecture materials in Moodle - obligatory
- 2) Treatment guidelines: <http://www.esvs.org/journal/guidelines/> - optional
- 3) Rutherford's Vascular Surgery, 8th Edition, 2014, Elsevier. By Jack L. Cronenwett, MD and K. Wayne Johnston, MD, FRCSC. - optional

13. Paediatric surgery (2022)

1. Congenital malformations of the gastrointestinal tract (esophageal atresia, duodenal obstructions, anorectal malformations, infantile hypertrophic pyloric stenosis, Hirschsprung' disease, congenital diaphragmatic hernia). Congenital abdominal wall defects (gastroschisis, omphalocele).
2. Septic bone and joint diseases in childhood, foreign bodies in the gastrointestinal tract.
3. *Processus vaginalis peritonei* and it' s related disorders. Hernias in children.
4. Acute abdomen (acute appendicitis, primary peritonitis, intussusception) in infants and children
5. Congenital urological anomalies (hypospadias, epispadias, cryptorchidism)
6. Classification of burns, causes, first aid and treatment tactics in children
7. Acute scrotum (testicular torsion, hydatid torsion, orchitis) and foreskin pathologies in children.
8. Developmental dysplasia of hip. Clubfoot. Arthrogryposis.
9. Fractures in childhood, diagnostics and treatment principles. Growth plate fractures, classification, treatment.
10. (Juvenile) osteochondroses. Slipped capital femoral epiphysis. Scoliosis

Literature:

Lecture and practical class materials in Moodle

1. Coran GA, Adzick NS, Krummel MT, Laberge JM, Shamberger R, Caldamone A. 2012 Pediatric Surgery, 2-Volume Set: Expert Consult - Online and Print 7th edition. Mosby.
2. Puri P, Hoellwarth E.M. 2019 Pediatric Surgery 2nd ed. Springer Surgery Atlas Series.
3. Mattei P, Nichol PF, Rollins MD II, Muratore CS. 2017 Fundamentals of Pediatric Surgery: Second Edition 2nd ed. Springer International Publishing AG.

4. Staheli LT. 2015 Fundamentals of Pediatric Orthopedics 5th edition. Lippincott Williams and Wilkins.

Databases:

<https://www.uptodate.com/contents/search>

<https://www.orthobullets.com/>

14. Urology (2019)

1. Urological endoscopic and radiologic investigation methods: cystoscopy, uretheroscopy, antegrade and retrograde pyelography, urethrocytography, urodynamics).
2. Drainage of urotract: catheterisation of bladder, epicystostome, nephrostome, stents. Indications and principles.
3. Nephrolithiasis: symptoms, diagnostics and treatment. Colica renalis and its emergency treatment.
4. Benign obstructive diseases of lower urinary tract: benign prostatic hyperplasia, urethral stricture, prostatitis. Symptoms, diagnostics and treatment.
5. Urological oncology: prostate, renal, bladder, scrotal tumours. Symptoms, diagnostics, treatment.
6. Emergency urological conditions: urine retention, acute infections, haematuria, acute scrotum, paraphimosis, priapism.
7. Urotrauma: injuries of kidneys, ureters, bladder, urethra and penis.
8. Kidney transplantation: indications and contraindications, principles of immunosuppression, possible complications
9. Functional disorders of bladder: types of urinary retention, instable bladder. Symptoms, diagnostics, treatment principles.

Lectures and workshops materials in Moodle

Optional literature:

1. European Association of Urology. Pocket Guidelines 2018
2. Elektroonilised õpikud: Tartu Ülikooli raamatukogu, Tartu Ülikooli Kliinikumi Medinfokeskus:
Smith & Tanagho's General Urology, 18e
Current Diagnosis & Treatment: Surgery, 14th ed 2015 Chapter 38: Urology
Current Medical Diagnosis & Treatment Lange 2019 . Chapter 23: Urologic Disorders
Täpsemalt uroloogilistest operatsioonidest: Glenn's Urologic Surgery 2009

15. Orthopaedic surgery (2019)

1. Fracture diagnostics
2. Soft tissue lesions (muscle, tendon, joint capsule) diagnostics and treatment
3. Fractures, treatment principles, methods and indications for conservative treatment
4. Treatment of fractures in polytraumatised patient
5. Complications of fractures
6. Implant related infections
7. Fractures, indications and methods of surgical treatment

8. Joint dislocations, diagnostics and treatment
9. Clavicular (collar bone) fracture, diagnostics and treatment
10. Shoulder dislocation, methods of reposition
11. Fracture of head and neck of humerus, diagnostics and treatment
12. Fracture of diaphysis of humerus, diagnostics and treatment
13. Dislocation of elbow, diagnostics and treatment
14. Fractures inside elbow joint, diagnostics and treatment
15. Fracture of bones of forearm
16. Distal radius fracture
17. Diagnostics and treatment of extensor tendons of the hand
18. Diagnostics and treatment of flexor tendons of the hand
19. Fractures of bones of wrist and hand
20. Pelvic fractures, diagnostics and treatment
21. Intrapelvic lesions in pelvic fractures
22. Hip dislocation, classification, methods of reposition
23. Hip fracture, diagnostics and treatment
24. Trochanteric fractures, diagnostics and treatment
25. Fractures of diaphysis of femur, diagnostics and treatment
26. Fractures inside knee joint, diagnostics and treatment
27. Lesions of knee ligaments diagnostics and treatment
28. Lesions of knee menisci
29. Patellar fractures
30. Fracture of diaphysis of tibia, diagnostics and treatment
31. Malleolar fractures, diagnostics and treatment
32. Fracture of calcaneus
33. Fracture of talus
34. Fractures of tarsal and metatarsal bones
35. Vertebral fractures, classification
36. Spinal thoracic and lumbar fractures, diagnostics and treatment
37. Spinal deformities (pathologies)
38. Scoliosis, diagnostics and treatment
39. Fractures of sternum and ribs, diagnostics and treatment
40. Osteoarthritis, clinical and radiological diagnostics
41. Osteoarthritis, treatment (surgical)
42. Contracture and ankylosis
43. Foot deformities
44. Bone tumours and tumour-like conditions
45. Bone infection
46. Dupuytren's contracture
47. Burns
48. Frostbites (congellatio)

Ortopeedia õpikud on järgnevad: Orthopedic textbooks are the following
 Essential Orthopaedics and Trauma (Churchill Livingstone) või siis järgnevad kaks/ or two
 Outline of Orthopaedics (Elsevier) ja Adam's Outline of Fractures (Elsevier)

Kõiki õpikuid on ka raamatukogus olemas, lisaks kaks elektroonilist, kuid siis peab ülikooli võrgus olema

Andmebaasi Access Medicine link

[https://accessmedicine.mhmedical.com/Current Diagnosis & Treatment in Orthopedics, 5e](https://accessmedicine.mhmedical.com/Current%20Diagnosis%20&%20Treatment%20in%20Orthopedics,%205e)

Ja üks 2019. aasta e-raamat

Practical office orthopedics [Võrguteavik] / Edward (Ted) Parks Ilmunud New York : McGraw-Hill, 2018

Link

<https://accessmedicine.mhmedical.com/book.aspx?bookid=2230>

16. Oncology (2019)

1. General principles in oncology
2. Epidemiology of solid tumors
3. Determination of the extent of disease, TNM classification, stadiums
4. Basics of radiotherapy
5. Basics of medical treatments
6. Basics of concomitant radiochemotherapy
7. Prostate cancer
8. Breast cancer
9. Cancers of gastro-intestinal system (esophageal-, gastric-, pancreatic-, colorectal-, hepatic cancer and cholangiocarcinoma)
10. Lung cancer
11. Head and neck tumors
12. Gynecological cancers (ovarian-, endometrial-, cervical cancer)
13. Cancers of urological tract (kidney-, bladder cancer)
14. Melanoma, skin cancer
15. Sarcomas
16. Emergency situations in oncology

Materials (obligatory)

Lectures and materials of practicums

17. General surgery (2022)

1. Oesophageal hiatal hernias. Classification, diagnostics, treatment.
2. Reflux disease. Indications for surgical treatment, methods of surgical treatment.
3. Cardial achalasia. Diagnostics, treatment.
4. Peritonitis. Classification, pathogenesis, diagnostics, treatment.
5. Abscesses of abdominal cavity. Clinical picture, diagnostics, treatment.
6. Trauma of abdominal cavity. Diagnostics, treatment principles.
7. Peptic ulcer: indications for surgical treatment, methods of surgical therapy.
8. Pylorostenosis. Diagnostics, treatment.
9. Peptic ulcer perforation. Diagnostics, treatment.
10. Upper gastrointestinal tract haemorrhages. Diagnostics, treatment.
11. Lower gastrointestinal tract haemorrhages. Diagnostics, treatment.
12. Cholelithiasis. Diagnostics, treatment.
13. Acute cholecystitis. Diagnostics, treatment.
14. Mechanical icterus and cholangitis. Diagnostics, treatment.

15. Acute pancreatitis. Classification, clinical picture, diagnostics, treatment, complications.
16. Chronic pancreatitis. Indications for surgical therapy, treatment.
17. Acute appendicitis. Diagnostics, treatment and complications.
18. Bowel obstruction (ileus). Classification, diagnostics, treatment.
19. Obstruction of the small intestine (mechanical small intestine ileus) causes, diagnostics, treatment.
20. Obstruction of the large intestine (mechanical large intestine ileus): causes, diagnostics, treatment.
21. Paralytic (adynamic) ileus. Diagnostics, treatment.
22. Mesenterial ischaemia: diagnostics, treatment.
23. Diverticulosis and diverticulitis. Diagnostics, treatment.
24. Inflammatory intestinal disease. Indications for surgery and methods of surgical therapy.
25. Haemorrhoids. Classification, symptoms, diagnostics, treatment.
26. Anal fissure. Diagnostics, treatment.
27. Anorectal abscess and fistulas. Diagnostics, treatment.
28. Pilonidal sinus. Diagnostics, treatment.
29. Abdominal wall hernias. Diagnostics, treatment.
30. Surgical diseases of thyroid. Diagnostics, treatment.
31. Bariatric surgery. Indications, contraindications. Replacement therapy with microelements and vitamins.

Literature:

1. Lecture presentations in Moodle under the general subject Surgery (AR00.00.066)
2. GM Doherty. Current Diagnosis & Treatment Surgery
3. Cameron. Current Surgical Therapy

18. Obstetrics and Gynaecology (2019)

1. Normal pregnancy and antenatal care:
 - a. Diagnosis of pregnancy
 - b. Physiologic adaptation to pregnancy
 - c. Duration of the pregnancy, calculation of estimated delivery date
 - d. Antenatal care
 - f. Pregnancy-associated risk assessment
 - g. Drugs and teratogenic agents in pregnancy
2. Prenatal diagnostics and assessment of fetal well-being
 - a. Detection of fetal chromosomal abnormalities and congenital anomalies
 - c. Assessment of fetal well-being, including ultrasound
3. Common problems during the first half of pregnancy
 - a. Hyperemesis gravidarum
 - b. Pregnancy loss
4. Hypertensive disorders, including gestational hypertension, preeclampsia, HELLP
5. Obstetric hemorrhage: placenta previa, placental abruption, uterine rupture, postpartum hemorrhage, placenta accrete
6. Common medical and surgical conditions complicating pregnancy
 - a. Diabetes and gestational diabetes
 - b. Heart disease
 - c. Renal disease, urinary tract infections

- d. Thrombembolic diseases
- e. Abdominal pain: differential diagnosis, acute conditions
- 7. Rhesus Alloimmunization
- 8. Multifetal pregnancy
- 9. Normal delivery
 - a. Basic anatomy related to labor and delivery
 - b. Stages and mechanisms of labor
 - c. Clinical management and fetal surveillance during labor
 - d. Pain relief during labor
 - e. Evaluation of the newborn
- 10. Abnormal labor
 - a. Dysfunctional uterine action
 - b. Fetopelvic disproportion, including shoulder dystocia
 - c. Malpositions/malpresentations
- 11. Preterm delivery
 - a. Risk factors
 - b. Diagnosis and management of preterm labor
 - c. Premature rupture of membranes
- 12. Chorioamnionitis
- 13. Fetal growth restriction
- 14. Postterm pregnancy and induction of labor
- 15. Obstetric procedures
 - a. Cesarean section
 - b. Vacuum extraction
 - c. External version
 - d. Cervical cerclage
- 16. Postpartum period
 - a. Physiological changes after delivery
 - b. Breastfeeding
 - c. Contraception after delivery
 Common problems during postpartum period: infections, bleeding
- 17. Clinical approach from a life-course perspective of women's disease and illness
 - a. Ethical and health prevention principles
 - b. Communication with the patient
 - c. Principles of gynecologic examination: obstetric and gynecologic history, general physical examination, pelvic examination.
 - d. Diagnostic tests, imaging studies and gynecologic procedures.
- 18. Neuroendocrine regulation of the menstrual cycle.
 - a. Ovarian and endometrial cycle;
 - b. Normal menstrual cycle
- 19. Normal puberty and disorders of puberty
 - a. Hormonal and somatic changes
 - b. Normal puberty and disorders of puberty.
 - c. Main causes of precocious and delayed puberty.
- 20. Menstrual cycle disorders;
 - a. Investigation of patients with menstrual cycle disorders
 - b. Menstrual cycle disorders
 - c. Primary and secondary amenorrhoea – main causes and management
 - d. Hyperprolactinaemia
- 21. Polycystic ovarian syndrome (PCOS): diagnostic criteria, management, long term health risks
- 22. Menstrual cycle influenced disorders

- a. Dysmenorrhoea
 - b. Premenstrual syndrome
23. Abnormal uterine bleeding (AUB)
- a. PALM-COEIN (FIGO) classification
 - b. Main causes of (non-pregnant women in reproductive age) diagnosis and management.
 - c. Postmenopausal bleeding: diagnosis and management.
24. Infectious diseases of the female genital tract
- a. Microbiota of female genital tract and factors influencing it
 - b. Classification and ethology of infectious diseases of the female genital tract.
Sexually transmitted infections
 - c. Symptoms, evaluation and treatment
 - d. Vulvovaginitis
 - d. Bartholinitis
 - e. Cervicitis
 - f. Pelvic inflammatory disease (PID)
25. Benign and precancerous conditions of the female cervix, vagina and vulva
- a. Anatomy and physiology of the uterine cervix
 - b. Evaluation of the uterine cervix and cervical lesions. PAP smear. Colposcopy.
 - c. Benign conditions of the uterine cervix, HPV infections
 - d. Cervical dysplasia (precancerous lesions)
 - e. Prevention of cervical cancer, Cervical cancer screening
26. Acute and chronic pelvic pain in women
- a. Ectopic pregnancy
 - b. Rupture of ovarian cyst
 - c. Ovarian cyst or adnex torsion
 - d. Causes of chronic pelvic pain
27. Peri- and postmenopaus
- a. Definitions
 - b. Ovarian senescence and hormonal changes, role of oestrogens in different organs
 - c. Clinical manifestations of perimenopause (menstrual cycle changes, fertility/infertility management, climacteric symptoms)
 - d. Climacteric syndrome and the genitourinary syndrome of menopause
 - e. Management of perimenopausal patient
 - f. Hormonal replacement therapy: indications, different treatments, contraindications, risks and benefits
28. Pelvic floor disorders. Pelvic organ prolapse.
- a. Normal pelvic anatomy and supports
 - b. Types of pelvic organ prolapse
 - c. Evaluation and treatment of pelvic organ prolapse
29. Urinary incontinence
- a. Types of urinary incontinence: stress, urge and mixed urinary incontinence
 - b. Evaluation and treatment of urinary incontinence
30. Benign tumors of the female genital tract
- a. Ovarian tumors: functional and benign
 - b. Benign tubal neoplasms
 - c. Benign vaginal neoplasms
 - d. Benign uterine conditions and tumors

31. Endometriosis and adenomyosis
32. Infertility
 - a. Infertility (tubal, caused by ovulatory dysfunction, male, idiopathic)
 - b. Aetiology, diagnosis and treatment
 - c. Pregnancy loss, recurrent pregnancy loss; aetiology, treatment
33. Termination of pregnancy
 - a. Pregnancy termination – related concepts
 - b. Methods of pregnancy termination and associated safe abortion medical care
34. Contraceptive methods and counselling...
 - a. Classification and mechanism of action of contraceptive methods
 - b. WHO Medical Eligibility Guidelines for Contraceptive Methods
 - c. Combined hormonal contraception – risk and benefit, evaluating cardiovascular risk
 - d. Progestogen-only contraceptive methods
 - e. Intra-uterine contraception
 - f. Contraception in women with migraine and overweight
 - g. Drug interactions of hormonal contraceptive methods

Study materials: www.moodle.ut Obstetrics and Gynaecology (ARNS.01.032)

19. Pediatrics (2019)

1. Gestational age; preterm, term and post-term newborn; birth weight, height, head circumference. Assessment fetal/neonatal growth charts. Examination of a neonate
2. Maternal conditions that influence fetal and neonatal health (drugs, maternal diseases, medications during pregnancy and delivery)
3. Apgar score. Perinatal asphyxia. Hypoxic-ischemic encephalopathy: diagnosis, grades, prognosis
4. Neonatal adaptation to extrauterine life - main aspects. Neonatal risk for hypoglycemia
5. Premature newborn: factors influencing the prognosis. Bronchopulmonary dysplasia
6. Bilirubin metabolism. Hyperbilirubinemia: causes. Neonatal haemolytic disease
7. Neonatal respiratory disorders: transitory tachypnoe, meconium aspiration, RDS
8. Common traits of vertical transmission of infections; prophylaxis
9. Neonatal infections (omphalitis, conjunctivitis, pyoderma, meningitis, sepsis)
10. Neonatal seizures: common causes
11. Neonatal screening (blood tests, hearing, SpO₂)
12. Head circumference at birth and normal growth in the first year of life. Macro- and microcephaly
13. Important developmental milestones in the first year of child's life
14. Breastfeeding. The advantages of breast milk compared to cows milk. Health risks of infants fed with cows milk
15. Basic principles of infants feeding
16. Normal growth, phases of growth, main determinants of growth. Growth charts
17. Normal pubertal development in boys and girls: mean age of start, Tanner stages
18. How to calculate child's target (mid-parental) height and its range
19. Growth disorders: main etiology, diagnostic tools, main principles of treatment
20. Disorders of pubertal development: definition, main etiology
21. Overweight and obesity in children: definition, main etiology
22. Development of sensitization, epidemiology of allergic diseases, allergic diseases at different age, riskfactors and prevention

23. Diagnostics of allergy: skin prick tests, detection of IgE antibodies in the blood, component-resolved diagnostics
24. Acute and chronic urticaria: pathogenesis, diagnostics and treatment
25. Atopic dermatitis: clinical manifestations, diagnostic criteria, treatment principles
26. Allergic rhinitis, pollinosis and cross-reactions: diagnostics, treatment incl immunotherapy
27. Anaphylaxis: causes, diagnostics and treatment
28. Acute and recurrent bronchial obstruction: causes, treatment
29. Asthma: diagnostic criteria, characteristics in childhood, additional investigations
Treatment principles of acute asthma attack
30. Prolonged and/or recurrent cough, it's causes, differential diagnoses
31. Airway foreign bodies
32. Food allergy and food intolerance: mechanisms, clinical manifestations, diagnosis. Cow's milk allergy/intolerance: clinical manifestations, diagnosis, prognosis
33. Cystic fibrosis: etiology and pathogenesis, early signs and symptoms, clinical manifestations, diagnosis, treatment principles, prognosis
34. Gastrointestinal functional disorders of children in different ages (regurgitation, rumination, infant colic, functional constipation, dyschezia, functional diarrhea, functional nausea, functional vomiting, functional dyspepsia, functional abdominal pain, irritable bowel syndrome): clinical manifestations, diagnosis
35. Gastro-oesophageal reflux, gastro-oesophageal reflux disease: differential diagnostics.
36. Vomiting: causes in different age groups (pylorostenosis, achalasia, cyclic vomiting syndrome): clinical manifestations, diagnosis
37. Functional constipation: causes, clinical manifestations, differential diagnostics, complications, principles of treatment. Hirschsprung's disease: clinical manifestations
38. Chronic abdominal pain: causes in different age groups, clinical manifestations, differential diagnostics, alarm-symptoms
39. Hypolactasia: clinical manifestations in children
40. Malabsorption syndrome: clinical manifestations, differential diagnostics
41. Coeliac disease: etiological mechanisms, clinical manifestations in children of various ages, screening tests for coeliac disease in concomitant diseases, diagnosis, treatment.
42. Gastrointestinal bleeding: common causes, differential diagnostics
43. Inflammatory bowel diseases: clinical manifestations, differential diagnostics, diagnosis
44. Urinary tract infection in childhood: clinical presentation in infants and children.
Diagnosis and management
45. Acute glomerulonephritis: clinical presentation, diagnosis and management
46. Nephrotic syndrome: clinical presentation, diagnosis and management
47. Paediatric systemic hypertension- causes in different age groups, diagnostic approach
48. Congenital heart defects clinical manifestations, diagnostic approach
49. Common paediatric anemias, differential diagnostics
50. Rickets: causes, clinical manifestations, diagnostics and prophylaxis
51. Inflammatory and noninflammatory joint diseases in childhood
52. Juvenile idiopathic arthritis – subgroups, diagnostic possibilities
53. Characteristic clinical and laboratory features of systemic connective tissue diseases and main vasculitis in children
54. Acute upper and lower respiratory tract infections in children: common cold, sinusitis, otitis media, pharyngitis/tonsillitis, laryngitis, epiglottitis, bronchitis, bronchiolitis and pneumoniae. Aetiology, clinical characteristics, diagnostic workup and treatment
55. Acute gastroenteritis in children: Aetiology, clinical characteristics, diagnostic workup and treatment

56. Rash in children: Scarlet fever, measles, rubella, varicella, roseola infantum (HHV-6 and 7), Kawasaki disease
57. Meningitis and meningoencephalitis in children: aetiology, clinical characteristics, diagnostic workup and treatment
58. Immunisation in children. Immunisation schedule of Estonia. Contraindications for immunisation. Common side effects of any vaccine
59. Development of nervous system (NS), developmental disorders (DD) (development of NS pre- and postnatally, critical periods, different developmental disorders: pervasive DD, intellectual DD, speech DD, and social DD)
60. Spastic syndromes in childhood (HIE, PCI)
61. Hypotonic syndromes in childhood (central and peripheral hypotonia, differential diagnosis)
62. Epilepsy in childhood (diagnosing, most frequent self-limiting epileptic syndromes, epileptic encephalopathies)
63. Paroxysmal nonepileptic events in infancy, childhood, and adolescence
64. Childhood stroke (different subtypes, diagnostic criteria, aetiology, acute treatment, rehabilitation)
65. Headaches in children (primary and secondary headaches, diagnostics, treatment)
66. Head trauma in children (different clinical stages, acute management, diagnostics, rehabilitation, and prognosis)
67. Movement disorders in childhood (aetiology, differential diagnosis, neuromuscular disorders, muscle diseases, possible treatment options)
68. Brain tumors in children (most frequent types, diagnostics, and treatment possibilities)
69. Autism spectrum disorders, clinical symptoms, investigation
70. Leukaemias in childhood clinical picture, factors that determine the prognosis
71. Inherited metabolic diseases divided by pathophysiological mechanism (intoxication-type, energy deficiency-type and complex molecule disorders): clinical manifestations and primary laboratory diagnostics
72. Causes of critical conditions in childhood
73. Physiology, recognition and principles of first aid

Recommended study materials:

1. PAEDIATRICS (ARLA.01.042) for the 5th year students of medicine program. The study materials in www.moodle.ut.ee
2. T. Lissauer, W. Carroll. Illustrated Textbook of Paediatrics. Elsevier 2017.

20. Psychiatry (2022)

1. Psychopathology: main terms and systematics.
2. Diagnosing mental disorders: main principles, differential diagnosis.
3. Organic mental disorders: systematics (according to ICD-10), main etiologic factors.
4. Dementia: symptomatology (according to ICD-10), main principles of care.
5. Delirium: symptomatology (according to ICD-10), main principles of care.
6. Psychoactive substances; Mental disorders due to psychoactive substance use.
7. Dependence syndrome (due to use of psychoactive substance): symptomatology (according to ICD-10), main principles of care.
8. Withdrawal syndrome (including withdrawal syndrome with delirium): symptomatology (according to ICD-10), main principles of care.

9. Mental disorders due to alcohol use: intoxication, harmful use, dependence, withdrawal state, withdrawal state with delirium, psychotic disorder, amnesic syndrome, personality disorder, dementia).
10. Schizophrenia; etiopathogenesis, symptomatology (according to ICD-10).
11. Acute psychotic disorder: symptomatology (according to ICD-10); differences compared to schizophrenia and persistent delusional disorders.
12. Persistent delusional disorders: symptomatology (according to ICD-10); differences compared to schizophrenia and acute psychotic disorders.
13. Schizoaffective disorders: symptomatology (according to ICD-10), main principles of care.
14. Psychotic disorders: main principles of care (incl. principles of inevitable treatment, treatment of schizophrenia).
15. Mood disorders: etiopathogenesis (psychological and biological theories).
16. Bipolar disorder: symptomatology (according to ICD-10), main principles of care.
17. Depressive episode (first and recurrent): symptomatology (according to ICD-10), main principles of care.
18. Acute stress reaction: symptomatology (according to ICD-10), main principles of care.
19. Post-traumatic stress disorder: symptomatology (according to ICD-10), main principles of care.
20. Adjustment disorders: symptomatology (according to ICD-10), main principles of care.
21. Phobic anxiety disorders: symptomatology (according to ICD-10), main principles of care.
22. Panic disorder: symptomatology (according to ICD-10), main principles of care.
23. Social phobias: symptomatology (according to ICD-10), main principles of care.
24. Generalized anxiety disorder: symptomatology (according to ICD-10), main principles of care.
25. Somatization disorder, hypochondriacal disorder: symptomatology (according to ICD-10), main principles of care.
26. Somatoform autonomic dysfunction, persistent somatoform pain disorder: symptomatology (according to ICD-10), main principles of care
27. Dissociative disorders: symptomatology (according to ICD-10), main principles of care.
28. Anorexia nervosa, bulimia nervosa: symptomatology (according to ICD-10), main principles of care.
29. Sleep disorders: symptomatology (according to ICD-10), main principles of care.
30. Personality disorders: symptomatology (according to ICD-10), main principles of care.
31. Hyperkinetic disorders: symptomatology (according to ICD-10), main principles of care.
32. Pervasive developmental disorders: symptomatology (according to ICD-10), main principles of care.
33. Mental retardation: symptomatology (according to ICD-10), main principles of care.
34. Handling of aggressive patient.
35. Handling of suicidal patient.
36. Main principles of rehabilitation of patients with mental disorders.
37. Antipsychotics: mechanisms of action, side effects.
38. Antidepressants: main groups, mechanisms of action, side effects.
39. Anxiolytics, hypnotics: mechanisms of action, side effects.
40. Psychotherapy in treatment of mental disorders: principles and therapy approaches.
41. Depression, anxiety disorders: psychological explanations, main principles of cognitive behavioural therapy.
42. Somatoform disorders: psychological explanations, main principles of cognitive behavioural therapy.

43. Psychological aspects of being a medical professional; developing resilience.

Mandatory literature:

1. The ICD-10 Classification of Mental and Behavioural Disorders. Clinical descriptions and diagnostic guidelines. WHO, 1992, 362 lk. or <http://apps.who.int/classifications/icd10/browse/2010/en>
2. Download of Psychiatry: <https://eprints.utas.edu.au/287/>
3. Deary V., Chalder T., Sharpe M. (2007) The cognitive behavioural model of medically unexplained symptoms: a theoretical and empirical review. *Clinical Psychology Review*, 27(7), 781-797.
4. McGinn, L. K. Nooner, K. B. Cohen, J. Leaberry, K. D. (2015). The role of early experience and cognitive vulnerability: presenting a unified model of the etiology of panic. *Cognitive Therapy and Research*, 39 (4), 508-519.

Suggested literature:

1. Kaplan and Sadock's synopsis of psychiatry: behavioral sciences, clinical psychiatry. H.I. Kaplan, B.J. Sadock, J.A. Grebb - 7th ed.
2. Kring, A.M. [et al.] (2010). *Abnormal psychology*. Hoboken (N.J.): Wiley, 663 P.
3. Jazaieri, H., Morrison, A.S., Goldin, P.R., Gross, J.J. (2015). The role of emotion and emotion regulation in social anxiety disorder. *Current Psychiatry Reports*, 17(1), 531.

21. Neurology and neurosurgery (2022)

1. Principles of diagnosing neurological disorders: history (time course and the dynamics of the symptoms and signs), methods of neurologic examination, neurological symptoms and signs, syndromes, topical diagnosis, clinical diagnosis.
2. Motor system: anatomy. Syndrome of peripheral and central paralysis. Examination of motor functions.
3. Sensory system: sensory modalities, tracts of spinal cord, cortical sensory processing, examination of sensory system.
4. Syndromes of sensory disorders according to the site of the lesion (nerve, root, tract).
5. Signs of meningeal irritation (meningeal syndrome), clinical relevance.
6. Disorders of higher cortical functions (aphasia, agnosia, apraxia, amnesia).
7. Cerebellum: clinical manifestations of cerebellar dysfunction (ataxia, nystagmus), examination of coordination and cerebellar function.
8. Anatomy and blood supply of the spinal cord. Clinical manifestations of spinal cord lesions.
9. The ventricular and subarachnoid system. Cerebrospinal fluid circulation. Increased intracranial pressure. Hydrocephalus. Investigation of the CSF.
10. Neurological syndromes in disorders of visual function (visual fields). Pupillary reflex.
11. Impaired eye movements in disorders of oculomotor cranial nerves and fasciculus longitudinalis medialis.
12. Clinical manifestations of lesions of the facial nerve (syndromes of central and peripheral facial nerve dysfunction).
13. Hearing and vestibular system, clinical findings in disorders of vestibulocochlear function, differential diagnosis (differentiation from stroke, brain tumour).
14. Bulbar- and pseudobulbar syndromes, causes, differential diagnosis.
15. The blood supply of the brain (carotid and vertebrobasilar system). Venous system of the brain.

16. Ischemic stroke: pathogenesis, clinical manifestations, management, clinical treatment, prophylactic measures, principles of rehabilitation.
17. Thrombolysis and thrombectomy in ischemic stroke: main indications and principles of treatment.
18. Hemorrhagic stroke (subarachnoid hemorrhage, intracerebral hematoma): pathogenesis, clinical manifestations, medical and surgical treatment.
19. Multiple Sclerosis: diagnosis, clinical manifestations, treatment.
20. Compression syndromes of the median, ulnar and peroneal nerves, clinical manifestations.
21. Clinical signs and symptoms of lumbosacral radiculopathy, lumbar spinal stenosis, cauda equina lesions: diagnosis, medical and surgical treatment.
22. Clinical signs and symptoms of cervical radiculopathy and myelopathy: diagnosis, medical and surgical treatment.
23. Motor neuron disease – amyotrophic lateral sclerosis: clinical manifestations, diagnosis, management.
24. Myasthenia: clinical manifestations, diagnosis, treatment
25. Polyneuropathies: pathogenesis, clinical manifestations, diagnosis. Guillain-Barré syndrome.
26. Epilepsy: seizure classification, emergency care, principles of medical treatment.
27. Secondary headache, most prevalent primary headaches (tension-type headache, migraine): clinical manifestation, diagnosis, medical treatment.
28. Neuroradiological methods: computed tomography, magnetic resonance imaging – indications, diagnostic usage.
29. Methods of clinical neurophysiology (electroneuromyography, electroencephalography): diagnostic clinical application.
30. Meningitis: symptoms and causes, diagnosis, medical treatment.
31. Tick-borne encephalitis, borreliosis: causes, signs and symptoms, diagnosis, principles of medical treatment.
32. Disorders of consciousness: clinical diagnosis. Clinical management of long-term comatose patient.
33. Syndrome of brain stem compression. Clinical signs of increased intracranial pressure.
34. The role of extrapyramidal system in motor control. Parkinson's disease: clinical signs and symptoms, principles of treatment.
35. Diagnosis of dementia. Alzheimer's disease: clinical signs and symptoms, differential diagnosis.
36. Traumatic intracranial hematomas: clinical signs and symptoms.
37. Principles of management of spine and spinal cord injuries.
38. Classification of brain trauma
39. Clinical signs and symptoms of brain tumors. Principles of diagnosis and treatment

Study literature on neurology and neurosurgery

Mandatory

1. Study/lecture materials/notes on neurology and neurosurgery (ARNR01.036) at moodle.ut.ee
2. Bähr M, Duus' Topical Diagnosis in Neurology, Georg Thieme Verlag, 2005; 2012; 2019
3. Neurology and Neurosurgery Illustrated, Churchill Livingstone, ed. Lindsay, Bone, Callander, 2004; 2010

Recommended supplementary study literature:

1. Mayo Clinic Essential Neurology, Mayo Clinic Scientific Press, 2008; 2018

22. Dermatology and venereology (2022)

22.1 Dermatology

1. Description of skin lesions. Evaluation of the dermatologic patient. General principles of dermatologic therapy
2. Parasitic skin diseases
3. Superficial bacterial skin infections
4. Deep bacterial skin infections
5. Tinea capitis
6. Tinea pedis
7. Onychomycosis caused by dermatophytes
8. Tinea corporis and cruris
9. Mucocutaneous candidiasis
10. Contact dermatitis
11. Eczemas
12. Atopic dermatitis
13. Urticaria
14. Pruritus cutis
15. Work-related skin diseases
16. Psoriasis
17. Lichen planus
18. Viral skin infections – herpes simplex, herpes zoster
19. Autoimmune bullous disorders (pemphigus, bullous pemphigoid, herpetiform dermatitis)
20. Reactive erythemas – erythema multiforme, pityriasis rosea
21. Lupus erythematosus
22. Dermatomyositis
23. Morphea
24. Disorders of the hair
25. Hereditary skin diseases – ichthyosis congenita, ichthyosis vulgaris, X-linked ichthyosis, epidermolysis bullosa
26. Vitiligo
27. Acne
28. Rosacea
29. Benign skin tumors
30. Melanocytic nevi
31. Malignant epidermal skin tumors
32. Vasculitis
33. Primary cutaneous T-cell lymphoma

22.2 Venereology

1. Genital herpes
2. Primary syphilis
3. Secondary syphilis
4. Latent syphilis
5. Tertiary gummatous syphilis

6. Tertiary tuberculous syphilis
7. Early congenital syphilis
8. Late congenital syphilis
9. Anogenital warts
10. Gonorrhoea
11. Trichomoniasis
12. Chlamydia infection
13. Cutaneous manifestations of HIV infection

Mandatory literature:

1. R.B.Weller, H.J.A.Hunter, M.W.Mann *Clinical Dermatology*, 5th Edition, WILEY Blackwell, 2016
2. <https://moodle.ut.ee/> Dermatology and Venereology (ARNH.01.033)

23. Otorhinolaryngology (2019)

1. Anatomy and physiology of the Nose.
2. Anatomy and physiology of the Ear.
3. Anatomy and physiology of the Larynx.
4. Anatomy and physiology of the Mouth, Pharynx, and Esophagus.
5. Hypertrophy of the pharyngeal (adenoid) and palatine tonsils: clinical picture, diagnosis, treatment, early and late complications.
6. Chronic tonsillitis: clinical picture, etiopathogenesis, diagnostics, and treatment.
7. Acute tonsillitis: etiology, clinical picture, diagnosis, treatment, and complications.
8. Peritonsillar abscess: clinical picture, diagnosis and treatment.
9. Caustic pharyngeal and esophageal injuries: complaints diagnostic, and treatment,
10. Foreign bodies in the esophagus: complaints, diagnostics, and treatment.
11. Normal physiology and pathophysiology of the hearing.
12. Subjective and objective audiometric tests.
13. Acute otitis media: etiopathogenesis, clinical picture, diagnosis, treatment and complications.
14. Classification of chronic otitis media.
15. Classification of cholesteatoma, theories of cholesteatoma formation, surgical approaches for cholesteatoma.
16. Otitis Media with Effusion (OME): clinical picture, conservative and surgical management.
17. Meniere's disease: clinical picture, diagnostics, and treatment.
18. Otosclerosis: clinical picture, pathogenesis, diagnosis, and treatment.
19. Sudden-deafness: etiology, differential diagnosis.
20. Tinnitus: classification, differential diagnosis, principles of treatment.
21. Clinical classification of hearing loss and their causes.
22. Age-related hearing loss (presbycusis), noise-induced hearing loss (NIHL). Causes and audiometrical findings.
23. Cochlear implant indications.
24. Classification of dizziness, causes of peripheral and central dizziness.
25. Benign Paroxysmal Positional Vertigo (BPPV): clinical picture, diagnosis, and treatment.
26. Vestibular schwannoma: clinical picture, diagnosis, treatment options.
27. Facial nerve paralysis: causes, grading, rehabilitation options.
28. Nasal obstruction: causes in children vs. in adults, unilateral causes vs. bilateral causes.
29. Chronic rhinitis – allergic rhinitis, vasomotor rhinitis, drug-induced rhinitis – causes and clinical picture.
30. Acute sinusitis: etiology, pathogenesis, complications, treatment.
31. Chronic sinusitis: classification, pathogenesis, diagnosis, principles of the treatment (conservative, surgical).
32. Fracture of nasal bones: clinical picture, diagnosis, treatment.
33. Epistaxis: causes, treatment options according to the location of the bleeding.
34. Foreign bodies in the nose: clinical picture, diagnostics, and treatment.
35. Benign and malignant tumours of the paranasal sinuses: types, complaints associated with tumour extension into surrounding tissues.
36. Nasal liquorrhea: causes and diagnosis.
37. Acute and chronic laryngitis: causes, clinical picture.
38. Benign lesions of the larynx.
39. Classification of voice disorders.
40. Laryngeal paralysis: etiology, diagnosis, rehabilitation of the laryngeal paralysis

(unilateral vs. bilateral)

41. Laryngeal cancer: risk factors, classification, treatment options, rehabilitation after laryngectomy
42. Foreign bodies in the respiratory tract: clinical picture, diagnosis, and treatment.
43. Diagnostic work-up of the patient with neck mass.
44. Primary sites for malignant tumours of the upper respiratory tract.
45. Causes of obstructive sleep apnea: clinical picture, diagnosis, apnea-hypopnea index.
46. Conservative and surgical management of obstructive sleep apnea.

Study literature in otorhinolaryngology (ENT):

1. Lecture materials on Otorhinolaryngology in the Moodle
2. Behrbohm H, Kaschke O, Nawka T, Swift A. Ear, Nose and Throat Diseases: With Head and Neck Surgery, 3rd ed. Thieme 2009
3. Pobst R, Grevers G, Iro H. Basics Otorhinolaryngology, 2nd ed. Thieme 2017.
4. Goldenberg D, Goldstein B. Handbook of Otolaryngology: Head and Neck Surgery, 2nd ed., Thieme 2017.
5. Atula T, Blomgren K. Korva-, nenä-, kurkkutaudit. Päivystäjän opas. Duodecim 2016.
6. Winter S, Costello D, Corbridge R. MCQs for ENT: Specialist Revision Guide for the FRCS. Oxford, 2009.

24. Family Medicine (2022)

1. Family medicine/general practice: its position and impact on health care system
2. Family doctor's work arrangement (teamwork, working areas)
3. Need, demand and supply for health care
4. Families in family medicine
5. Making a diagnosis in primary care, specifics compared to the specialized care
6. Benefits and harms associated with diagnostic testing
7. Consultation in family medicine (different possibilities, factors that influence number of visits)
8. Structure of consultation
9. Patient centered and physician centered consultation
10. Principles of delivering bad news
11. The levels of preventive activities
12. Different methods of the prevention
13. WHO criteria for screening tests
14. Sensitivity and specificity
15. Positive and negative likelihood ratio
16. Preventive activities in different age groups
17. Preventive activities by common chronic diseases
18. The prevention and control of STDs: five major strategies.
19. Family planning. Contraception methods
20. Oral hormonal contraception methods: indications and contraindications
21. Screening of cervical and breast cancer
22. A woman's life periods and more common medical problems during different life period
23. Common medical conditions of female patient
24. Common medical conditions of male patient
25. Risk factors for the men's health globally and Estonia

26. Common causes of mortality and morbidity of man
27. Primary handling of male patients with urinary problems (LUTS) in family medicine
28. Child health surveillance: general principles, developmental milestones
29. Immunisation schedule in Estonia, contraindications to vaccination
30. Newborn and infant health check-ups
31. Health check-ups of preschool children and adolescent
32. Common health and social problems of the elderly patient. Disability related problems.
33. Elderly patient with urinary incontinence
34. Polypharmacotherapy and treatment adherence problems of the elderly patient
35. Musculoskeletal problems of elderly patient
36. Use of psychotropic medications in elderly patient
37. Elderly patient with dementia
38. Patient with acute viral infection, sinusitis, upper and lower respiratory infection: management in primary care
39. Diagnostics and management of pertussis in primary care
40. Chronic cough: management in primary care
41. Assessment and initial management of children with febrile illness in primary care
42. Management of infantile colics in primary care
43. Management of patient with chronic disease in primary care
44. Management of diabetes in primary care
45. Management of hypertension in primary care
46. Management of patient with atrial fibrillation in primary care
47. Palliative care: definition, principles, trajectories, role of family physician. End-of-life care principles
48. Cancer pain management
49. MUPS (medically) unexplained physical symptoms
50. Patients with multimorbidity in primary care
51. Alcohol unit and drinking limits
52. Diagnostic classification of low-back pain
53. Differential diagnostics of low-back pain (NB!" red flags")
54. Management of low-back pain in the first visit
55. Main principles of low-back pain drug treatment: acute and chronic low-back pain
56. Nonpharmacological options of low-back pain treatment
57. Principles of the Motivational Interviewing

Study materials

Mandatory literature:

1. Lecture and seminar materials in Moodle in the 2nd year course Family medicine I (ARPO.01.032) <https://moodle.ut.ee/course/view.php?id=4535> and 5th year course Family medicine (ARPO.01.031) <https://moodle.ut.ee/course/view.php?id=4853>

Recommended supplementary study literature:

1. Motivational interviewing in health care: helping patients change behavior / by Stephen Rollnick, William R. Miller, Christopher C. Butler. 2008

25. Anaesthesiology and intensive care (2019)

1. Preoperative evaluation and management. Postoperative complications.
2. Compartmental distribution of fluids and electrolytes in human body. Distribution of intravenous fluids in body fluid compartments.
3. Hyperkalemia – causes, diagnostics, symptoms, treatment.
4. Hypokalemia – causes, diagnostics, symptoms, treatment.
5. Metabolic acidosis – causes, diagnostics, symptoms, treatment.
6. Respiratory alkalosis, metabolic alkalosis – causes, diagnostics, symptoms, treatment.
7. Cardiopulmonary resuscitation. Algorithm of adult advanced life support.
8. Shock. Definition, symptoms, classification, principles of management. Haemorrhagic shock – classes of acute haemorrhage
9. Primary survey of severe trauma in emergency department.

10. Sepsis and septic shock. Definition, recognition. Initial management.
11. Acute respiratory failure. Definition, classification, diagnostics and management.
12. Acute kidney injury. Causes, diagnostics, and management.
13. Differential diagnostics of tachyarrhythmias. Management.
14. III degree AV block. Recognition and management.

Study materials:

Moodle:

1. [Anaesthesiology and intensive care \(ARAI.01.045\)](#)
2. [Critical conditions in emergency medicine \(ARAI.01.054\)](#)

26. Eye diseases (2019)

1. Hydrodynamics of the eye
2. Pupil reactions
3. Functions of the eye (central and peripheral vision, colour perception, adaptation, binocular vision)
4. Refractive errors (myopia, hyperopia, astigmatism), correction with spectacles and contact lenses
5. Methods and complications of refractive surgery
6. Accommodation ja presbyopia.
7. Dysfunction of the eyelids (entropion, ectropion, ptosis)
8. Blepharitis
9. Hordeolum ja chalazion.
10. Endocrine ophthalmopathy
11. Innervation of the extraocular muscles and the eyelids
12. Strabismus; amblyopia
13. Acute diseases of the lacrimal drainage system
14. Acute conjunctivitis
15. Keratitis
16. Iridocyclitis
17. Differential diagnosis of the acute iritis and glaucoma
18. Retinal detachment
19. Changes of the fundus in systemic hypertension
20. Changes of the fundus in diabetes

21. Age related macular degeneration
22. Classification of the cataract; indications for surgery, methods and complications
23. Classification of the glaucoma (kongenital, open-angle and angle-closure), symptoms of manifestations
24. Diagnostics and treatment principles of treatment
25. Neuritis; ischemic neuropathy
26. Temporal arteritis
27. Contusions of the eye, consequences
28. Non-penetrative injuries of the eye
29. Non-penetrative injuries of the eye
30. Tumors in the eye: melanoma, retinoblastoma; metastases

Mandatory literature:

Materials of lectures and practical classes, in MOODLE.

Recommended literature:

Basic Ophthalmology for Medical Students and Primary Care Residents. 9th Edition.
American Academy of Ophthalmology (2010)

27. Geriatrics (2021)

1. Age categories in late adulthood
2. Definitions of gerontology and geriatrics
3. Geriatric syndromes – definition, consequences, risk factors.
4. Management of frequent geriatric syndromes: falls, cognitive decline, dementia, delirium, chronic pain, constipation, incontinence – assessment, interventions
5. Frailty and functional decline – definition, different models, interventions
6. Comprehensive geriatric assessment, activities of daily living (ADL), instrumental activities of daily living (IADL)
7. Prevention in older age: assessment of nutrition and physical activity, interventions
8. Atypical presentation of disease with aging: causes, risk factors
9. Pharmacotherapy in older age. Tools to assess appropriateness of prescribing, potentially inappropriate medications (PIM)
10. Social services for disabled people
11. Abuse of older persons
12. Definition and general principles of palliative care. Palliative care of persons with dementia

Materials Moodle Basic Course of Geriatrics (ARSK.01.057).

Textbook: Regina Roller-Wirnsberger, Katrin Singler, Maria Cristina Polidori. Learning Geriatric Medicine. A Study Guide for Medical Students. Springer, 2018. 364pp..