

GENERAL MEDICINE – YEAR 4

SYLLABI OF THE COURSES OFFERED TO EXCHANGE STUDENTS

YEAR 4 / SEMESTER 7

aVLFA0721c Pharmacology I - practice

Faculty of Medicine

autumn

Extent and Intensity

0/3/0. 2 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

doc. MUDr. Regina Demlová, Ph.D.

Department of Pharmacology – Theoretical Departments – Faculty of Medicine

Contact Person: doc. Mgr. MVDr. Leoš Landa, Ph.D.

Supplier department: Department of Pharmacology – Theoretical Departments – Faculty of Medicine

Course objectives

The aims of the course are:

- to recognize the basic pharmacological terminology and legislation related to the use of drugs and their prescription
- to understand to differences between single drug dosage forms
- to understand to the prescription of drugs
- to understand to the basics of pharmacokinetics
- to understand to the basic facts about the discussed drugs

Learning outcomes

At the end of the course the student knows:

- single pharmacoterapeutical drug classes
- single drug dosage forms
- the modes of action, adverse reactions and basic indications of single drugs of discussed drugs
- how to prescribe selected medical preparation or a drug in particular drug dosage form

Syllabus

- **aVLFA0721c - Pharmacology I - practical lessons**

General medicine

Autumn semester

1st week

- *Topic 1: INFORMATION ON DRUGS*
- Organisation of practical courses and lectures, our system of evaluation. Repetition of basic pharmacologic terminology. Sub-branches of pharmacology. Sources of information concerning drugs and recommended textbooks. Work with relevant databases (Breviř, SÚKL, EMA, AISLP), and ATC classification.

2nd week

- *Topic 2: ROUTES OF DRUG ADMINISTRATION, DRUG DOSAGE FORMS*
- Brief characteristics of the individual drug dosage forms. Clinical significance of the way of drug administration. Overview of the drug dosage forms.

3rd week

- *Topic 3: PRESCRIPTION OF MEDICINAL PRODUCTS*
- General rules of drug prescription. Prescription of the ready-made preparations.

4th week

- *Topic 4: PHARMACOKINETICS I*
- Pharmacokinetic processes, parameters and calculations.

5th week

- *Topic 5: PHARMACOKINETICS II*
- Pharmacokinetic case reports, simulation of plasma concentrations course, dosage optimization and use of software tools, factors affecting course and value of drug's plasma concentrations.

6th week

- *Topic 6: PHARMACODYNAMICS*
- **MULTIPLE-CHOICE TEST 1 (Topics 1-5).**
- Mechanisms of drug effects - classification, examples. Dose-response curves.

7th week

- *Topic 7: FACTORS AFFECTING DRUG EFFECTS*
- Pharmacotherapy in childhood, in pregnancy, in breastfeeding women, in the elderly. Beer's list, STOPP-START, FORTA.

8th week

- *Topic 8: PHARMACOVIGILANCE, ADVERSE DRUG REACTIONS*
- **PRESCRIPTION TEST**
- Classification and characteristics of adverse drug effects. Pharmacovigilance in clinical practice, sources of information on drug safety.

9th week

- *Topic 9: PHARMACOLOGY OF SYMPATHETIC NERVOUS SYSTEM*
- Receptors of the sympathetic nervous system (alpha, beta) and their subtypes and organ distribution. Classification and basic pharmacological characteristics of drugs influencing

the sympathetic nervous system (pharmacodynamics - both direct and indirect mechanisms of drug action, systems of second messengers).

10th week

- **Topic 10: PHARMACOLOGY OF PARASYMPATHETIC NERVOUS SYSTEM, SPASMOLYTIC DRUGS, MUSCLE RELAXANTS**
- Drugs affecting the parasympathetic nervous system - classification, basic pharmacological characteristics. Spasmolytic drugs.

11th week

- **Topic 11: ANALGESICS, PHARMACOTHERAPY OF GOUT**
- Basic pharmacological characteristics of opioid and non-opioid analgesic drugs, antirheumatoid drugs and drugs used in gout.

12th week

- **Topic 12: GLUCOCORTICOIDS, THYROID HORMONES**
- **MULTIPLE-CHOICE TEST 2 (Topics 6-10).**
- Repetition of basic pharmacological characteristics of glucocorticoids and thyroid hormones.

13th week

- **Topic 13: H1-ANTIHISTAMINES, THERAPY OF DISEASES WITH BRONCHIAL OBSTRUCTION, THERAPY OF COUGH**
- H1-antihistamines, drugs used for therapy of diseases with bronchial obstruction, inhalation drug dosage forms. Drugs used for the therapy of cough.

14th week

- **Topic 14: PHARMACOTHERAPY OF DIABETES MELLITUS**
- Anti-diabetic drugs - basic pharmacological characteristics. Drugs used in the therapy of specific and acute conditions in diabetology. Combinations of insulins, insulin regimens.

15th week

- **Topic 15: SEX HORMONES**
- **MULTIPLE-CHOICE TEST 3 (Topics 11-14).**
- Endocrine therapy, hormone replacement therapy, hormonal contraceptive drugs. Uterotonics and tocolytics. Hormones of HPA axis.

Literature

required literature

- Practicals in Pharmacology, 2009, Náhradní obsah: <http://portal.med.muni.cz/article-491-practicals-in-pharmacology.html>
- RITTER, James, R. J. FLOWER, Graeme HENDERSON, Yoon Kong LOKE, David J. MACEWAN and H. P. RANG. Rang and Dale's pharmacology. Ninth edition. Edinburgh: Elsevier, 2020. xvi, 789. ISBN 9780702074486.
- <http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=1160493&lang=cs&site=ehost-live>

recommended literature

- WHALEN, Karen. Pharmacology. Edited by Richard Finkel - Thomas A. Panavelil. 6th ed. Philadelphia, Pa.: Lippincott Williams & Wilkins, 2015. xi, 664. ISBN 9781451191776.
- ZENDULKA, Ondřej, Jan JUŘICA, Leoš LANDA, Alena MÁČHALOVÁ, Gabriela DOVRTĚLOVÁ, Hana KOSTKOVÁ, Jana MERHAUTOVÁ and Kristýna NOSKOVÁ. Soubor kazuistik z farmakologie (Library of case reports). Brno: Masarykova univerzita, 2016. Elportál. ISSN 1802-128X.

not specified

- *Pharmaceutical practice*. Edited by Judith A. Rees - Ian Smith - Jennie Watson. 5th ed. Edinburgh: Churchill Livingstone Elsevier, 2014. xvii, 552. ISBN 9780702051432.
- Waller, Derek - Renwick, Andrew G. - Hillier, Keith. Medical pharmacology and therapeutics. 3rd ed. New York : Elsevier Saunders, 2009. ix, 744 p. ISBN 0-7020-2991-2.
- Ritter, James M. - Lewis, Lionel D. - Mant, Timothy G.K. - Ferro, Albert. A Textbook of Clinical Pharmacology and Therapeutics, 5th Ed., Hodder Arnold, 2008. 465 s. ISBN 978-0-340-90046-8
- LÜLLMANN, Heinz, Lutz HEIN and Klaus MOHR. *Color atlas of pharmacology*. Translated by Detlef Bierger, Illustrated by Jürgen Wirth. 4th ed. Stuttgart: Thieme, 2011. x, 393. ISBN 9783137817048.
- *Pharmacology*. Edited by Michelle Alexia Clark. 5th ed. Baltimore: Wolters Kluwer Health/Lippincott Williams & Wilkins, 2012. xii, 612. ISBN 9781451113143.

Bookmarks

<https://is.muni.cz/in/tag/LF:aVLFA0721c!>

Teaching methods

Classes take place periodically in the afternoon. The lectures are followed by practical exercises with discussion.

The lectures discuss the basic issues of the subject. This knowledge is further deepened via specific practical tasks in exercises.

Materials for self-study and preparation for exercises will be available in the interactive syllabus/study materials for each topic, including references to the relevant chapters in the textbook.

2 absences from practical lessons are possible.

Assessment methods

3 continuous multiple-choice tests (time limit: 15 min) and 1 prescription test in a paper form. MCQ tests will not be repeated. The prescription test can be repeated only twice.

Each multiple-choice test contains 15 questions. The number of correct answers is given. Student gets 1 point for each completely correct answer, i.e. maximum 15 points for each multiple-choice test; total 45 points for all three MCQ tests.

The prescription test consists of two read-made preparations. For both preparations, the active substance, the drug dosage form and the number of original packages to be prescribed will be listed. The prescription handbook will be available for the test.

To obtain credits, the student has to pass the prescription test successfully and also get at least 6 points from each single multiple-choice test and at least 20 points (minimum) from all three MCQ tests.

Note: Together with the new accreditation of the Pharmacology subject for students of General Medicine, **a system of continuous assessment of the student was introduced, when the results achieved in multiple-choice tests in practical lessons and colloquium will be taken into account and included in the final mark from the subject.**

Language of instruction

English

aVLFA0721p Pharmacology I - lecture

Faculty of Medicine

autumn

Extent and Intensity

2/0/0. 2 credit(s). Type of Completion: k (colloquium).

Taught in person.

Guaranteed by

doc. MUDr. Regina Demlová, Ph.D.

Department of Pharmacology – Theoretical Departments – Faculty of Medicine

Contact Person: doc. Mgr. MVDr. Leoš Landa, Ph.D.

Supplier department: Department of Pharmacology – Theoretical Departments – Faculty of Medicine

Course objectives

The aims of the course are:

- to explain the basic pharmacodynamic and pharmacokinetic processes and principles
- to explain the basic principles of therapy of intoxications
- to describe the factors that influence the drug effect

Learning outcomes

Student after the course:

knows basic pharmacodynamic principles

knows basic pharmacokinetic principles
knows basic factors that influence the effect of drugs
is able to suggest therapeutic measures in case of drug intoxication

Syllabus

- **VLFA07212c - Pharmacology I - Lectures**

General medicine

Autumn semester

- **1. PHARMACOLOGY AND ITS SUB-BRANCHES**
- Definition of pharmacology and its sub-branches of pharmacology. Drug, medical product – basic pharmacological terminology. Sources of research and development of new drugs. Principles of correct drug use – types of pharmacotherapy and rational pharmacotherapy.
- **2. ROUTES OF DRUG ADMINISTRATION, OVERVIEW OF DRUG DOSAGE FORMS**
- Classification and overview of drug dosage forms for ready-made production and individual preparation. Drug dosage forms with controlled release. Classification of routes of administration.
- **3. DRUG DEVELOPMENT LIFE CYCLE, BASIC PRINCIPLES OF BIOLOGICAL THERAPY**
- Drug discovery. Preclinical and clinical drug testing. Marketing authorisation. Basic technologies of biologics production, their classification.
- **4. PHARMACOKINETICS I**
- General principles of drug's fate in the organism. Overview of the basic pharmacokinetic processes and parameters.
- **5. PHARMACOKINETICS II**
- Single, continual and repeated drug administration. Principles of therapeutic drug monitoring. Compartment models. Fundamentals of population pharmacokinetics.
- **6. PHARMACODYNAMICS**
- Mechanisms of drug effects – classification, examples. Receptor theory – types of ligands and receptors. Change in drug effect after repeated administration.
- **7. FACTORS AFFECTING DRUG'S EFFECTS**
- Classification, overview and examples of factors affecting drug effects. Fundamentals of pharmacogenetics.
- **8. PHARMACOVIGILANCE AND DRUG'S SAFETY**
- Adverse effects of drugs - classification and characteristics. Pharmacovigilance in clinical research and practice. Therapeutic index, therapeutic range. Drug anamnesis, polypharmacy and introduction to drug interactions.
- **9. PHARMACOLOGY OF AUTONOMIC NERVOUS SYSTEM - INTRODUCTION, SYMPATHOTROPIC DRUGS**
- Overview of pharmacology of sympathetic and parasympathetic nervous system – neurotransmission, receptors. Basic indications of substances affecting sympathetic NS.
- **10. PHARMACOLOGY OF AUTONOMIC NERVOUS SYSTEM - CHOLINERGIC DRUGS, SPASMOLYTIC DRUGS, MYORELAXANTS**
- Basic indications of substances affecting parasympathetic NS. Definition and use of spasmolytic and myorelaxant drugs.
- **11. ANALGESICS, PHARMACOTHERAPY OF GOUT**

- Classification of analgesic drugs. Basic pharmacological characteristics and examples of opioid analgesics, NSAIDs and analgesics-antipyretics. Therapy of pain, co-analgesics. Therapy of gout.
- **12. GLUCOCORTICOIDS, MINERALOCORTICOIDS, IMMUNOPHARMACOLOGY - IMMUNOMODULATORS, TARGETED TREATMENT OF AUTOIMMUNE DISEASES, DRUGS USED FOR TREATMENT OF HYPO/HYPERTHYROIDISM**
- Overview of glucocorticoids and mineralocorticoids for both local and systemic administration, therapeutic use. Overview of drugs affecting the immune system - classification, therapeutic use, basic pharmacological characteristics. Drugs used in diseases of the thyroid gland.
- **13. THERAPY OF DISEASES WITH CHRONIC BRONCHIAL OBSTRUCTION, H1-ANTIHISTAMINES**
- Effects of histamine and possibilities of its antagonization. Classification of antihistamines, drugs used for the treatment of diseases with chronic bronchial obstruction.
- **14. PHARMACOTHERAPY OF DIABETES MELLITUS**
- Insulins and anti-diabetic drugs – classification and basic pharmacological characteristics.
- **15. PHARMACOLOGY OF HYPOTHALAMO-PITUITARY HORMONES AND SEX HORMONES**
- FSH and LH analogues and antagonists. Oestrogens, antioestrogens, gestagens, antigestagens, androgens, antiandrogens basic pharmacological characteristics (classification, basic substances, therapeutic indications/contraindications, adverse effects).

Literature

required literature

- RITTER, James, R. J. FLOWER, Graeme HENDERSON, Yoon Kong LOKE, David J. MACEWAN and H. P. RANG. Rang and Dale's pharmacology. Ninth edition. Edinburgh: Elsevier, 2020. xvi, 789. ISBN 9780702074486. info
- <http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=1160493&lang=cs&site=ehost-live>
- Practicals in Pharmacology, 2009, Náhradní obsah: <http://portal.med.muni.cz/article-491-practicals-in-pharmacology.html>

recommended literature

- *Pharmaceutical practice*. Edited by Judith A. Rees - Ian Smith - Jennie Watson. 5th ed. Edinburgh: Churchill Livingstone Elsevier, 2014. xvii, 552. ISBN 9780702051432.
- WHALEN, Karen. *Lippincott illustrated reviews : Pharmacology*. Edited by Richard Finkel - Thomas A. Panaveilil. 6th ed. Philadelphia, Pa.: Lippincott Williams & Wilkins, 2015. xi, 664. ISBN 9781451191776.

not specified

- Waller, Derek - Renwick, Andrew G. - Hillier, Keith. *Medical pharmacology and therapeutics*. 3rd ed. New York : Elsevier Saunders, 2009. ix, 744 p. ISBN 0-7020-2991-2.
- Ritter, James M. - Lewis, Lionel D. - Mant, Timothy G.K. - Ferro, Albert. *A Textbook of Clinical Pharmacology and Therapeutics*, 5th Ed., Hodder Arnold, 2008. 465 s. ISBN 978-0-340-90046-8

- *Pharmacology*. Edited by Michelle Alexia Clark. 5th ed. Baltimore: Wolters Kluwer Health/Lippincott Williams & Wilkins, 2012. xii, 612. ISBN 9781451113143.

Bookmarks

<https://is.muni.cz/in/tag/LF:aVLFA0721p!>

Teaching methods

Lectures will provide theoretical background. The lectures are followed by practical exercises. The lectures discuss the basic issues of the subject. This knowledge is further deepened via specific practical tasks in exercises. According to the syllabi, materials for self-study and preparation will be available in the study materials for each topic, including references to the relevant chapters in the textbook.

Assessment methods

Colloquium - ROPOT test - 40 multiple-choice questions with 3 - 5 answer options. The number of correct answers is given.

Student gets 2 points for each completely correct answer, i.e. maximum 80 points for the whole multiple-choice test. Time limit: 45 min. The MCQ test can be repeated only twice.

To pass the colloquium successfully the student has to obtain at least 48 points.

Language of instruction

English

aVLCH0731c Surgery I - practice

Faculty of Medicine

autumn

Extent and Intensity

0/4/0. 2 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

doc. MUDr. Igor Penka, CSc.

Department of Surgery – Joint workplaces with the University Hospital Brno – workplaces of the Bohunice and Mater. Hospital – Faculty of Medicine

Contact Person: prof. MUDr. Ladislav Plánka, Ph.D.

Course objectives

The tuition in the 7th term is focused on the general surgery in its whole extent, supplemented with the lessons from orthopaedy, traumatology, surgery of burns and children surgery.

Learning outcomes

Student is able:

- to recognise typical surgical diseases, recommend diagnostic process and basic therapeutic treatment after completing this course.
- be experienced bedside examination of patients with typical surgical diseases before and after the operation.
- to observe basic surgical procedures, is able to change the wound dressing and knows the operating room management.
- to observe typical imaging findings in basic surgical diseases, is able to set up the basic differential diagnostics.

Syllabus

- Head and neck surgery
- Chest wall, trauma of the chest, breast
- Surgery of the lungs and mediastinum
- Oesophageal surgery
- Vascular surgery: arteries
- Vascular surgery: veins
- Metabolism and critical care in surgery
- General traumatology
- Clavicle, scapula, humeroscapular joint
- Humerus, elbow joint
- Forearm, wrist, hand
- Revision lesson
- Traumatology: polytrauma, spinal cord trauma
- Children surgery: Abdominal children surgery including acute abdomen
- Congenital defects and its surgical treatment
- Children traumatology
- Children orthopedy
- Surgical oncology
- Burns: introduction, intensive care in the burn shock, skin replacement, plastic and reconstructive surgery in burns

Literature

required literature

- SABISTON, David C. *Textbook of Surgery*. 1991. ISBN 0-7216-3492-3.

not specified

- L.W. Way, Současná chirurgická diagnostika a léčba, 1998, Grada Publ., ISBN 80-7169/397/9, Sabiston- Textbook of Surgery, ISBN 0-7216-1259-8. Doplnky: Ján Černý, Špeciálna chirurgia, Osveta 1996, S. Schwartz: Textbook of Surgery, L.W. Way: Current Surg.
- GÁL, Petr and František TECL. *Compartment syndrom - závažná komplikace chirurgie a traumatologie (Compartment syndrome - consequential complication of surgery and traumatology)*. 1. vyd. Brno: Masarykova univerzita, 1999. 41 pp. Edice kontinuálního vzdělávání v medicíně. ISBN 80-210-2152-7.
- PODLAHA, Jiří, Zdeněk GREGOR, Jindřich LEYPOLD and Petr ROUBAL. Chirurgie bifurkace aorty (Surgery of aorta bifurcation). *Praktická flebologie*, Praha: Phlebomedica, 1998, vol. 7, 4-5, p. 99. ISSN 1210-5406.
- ŽALOUDÍK, Jan. Chirurgie v paliativní onkologické léčbě (Surgery in palliative oncology treatment). In *Paliativní medicína*. Praha: Grada Publishing, 1998. p. 165-182. ISBN 80-7169-437-1.
- *Digestivní endoskopie a laparoskopická chirurgie*. Edited by Přemysl Frič - Miroslav Ryska. 1. vyd. Praha: Praha Publishing, 1996. 345 s. ISBN 80-902140-0-2.
- DUDA, Miloslav and Stanislav CZUDEK. *Miniinvasivní chirurgie*. 1. vyd. Třinec: Nemocnice Podlesí, 1996. 231 s. : o.
- *Úvod do miniinvasivní chirurgie*. Edited by Jiří Vokurka. 1. vyd. Brno: Institut pro další vzdělávání pracovníků ve zdravotnictví, 1996. 46 s. ISBN 80-7013-228-0.
- LEYPOLD, Jindřich. *Chirurgie neúrazových ložiskových lézí jater*. [1. vyd.]. Brno: II. chirurgická klinika LF MU v Brně, 1995. 125 s. : b.
- KUBÁČEK, Vojtěch. *Vybrané kapitoly z plastické chirurgie*. 2. vyd. Brno: Masarykova univerzita, 1992. 66 s.
- STAFFA, Robert. *Záchrana kriticky ischemické končetiny -pedální bypass (Salvage of critically ischemic limb - pedal bypass grafting)*. 1. vyd. Praha: Grada Publishing, a.s., 2005. 112 pp. Grada Publishing Avicenum 2090. ISBN 80-247-0957-0.
- ZEMAN, Miroslav. *Speciální chirurgie*. 2. vyd. Praha: Galén, 2004. xxiii, 575. ISBN 8072622609.
- FIRT, Pavel. *Cévní chirurgie*. Praha: Avicenum, 1991. ISBN 80-201-0047-4.

Teaching methods

Classwork is provided by the combined way through presentations, bedside teaching, seminars with the discussion and training at the simulation centre. Practical training in faculty hospitals (about 20 % of the total volume of teaching) is complemented by a comprehensive range of simulation teaching methods on simulators with varying degrees of fidelity, trainers and virtual patients. Simulation results in subsequent debriefing (feedback to the student). There is also problem-oriented learning in the foreground, where the student is taught by solving the problem presented, as well as team-oriented teaching when small groups of students discuss and choose a solution to the problem. Emphasis is also placed on the development of soft skills, incl. so-called "21st-century skills", particularly communication, decision-making skills, critical thinking, crisis communication and teamwork.

Assessment methods

The lessons attendance is obligatory, credits are given during the termination of each semester. The tuition in surgery is finished with the State Exam of Surgery in the 6th year of tuition. Traditional methods are complemented by objective clinical evaluation that verifies clinical knowledge and other skills such as communication, physical examination, performance, performance interpretation, etc. This evaluation method provides students with objective and specific feedback.

Language of instruction

English

aVLCH0731p Surgery I - lecture**Faculty of Medicine**

autumn

Extent and Intensity

1/0/0. 0 credit(s). Type of Completion: z (credit).

Taught in person

Guaranteed by

doc. MUDr. Igor Penka, CSc.

Second Department of Surgery - Institutions shared with St. Anne's Faculty Hospital - Faculty of Medicine

Contact Person: prof. MUDr. Ladislav Plánka, Ph.D.

Course objectives

Main objectives of this lecture is to introduce the basic information about head, neck, thoracic (mediastinum, gullet, lungs) and abdominal (stomach, duodenum, small intestine, colon, rectum, pancreas, liver, biliary system, abdominal wall hernia) surgery – incidence rate, etiology, pathogenesis, diagnosis, treatment, prognosis.

Learning outcomes

Student is able:

- to recognise typical surgical diseases.
- to recommend diagnostic process and basic therapeutic treatment after completing this course.
- to observe typical imaging findings in basic surgical diseases
- to set up the basic differential diagnostics.

Syllabus

- Head and neck surgery
- Surgery of the breast, trauma of the chest wall
- Lung surgery, mediastinum, oesophagus
- Hernias of the abdomen, diaphragma

- Surgery of the spleen and pancreas
- Stomach, duodenum, intestinal surgery
- Colon, rectum and anus

Literature

- Náhradní obsah: L.W. Way, Současná chirurgická diagnostika a léčba, 1998, Grada Publ., ISBN 80-7169/397/9, Sabiston- Textbook of Surgery, ISBN 0-7216-1259-8. Doplňky: Ján Černý, Špeciálna chirurgia, Osveta 1996, S. Schwartz: Textbook of Surgery, L.W. Way
- ŠNAJDAUF, Jiří and Richard ŠKÁBA. *Dětská chirurgie*. 1. vyd. Praha: Galén, 2005. 395 s. ISBN 807262329X.
- STAFFA, Robert. *Záchrana kriticky ischemické končetiny -pedální bypass (Salvage of critically ischemic limb - pedal bypass grafting)*. 1. vyd. Praha: Grada Publishing, a.s., 2005. 112 pp. Grada Publishing Avicenum 2090. ISBN 80-247-0957-0.
- ZEMAN, Miroslav. *Speciální chirurgie*. 2. vyd. Praha: Galén, 2004. xxiii, 575. ISBN 8072622609.
- ŠNAJDAUF, Jiří, Karel CVACHOVEC and Tomáš TRČ. *Dětská traumatologie*. 1. vyd. Praha: Galén, 2002. xv, 180. ISBN 8072621521.
- FIRT, Pavel. *Cévní chirurgie*. Praha: Avicenum, 1991. ISBN 80-201-0047-4.
- SABISTON, David C. *Textbook of Surgery*. 1991. ISBN 0-7216-3492-3.

Teaching methods

lecture

Assessment methods

This lecture is not credited, it is a part of continual preparation for state final examination in surgery at the end of the education.

Language of instruction

English

aVLTZ0754 Theoretical Bases of Clinical Medicine IV - seminar

Faculty of Medicine

autumn

Extent and Intensity

2.5/0/0. 4 credit(s). Type of Completion: zk (examination).

Taught in person.

Guaranteed by

doc. MUDr. Leoš Křen, Ph.D.

Department of Pathology - Joint workplaces with the University Hospital Brno - workplaces of the Bohunice and Mater. Hospital - Faculty of Medicine

Supplier department: Department of Pathology - Joint workplaces with the University Hospital Brno - workplaces of the Bohunice and Mater. Hospital - Faculty of Medicine

Course objectives

The aim of this issue is to connect and deepen the knowledges of clinical physiology, clinical pathophysiology, propedeutic of internal medicine, imaging and laboratory examinations and pharmacotherapy on representative case reports across the internal medicine

Learning outcomes

understanding of diseases substances from patophysiology to therapy

Syllabus

- obstructive and restrictive pulmonary diseases and their therapy; differential diagnosis of dyspnoea and chestpain; peptic ulcer of stomach and duodenum, functional disorders of gastrointestinal tract; food uptake disorders and body composition assessment; shock and disorders of consciousness; typical symptoms in neurologic and psychiatric diseases.

Literature

recommended literature

- NEČAS, Emanuel. *Patologická fyziologie orgánových systémů*. 2. vyd. Praha: Karolinum, 2009. 379 s. ISBN 9788024617107.
- SILBERNAGL, Stefan and Florian LANG. *Atlas patofyziologie*. 2., české vyd. Praha: Grada, 2012. x, 406. ISBN 9788024735559.
- LINCOVÁ, Dagmar and Hassan FARGHALI. *Základní a aplikovaná farmakologie*. 2., dopl. a přeprac. vyd. Praha: Galén, 2007. xxiv, 672. ISBN 9788072623730.

not specified

- ŠPINAR, Jindřich and Ondřej LUDKA. *Propedeutika a vyšetřovací metody vnitřních nemocí*. 2., přeprac. a dopl. vyd. Praha: Grada, 2013. 336 s. ISBN 9788024743561.

Teaching methods

The form of the education is led as an interactive seminary with participation of the students in the concrete casuistry

Assessment methods

The course is finished by written exam test consisting of 20 questions which were demonstrated during course.

Language of instruction

English

YEAR 4 / SEMESTER 8

aVLCH0832c Surgery II - practice

Faculty of Medicine

spring

Extent and Intensity

0/4/0. 4 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

doc. MUDr. Igor Penka, CSc.

First Department of Surgery - Institutions shared with St. Anne's Faculty Hospital - Faculty of Medicine

Contact Person: prof. MUDr. Ladislav Plánka, Ph.D.

Course objectives

The tuition in the 8th term is focused on the general surgery in its whole extent, supplemented with the lessons from orthopaedy, traumatology, surgery of burns and children surgery. Classwork is provided by the combined way through presentations, bedside teaching, seminars with the discussion.

Learning outcomes

Student is able to recognize typical surgical diseases, recommend diagnostic process and basic therapeutic treatment after completing this course. Student experienced bedside examination of patients with typical surgical diseases before and after the operation. Student observed basic surgical procedures, is able to change the wound dressing and knows the operating room management. Student observed typical imaging findings in basic surgical diseases, is able to set up the basic differential diagnostics.

Syllabus

- Hernias
- Stomach and Duodenum
- Liver and biliary system
- Pancreas, Spleen
- Small intestine
- Colon, rectum & anus
- Acute Abdomen
- Traumatology (spine, pelvis)
- Coxa, proximal femur

- Diaphysis, distal femur
- Knee, leg shin and calf)
- Ankle, foot
- Traumatology: polytrauma, spinal cord trauma
- Children surgery: Abdominal children surgery including acute abdomen Congenital defects and its surgical treatment Children traumatology Children orthopedy
- Surgical oncology
- Burns: introduction, intensive care in the burn shock, skin replacement, plastic and reconstructive surgery in burns.

Literature

recommended literature

- Clinical Surgery: With Student Consult Access, 3e Paperback – 13 Feb 2012
- Schwartz's Principles of Surgery, 10th edition, 2015, Brunicki F. CH et al. ISBN 978-0-07179674-3

Teaching methods

Classwork is provided by the combined way through presentations, bedside teaching, seminars with the discussion and training at the simulation centre.

Assessment methods

The lessons attendance is obligatory, credits are given during the termination of each semester. The tuition in surgery is finished with the State Exam of Surgery in the 6th year of tuition

Language of instruction

English

aVLCH0832p Surgery II - lecture

Faculty of Medicine

spring

Extent and Intensity

1/0/0. 0 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

doc. MUDr. Igor Penka, CSc.

First Department of Surgery – Institutions shared with St. Anne's Faculty Hospital – Faculty of Medicine

Contact Person: doc. MUDr. Lenka Veverková, Ph.D.

Course objectives

Main objectives of this lecture are to introduce the basic information about acute abdomen, vascular surgery and complete traumatology – incidence rate, etiology, pathogenesis, diagnosis, treatment, prognosis.

Learning outcomes

Student is able to recognize typical surgical diseases. Student is able to recommend diagnostic process and basic therapeutic treatment after completing this course. Student observed typical imaging findings in basic surgical diseases, is able to set up the basic differential diagnostics.

Syllabus

- Acute abdomen I
- Acute abdomen II
- Cardiovascular surgery I
- Cardiovascular surgery II
- Traumatology I-IV

Literature

recommended literature

- Clinical Surgery: With Student Consult Access, 3e Paperback – 13 Feb 2012
- Schwartz's Principles of Surgery, 10th edition, 2015, Brunicki F. et al. ISBN 978-0-07179674-3
- Ashcraft's Pediatric Surgery: 6th edition, 2014, Holcomb G.W. et al. ISBN : 9781455743339

Teaching methods

Lecture

Assessment methods

This lecture is not credited, it is a part of continual preparation for state final examination in surgery at the end of the education.

Language of instruction

English

aVLFA0822p Pharmacology II - lecture

Faculty of Medicine

spring

Extent and Intensity

2/0/0. 4 credit(s). Type of Completion: zk (examination).

Taught in person.

Guaranteed by

doc. MUDr. Regina Demlová, Ph.D.

Department of Pharmacology - Theoretical Departments - Faculty of Medicine

Contact Person: doc. Mgr. MVDr. Leoš Landa, Ph.D.

Supplier department: Department of Pharmacology - Theoretical Departments - Faculty of Medicine

Course objectives

The aim of the course is to acquaint the students with drugs from selected pharmacotherapeutic groups.

Learning outcomes

At the end of the course student should be able choose and prescribe suitable drug for the patient with known indication. The selection will be made with respect to all factors influencing drug safety and efficacy.

Syllabus

aVLFA0822p – Pharmacology II lecture

General medicine

Spring semester 2023

- **1. INTRODUCTION TO PSYCHOPHARMACOLOGY, ANTIPSYCHOTICS, ANTIPARKINSONICS**
- Lecture content: History and classification of psychotropic substances. Pharmacological review of antipsychotics and antiparkinsonics.
- **2. ANTIDEPRESSANTS**
- Lecture content: Pharmacological review of antidepressants and psychostimulants and their clinical use.
- **3. ANXIOLYTICS, HYPNOSEDATIVES, ANTICONVULSANTS**
- Lecture content: Pharmacological review of anxiolytics, hypnosedatives, anticonvulsants. The possibilities of modulation of GABAergic neurotransmission and other central neurotransmitters. Self-study: drug dependence and its possible therapy.
- **4. GENERAL AND LOCAL ANAESTHETICS**
- Lecture content: Classification and basic features of general and local anaesthetic drugs.
- **5. VASODILATORS AND DRUGS WITH EFFECT ON VESSELS**

- Lecture content: Risk factors of cardiovascular diseases, lipid-lowering drugs, nitrates, donors of NO groups, calcium channel blockers and other groups of direct vasodilators.
- **6. DRUGS INFLUENCING RAAS, DIURETICS**
- Lecture content: Pharmacological profiles of drugs targeting RAAS and diuretics. Antagonists of mineralocorticoid receptors. Antihypertensives of the 1st and 2nd choice, combinations, central antihypertensives.
- **7. DRUGS DIRECTLY INFLUENCING MYOCARDIUM**
- Lecture content: Beta-blockers and bradins, drugs with positive inotropic effects. Calcium channel blockers- non-DHP, antiarrhythmics.
- **8. DRUGS INFLUENCING HAEMOSTASIS**
- Lecture content: Pharmacological profiles of anticoagulants, antiplatelet drugs, fibrinolytics, anti-fibrinolytics and haemostatics.
- **9. ANTI-INFECTIVES I – ANTIBACTERIAL SUBSTANCES**
- Lecture content: Introduction and basic principles of antimicrobial therapy. Modes of resistance to antimicrobial drugs. Pharmacological review of antibiotics.
- **10. ANTI-INFECTIVES II – ANTIFUNGAL AND ANTIVIRAL DRUGS**
- Lecture content: Systemic and local antimycotics; antiherpetics; pharmacotherapy of influenza; antiretrovirals; therapy of RSV and viral hepatitis.
- **11. PHARMACOLOGY OF GIT – PEPTIC ULCER DISEASE, ANTIEMETICS, ANTIDIARRHEALS AND LAXATIVES**
- Lecture content: Pharmacological review of GIT drugs.
- **12. CYTOSTATICS AND TARGETED THERAPY IN ONCOLOGY**
- Lecture content: Introduction. Classification of cytostatics according to their mechanisms of action. Mechanisms of resistance to anticancer drugs. Role of single nucleotide polymorphisms (SNPs) and TDM in oncology. Main classes of cytostatics. Principles of targeted therapy in oncology. Monoclonal antibodies. Protein kinase inhibitors. Targeted immunotherapy.
- **13. THERAPY OF INTOXICATIONS**
- Lecture content: Review of most common intoxications and their symptomatology. General principles of poisoning management. Specific antidotes in poisoning therapy.
- **14. DRUG INTERACTIONS**
- Lecture content: Classification of drug-drug interactions, evaluation of clinical relevance and seriousness of DDI. Monitoring of drug-drug interactions and their management.
- **15. PHYTOPHARMACOLOGY AND PHARMACOGNOSY**
- Lecture content: Natural sources of medicines, selected groups of active constituents. Herbal preparations. Herbal poisons.

Literature

required literature

- RITTER, James, R. J. FLOWER, Graeme HENDERSON, Yoon Kong LOKE, David J. MACEWAN and H. P. RANG. Rang and Dale's pharmacology. Ninth edition. Edinburgh: Elsevier, 2020. xvi, 789. ISBN 9780702074486. info
- LANDA, Leoš, Jan JUŘICA, Kristýna NOSKOVÁ and Ondřej ZENDULKA. Selected chapters from general pharmacology for students of general medicine and dentistry at MF MU. Brno, 2020. info
- Study materials in the IS, course aVLFA0822p and aVLFA0822c
- Exam question outlines in the IS

recommended literature

- WHALEN, Karen. *Lippincott illustrated reviews : Pharmacology*. Edited by Richard Finkel - Thomas A. Panavelil. 6th ed. Philadelphia, Pa.: Lippincott Williams & Wilkins, 2015. xi, 664. ISBN 9781451191776.

Teaching methods

lectures

Assessment methods

The final evaluation of the course contains also results of the tests from practicals of both semesters and results of colloquium test.

The final mark is calculated by following method:

Relative weight of the mark from tests: 30 %

Relative weight of the mark from oral exam: 70 %

To calculate **mark from the tests** the following method will be used:

The summary score from all tests in courses VLFA07212c, VLFA07212p, VLFA08222c, and VLFA08222p is 230 pts. Minimum to pass through the course to the oral exam is 128 pts.

A = 210-230 pts

B = 190-209 pts

C = 160-189 pts

D = 140-159 pts

E = 128-139 pts

F = less than 128 pts

To calculate **mark from the oral exam** the following method will be used:

Three different questions are chosen by students from three different sets of questions at oral exam. Moreover the student answers additional questions of examiner. Drawn questions from General and Special pharmacology and the additional questions have relative weight of 30 %. The question on

essential drugs has relative weight 10 % in the final mark of the oral exam. When student is evaluated by F for any of these questions the overall rating of oral exam is also F.

In case of success with the ROPOT test, but classification F from the oral part, students enter the oral part next time and for the final mark the score from the last ROPOT attempt is used.

Language of instruction

English

aVLFA0822c Pharmacology II - practice

Faculty of Medicine

spring

Extent and Intensity

0/3/0. 3 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

doc. MUDr. Regina Demlová, Ph.D.

Department of Pharmacology – Theoretical Departments – Faculty of Medicine

Contact Person: doc. Mgr. MVDr. Leoš Landa, Ph.D.

Supplier department: Department of Pharmacology – Theoretical Departments – Faculty of Medicine

Course objectives

The aim of the course is to acquaint the students with drugs from selected pharmacotherapeutic groups and to learn them how to use the drugs rationally with respect to their mode of action, indications and contraindications.

Learning outcomes

At the end of the course student should be able choose and prescribe suitable drug for the patient with known indication. The selection will be made with respect to all factors influencing drug safety and efficacy.

Syllabus

aVLFA0822c – Pharmacology II practicals

General medicine

Spring semester

- **1. ANTIPSYCHOTICS, ANTIPARKINSONICS, PROKINETICS**

- Content of the lesson: Classification of psychotropic medicines, pharmacology of dopaminergic system with the focus on antipsychotics, antiparkinsonics and prokinetics.
- **2. ANTIDEPRESSANTS**
- Content of the lesson: Pharmacological review of antidepressants, cognitive enhancers and psychostimulants.
- **3. ANXIOLYTICS, HYPNOSEDATIVES, ANTICONVULSANTS**
- Content of the lesson: GABAergic neurotransmission. Anxiolytics, hypnosedatives, anticonvulsants – modes of action, drugs, indications, adverse effects. Rules in the therapy of anxiety, sleeping disorders and seizures with respect to specific subpopulations. Psychopharmacological case reports. Drug dependence and its treatment.
- **4. GENERAL AND LOCAL ANAESTHETICS**
- Content of the lesson: Basic pharmacological features of general and local anaesthetics. Premedication before general anaesthesia.
- **5. VASODILATORS AND DRUGS WITH EFFECT ON VESSELS**
- **MCQ TEST No. 1**
- Content of the lesson: Lipid-lowering drugs, nitrates, donors of NO groups, calcium channel blockers and other groups of direct vasodilators. Risk factors of cardiovascular diseases.
- **6. DRUGS INFLUENCING RAAS. DIURETICS.**
- Content of the lesson: ACE inhibitors, sartans, inhibitors of renin, diuretics. Antagonists of mineralocorticoid receptors. Antihypertensives of the 1st and 2nd choice, combined therapy.
- **7. DRUGS DIRECTLY INFLUENCING MYOCARDIUM**
- Content of the lesson: Beta-blockers and bradins, drugs with positive inotropic effects. Calcium channel blockers – non-DHP, antiarrhythmics. Therapy of heart failure.
- **8. DRUGS INFLUENCING HAEMOSTASIS**
- Content of the lesson: Classification of drugs interfering with the process of haemostasis, pharmacological review of anticoagulants, antiplatelet drugs, fibrinolytics and antianaemics.
- **9. ANTI-INFECTIVES I – ANTIBACTERIAL SUBSTANCES**
- **MCQ TEST No. 2**
- Content of the lesson: Pharmacological review of antibiotics, PK/PD parameters, selection of ATB, case reports, bacterial resistance.
- **10. ANTI-INFECTIVES II – ANTIFUNGAL AND ANTIVIRAL DRUGS, DERMATOLOGICS**
- Content of the lesson: Therapy of respiratory infections, UTI, intensive care. Overview of antimycotics and antivirals, Dermatology – classification and pharmacological review, local anti-infectives, revision of drug prescription.
- **11. DRUGS OF GIT**
- **PRESCRIPTION TEST**
- Content of the lesson: Pharmacological review of drugs used in GIT disorders.
- **12. CYTOSTATICS AND TARGETED THERAPY IN ONCOLOGY**
- Content of the lesson: Overview, classification and mechanisms of action of anticancer drugs. Adverse effects of cytostatics.
- **13. THERAPY OF INTOXICATIONS**
- Content of the lesson: Principles of therapy of intoxications. Case reports focused on intoxications.
- **14. DRUG INTERACTIONS**
- **MCQ TEST No. 3**
- Content of the lesson: Case reports focused on drug interactions.
- **15. PHYTOPHARMACOLOGY**

- Content of the lesson: Pharmaceutical forms of herbal medicines, herbal tea mixtures preparation and degustation. Drug-drug interactions of herbal medicines. Herbal self-treatment of selected diseases. Credits.

Literature

required literature

- RITTER, James, R. J. FLOWER, Graeme HENDERSON, Yoon Kong LOKE, David J. MACEWAN and H. P. RANG. Rang and Dale's pharmacology. Ninth edition. Edinburgh: Elsevier, 2020. xvi, 789. ISBN 9780702074486.
- LANDA, Leoš, Jan JUŘICA, Kristýna NOSKOVÁ and Ondřej ZENDULKA. Selected chapters from general pharmacology for students of general medicine and dentistry at MF MU. Brno, 2020.

recommended literature

- **Practicals in Pharmacology** <http://portal.med.muni.cz/discipline-13-pharmacology>
- Library of case reports: https://is.muni.cz/auth/do/med/el/case_reports/index_en.html
- WHALEN, Karen. *Lippincott illustrated reviews : Pharmacology*. Edited by Richard Finkel - Thomas A. Panavelil. 6th ed. Philadelphia, Pa.: Lippincott Williams & Wilkins, 2015. xi, 664. ISBN 9781451191776.

Teaching methods

Drug classes from the Syllabus are actively reviewed by students and supported by the teacher. Possible ambiguities are discussed and learned knowledge is practiced in case reports from real clinical practice. The training of drug prescription with the use of drug compendia and the computer databases.

Assessment methods

The participation in practicals is obligatory and registered. Students can miss two classes without excuse. To get credits a student has to pass 4 written tests:

Prescription test

a) 2 RMP, the main indication or pharmacotherapeutic group is stated together with a basic data of the patient significant for correct drug selection

Multiple-choice tests

15 questions, number of correct answers indicated, minimal score to pass 6

one of the tests can be repeated once

The credits will be given to students who: passed the prescription test and scored at least 6 points from each of multiple-choice tests and their total score from these tests is higher than 20.

Language of instruction

English

YEAR 4 / SEMESTER 7/8

aVLDI7X1c Diagnostic Imaging Methods - practice

Faculty of Medicine

autumn / spring

Extent and Intensity

0/4/0. 2 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

MUDr. Tomáš Andrašina, Ph.D.

Department of Radiology and Nuclear Medicine - Institutions shared with the Faculty Hospital Brno - Adult Age Medicine - Faculty of Medicine

Contact Person: MUDr. Tomáš Andrašina, Ph.D.

Course objectives

Nuclear medicine: The concept of this course is introduction into the study of nuclear medicine. Students should know basic principles of examination and should be able to select the diagnostic and therapeutic methods of nuclear medicine. Radiodiagnostic: The concept of this course is introduction into the study of radiology and imaging methods, including CT, MR, X-ray, angiography and ultrasound. Students should know basic principle of examination and methods of CT, MR, UZ and X-ray, including technique, anatomy, indications, contraindications and risk factors.

Learning outcomes

Student will:

- have knowledge of the principles of imaging methods, differentiation of individual modalities, appropriate indications and contraindications of methods.
- be able to indicate correct imaging methods in case of suspicion of specific disease conditions
- know the limitations of imaging methods in specific disease states,
- be able to evaluate basic anatomical structures on imaging examinations.

Syllabus

- Nuclear Medicine: Radionuclides, the interaction between ionizing radiation and matter, radiation detection, imaging techniques, SPECT, PET, fundamentals of radiopharmacology, biological effects of ionizing radiation, radiation safety. Methods of nuclear medicine used in urology, skeletal and bone marrow scintigraphy, nuclear cardiology. Scintigraphy of CNS, lungs, thyroid gland, gastrointestinal tract, liver and spleen. Examination in hematology, diagnostics of inflammations and tumors. With each examination procedure, the radiopharmaceuticals used, the methods, evaluation, interpretation of the findings, and indications are explained. Principles of radioimmunologic diagnostic procedures. Relations between the methods of nuclear medicine and other imaging methods, the role of radionuclide methods in diagnostic algorithms. Fundamentals of therapy of diseases using radiopharmaceuticals. Radiodiagnostic: CT, MR, X-ray, ultrasound, angiography,

interventional radiology, indications, contraindication, risk factors, limits, technical aspect, anatomy, interpretations of the findings. Methods of diagnostic imaging used in different subspecializations and areas like pediatric radiology, neuroradiology, interventional radiology, abdominal imaging, imaging in oncology, urology, woman imaging and cardiac imaging are discussed. With each examination procedure and method, the contrast agents, indications, contraindications and risk factors, as well as limits, are explained. Technical principles, standards, protections and “how to do it” are also learned.

Literature

required literature

- HERRING, William. *Learning radiology : recognizing the basics*. 3rd edition. Philadelphia: Elsevier, 2015. xvii, 332. ISBN 9780323328074.
- ZIESSMAN, Harvey A. and James H THRALL. *Nuclear Medicine: The Requisites, 4th Edition*. 2013. ISBN 978-0-323-08299-0.

not specified

- HEŘMAN, Miroslav. *Základy radiologie*. 1. vyd. Olomouc: Univerzita Palackého, 2014. 314 s. ISBN 9788024429014.
- *Nukleární medicína*. 4. uprav. a dopl. vyd. Jilemnice: Gentiana, 2002. 154 s. ISBN 8086527050.
- VÁLEK, Vlastimil. *Moderní diagnostické metody*. Edited by Jan Žižka. 1. vyd. Brno: Institut pro další vzdělávání pracovníků ve zdravotnictví, 1996. 43 s., obr. ISBN 80-7013-225-6.
- SVÍŽENSKÁ, Ivana and Vlastimil VÁLEK. *Základy anatomie v zobrazovacích metodách. I. Skiaskopie a skiografie (Anatomy in image methods. I. Skiascopy and skiagraphy)*. První. Brno: IDVPZ Brno, MU Brno, Boston Scientific ČR s.r.o., 2001. 72 pp. ISBN 80-7013-334-1.
- ELIÁŠ, Pavel, Petr MÁČA, Jiří NEUWIRTH and Vlastimil VÁLEK. *Moderní diagnostické metody. II.díl Výpočetní tomografie*. 1. vyd. Brno: Institut pro další vzdělávání pracovníků ve zdravotnictví, 1998. 84 pp. ISBN 80-7013-294-9.
- BOUDNÝ, Jaroslav, Martin KÖCHER, Jan PEREGRIN and Vlastimil VÁLEK. *Moderní diagnostické metody. IV.díl Instrumentarium k intervenčním výkonům*. 1.vyd. Brno: Institut pro další vzdělávání pracovníků ve zdravotnictví, 2000. 42 pp. ISBN 80-7013-298-1.
- KUPKA, Karel, Jozef KUBINYI and Martin ŠÁMAL. *Nukleární medicína*. 1. vyd. [Praha]: P3K, 2007. 185, xiv. ISBN 9788090358492.
- VOTRUBOVÁ, Jana. *Klinické PET a PET/CT*. 1. vyd. Praha: Galén, 2009. 207 s. ISBN 9788072626199.
- FERDA, Jiří and Hynek MÍRKA. *Základy zobrazovacích metod*. první. Praha: Galén, 2015. 148 pp. ISBN 978-80-7492-164-3.

Teaching methods

Seminars and practical and practical training.

Assessment methods

Full attendance and test of radiological anatomy are necessary for giving course-unit credit.

Language of instruction

English

aVLDI7X1p Diagnostic Imaging Methods - lecture

Faculty of Medicine

autumn / spring

Extent and Intensity

1/0/0. 3 credit(s). Type of Completion: zk (examination).

Taught in person.

Guaranteed by

MUDr. Tomáš Andrašina, Ph.D.

Department of Radiology and Nuclear Medicine – Joint workplaces with the University Hospital Brno – workplaces of the Bohunice and Mater. Hospital – Faculty of Medicine

Course objectives

Nuclear medicine: The concept of this course is introduction into the study of nuclear medicine. Students should know basic principles of examination and should be able to select the diagnostic and therapeutic methods of nuclear medicine. Radiodiagnostic: The concept of this course is introduction into the study of radiology and imaging methods, including CT, MR, X-ray, angiography and ultrasound. Students should know basic principle of examination and methods of CT, MR, UZ and X-ray, including technique, anatomy, indications, contraindications and risk factors.

Learning outcomes

Student will:

- have knowledge of the principles of imaging methods, differentiation of individual modalities, appropriate indications and contraindications of methods.
- be able to indicate correct imaging methods in case of suspicion of specific disease conditions
- know the limitations of imaging methods in specific disease states,
- be able to evaluate basic anatomical structures on imaging examinations.

Syllabus

- Nuclear Medicine: Radionuclides, interaction between ionizing radiation and matter, radiation detection, imaging techniques, SPECT, PET, fundamentals of radiopharmacology, biological effects of ionizing radiation, radiation safety. Methods of nuclear medicine used in urology, skeletal and bone marrow scintigraphy, nuclear cardiology. Scintigraphy of CNS, lungs, thyroid gland, gastrointestinal tract, liver and spleen. Examination in hematology, diagnostics of inflammations and tumors. With each examination procedure, the radiopharmaceuticals used, the methods, evaluation, interpretation of the findings, and indications are explained. Principles of radioimmunologic diagnostic procedures. Relations between the methods of nuclear medicine and other imaging methods, role of radionuclide

methods in diagnostic algorithms. Fundamentals of therapy of diseases using radiopharmaceuticals. Radiodiagnostic: CT, MR, X-ray, ultrasound, angiography, interventional radiology, indications, contraindication, risk factors, limits, technical aspect, anatomy, interpretations of the findings. Methods of diagnostic imaging used in different subspecializations and areas like pediatric radiology, neuroradiology, interventional radiology, abdominal imaging, imaging in oncology, urology, woman imaging and cardiac imaging are discussed. With each examination procedure and method the contrast agents, indications, contraindications and risk factors as well as limits are explained. Technical principles, standards, protections and "how to do it" are also learned.

Literature

required literature

- HEŘMAN, Miroslav. Basics of radiology. Vydavatelství Univerzity Palackého, 2021. 320 pp. ISBN 978-80-244-5697-3.
- ZIESSMAN, Harvey A. and James H THRALL. *Nuclear Medicine: The Requisites, 4th Edition*. 2013. ISBN 978-0-323-08299-0.

recommended literature

- HERRING, William. *Learning radiology: recognizing the basics*. 3rd edition. Philadelphia: Elsevier, 2015. xvii, 332. ISBN 9780323328074.

not specified

- KORANDA, Pavel. *Nukleární medicína*. 1. vyd. Olomouc: Univerzita Palackého v Olomouci, 2014. 201 s. ISBN 9788024440316.
- VÁLEK, Vlastimil. *Moderní diagnostické metody*. Edited by Jan Žižka. 1. vyd. Brno: Institut pro další vzdělávání pracovníků ve zdravotnictví, 1996. 43 s., obr. ISBN 80-7013-225-6.
- SVÍŽENSKÁ, Ivana and Vlastimil VÁLEK. *Základy anatomie v zobrazovacích metodách. I. Skiaskopie a skiografie (Anatomy in image methods. I. Skiascopy and skiagraphy)*. První. Brno: IDVPZ Brno, MU Brno, Boston Scientific ČR s.r.o., 2001. 72 pp. ISBN 80-7013-334-1.
- ELIÁŠ, Pavel, Petr MÁČA, Jiří NEUWIRTH and Vlastimil VÁLEK. *Moderní diagnostické metody. II.díl Výpočetní tomografie*. 1. vyd. Brno: Institut pro další vzdělávání pracovníků ve zdravotnictví, 1998. 84 pp. ISBN 80-7013-294-9.
- BOUDNÝ, Jaroslav, Martin KÖCHER, Jan PEREGRIN and Vlastimil VÁLEK. *Moderní diagnostické metody. IV.díl Instrumentárium k intervenčním výkonům*. 1.vyd. Brno: Institut pro další vzdělávání pracovníků ve zdravotnictví, 2000. 42 pp. ISBN 80-7013-298-1.
- KUPKA, Karel, Jozef KUBINYI and Martin ŠÁMAL. *Nukleární medicína*. 1. vyd. [Praha]: P3K, 2007. 185, xiv. ISBN 9788090358492.
- VOTRUBOVÁ, Jana. *Klinické PET a PET/CT*. 1. vyd. Praha: Galén, 2009. 207 s. ISBN 9788072626199.
- LANG, Otto, Milan KAMÍNEK and Helena TROJANOVÁ. *Nukleární kardiologie*. Praha: Galén, 2008. 130 s. ISBN 9788072624812.

- FERDA, Jiří and Hynek MÍRKA. *Základy zobrazovacích metod*. první. Praha: Galén, 2015. 148 pp. ISBN 978-80-7492-164-3.

Teaching methods

lecture

Assessment methods

Full attendance is necessary for giving course-unit credit.

Language of instruction

English

aVLIN7X21c Infectious diseases I - practice

Faculty of Medicine

autumn / spring

Extent and Intensity

0/2/0. 2 credit(s). Type of Completion: z (credit).

Taught in person.

Supervisor

prof. MUDr. Petr Husa, CSc.

Department of Infectious Diseases - Institutions shared with the Faculty Hospital Brno - Adult Age Medicine - Faculty of Medicine

Course objectives

The concept of this course is introduction into the study of infectious disease. The aim of this course is to obtain basic information about infectious diseases - bacterial, viral, and parasitic, including travel-related disease. The stress is put on practical education with the patients. This practical course is combined with tutorials stressed on the most important infectious diseases.

Syllabus

- New infectious diseases. Viral hepatitis A,B,C,D,E,G; aetiology, pathology, epidemiology, clinical features including prodromal state, dynamic of the biochemical findings, aetiological diagnostics direct and indirect (serology), treatment, sequelae, carrier state of the virus of hepatitis B and C, chronic hepatitis, treatment of them.
- GIT infections; pathology of the infectious diarrhoeas; salmonellosis, campylobacteriosis; clinical features, treatment.
- HIV/AIDS infection - stage, treatment, the principles of them.
- Respiratory infections, infectious mononucleosis, tonsillitis. Erysipellas, herpes zoster, infectious exanthema.
- Toxoplasmosis, tularemia.

- Infectious children`s ailments.
- The first information in neuroinfections.
- The antibiotic therapy by the infectious disease, antibiotic resistance, antibiotic policy.
- Antivirotic therapy.
- The strategy of vaccination - the present-day situation, the preview.
- Clinical demonstration of the patients.

Literature

required literature

- HUSA, Petr, Lenka KRBKOVÁ, Drahomíra BARTOŠOVÁ, Svatava SNOPOKOVÁ, Alena HOLČÍKOVÁ, Pavel POLÁK, Radek SVOBODA and Kateřina HAVLÍČKOVÁ. *Infekční lékařství. Učební text pro studenty všeobecného lékařství (Infectious Diseases. Textbook for students of general medicine.)*. 1. vyd. Brno: Masarykova univerzita, 2011. 159 pp. ISBN 978-80-210-5660-2.

recommended literature

- *Infectious diseases for foreign students*. Edited by Petr Husa - Lenka Krbková. 1st ed. Brno: Masaryk University, 2013. 144 s. ISBN 9788021066304.
- BENEŠ, Jiří. *Infekční lékařství*. 1. vyd. Praha: Galén, 2009. xxv, 651. ISBN 9788072626441.

Teaching methods

The stress is put on practical examination of the patients combined with lectures.

Assessment methods

Full attendance is necessary for giving course-unit credit. Update: The course will be completed with a test. Successful completion of the test is a condition for granting credits.

Language of instruction

English

aVLKG7X1c Clinical Genetics - practice

Faculty of Medicine

autumn / spring

Extent and Intensity

0/1/0. 1 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

prof. MUDr. Michael Doubek, Ph.D.

Department of Internal Medicine, Hematology and Oncology – Institutions shared with the Faculty Hospital Brno – Adult Age Medicine - Faculty of Medicine

Contact Person: Bc. Kateřina Stehlíková, DiS.

Course objectives

The course provides an overview of the methods used in laboratories of clinical genetics including prenatal cytogenetics, postnatal cytogenetics, cytogenetics in oncology, molecular cytogenetics and modern DNA and RNA diagnostic methods. In addition, genetic counseling and selected model case reports are presented to students. The subject matter presented in this course will help to better understand other medical subjects including internal medicine, neurology, surgery etc. Visit to Mendel's museum in Brno.

Learning outcomes

Student will be able to:

- to examine the patient with suspected genetic disease
- build a lineage
- to indicate the tests that will lead to the diagnosis of genetic diseases
- Have a basic overview of cytogenetic and molecular biological methods
- have a basic overview of the types of inheritance and the most important inherited diseases

Syllabus

- Principles of clinical genetics
- - standard karyotype and its abnormalities
- - indication criteria for prenatal and postnatal karyotype examination
- - prenatal cytogenetic methods
- - prenatal screening examinations
- – chromosomal aberrations
- – chromosome instability
- – principles of DNA diagnostics
- - prenatal diagnostics using methods of molecular genetics
- – gene therapy and mapping of the human genome
- – principles of oncocytogenetics
- – genetic counseling - case reports.

Literature

- Lecture materials.
- D.J.Pritchard, B.R.Korf: Základy lékařské genetiky, Galén 2007
- Nussbaum, Mc Illnes, :Thompson & Thompson: Klinická genetiky, 2004

- SRŠEŇ, Štefan and Klára SRŠŇOVÁ. *Základy klinickej genetiky*. 2. preprac. a rozš. vyd. Martin: Vydavateľstvo Osveta, 1995. 259 s. ISBN 8021704772.
- KUČEROVÁ, Maria. *Vrozené a získané poruchy lidských chromosomů [Kučerová, 1988]*. Praha: Avicenum, 1988.
- HYÁNEK, Josef. *Klinické a biochemické aspekty vrozených metabolických poruch*. 1. vyd. Praha: Avicenum, 1980. 280 s.
- MICHALOVÁ, Kyra. *Úvod do lidské cytogenetiky*. Vyd. 1. V Brně: Institut pro další vzdělávání pracovníků ve zdravotnictví v Brně, 1999. 172 s. ISBN 8070132817.
- Vojtíšková M.: *Klinická molekulární genetik*a, IDVPZ Brno, 1999
- ŠMARDA, Jan. *Člověk v proudu dědičnosti (Geny v lidském zdraví a nemoci) (Man in the stream of heredity)*. Praha: Grada-Avicenum, 1999. 136 pp. ISBN 80-7169-768-0.
- *Pokroky v lékařské genetice*. Edited by Jan Kapras. 1. vyd. Praha: Avicenum, 1992. 141 s. ISBN 80-85047-10-1.
- ŽIŽKA, Jan. *Diagnostika syndromů a malformací*. 1. vyd. Praha: Galén, 1994. 414 s. ISBN 80-85824-04-3.
- *Practical genetic counselling*. Edited by Peter S. Harper. 4th ed. Oxford: Butterworth-Heinemann, 1993. 348 s. ISBN 0-7506-0928-1.
- *Atlas klinických syndromů: pro kliniku a praxi*. Edited by H.-R Wiedemann - J. Kunze - F.-R Grosse, Translated by Miloslav Navrá. 1. vyd. Martin: Osveta, 1996. xxvii, 684. ISBN 80-217-0517-5.
- George H. Sack, Jr. : *Medical Genetics*

Teaching methods

Practical training.

Assessment methods

for giving of course-unit credit is necessary full attendance in the lessons.

Language of instruction

English

aVLKG7X1p Clinical Genetics - lecture

Faculty of Medicine

autumn / spring

Extent and Intensity

1.2/0/0. 1 credit(s). Type of Completion: k (colloquium).

Taught in person.

Guaranteed by

prof. MUDr. Michael Doubek, Ph.D.

Institute of Medical Genetics and Genomics – Institutions shared with the Faculty Hospital Brno (paediatric medicine) - Faculty of Medicine

Contact Person: Bc. Kateřina Stehlíková, DiS.

Supplier department: Institute of Medical Genetics and Genomics – Institutions shared with the Faculty Hospital Brno (paediatric medicine) - Faculty of Medicine

Course objectives

The course provides an overview of the current knowledge of clinical genetics and its interdisciplinary character. Recent and modern concepts of genetic disorders, prevention of genetic diseases and congenital defects and relevant modern diagnostic methods are presented to students. As an extension of these topics, ethical, juridical and psychosocial issues are discussed. The subject matter presented in this course will help to better understand other medical subjects including internal medicine, neurology, surgery etc.

Learning outcomes

Student will be able to:

- to examine the patient with suspected genetic disease
- build a lineage
- to indicate the tests that will lead to the diagnosis of genetic diseases
- Have a basic overview of cytogenetic and molecular biological methods
- have a basic overview of the types of inheritance and the most important inherited diseases

Syllabus

Principles of clinical genetics

- standard karyotype and its abnormalities
- indication criteria for prenatal and postnatal karyotype examination
- prenatal cytogenetic methods
- prenatal screening examinations
- chromosomal aberrations
- chromosome instability
- principles of DNA diagnostics
- prenatal diagnostics using methods of molecular genetics
- gene therapy and mapping of the human genome – principles of oncocytenetics
- genetic counseling – case reports.

Literature

- Lecture materials.

- D.J.Pritchard, B.R.Korf: Základy lékařské genetiky, Galén 2007
- Nussbaum, Mc Illnes, :Thompson & Thompson: Klinická genetik, 2004
- SRŠEŇ, Štefan and Klára SRŠŇOVÁ. *Základy klinickej genetiky*. 2. preprac. a rozš. vyd. Martin: Vydavateľstvo Osveta, 1995. 259 s. ISBN 8021704772.
- KUČEROVÁ, Maria. *Vrozené a získané poruchy lidských chromosomů [Kučerová, 1988]*. Praha: Avicenum, 1988.
- HYÁNEK, Josef. *Klinické a biochemické aspekty vrozených metabolických poruch*. 1. vyd. Praha: Avicenum, 1980. 280 s.
- MICHALOVÁ, Kyra. *Úvod do lidské cytogenetiky*. Vyd. 1. V Brně: Institut pro další vzdělávání pracovníků ve zdravotnictví v Brně, 1999. 172 s. ISBN 8070132817.
- Vojtíšková M.: *Klinická molekulární genetik, IDVPZ Brno, 1999*
- ŠMARD, Jan. *Člověk v proudu dědičnosti (Geny v lidském zdraví a nemoci) (Man in the stream of heredity)*. Praha: Grada-Avicenum, 1999. 136 pp. ISBN 80-7169-768-0.
- *Pokroky v lékařské genetice*. Edited by Jan Kapras. 1. vyd. Praha: Avicenum, 1992. 141 s. ISBN 80-85047-10-1.
- ŽIŽKA, Jan. *Diagnostika syndromů a malformací*. 1. vyd. Praha: Galén, 1994. 414 s. ISBN 80-85824-04-3.
- *Practical genetic counselling*. Edited by Peter S. Harper. 4th ed. Oxford: Butterworth-Heinemann, 1993. 348 s. ISBN 0-7506-0928-1.
- *Atlas klinických syndromů :pro kliniku a praxi*. Edited by H.-R Wiedemann - J. Kunze - F.-R Grosse, Translated by Miloslav Navrá. 1. vyd. Martin: Osveta, 1996. xxvii, 684. ISBN 80-217-0517-5.
- George H. Sack, Jr. : *Medical Genetics*

Teaching methods

one-hour lecture per week

Assessment methods

written colloquium, for giving of course-unit credit is necessary full attendance in the lessons

Language of instruction

English

aVLOR7X1 Orthopaedics and Rehabilitation - practice

Faculty of Medicine

autumn / spring

Extent and Intensity

0/2/0. 2 credit(s). Type of Completion: z (credit).

Taught in person.

Supervisor

doc. MUDr. Martin Repko, Ph.D.

Department of Orthopedic Surgery – Institutions shared with the Faculty Hospital Brno – Adult Age Medicine – Faculty of Medicine

Contact Person: MUDr. Jan Kocanda

Course objectives

At the end of the course students should be able to understand how to examine the orthopaedic patient (history, objective examination of the locomotor apparatus), should be able to apply imaging methods and laboratory tests leading to establishing of the diagnosis, should be able to distinguish among other conditions and to suggest the management of the condition. The student would be able to assess the prognosis of the condition.

Learning outcomes

The student will be able to examine orthopaedic patient, to perform clinical examination, to use laboratory test and to advise imaging methods, to establish diagnosis and to suggest the therapy.

Syllabus

- Programme of the course: Orthopaedics and rehabilitation The fourth school year of the general medicine, VLOR7X1. The course is divided into a theoretical introduction and to presentation of cases in the ward.
- Clinical methods - history (family, personal) symptoms of the disease, analysis of the pain, mechanism of injury, any treatment of the disease, the effect of drugs. Impairment of the function, deformity, analysis of the gait.
- objective examination: inspection, palpation, percussion, auscultation, range of motion, examination of the spine, of upper and lower extremity. - additional examination methods (X-ray, radiological stress tests, arthrography, fistulography, myelography, angiography, CT, MRI, scintigraphy, ultrasonography, densitometry etc). Laboratory methods: aspiration of the joint fluid, blood tests. Electromyography. Topics:
- Degenerative diseases (osteoarthritis, pathological anatomy, clinical symptoms and findings, radiological examination). Conservative and operative treatment.
- Malalignment of extremities (coxa valga, coxa vara, anteverta, genua vara, valga). Static deformities of foot (flat foot, talipes calcaneus, equinovarus, excavatus). Deformity of upper extremity (cubitus varus, valgus, Madelung deformity, etc).
- Artificial joints. Hip arthroplasty (materials, bone cement, types, procedures, physiotherapy after the operation, complications). Knee arthroplasty. Arthroplasty in other joints.
- Musculoskeletal tumors. Methods of examination, biopsy. Staging and grading. Benign and malignant tumors. Operative treatment, chemotherapy, radiotherapy. Treatment of bone metastases.
- Bone and joint infections. Acute osteomyelitis (symptoms, examination, treatment). Chronic osteomyelitis. Acute arthritis (symptoms, examination, treatment). Chronic arthritis. TB osteomyelitis and arthritis, actinomycosis).

- Deformities of the spine. Scoliosis (types, Cobb measurement, methods of examination), conservative and operative treatment. Kyphosis (types, treatment). Lordosis (types, treatment). Spondylolysis and spondylolisthesis (symptoms, types, management).
- Low back pain (types, sciatica, spinal stenosis, failed back surgery syndrom etc.). Ancylosing spondylitis. Pain in cervical spine.
- Injury of the spine (fractures of thoracolumbar spine, fractures of cervical spine). Conservative and operative management. - Congenital diseases (types, symptoms, management). Developmental dislocation of the hip joint (types, symptoms, management, consequences). Club foot deformity, torticollis muscularis etc..

Literature

required literature

- JANÍČEK, Pavel. *Ortopedie (Orthopedics)*. 3., přeprac. vyd. Brno: Masarykova univerzita, 2012. 112 s. ISBN 9788021059719.
- ROZKYDAL, Zbyněk and Richard CHALOUPKA. *Vyšetřovací metody v ortopedii (Methods of diagnosis in orthopaedics)*. Edited by Zbyněk Rozkydal. 2. vyd. Brno: Masarykova univerzita, 2012. 70 s. ISBN 9788021059023.

recommended literature

- GALLO, Jiří. *Ortopedie pro studenty lékařských a zdravotnických fakult.* 1. vyd. Olomouc: Univerzita Palackého v Olomouci, 2011. 211 s. ISBN 9788024424866.
- Willmott, H.: *Trauma and Orthopaedics at a glance.* Willy -Blackwell, 2015, ISBN 978-1-118-80249-6, s144

not specified

- Solomon, L.: *Apley's concise system of Orthopaedics and fractures*, third Edition, ISBN 978-0-340-80984-6, 2005, s.1-406

Teaching methods

The course is divided into a theoretical introduction with case reports and into presentation of the patients in the wards focused on the use of examination methods, on establishing of the diagnosis and the management of the conditions.

Assessment methods

The students are examined from this subject at the rigorous examination from surgery in the sixth school year. The knowledge of recommended literature and power point presentations on IS portal are required.

Language of instruction

English

aVLPD7X31c Pediatrics I - practice

Faculty of Medicine

autumn / spring

Extent and Intensity

0/3/0. 2 credit(s). Type of Completion: z (credit).

Supervisor

doc. MUDr. Petr Jabandžiev, Ph.D.

Department of Pediatrics – Institutions shared with the Faculty Hospital Brno (paediatric medicine) -
Faculty of Medicine

Contact Person: doc. MUDr. Petr Jabandžiev, Ph.D.

Course objectives

The aim of practical training in pediatrics:

- Getting acquainted with the issues of therapeutic and preventive care in the pediatrics
- Understanding the specificities of childhood medicine
- Getting acquainted with the specifics of communication with pediatric patients
- Training to obtain a complete history from the child's parents
- Training of physical examination of the pediatric patient

Learning outcomes

Upon completion of the course the student will be able to:

- Basic orientation in the pediatrics
- Communication with a child patient and his/her parents
- Obtain a medical history
- Perform objective physical examination of the child
- Design laboratory and diagnostic tests

Syllabus

- - Introduction to pediatrics
- - Introduction to neonatology
- - Child development stages
- - Psychomotor development in childhood
- - Assessment of growth and development in children
- - Pediatric history
- - Pediatric physical examination
- - Laboratory examination of pediatric patient

- - Examination of the newborn, infant, toddler
- - Examination of respiratory, GIT, urogenital tract in children
- - Evaluation of basic laboratory parameters in pediatrics
- - Nutrition in childhood
- - Basics of pediatric pharmacotherapy

Literature

recommended literature

- KLIEGMAN, Robert, Bonita F. STANTON, Joseph W. ST. GEME and Nina F. SCHOR. *Nelson textbook of pediatrics*. Edited by Richard E. Behrman. 20th edition. Philadelphia: Elsevier, 2016. lxxviii, 17. ISBN 9781455775668.
- MARCDANTE, Karen J. and Robert KLIEGMAN. *Nelson essentials of pediatrics*. Eighth edition. Philadelphia: Elsevier, 2019. xiii, 818. ISBN 9780323511452.

not specified

- *American Academy of Pediatrics textbook of pediatric care*. Edited by Thomas K. McInerney. [Washington, D.C.]: American Academy of Pediatrics, 2009. xlix, 2935. ISBN 9781581106411.
- *Current diagnosis & treatment : pediatrics*. Edited by William W. Hay. 21st ed. New York: McGraw-Hill Medical, 2012. xxx, 1452. ISBN 9780071792899.
- *Pediatric Propedeutics - László Kovács*

Teaching methods

- Practical training
- Seminar

Assessment methods

- 90% attendance at practical training and seminars
- Short presentation/Power point/ on a given topic
- Credit

Completion of the subject Pediatrics I, II, III with an examination

In year 5, just after completion of the 3rd module in Paediatrics, the students will need to sit an exam. The exam will essentially take the form of an online test which will include questions from pediatric propedeutics and topics discussed at seminars (autumn semester - Pediatrics II and spring semester - Pediatrics III). Test contains 20 questions and 1 out of 4 answers will always be correct. See the list of recommended literature for preparation for the exam. The total test time will be 30 min

Test rating:

A 20-19 correct answers

B 18-17 correct answers

C 16-15 correct answers

D 14-13 correct answers

E 12-11 correct answers

F 10 and less correct answers

Language of instruction

English

aVLPD7X31p Pediatrics I - lecture

Faculty of Medicine

autumn / spring

Extent and Intensity

1/0/0. 0 credit(s). Type of Completion: z (credit).

Taught in person

Guaranteed by

doc. MUDr. Petr Jabandžiev, Ph.D.

Department of Pediatrics – Institutions shared with the Faculty Hospital Brno (paediatric medicine) - Faculty of Medicine

Contact Person: doc. MUDr. Petr Jabandžiev, Ph.D.

Supplier department: Department of Pediatrics – Institutions shared with the Faculty Hospital Brno (paediatric medicine) - Faculty of Medicine

Course objectives

The aim of the course is to get acquainted with the main concepts and tasks of pediatrics.

Learning outcomes

The student will be:

- acquainted with principal concepts and tasks of paediatrics

Syllabus

- Neonatology
- Intensive care in pediatrics
- Nutrition in pediatrics
- Pediatric immunology
- Pediatric gastroenterology
- Inherited metabolic disorders

- Pediatric rheumatology
- Pediatric hematology
- Pediatric nephrology
- Pediatric endocrinology
- Pediatric cardiology
- Social issues in pediatrics

Literature

recommended literature

- MARCDANTE, Karen J. and Robert KLIEGMAN. Nelson essentials of pediatrics. Eighth edition. Philadelphia: Elsevier, 2019. xiii, 818. ISBN 9780323511452.
- KLIEGMAN, Robert, Bonita STANTON, Joseph W. ST. GEME and Nina Felice SCHOR. Nelson textbook of pediatrics. Edited by Richard E. Behrman. 20th edition. Philadelphia: Elsevier, 2016. lxxviii, 17. ISBN 9781455775668.
- American Academy of Pediatrics textbook of pediatric care. Edited by Thomas K. McInerney. [Washington, D.C.]: American Academy of Pediatrics, 2009. xlix, 2935. ISBN 9781581106411.

not specified

- *Current diagnosis and treatment : pediatrics*. Edited by William W. Hay. 22nd ed. New York: McGraw-Hill Medical, 2014. xxviii, 15. ISBN 9780071827348.

Teaching methods

lecture

Assessment methods

credit

Language of instruction

English

aVLSD7X1c Forensic Medicine - practice

Faculty of Medicine

autumn / spring

Extent and Intensity

0/2/0. 1 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

MUDr. Mgr. Bc. Tomáš Vojtíšek, Ph.D.

Department of Forensic Medicine - Institutions shared with St. Anne's Faculty Hospital - Faculty of Medicine

Contact Person: Květa Blatná

Supplier department: Department of Forensic Medicine - Institutions shared with St. Anne's Faculty Hospital - Faculty of Medicine

Course objectives

At the end of this course, students: have basic skills in thanatology, should be oriented in the problems of the origin of a lot of kinds of injuries and sudden death, have basic skills in forensic toxicology, genetics and serology including their using in practice, should be oriented in medical and criminal law in medicine, should be able to examine dead person.

Learning outcomes

After completing the course the student will be able to:

- understand and describe the system of Forensic Medicine service in the Czech Republic, especially the autopsies;
- understand and identify basic injury mechanisms due to external factors and poisons;
- understand the course of changes after death on the human body;
- understand the relations between medical workers and prosecuting authorities

Syllabus

- During lessons there will be presented: the theoretical basis of forensic thanatology including changes after death
- Sudden and unexpected death
- Blunt injuries including problems of traffic accidents
- Knife wounds
- Firearms injuries
- Forensic toxicology, genetics and serology
- Injury due to heat, cold and electricity
- Suffocation
- During the lectures there will be presented up-to-date informations in forensic medicine

Literature

required literature

- HIRT, Miroslav, Dalibor STRATIL, Tomáš PEXA and M. PEŠTÁLOVÁ. *Forensic Medicine*. Brno: Masarykova univerzita Brno, 1999. 76 pp. ISBN 80-210-2094-6.

recommended literature

- JASON, Payne-James, W.Byard ROGER, S Corey TRACEY and Henderson CAROL. *Encyklopedia of Forensic and Legal Medicine*. 2005. ISBN 0-12-547970-0.

- PAYNE-JAMES, Jason. *Simpson's forensic medicine*. 13th ed. London: Hodder Arnold, 2011. x, 253. ISBN 9780340986035.

Teaching methods

The seminars contains the discussion to various topics and demonstration of practical cases. Lectures are involved in new information in the forensic discipline.

Assessment methods

The final examination consists of written test.

Language of instruction

English

aVLSD7X1p Forensic medicine - lecture

Faculty of Medicine

autumn / spring

Extent and Intensity

1.4/0/0. 2 credit(s). Type of Completion: zk (examination).

Taught in person

Supervisor

MUDr. Mgr. Bc. Tomáš Vojtíšek, Ph.D.

Department of Forensic Medicine - Institutions shared with St. Anne's Faculty Hospital - Faculty of Medicine

Contact Person: Květa Blatná

Course objectives

At the end of this course, students: have basic skills in thanatology, should be oriented in the problems of the origin of a lot of kinds of injuries and sudden death, have basic skills in forensic toxicology, genetics and serology including their using in practice, should be oriented in medical and criminal law in medicine, should be able to examine dead person.

Learning outcomes

After completing the course the student will be able to:

- understand and describe the system of Forensic Medicine service in the Czech Republic, especially the autopsies;
- understand and identify basic injury mechanisms due to external factors and poisons;
- understand the course of changes after death on the human body;
- understand the relations between medical workers and prosecuting authorities

Syllabus

- During lessons there will be presented: the theoretical basis of forensic thanatology including changes after death

- Sudden and unexpected death
- Blunt injuries including problems of traffic accidents
- Knife wounds
- Firearms injuries
- Forensic toxicology, genetics and serology
- Injury due to heat, cold and electricity
- Suffocation
- During the lectures there will be presented up-to-date informations in forensic medicine

Literature

required literature

- HIRT, Miroslav, Dalibor STRATIL, Tomáš PEXA and M. PEŠTÁLOVÁ. *Forensic Medicine*. Brno: Masarykova univerzita Brno, 1999. 76 pp. ISBN 80-210-2094-6.

recommended literature

- JASON, Payne-James, W.Byard ROGER, S Corey TRACEY and Henderson CAROL. *Encyclopedia of Forensic and Legal Medicine*. 2005. ISBN 0-12-547970-0.
- PAYNE-JAMES, Jason. *Simpson's forensic medicine*. 13th ed. London: Hodder Arnold, 2011. x, 253. ISBN 9780340986035.

Teaching methods

The seminars contains the discussion to various topics and demonstration of practical cases. Lectures are involved in new information in the forensic discipline.

Assessment methods

The final examination consists of written test.

Language of instruction

English

aVLST7X1c Stomatology - practice

Faculty of Medicine

autumn / spring

Extent and Intensity

0/1/0. 1 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

MUDr. Sonia Bartáková, Ph.D.

Department of Stomatology – Institutions shared with St. Anne's Faculty Hospital - Faculty of Medicine

Course objectives

Characterization of the field "Stomatology". Division of the field into dentoalveolar and maxillofacial surgery. Classification of parodontopathies. Etiology of the dental caries. Differences between primary and permanent dentition. Prosthetic treatment of defects of the dentition. Characterization of orthodontics.

Learning outcomes

Students are expected to gain both theoretical and practical knowledge of maxillofacial surgery, oral surgery, implantology, dental caries, diagnosis and therapy and its complications, treatment of prosthetic options. Students practically know how to do patient therapeutic treatment plan of prosthetic dentistry with fixed and removable dentures and orthodontic diagnosis and treatment.

Syllabus

- 1. Characterization of the field "Stomatology". Division of the field into dentoalveolar and maxillofacial surgery. Specifics of the post-graduate education. The in-patient department. Anesthesia in dentistry. Characterization of some interventions: tooth extraction, incision, resection, apicoectomy, transplantation, implantation. Tumours of the orofacial region. Inflammatory diseases in the dentoalveolar region, dentitis difficilis, periosteal inflammations, inflammations of the lymph nodes, inflammations affecting the jawbones. Cysts of the jaws. Fractures in the orofacial region. Lymphadenitis, salivary glands diseases, jaw anomalies, temporomandibular joint disorders, hemorrhagic diseases. 2. Classification of parodontopathies. Diagnosis and therapy with a view to needs of the dental practitioner. Oral mucous membrane diseases associated with systemic diseases. 3. Etiology of the dental caries. Prevention of the dental caries. Clinical symptoms, localization and classification of the caries. Caries treatment, filling materials. Pulpitis, periodontitis, focal infection. Treatment of the patient at risk, geriatric dentistry. Differences between primary and permanent dentition. Differences in treatment of teeth with incompletely formed apices. Development of dentition, teeth eruption. Injuries of teeth and their consequences. Guidelines in treatment of children. Significance of healthy dentition for health of the child. 4. Prosthetic treatment of defects of the dentition and its significance for the health and social being of the individual. Characterization of orthodontics. Etiology of orthodontic anomalies. Prevention and prophylaxis in orthodontics. Classification of orthodontic anomalies, principles of treatment in orthodontics. Cleft defects.

Literature

- KOŠUT, Vladimír. Stomatology for students of general medicine. In *Stomatology for students of general medicine*. Brno: Masarykova univerzita, 1997. p. 1-139. ISBN 80-210-1611-6.

Teaching methods

Presentations by professionals from all departments of Stomatological Clinic and Department of Maxillofacial surgery.

Assessment methods

Full attendance in the course is the condition for giving credit.

Language of instruction

English

aVLST7X1p Stomatology - lecture

Faculty of Medicine

autumn / spring

Extent and Intensity

1/0/0. 2 credit(s). Type of Completion: zk (examination).

Taught in person.

Guaranteed by

doc. MUDr. Sonia Bartáková, Ph.D.

Department of Stomatology – Institutions shared with St. Anne's Faculty Hospital – Faculty of Medicine

Supplier department: Faculty of Medicine

Course objectives

Characterization of the field "Stomatology". Division of the field into dentoalveolar and maxillofacial surgery. Classification of parodontopathies. Etiology of the dental caries. Differences between primary and permanent dentition. Prosthetic treatment of defects of the dentition. Characterization of orthodontics.

Learning outcomes

Students are expected to have both theoretical and practical knowledge of maxillofacial surgery, oral surgery, implantology, dental caries, diagnosis and therapy and its complications, treatment of prosthetic options. Students practically know how to do patient therapeutic treatment plan of prosthetic dentistry with fixed and removable dentures and orthodontic diagnosis and treatment.

Syllabus

- 1. Characterization of the field "Stomatology". Division of the field into dentoalveolar and maxillofacial surgery. Specifics of the post-graduate education. The in-patient department. Anesthesia in dentistry. Characterization of some interventions: tooth extraction, incision, resection, apicoectomy, transplantation, implantation. Tumours of the orofacial region. Inflammatory diseases in the dentoalveolar region, dentitis difficilis, periosteal inflammations, inflammations of the lymph nodes, inflammations affecting the jawbones. Cysts of the jaws. Fractures in the orofacial region. Lymphadenitis, salivary glands diseases, jaw anomalies, temporomandibular joint disorders, hemorrhagic diseases.
- 2. Classification of parodontopathies. Diagnosis and therapy with a view to needs of the dental practitioner. Oral mucous membrane diseases associated with systemic diseases.
- 3. Etiology of the dental caries. Prevention of the dental caries. Clinical symptoms, localization and classification of the caries. Caries treatment, filling materials. Pulpitis, periodontitis, focal infection.

Treatment of the patient at risk, geriatric dentistry. Differences between primary and permanent dentition. Differences in treatment of teeth with incompletely formed apices. Development of dentition, teeth eruption. Injuries of teeth and their consequences. Guidelines in treatment of children. Significance of healthy dentition for health of the child. 4. Prosthetic treatment of defects of the dentition and its significance for the health and social being of the individual. Characterization of orthodontics. Etiology of orthodontic anomalies. Prevention and prophylaxis in orthodontics. Classification of orthodontic anomalies, principles of treatment in orthodontics. Cleft defects.

Literature

- KOŠUT, Vladimír. Stomatology for students of general medicine. In *Stomatology for students of general medicine*. Brno: Masarykova univerzita, 1997. p. 1-139. ISBN 80-210-1611-6. [info](#)

Teaching methods

Lectures of Restorative Dentistry, Prosthetic Dentistry, Oral surgery, Maxillofacial surgery, Orthodontics, Pediatric Dentistry

Assessment methods

Course is finished by oral examination.

Language of instruction

English

aVLVL7X61c Internal Medicine - part 1 - practice

Faculty of Medicine

autumn / spring

Extent and Intensity

0/4/0. 3 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

prof. MUDr. Ondřej Ludka, Ph.D.

Department of Internal Medicine, Geriatrics and Practical Medicine – Joint workplaces with the University Hospital Brno – workplaces of the Bohunice and Mater. Hospital – Faculty of Medicine

Contact Person: Jitka Skládaná

Course objectives

Occupational medicine

This course explains the impact of work and working conditions on the health of workers, the prevention diagnostics, treatment, and medicolegal aspects of diseases caused or exacerbated by working conditions: occupational diseases, accidents at work, work-related diseases, occupational

health services in the Czech Republic, aims and functions of an occupational health service, types of service

Functional diagnostics and rehabilitation

This course unit provides detailed information about key diagnostic functional tests in clinical medicine, all of which are conducted inside the lab. Students will be able to apply the basic concepts by conducting self-made examinations and recording their own physiological responses to exercise.

Geriatrics

Students will understand main differences between seniors and younger patients, especially in diseases diagnostics, specificities of objective findings, laboratory parameters and treatment targets as well.

Learning outcomes

Occupational medicine

Student knows occupational preventive measures including the evaluation of working ability, health risks of ionization, physical factors, industrial toxins. Student can describe basic obligations of employers in relationship to the employee, basic rules for the evaluation of occupational diseases, risks of occupational diseases or risks of accidents at work. Student is able to describe the duties of attending physician, injured employee and employer in the event of the accident of work.

Functional diagnostics and rehabilitation

After completing the course the student will know: principles of implementation, indications and contraindications of CPX (cardiopulmonary exercise testing) in clinical and outpatient practice (especially spiroergometric testing, basic principles of functional diagnostics of respiratory functions and investigation of autonomic nervous regulations), reactions of the organism to various types of exertion and the differences between the physiological and pathological reactions of the basic functional parameters to the physical load, the importance of prescribing exercise therapy in internal medicine, especially in patients with cardiovascular or respiratory diseases, and metabolic disorders, the importance of different training types for cardiac patients (phase I. - IV. of cardiovascular rehabilitation)

Geriatrics

Student knows the complex geriatric assessment Student is able to plan the diagnostics with regard to specific features of older patients Student is able to prepare the therapeutic scheme with regard to specific features of older patients Student is able to formulate the régime and diet measures with regard to specific features of older patients Student is able to plan and assure the aftercare with regard to interdisciplinary syndromes.

Syllabus

- Occupational medicine
- 1 Introduction: The impact of work and working conditions on the health of workers.
- The prevention diagnostics, treatment, and medicolegal aspects of diseases caused or exacerbated by working conditions: occupational diseases, accidents at work, work-related diseases.

- 2 Occupational health services in the Czech Republic. Aims and functions of an occupational health service, types of service
- Occupational health ethics
- Knowledge of the work environment, specific workplace hazards
- Medical examinations: pre-placement, periodic and special medical examinations, occupational history, biological monitoring, medical records
- Rehabilitation and resettlement
- 3 Occupational diseases and toxicology List of occupational diseases (appendix of government decree no. 290/1995)
- Occupational diseases due to chemical agents, poisoning by lead or a compound of lead, poisoning by a nitro- or amino- or chloroderivate of benzene or of a homologue of benzene, poisoning by organophosphates, poisoning by chemical asphyxiants (carbon monoxide, hydrogen cyanide)
- Occupational diseases due to physical agents, work-related cumulative trauma disorders of the hand and arm, hand-arm vibration syndrome, noise induced hearing loss, non-stochastic and stochastic health effects of ionizing radiation, dysbarism, disorders due to heat
- Occupational lung disorders, pneumoconioses (silicosis, coal workers' pneumoconiosis, asbestosis), asthma, extrinsic allergic alveolitis- farmer's lung), acute inflammation, malignancy Occupational dermatoses, primary irritant contact dermatitis, allergic contact dermatitis, neoplasms
- Occupational infections, infections due to exposure to infected humans or their tissues, infections transmitted from animals to humans (zoonoses), travel-associated infectious diseases
- 4 Mental health at work
- 5 The main areas of law relevant to occupational health , workers compensation law
- FUNCTIONAL DIAGNOSTICS AND REHABILITATION
- 1 Introduction
- 2 Reaction and adaptation to physical stress
- Gas transport systém, respiration, circulation, energy metabolism, body fluids and ions, acid - base balance, neuromuscular system
- 3 Stress tests
- Characteristics, indications and contraindications
- Stress testing procedure, criteria of evaluation and interpretation
- Methods, special approaches to stress testing
- 4 Fundamentals of exercise therapy and rehabilitation
- Exercise therapy as a part of rehabilitation

- Definition and division into constituent parts
- Therapeutical rehabilitation
- Prescription of exercise therapy, principles, physiologic efficiency of physical activities, kinds of physical activities, stress intensity, frequency and duration of stress
- 5 Stress testing and exercise therapy in selected diseases
- Cardiovascular and haematologic diseases
- Functional disorders of circulation
- Congenital heart diseases, valvular heart diseases, acute inflammatory diseases. Cardiomyopathy, atherosclerosis, coronary artery diseases, heart failure, arrhythmias, arterial hypertension, chronic ischaemic arterial obstructive disease of lower limbs, respiratory, haematological diseases, diabetes mellitus and other endocrinology diseases
- GERIATRICS
- 1 Specificity of disease symptoms in elderly, diagnostic approach, complex geriatric assessment
- 2 Different disease course in elderly, complications, chronicity
- 3 Immobilization, complication cascade
- 4 Necessity of emergent approach to elderly to accelerate the healing process and to keep the independency of the elderly
- 5 Giants of geriatrics, multidisciplinary approach
- 6 Social context of diseases in elderly
- 7 The influence of sensoric, cognitive and motoric deterioration on the independence and ability to live in own environment
- 8 Geriatric maladaptation syndrom
- 9 Sleeping disorders in elderly, behavioral disorders in elderly
- 10 Psychical disturbances in elderly, communication basics, stress situation management

Literature

recommended literature

- The Merck Manual of Geriatrics. <http://www.merck.com/mkgr/mmg/search.jsp>
- Geriatric e-learningový kurz, Portál LF MU
- MCARDLE, William D., Frank I. KATCH and Victor L. KATCH. *Exercise physiology : nutrition, energy, and human performance*. Eighth edition. Philadelphia: Wolters Kluwer Health, 2015. lix, 1028. ISBN 1451191553.
- ŠUBRT, Bořivoj and Milan TUČEK. *Pracovnílékařské služby : povinnosti zaměstnavatelů a lékařů*. 2. doplněné vydání. Olomouc: ANAG, 2015. 351 stran. ISBN 9788072639441.

- PELCLOVÁ, Daniela. *Nemoci z povolání a intoxikace*. 3., doplněné vydání. Praha: Karolinum, 2014. 316 stran. ISBN 9788024625973.
- MATĚJOVSKÁ KUBEŠOVÁ, Hana and Pavel WEBER. *Geriatricie (Geriatrics)*. In *Vnitřní lékařství*. Praha: Grada, 2011. 30 pp. *Vnitřní lékařství 1*. ISBN 978-80-247-2110-1.
- MATĚJOVSKÁ KUBEŠOVÁ, Hana, Pavel WEBER, Pavel ŠEVČÍK, Michal MAŠEK, Zdeněk KADAŇKA, Blanka VEPŘEKOVÁ, Vlasta POLCAROVÁ, Roman GÁL, Dagmar SEIDLOVÁ and Helena ONDRÁŠKOVÁ. *Akutní stavy v geriatricii (Emergencies in geriatrics)*. 1. vyd. Praha: Galén, 2009. 233 pp. *akutní medicína, geriatricie*. ISBN 978-80-7262-620-5.
- DOBŠÁK, Petr, Jarmila SIEGLOVÁ, Hana SVAČINOVÁ, Pavel HOMOLKA, Leona DUNKLEROVÁ, Michaela SOSÍKOVÁ and Zdeněk PLACHETA. *Klinická fyziologie tělesné zátěže (Clinical physiology of body burden)*. 2009. vyd. Brno: Masarykova univerzita, 2009. 98 pp. <AA-9,10>. ISBN 978-80-210-4965-9.
- *Pracovní lékařství: základy primární pracovnělékařské péče*. Edited by Petr Brhel - Marta Manoušková - Evžen Hrnčíř. 1. vyd. Brno: Národní centrum ošetřovatelství a nelékařských zdravotnických oborů, 2005. 338 s. ISBN 8070134143.
- *Textbook of clinical and environmental medicine*. Edited by Linda Rosenstock. 2nd ed. Philadelphia: Elsevier Saunders, 2005. xviii, 133. ISBN 0721689744.
- KALVACH, Zdeněk. *Geriatricie a gerontologie*. 1. vyd. Praha: Grada, 2004. 861 s. ISBN 8024705486.
- PLACHETA, Zdeněk, Ilona DOHNALOVÁ, Jan NOVOTNÝ, Břetislav ZATLOUKAL, Karel ČECHOVSKÝ, Vladimír DRAŽIL and Pavel HOMOLKA. *Zátěžová funkční diagnostika a preskripce pohybové léčby ve vnitřním lékařství (Stress functional diagnostics and prescription of physical therapy in internal medicine)*. 2. přepracované vyd. Brno: Masarykova univerzita Brno, 1995. 156 pp. ISBN 80-210-1170-X.

Teaching methods

Lessons are taking place in blocks. Attendance at the tuition is obligatory. The students work in groups of 6-7 members. Expert seminars and simulation methods are the part of education.

Assessment methods

Test, essay as the case report, colloquium.

Language of instruction

English

aVLDV7X1c Dermatovenerology - practice

Faculty of Medicine

autumn / spring

Extent and Intensity

0/2.5/0. 1 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

prof. MUDr. Hana Jedličková, Ph.D.

First Department of Dermatovenerology – Institutions shared with St. Anne's Faculty Hospital – Faculty of Medicine

Supplier department: First Department of Dermatovenerology – Institutions shared with St. Anne's Faculty Hospital – Faculty of Medicine

Course objectives

The aim of the subject is to introduce students in practical aspects of examination approaches, diagnostics and appropriate treatment choices of dermatoses and venereal diseases. During the first semester, the training is focused on understanding and acquirement of basic principles of skin functions, pathophysiology of the most important skin diseases, morphology as a basic examination paradigm and of the most important aspects of the skin allergology, phototherapy and topical treatment in dermatology.

Learning outcomes

The student will be able:

- to investigate patient including using of basic diagnostic tests in dermatovenerology,
- to choose appropriate topical therapy, further differential diagnose in principal groups of skin and venereal diseases.

Syllabus

- 1st Day: Morphology, Phototherapy in Dermatology, Psoriasis Treatment
- 2nd Day: The Structure and Function of the Skin, Some Aspect of Cutaneous T-cell Lymphoma, Phlebology
- 3rd Day: Dermatoallergology, Investigative Methods in the Skin Allergology, Bullous dermatoses
- 4th Day: Venereology I, Venereology II, Skin Tumors
- 5th Day: Fungal Skin Infections, Autoimmune Connective Tissue Diseases of the Skin, Phototherapy – practical aspects
- Next week: All Topics – Mycosis, Bacterial Skin Infections, Acne and Rosacea, Skin Barrier Functions, Topical Treatment

Literature

required literature

- Hunter, J.A.A. Clinical Dermatology. 3rd e., Blackwell Pub. 2002, ISBN: 0443071403

recommended literature

- GAWKRODGER, D. J. Dermatology : an illustrated colour text. 4th ed. Edinburgh: Churchill Livingstone, 2008. vii, 135. ISBN 9780443104213.
- STERRY, Wolfram, Ralf PAUS and Walter H. C. BURGDORF. Dermatology. New York: Thieme, 2006. xiii, 754. ISBN 9783131359117.

Teaching methods

The course is organized as a two-week internship at dermatovenerological clinics. The course is composed of collective seminars on the given topics and practical bed-side demonstrations in small groups.

Assessment methods

Giving the course-unit credit is conditioned by full (100%) attendance in the lessons and by evaluated knowledge orally by teacher, controls by the head of the department.

Language of instruction

English

aVLDV7X1p Dermatovenerology - lecture

Faculty of Medicine

autumn / spring

Extent and Intensity

0.3/0/0. 2 credit(s). Type of Completion: zk (examination).

Taught in person.

Guaranteed by

prof. MUDr. Hana Jedličková, Ph.D.

First Department of Dermatovenerology – Institutions shared with St. Anne's Faculty Hospital – Faculty of Medicine

Supplier department: First Department of Dermatovenerology – Institutions shared with St. Anne's Faculty Hospital – Faculty of Medicine

Course objectives

The aim of the subject is to give an actual theoretic base and recent clinical knowledge to chosen problems in dermatovenerology. Special attendance is given to problems of protective functions of the skin realized by different skin barrier systems, skin immunology, theoretical base of light interactions with the skin, phototherapy indications and contraindications, a basic allergic reaction and different types of topical treatment.

Learning outcomes

The student will be able:

- to describe and to differentiate pathological findings in common skin diseases to interpret it with basic differential diagnose, with the ability to propose investigation and treatment, with the background of knowledge of skin physiology and pathophysiological mechanisms.

Syllabus

- 1.den: Morphology.

- 2.den: Skin Barrier Function.
- 3.den: Examination of the Skin Function and Allergology.
- 4.den: Phototherapy in Dermatology.
- 5.den: Topical Therapy.

Literature

required literature

- Hunter, J.A.A. Clinical Dermatology. 3rd e., Blackwell Pub. 2002, ISBN: 0443071403

not specified

- VAŠKŮ, Vladimír. *Psoriáza*. 128 stran. ISBN 9788073454302.

Teaching methods

Lecture, interactive dialog in seminars, study of theoretical background simultaneously.

Assessment methods

Giving the course-unit credit is conditioned by 100 % attendance and current examination of knowledge. Evaluation of acquired knowledge in clinical dermatology by work with in patient, orally evaluation of basical knowledge of dermatovenereology by teacher during the practicals, possible control by supervisor/head of the department.

Language of instruction

English

aVLLE7X1s Medical Ethics 2 - seminar

Faculty of Medicine

spring 2019

Extent and Intensity

0/2/0. 1 credit(s). Type of Completion: k (colloquium).

Taught in person.

Guaranteed by

doc. Mgr. Josef Kuře, Dr. phil.

Department of Medical Ethics - Theoretical Departments - Faculty of Medicine

Contact Person: doc. Mgr. Josef Kuře, Dr. phil.

Supplier department: Department of Medical Ethics - Theoretical Departments - Faculty of Medicine

Course objectives

Interactive seminar, providing an introduction to clinical ethics, aims to: - understand ethical dilemmas in individual fields of medicine - develop ability to perceive ethical aspects of medicine -

listen to different ethical arguments and to express own reasoned opinion - learn ability to solve ethical dilemmas in medicine

Learning outcomes

Having completed the course, the student is able to:

- identify and to analyze ethical dilemmas in individual areas of medicine
- provide ethical arguments for morally relevant clinical situations
- solve ethical dilemmas in medicine

Syllabus

- The first contact with the patient • Truth and communication • Informed consent • Ethical aspects of assisted reproduction • Ethics in medical genetics • Patients' rights and duties of physicians • Transplantation ethics • Ethics in oncology and palliative care • Ethical dilemmas in intensive care • Death and dying • End of life decisions • Ethics of biomedical research

Literature

- CAMPBELL, Alastair V., Grant R. GILLETT and D. Gareth JONES. *Medical ethics*. 4th ed. South Melbourne: Oxford University Press, 2005. xiii, 312. ISBN 0195584872.
- *The Blackwell guide to medical ethics*. Edited by Rosamond Rhodes - Leslie Francis - Anita Silvers. 1st ed. Malden: Blackwell Pub., 2007. xii, 435. ISBN 9781405125840.
- *Medical ethics*. Edited by Michael Boylan. 2nd ed. Chichester, West Sussex: Wiley-Blackwell, 2014. xvi, 386. ISBN 9781118657973.
- *Contemporary issues in bioethics*. Edited by Tom L. Beauchamp - LeRoy Walters. 6th ed. Belmont: Thomson learning, 2003. x, 800 s. ISBN 0-534-58441-1.
- *Bioethics*. Edited by John Harris. 1st pub. Oxford: Oxford University Press, 2001. vi, 557. ISBN 0198752571.
- *Medical ethics today the BMA's handbook of ethics and the law*. 3rd ed. Chichester, West Sussex: John Wiley & Sons, 2012. xxx, 925 p. ISBN 9781444355635.
- *Casebook of medical ethics*. Edited by Terrence F. Ackerman - Carson Strong. [1st ed.]. Oxford: Oxford University Press, 1989. xvii, 240. ISBN 0-19-503917-3.

Teaching methods

seminar

Assessment methods

Condition for giving course-unit credits is full attendance in all seminars, activity during the course, and case study

Language of instruction

English

aVL0L7X1 Ophthalmology

Faculty of Medicine

autumn / spring

Extent and Intensity

0/0/0. 2 credit(s). Type of Completion: zk (examination).

Taught in person

Guaranteed by

doc. MUDr. Oldřich Chrapek, Ph.D.

Department of Ophthalmology - Joint workplaces with the University Hospital Brno - workplaces of the Bohunice and Mater. Hospital - Faculty of Medicine

Contact Person: doc. MUDr. Veronika Matušková, Ph.D., FEBO

Course objectives

Annotation: the aim of subject is to inform the students about ocular diseases on the basis of their previous knowledge of anatomy and physiology of the eye, and to give the review of diagnostic and therapeutical methods in ophthalmology essential for the doctor of general medicine.

Learning outcomes

Student will be able to: - provide first aid for eye and orbit injuries - to have an overview of pathology and diseases of the eye and ocular adnexa in the general practitioner's knowledge - to have an overview of basic examination methods in ophthalmology - to have an overview of basic therapeutic methods in ophthalmology - to have an overview of the context of eye and general disorders

Syllabus

- The 1 day Introduction in ophthalmology, history of ophthalmology, and the relation of ophthalmology to other medical fields, the review of anatomy and physiology of the visual system, practical lesson in ophthalmic examination The 2 day The diseases of the orbit and anterior segment of the eye, cataract surgery, implantation of intraocular lenses, practical lesson- ophthalmoscopy, slit lamp examination, demonstration of the patients The 3 day Glaucoma- definition, diagnosis and therapy, practical lesson- intraocular pressure measurement, gonioscopy, perimetry, demonstration of the patients The 4 day The lesson of pediatric ophthalmology- ocular diseases in the childhood The 5 day The diseases of the retina and uvea, eye and systemic diseases, vitreoretinal surgery, practical lesson- diagnostic imaging methods in ophthalmology, demonstration of the patients The 6 day Refractive errors, diagnosis and therapy, modern refractive surgery, blindness and partial blindness, practical lesson- lasers in ophthalmology, demonstration of patients. The 7 day Ocular trauma, the causes of the red eye, neuroophthalmology, practical lesson- color vision, contrast sensitivity, electrophysiology of the eye, demonstration of patients The 8 day Examination of the patients, tutorials, final test, course-unit credit.

Literature

- KANSKI, Jack J. and Brad BOWLING. *Clinical ophthalmology : a systematic approach*. 7th ed. Edinburgh: Elsevier Saunders, 2011. ix, 909. ISBN 9780702040931.

- KANSKI, Jack J. *Test yourself atlas in ophthalmology*. 3rd ed. Edinburgh: Butterworth-Heinemann/Elsevier, 2008. viii, 324. ISBN 9780750675895.

Teaching methods

Class discussion on the base of materials in the textbook.

Assessment methods

Giving the course-unit credit is conditioned by full attendance in the lessons (in case of absence student will be asked to give written essay of missed topic, the maximum tolerated number of absences is 1). The credit is given for full lessons attendance and successful passing the credit test (80% of the correct answers). A rigorous exam may be completed not earlier than one week after the credit passing.

Language of instruction

English

aVL0L7X1c Ophthalmology - practice

Faculty of Medicine

autumn / spring

Extent and Intensity

0/3/0. 2 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

doc. MUDr. Oldřich Chrapek, Ph.D.

Department of Ophthalmology - Joint workplaces with the University Hospital Brno - workplaces of the Bohunice and Mater. Hospital - Faculty of Medicine

Contact Person: doc. MUDr. Veronika Matušková, Ph.D., FEBO

Supplier department: Department of Ophthalmology - Joint workplaces with the University Hospital Brno - workplaces of the Bohunice and Mater. Hospital - Faculty of Medicine

Course objectives

The aim of subject is the understanding and application of diagnostic examination methods in ophthalmology and the understanding of treatment procedures.

Learning outcomes

Student will be able to: - provide first aid for eye and orbit injuries - to have an overview of pathology and diseases of the eye and ocular adnexa in the general practitioner's knowledge - to have an overview of basic examination methods in ophthalmology - to have an overview of basic therapeutic methods in ophthalmology - to have an overview of the context of eye and general disorders

Syllabus

- The 1 day Introduction in ophthalmology, history of ophthalmology, and the relation of ophthalmology to other medical fields, the review of anatomy and physiology of the visual system, practical lesson in ophthalmic examination The 2 day The diseases of the orbit and anterior segment of the eye, cataract surgery, implantation of intraocular lenses, practical lesson- ophthalmoscopy, slit lamp examination, demonstration of the patients The 3 day Glaucoma- definition, diagnosis and therapy, practical lesson- intraocular pressure measurement, gonioscopy, perimetry, demonstration of the patients The 4 day The lesson of pediatric ophthalmology- ocular diseases in the childhood The 5 day The diseases of the retina and uvea, eye and systemic diseases, vitreoretinal surgery, practical lesson- diagnostic imaging methods in ophthalmology, demonstration of the patients The 6 day Refractive errors, diagnosis and therapy, modern refractive surgery, blindness and purblindness, practical lesson- lasers in ophthalmology, demonstration of patients. The 7 day Ocular trauma, the causes of the red eye, neuroophthalmology, practical lesson- color vision, contrast sensitivity, electrophysiology of the eye, demonstration of patients The 8 day Examination of the patients, tutorials, final test, course-unit credit.

Literature

- KANSKI, Jack J. *Test yourself atlas in ophthalmology*. 3rd ed. Edinburgh: Butterworth-Heinemann/Elsevier, 2008. viii, 324. ISBN 9780750675895.
- *Clinical ophthalmology :a systematic approach*. Edited by Jack J. Kanski - T.R Tarrant. 3rd ed. Oxford: Butterworth-Heinemann, 1994. vi, 514 s. ISBN 0-7506-1886-8.

Teaching methods

practice

Assessment methods

Class discussion on the base of materials in the textbook. Giving the course-unit credit is conditioned by full attendance in the lessons. The lessons in ophthalmology will be finished with exam.

Language of instruction

English

aVLOT7X1c Otorhinolaryngology - practice

Faculty of Medicine

autumn / spring

Extent and Intensity

0/3/0. 2 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

doc. MUDr. Břetislav Gál, Ph.D.

Department of Otorhinolaryngology and Head and Neck Surgery – Institutions shared with St. Anne's Faculty Hospital – Faculty of Medicine

Contact Person: Jitka Fridrichová

Supplier department: Department of Otorhinolaryngology and Head and Neck Surgery – Institutions shared with St. Anne's Faculty Hospital – Faculty of Medicine (60,00 %), Department of Paediatric Otorhinolaryngology – Institutions shared with the Faculty Hospital Brno (paediatric medicine) - Faculty of Medicine (40,00 %)

Course objectives

The course comprises basic otorhinolaryngology knowledge, introduces the students to the organization of out patient room, basic ENT evaluation and surgery. The surgery of ear (incl. cochlear implants), oral cavity, pharynx, larynx and endoscopic surgery of sinonasal region, surgery of thyroid gland and surgery of external neck are also included.

Learning outcomes

After completing lectures student will be able: - to do the basic otorhinolaryngologic assessment - to recognize normal finding in evaluated person - to suggest other medical tests in any pathology - to suggest basic treatment

Syllabus

Day 1 KOCHHK: Introduction, the scope of ENT specialty, organization of fellowship, study sources, demonstration of basic clinical ENT examination, Ear ppt presentation. Day 2 KOCHHK: Practical training – small groups: demonstration and practice basic ENT examination, participation in clinical rounds and dressings. standard. section. Instruction and demonstration of ENT procedures, outpatient clinics, and operating theatre. Nose and PND ppt. presentation Day 3 KOCHHK: Practical teaching – small groups. Pharynx, Larynx ppt. presentation Day 4 FNB Paediatric ENT Clinic, practical teaching, ENT – developmental defects, acute otitis media, mastoiditis, otitis media secretorica, complications of otitis media – intratemporal, intracranial, Day 5, practical. Teaching. Nose – developmental defects of the nose and PND, diseases of the nasal septum, diseases of the external nose, acute rhinosinusitis, chronic rhinosinusitis with/without nasal polyposis Day 6 KOCHHK: Practical teaching – small groups: external throat and oesophagus, salivary glands, thyroid gland ppt. presentation Day 7 FNB Paediatric ENT Clinic, Larynx, oesophagus – developmental disorders of the larynx, acute laryngitis, tracheostomy. Hypertrophy of lymphoepithelial pharyngeal circuit, adenotomy, pharyngitis, Acute inflammation of Waldeyer's lymphatic circuit, Chronic pharyngitis, tonsillectomy, complications of tonsillitis 8. Day KOCHHK Oncology in ENT ppt. Presentation. The final interview, comments on study stay, credit.

Literature

required literature

- BEHRBOHM, Hans, Walter BECKER, Hans Heinz NAUMANN and Carl Rudolf PFALTZ. *Ear, nose, and throat diseases : with head and neck surgery*. 3rd ed. Stuttgart: Thieme, 2009. x, 461. ISBN 9783136712030.

Teaching methods

Seminars, practical training of basic ENT evaluation, video sessions, presentations by professionals in the inpatient ward and operating theatre.

Assessment methods

Attendance in practices and seminars is compulsory; the presence of students is recorded. Teaching methods: lectures, discussion, practical training in ENT evaluation, presentation of individual cases – videos, pictures, watching surgery in operating theatre. Final appreciation- student will prove his ability to provide ENT examination and recognize normal ENT finding.

Language of instruction

English

aVLOT7X1p Otorhinolaryngology - lecture

Faculty of Medicine

autumn / spring

Extent and Intensity

1/0/0. 2 credit(s). Type of Completion: zk (examination).

Taught in person.

Supervisor

doc. MUDr. Břetislav Gál, Ph.D.

Department of Otorhinolaryngology and Head and Neck Surgery - Institutions shared with St. Anne's Faculty Hospital - Faculty of Medicine

Contact Person: Jitka Fridrichová

Supplier department: Department of Otorhinolaryngology and Head and Neck Surgery - Institutions shared with St. Anne's Faculty Hospital - Faculty of Medicine (60,00 %), Department of Paediatric Otorhinolaryngology - Institutions shared with the Faculty Hospital Brno (paediatric medicine) - Faculty of Medicine (40,00 %)

Course objectives

Main objectives of otorhinolaryngologic course are to give information about applied anatomy and physiology of head and neck and to teach students basic principles of diagnosis and treatment of head and neck diseases.

Learning outcomes

After completing lectures student will be able: - to do the basic otorhinolaryngologic assessment - to recognize normal finding in evaluated person - to suggest other medical tests in any pathology - to suggest basic treatment

Syllabus

- Odb. as. MUDr. Jan Rottenberg, Phd., odb. as. MUDr. T. Talach: Basic principles of Audiology Hearing disorder; audiometry – fundamental physical and acoustic concepts; Pure-Tone Audiometry, Speech audiometry, Electric response audiometry, Otoacoustic emissions; hearing aids; cochlear implant. As. MUDr. Rottenberg Jan, PhD.: Basics of neurootology odb. as. MUDr. B. Gál, Ph.D., Odb. as. MUDr. Eva Tóthová: Diseases of thyroid gland, especially tumors, surgical treatment. The lecture summarizes basic methods of investigation in

neurootology. It is divided into the four basic themes: 1. Olfactometry - investigation of smell, differential diagnosis of smell disorders 2. Gustometry - investigation of taste, hypogeusia and ageusia as a symptom, diagnostic consequences 3. Audiometry - summary of methods (this theme is a subject of other lecture) 4. Equilibriometry - investigation of vestibular organs, differential diagnosis of vestibular disorders. The lecturer supposes a basic knowledge of anatomy and physiology of sensory organs and basic knowledge of neurology (vestibular disorders) Odb. as. MUDr. Rottenberg Jan, PhD., Odb. as. MUDr. Jan Hanák: Clinical anatomy of anterior and lateral skull base, Up to date concept of diagnosis and treatment of rhinosinusitis (EPOS), Snoring and obstructive sleep apnea The lecture summarizes important data of topographical anatomy of the skull base from clinical point of view and its practical consequences to clinical symptomatology of skull base diseases, operation techniques and approaches and its complications: 1. Anatomy, development, and variability of paranasal sinuses, functional endoscopic sinus surgery and its complications 2. Classification of rhinosinusitis, European position paper on rhinosinusitis and nasal polyposis 3. treatment of Snoring and obstructive sleep apnea 5. Types of facial nerve palsy and their topodiagnosics 6. The subject of skull base surgery The lecturer supposes a basic anatomical knowledge and basic orientation in Otolaryngology. Ass. prof. MUDr. P. Smilek, PhD., ASS. prof. MUDr. B.Gál, Ph.D.: Emergency and First Aid Procedures 1. Bleeding (nasal, form larynx, trachea, oesophagus and ear) 2. Dyspnea(differential diagnosis, tracheotomy, intubation, care of tracheostomy) 3. Foreign bodies (in the hypopharynx, esophagus, larynx, trachea, bronchi, nose and ear) 4. Corrosion and scalds (in the mouth and oesophagus) Ass. prof. MUDr. P. Smilek, PhD.: Basics principles in ENT Oncology 1. Etiology 2. Prognosis of Head and Neck cancer 3. Basic strategy of treatment 4. Treatment of lymphnode metastasis 5. Cancer of the nose and paranasal sinuses 6. Cancer of the epipharynx 7. Cancer of the Oropharynx 8. Cancer of the Larynx 9. Follow up Odb. as. MUDr. Pavla Urbánková, PhD.: Serious complications of inflammatory disease in ENT; Uniqueness of inflammatory disease in ENT; Primary sources of inflammation; Mastoiditis acuta; Otogenic infective complications; Intracranial complications of I. phase and II. phase; Primary source: Nose – Sinusitis; Nasal furuncle; Orbital sinusitis complications; Possible intracranial complications of sinusitis; Primary source: Oral cavity Base of oral cavity; Cheilitis; Primary source: pharynx; Abscessus et phlegmona peritonsillaris; Abscessus et phlegmona parapharyngealis; Sepsis tonsillogenes (angina septica, sepsis post anginam, trombophlebitis v. jug. int.); Mediastinal complications of deep neck inflammation

Literature

- BEHRBOHM, Hans, Walter BECKER, Hans Heinz NAUMANN and Carl Rudolf PFALTZ. *Ear, nose, and throat diseases : with head and neck surgery*. 3rd ed. Stuttgart: Thieme, 2009. x, 461. ISBN 9783136712030.

Teaching methods

Lectures, practical training of basic ENT evaluation, video sessions, presentations by professionals in the inpatient ward and operating theatre.

Assessment methods

Attendance at practices and seminars is compulsory, the presence of students is recorded. Teaching methods: lectures, discussion, practical training in ENT evaluation, presentation of individual cases – videos, pictures. Final grade: oral examination The students are expected to come to the Practice properly prepared, including the corresponding theoretical backgrounds.

Language of instruction

English