

# 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. 1 credit(s). Type of Completion: z (credit).

##### Supervisor

doc. MUDr. Regina Demlová, Ph.D.

Department of Pharmacology - Theoretical Departments - Faculty of Medicine

Contact Person: Renata Blábllová

##### 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 the differences between single drug dosage forms

to understand the prescription of drugs

to understand the basics of pharmacokinetics

to understand the basic facts about the discussed drugs

##### Learning outcomes

At the end of the course the student knows:

single pharmacotherapeutic 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 2018

##### 1<sup>st</sup> week

- *Topic:* INFORMATION ON DRUGS

- *Course content:* Organisation of practical courses and lectures, 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), ATC classification.
- ***Self-studying preparation for practical lessons:*** Lecture No. 1. Preparation for the next practical lesson: Principles of drug prescription in different countries, examples.

## 2<sup>nd</sup> week

- *Topic:* **PRESCRIPTION OF MEDICAL PRODUCTS I**
- *Course content:* Principles of prescription in different countries, general rules of drug prescription, basic Latin terminology, essentials of individually prepared preparations prescription, introduction to prescription of ready-made drug products, databases EMA and Drugs.com, video Manufacturing of tablets.
- ***Self-studying preparation for practical lessons:*** Latin terminology (+ abbreviations), Drug dosage forms from the textbook.

## 3<sup>rd</sup> week

- *Topic:* **PRESCRIPTION OF MEDICAL PRODUCTS II, ROUTES OF DRUG ADMINISTRATION**
- *Course content:* Brief characteristics of the individual drug dosage forms. Prescription of ready-made drug products. Clinical significance of the way of drug administration.
- ***Self-studying preparation for practical lessons:*** Materials for the Lecture No. 3, EMA and Drugs.com databases.

## 4<sup>th</sup> week

- *Topic:* **PRINCIPLES OF PHARMACOKINETICS**
- *Course content:* Pharmacokinetic processes, parameters and calculations.
- ***Self-studying preparation for practical lessons:*** Materials for the Lecture No. 4.

## 5<sup>th</sup> week

- *Topic:* **PRINCIPLES OF APPLIED PHARMACOKINETICS**
- *Course content:* 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.
- ***Self-studying preparation for practical lessons:*** Materials for the Lectures No. 4 and 5.

## 6<sup>th</sup> week

- *Topic:* **PHARMACODYNAMICS**
- *Course content:* MULTIPLE-CHOICE TEST (1<sup>st</sup> - 5<sup>th</sup> week). Mechanisms of drug effects - classification, examples. Dose-response curves.
- ***Self-studying preparation for practical lessons:*** Materials for the Lecture No. 6.

## 7<sup>th</sup> week

- *Topic:* **ADVERSE DRUG REACTIONS**
- *Course content:* Classification and characteristics of adverse drug effects. Pharmacovigilance in clinical practice, sources of current information on drug safety. Databases of drug interactions. Pharmaceutical interactions (case reports).
- *Self-studying preparation for practical lessons:* Materials for the Lecture No. 7, case report (drug incompatibility) materials in IS.

#### 8<sup>th</sup> week

- *Topic:* **FACTORS AFFECTING DRUG EFFECTS**
- *Course content:* Pharmacotherapy in childhood, in pregnancy, in breastfeeding women, in elderly. Pharmacogenetics.
- *Self-studying preparation for practical lessons:* Materials for the Lecture No. 8. Pharmacogenetics - materials in IS.

#### 9<sup>th</sup> week

- *Topic:* **PHARMACOLOGY OF SYMPATHETIC NERVOUS SYSTEM**
- *Course content:* Drugs affecting sympathetic nervous system - classification, basic pharmacological characteristics.
- *Self-studying preparation for practical lessons:* Materials for the Lecture No. 9. Pathophysiological bases - ANS, neurotransmitters (their synthesis and degradation), receptors of the sympathetic nervous system (alpha, beta) and parasympathetic nervous system (nicotinic, muscarinic) and their subtypes and organ distribution. Systems of second messengers. Pharmacodynamics, both direct and indirect mechanisms of action.

#### 10<sup>th</sup> week

- *Topic:* **PHARMACOLOGY OF PARASYMPATHETIC NERVOUS SYSTEM**
- *Course content:* Drugs affecting parasympathetic nervous system - classification, basic pharmacological characteristics. Spasmolytic drugs.
- *Self-studying preparation for practical lessons:* Materials for the Lectures No. 9. Spasmolytic drugs.

#### 11<sup>th</sup> week

- *Topic:* **GLUCOCORTICOIDS, DRUGS OF ABUSE**
- *Course content:* MULTIPLE-CHOICE TEST (6<sup>th</sup> - 10<sup>th</sup> week). Repetition of basic pharmacological characteristics of glucocorticoids. Problems of drug abuse, doping and falsification of medical products.
- *Self-studying preparation for practical lessons:* Materials for the Lecture No. 11, preparation of oral presentation should be uploaded to IS at least 24 hours prior to the practical lesson.

#### 12<sup>th</sup> week

- *Topic:* **PHARMACOTHERAPY OF DIABETES MELLITUS**

- *Course content:* Repetition of anti-diabetic drugs - basic pharmacological characteristics. Drugs used in therapy of specific and acute conditions in diabetology. Combinations of insulins, insulin regimens.
- ***Self-studying preparation for practical lessons:*** Materials for the Lecture No. 12, preparation of oral presentation - presentation should be uploaded to IS at least 24 hours prior to the practical lesson.

### 13<sup>th</sup> week

- *Topic:* **SEX HORMONES**
- *Course content:* Endocrine therapy, hormone replacement therapy, hormonal contraceptive drugs.
- ***Self-studying preparation for practical lessons:*** Uterotonics and tocolytics.

### 14<sup>th</sup> week

- *Topic:* **ANALGESIC DRUGS**
- *Course content:* MULTIPLE-CHOICE TEST (11<sup>th</sup> - 13<sup>th</sup> week). Basic pharmacological characteristics of opioid and non-opioid analgesic drugs, antirheumatoid drugs and drugs used in gout.
- ***Self-studying preparation for practical lessons:*** Materials for the Lecture No. 14. Drugs used in gout.

### 15<sup>th</sup> week

- *Topic:* **ANAESTHETIC DRUGS**
- *Course content:* PRESCRIPTION TEST. Basic pharmacological characteristics of general and local anaesthetic drugs. Premedication prior to general anaesthesia.
- ***Self-studying preparation for practical lessons:*** Materials for the Lecture No. 15. Skeletal muscle relaxants.

## Literature

### *required literature*

- Practicals in Pharmacology, 2009, Náhradní obsah: <http://portal.med.muni.cz/article-491-practicals-in-pharmacology.html>
- <http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=1160493&lang=cs&site=ehost-live>
- RANG, H. P. *Rang & Dale's pharmacology*. 8th ed. [Edinburgh]: Churchill Livingstone, 2016. xv, 760. ISBN 9780702053627.

### *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.

*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**

practicals, class discussion

Only 1 absence from practical lessons is 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).

## **Supervisor**

doc. MUDr. Regina Demlová, Ph.D.

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 2018**

#### **1<sup>st</sup> week**

- *Topic:* **PHARMACOLOGY AND ITS SUB-BRANCHES**
- *Course content:* 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<sup>nd</sup> week**

- *Topic:* **OVERVIEW OF DRUG DOSAGE FORMS**
- *Course content:* Classification and overview of drug dosage forms for ready-made production and individual preparation, advantages and disadvantages of the particular types of drug dosage forms in clinical use, typical auxiliary substances (excipients). Drug dosage forms with controlled release.

#### **3<sup>rd</sup> week**

- *Topic:* **ROUTES OF DRUG ADMINISTRATION**
- *Course content:* Classification of routes of administration, description of the individual ways with examples of drugs. Overview of innovative administration routes.

#### **4<sup>th</sup> week**

- *Topic:* **PHARMACOKINETICS I**
- *Course content:* General principles of drug fate in the organism. Overview of the individual pharmacokinetic processes and parameters.

#### **5<sup>th</sup> week**

- *Topic:* **PHARMACOKINETICS II**
- *Course content:* Single, continual and repeated drug administration. Principles of therapeutic drug monitoring. Compartment models. Fundamentals of population pharmacokinetics.

#### **6<sup>th</sup> week**

- *Topic:* **PHARMACODYNAMICS**
- *Course content:* Mechanisms of drugs effects – classification, examples. Receptor theory – types of ligands and receptors. Change in drug effect after repeated administration.

#### **7<sup>th</sup> week**

- *Topic:* **DRUG SAFETY**
- *Course content:* Adverse drug effects - classification and characteristics. Pharmacovigilance in clinical research and practice. Therapeutic index, therapeutic range. Drug anamnesis, polypharmacy and introduction to drug interactions.

#### **8<sup>th</sup> week**

- *Topic:* **FACTORS AFFECTING DRUG EFFECTS**
- *Course content:* Classification, overview and examples of factors affecting drug effects. Fundamentals of pharmacogenetics.

#### **9<sup>th</sup> week**

- *Topic:* **PHARMACOLOGY OF AUTONOMIC NERVOUS SYSTEM**
- *Course content:* Overview of pharmacology of sympathetic and parasympathetic nervous system – neurotransmission, receptors. Basic indications of substances affecting ANS.

#### **10<sup>th</sup> week**

- *Topic:* **RESEARCH IN PHARMACOLOGY**
- *Course content:* Methods of experimental pharmacological research – brief overview. Examples from the Department of Pharmacology - Faculty of Medicine, MU.

#### **11<sup>th</sup> week**

- *Topic:* **BASIC PRINCIPLES OF BIOLOGICAL THERAPY**

- *Course content:* Definition of terms, advantages and disadvantages of biological treatment in comparison to conventional therapy. Fundamental principles of technologies used in production of biological medical products, their classification and examples of clinical use.

#### **12<sup>th</sup> week**

- *Topic:* **PHARMACOTHERAPY OF DIABETES MELLITUS**
- *Course content:* Insulins and anti-diabetic drugs – classification and basic pharmacological characteristics.

#### **13<sup>th</sup> week**

- *Topic:* **PHARMACOLOGY OF SEX HORMONES**
- *Course content:* Analogues and antagonists FSH, LH. Oestrogens, antioestrogens, gestagens, antigestagens, androgens, antiandrogens basic pharmacological characteristics (classification, basic substances, therapeutic indications/contraindications, adverse effects).

#### **14<sup>th</sup> week**

- *Topic:* **ANALGESIC DRUGS**
- *Course content:* Classification of analgesic drugs. Basic pharmacological characteristics and examples of use of opioid analgesics, non-steroidal anti-inflammatory drugs and analgesic-antipyretic drugs.

#### **15<sup>th</sup> week**

- *Topic:* **GENERAL AND LOCAL ANAESTHETIC AGENTS**
- *Course content:* Classification and pharmacological characteristics of general and local anaesthetic drugs.

### **Literature**

#### *required literature*

- Practicals in Pharmacology, 2009, Náhradní obsah: <http://portal.med.muni.cz/article-491-practicals-in-pharmacology.html>
- <http://search.ebscohost.com/login.aspx?direct=true&db=nlebk&AN=1160493&lang=cs&site=ehost-live>
- RANG, H. P. *Rang & Dale's pharmacology*. 8th ed. [Edinburgh]: Churchill Livingstone, 2016. xv, 760. ISBN 9780702053627.

#### *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. Panavelil. 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, presentations by professionals in the sectors

### **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: 60 min. The MCQ test can be repeated only twice.

To pass the colloquium successfully the student has to obtain at least 40 points.

### **Language of instruction**

English

## **aVLCH0731c Surgery I - practice**

### **Faculty of Medicine**

autumn

### **Extent and Intensity**

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

### **Supervisor**

MUDr. Vladimír Procházka, Ph.D.

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

Contact Person: Iveta Mášová

### **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 of 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 the 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).

### **Supervisor**

MUDr. Vladimír Procházka, Ph.D.

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

### **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 proces 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. Doplnky: 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).

### Supervisor

doc. MUDr. Leoš Křen, Ph.D.

Department of Pathology - Institutions shared with the Faculty Hospital Brno - Adult Age Medicine - 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).

#### **Supervisor**

prof. MUDr. Ladislav Plánka, Ph.D.

Department of Pediatric Surgery, Orthopedics and Traumatology - Institutions shared with the Faculty Hospital Brno (paediatric medicine) - Faculty of Medicine

Contact Person: doc. MUDr. Lenka Veverková, 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 orthophedy
- 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. 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).

### **Supervisor**

MUDr. Vladimír Procházka, Ph.D.

Second 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).

### **Supervisor**

doc. MUDr. Regina Demlová, Ph.D.

Department of Pharmacology - Theoretical Departments - Faculty of Medicine

Contact Person: PharmDr. Ondřej Zendulka, Ph.D.

### **Course objectives**

The aims of the course are:

to acquaint students of the course with the basic pharmacological data on selected groups of drugs  
to practice the acquired information on case reports

### **Learning outcomes**

At the end of the course the student:

knows basic pharmacological data of studied drugs

is able to suggest suitable drug for particular patient with known diagnosis

### **Syllabus**

- Pharmacotherapy of ischaemic heart disease.
- Antihypertensives. Diuretics, antiadrenergics, vasodilators, combinative pharmacotherapy.
- Pharmacotherapy of heart failure. Inotropic drugs (digitalis, amrinone, dobutamine).
- Introduction to psychopharmacology. Neurotransmitter mechanisms and specific neurotransmitter systems. Antipsychotics.
- Anti-Parkinson pharmacotherapy. Drugs used in Alzheimer`s disease and other states of dementia. Anti-manic drugs.
- Drug addiction.
- Principles of biological therapy, monoclonal antibodies and therapeutic use.
- Principles of targeted therapy in oncology, monoclonal antibodies, tyrosinkinases inhibitors. Adverse drug reactions.
- Antimycotics, mechanism of action and adverse effects. Antivirotics.
- Basic principles of immunotherapy. Advanced therapy medicinal products.

## Literature

### *required literature*

- RANG, H. P. *Rang & Dale's pharmacology*. 8th ed. [Edinburgh]: Churchill Livingstone, 2016. xv, 760. ISBN 9780702053627.

### *recommended literature*

- LINCOVÁ, Dagmar and Hassan FARGHALI. *Základní a aplikovaná farmakologie*. 2., dopl. a přeprac. vyd. Praha: Galén, 2007. xxiv, 672. ISBN 9788072623730.
- 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.

### *not specified*

- DOSTÁLEK, Miroslav, Jan JUŘICA, Eva JANOŠTÍKOVÁ and Lucia ZAHRADNÍKOVÁ. *Farmakokinetika (Pharmacokinetics)*. ČR: Grada, 2006. 220 pp. Farmacie a farmakologie. ISBN 80-247-1464-7.
- <http://portal.med.muni.cz/modules.php?name=News&file=article&sid=367>
- Vybrané kapitoly z učebnice:  
[http://books.google.cz/books?id=7INQpLuETq4C&printsec=frontcover&dq=farmakologie&lr=&as\\_brr=3#PPA4,M1](http://books.google.cz/books?id=7INQpLuETq4C&printsec=frontcover&dq=farmakologie&lr=&as_brr=3#PPA4,M1)
- Vybrané kapitoly z učebnice:  
[http://books.google.cz/books?ct=result&q=farmakologie&lr=&as\\_brr=3&sa=N&start=0](http://books.google.cz/books?ct=result&q=farmakologie&lr=&as_brr=3&sa=N&start=0)
- 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

- MARTÍNKOVÁ, Jiřina. *Farmakologie pro studenty zdravotnických oborů. 2., zcela přeprac. a doplň.* Praha: Grada, 2014. ISBN 9788024713564.

### **Teaching methods**

lectures

### **Assessment methods**

Final exam - combination of written test + oral

### **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).

### **Supervisor**

doc. MUDr. Regina Demlová, Ph.D.

Department of Pharmacology - Theoretical Departments - Faculty of Medicine

Contact Person: PharmDr. Ondřej Zendulka, Ph.D.

### **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. Moreover, students will be shown, where to find relevant data on drugs and how to work with it.

### **Learning outcomes**

At the end of the course student should be able to prescribe representatives of individual drug classes in the form of individually prepared pharmaceutical preparation and bulk drugs. The student should be familiar with pharmacological profiles of therapeutic and adverse effects of particular drugs with an attention paid to common drug-drug interactions.

### **Syllabus**

- **VLFA08222c Pharmacology II- practicals**

### **Spring semester**

#### **Week 1**

- **Introduction, instructions.** Distribution of co-talks.
- **ANALGESICS.**

- Opioid analgesics. Pharmacotherapy of pain. Opioid addiction therapy. Prescription and practical use of analgesic preparations.

#### **Week 2**

- **NON-STEROIDAL ANTIINFLAMMATORY DRUGS, DRUGS USED IN GOUT, ANTIPYRETICS.**
- Mechanisms of action and classification of anti-inflammatory drugs. Drugs used in therapy of gout.
- **Getting ready for the next lesson:** *Central neurotransmitters and sites of drug effects in CNS. Basic psychical functions.*

#### **Week 3**

- **ANTIDEPRESSANTS.**
- Classification and terminology of antidepressants. Review of their mechanisms of action, adverse effects, interactions.
- **Co-talks.**

#### **Week 4**

- **THERAPY OF ANXIETY, HYPNOSEDATIVES.**
- Classification and terminology of psychotropics. Review of their mechanisms of action. Pharmacology of anxiolytics and hypnotics. Mechanism of action of benzodiazepines. Prescription of hypnotics and psychostimulants.
- **Co-talks.**

#### **Week 5**

- **REVISING TEST I (Revision test with subsequent discussion) Lesson 1 – 4.**
- **5/CASE REPORTS I.**
- Selected case reports on drugs from previous lessons. (including Pharmacology I lessons).
- **Getting ready for the next lesson:** *Pathophysiology of cancer disease*

#### **Week 6**

- **PHARMACOLOGY OF ANTICANCER DRUGS.**
- Classification, mechanisms of action, side effects.
- **Co-talks.**
- **Getting ready for the next lesson:** *Structure of bacterial cell, basis of antimicrobial therapy.*

#### **Week 7**

- **ANTIMICROBIAL AGENTS I.**
- Classification, mechanisms of action, combinations of antibiotics and chemotherapeutics.
- **Co-talks.**

### Week 8

- **ANTIMICROBIAL AGENTS II., THERAPY OF INFECTIOUS DIARRHEAS AND UROINFECTIONS.**
- Drugs for the treatment of intestinal and urinary infections.
- **Co-talks.**

### Week 9

- **REVISING TEST II (Overhead-test with subsequent discussion). Lessons 5 - 8.**
- **CASE REPORTS II.**
- Selected case reports on drugs from previous lessons. (including Pharmacology I lessons).
- **Co-talks.**
- **Getting ready for the next lesson: *Autonomic nervous system – catecholamines, atropine. Muscle relaxants.***

### Week 10

- **GENERAL AND LOCAL ANAESTHETICS**
- Combined and balanced anaesthesia. Signs and stages of general anaesthesia. Inhaled and injected anaesthetics - classification and characteristics. Review of drugs used in premedication.
- **Co-talks.**
- **Getting ready for the next lesson: : *Revision of blood coagulation.***

### Week 11

- **ANTICOAGULANTS AND THROMBOLYTICS.**
- Fibrinolytics, haemostatics.
- **Co-talks.**
- **Getting ready for the next lesson: : *Allergic reactions – causes and mechanisms. Revision of PNS pharmacology -  $\beta_2$  mimetics, parasympatholytics.***

### Week 12

- **H<sub>1</sub> ANTIHISTAMINES, TREATMENT OF BRONCHIAL OBSTRUCTION.**
- Classification and clinical use of H<sub>1</sub> antihistamines. Sites of action and review of drugs of bronchial obstruction and other drugs acting in respiratory tract.
- **Co-talks.**
- **Getting ready for the next lesson: : *Drug dosage forms and external routes of drug administration, revision of drug prescription. Revision of prescription of drug dosage forms for external use.***

### Week 13

- **FINAL PRESCRIPTION TEST (includes dermatology).**

- **HYPOLIPIDEMICS, THERAPY OF OBESITY.**
- Therapy of hyperlipoproteinaemia and hypercholesterolaemia, review of drugs and their mechanism of action.
- **Getting ready for the next lesson:** : *Physiology of blood pressure regulation. Revision of PNS pharmacology- $\alpha_1$  sympatholytics,  $\alpha_2$  sympathomimetics,  $\beta$  sympatholytics.*

#### Week 14

- **ANTIHYPERTENSIVE AGENTS.**
- Introduction, classification, diuretics, beta blockers, ACE inhibitors, Ca<sup>2+</sup> blockers, and other hypertensives.
- **Co-talks.**
- **Getting ready for the next lesson:** *Revision of lessons 9-14.*

#### Week 15

- **REVISING TEST III (Overhead-test with subsequent discussion). Lessons 9 - 14.**
- **CASE REPORTS III.**
- Selected case reports on drugs from previous lessons. (including Pharmacology I lessons).
- **CREDITS.**

#### Literature

##### *required literature*

- RANG, H. P. *Rang & Dale's pharmacology*. 8th ed. [Edinburgh]: Churchill Livingstone, 2016. xv, 760. ISBN 9780702053627.
- <http://portal.med.muni.cz/clanek-461-farmakovigilance-a-propagace-leciv.html>
- <http://portal.med.muni.cz/clanek-367-vyzkum-novych-leciv-od-zrodu-k-registraci.html>

##### *recommended literature*

- LINCOVÁ, Dagmar and Hassan FARGHALI. *Základní a aplikovaná farmakologie*. 2., dopl. a přeprac. vyd. Praha: Galén, 2007. xxiv, 672. ISBN 9788072623730.
- HADAŠOVÁ, Eva, Jana NOVÁKOVÁ, Jana PISTOVČÁKOVÁ, Jana VINKLEROVÁ, Alexandra ŠULCOVÁ and Olga STAROBOVÁ. *Praktická cvičení z farmakologie (Practical lessons on pharmacology)*. 2. opravené a doplněné vyd. Brno: Vydavatelství MU Brno-Krávův Hora, 2003. 110 pp. Skripta. ISBN 80-210-2694-4.
- **Practicals in Pharmacology** <http://portal.med.muni.cz/discipline-13-pharmacology>
- 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.

##### *not specified*

- <http://portal.med.muni.cz/disciplina-13-farmakologie>

- [https://is.muni.cz/auth/el/1411/podzim2008/VLFA0722p/um/Zasady\\_antibioticke\\_lecby.pdf?fakulta=1411;obdobi=4343;kod=VLFA0722p](https://is.muni.cz/auth/el/1411/podzim2008/VLFA0722p/um/Zasady_antibioticke_lecby.pdf?fakulta=1411;obdobi=4343;kod=VLFA0722p)
- Vybrané kapitoly z učebnice:  
[http://books.google.cz/books?id=7INQpLuETq4C&printsec=frontcover&dq=farmakologie&lr=&as\\_brr=3#PPA4,M1](http://books.google.cz/books?id=7INQpLuETq4C&printsec=frontcover&dq=farmakologie&lr=&as_brr=3#PPA4,M1)
- Pharmaceutical Practice. Winfield, A.J. & Richards, R.M.E., eds. Churchill Livingstone. , 3rd Ed. 2004. ISBN 0443 07206 X
- <http://portal.med.muni.cz/modules.php?name=News&file=article&sid=367>
- Vybrané kapitoly z učebnice:  
[http://books.google.cz/books?ct=result&q=farmakologie&lr=&as\\_brr=3&sa=N&start=0](http://books.google.cz/books?ct=result&q=farmakologie&lr=&as_brr=3&sa=N&start=0)
- 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
- MARTÍNKOVÁ, Jiřina. *Farmakologie pro studenty zdravotnických oborů. 2.*, zcela přeprac. a doplně. Praha: Grada, 2014. ISBN 9788024713564.
- DOSTÁLEK, Miroslav, Jan JUŘICA, Eva JANOŠTÍKOVÁ and Lucia ZAHRADNÍKOVÁ. *Farmakokinetika (Pharmacokinetics)*. ČR: Grada, 2006. 220 pp. Farmacie a farmakologie. ISBN 80-247-1464-7.

### Teaching methods

Drug classes specifics from the Syllabus are firstly briefly reviewed by the teacher, the discussion on possible ambiguities are discussed and learned knowledge is practised in case reports from real clinical practice. The training of drug prescription with the use of drug compendia and the computer database of the preparations registered in the Czech Republic (AISLP) follows. Each student prepares a co-talk for specific pharmacological topic.

### Assessment methods

The participation in practicals is obligatory and registered. To get credits a student has to pass 4 written tests: a) 1 on special drug prescriptions (assessed individually by the teacher), b) 3 x multiple-choice test on knowledge of topics taught (15 questions, number of correct answers indicated). 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).

## **Supervisor**

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 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.
- 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. 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 of 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**

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

## **aVLDI7X1p Diagnostic Imaging Methods - lecture**

### **Faculty of Medicine**

autumn / spring

### **Extent and Intensity**

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

### **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,
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### **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.  
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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.
- 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).

**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, aetiologic 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. Erysipelas, 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.
- Antiviral 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.

### **Language of instruction**

English

## **aVLKG7X1c Clinical Genetics - practice**

### **Faculty of Medicine**

autumn / spring

### **Extent and Intensity**

0/0.4/0. 1 credit(s). Type of Completion: z (credit).

### **Supervisor**

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

### **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

- Základem studia je látka přednášená na přednáškách a probíraná na seminářích a stážích z klinické genetiky a materiály v IS.
- 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 genetiky, 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 (about 10 % 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 of 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

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

## aVLKG7X1p Clinical Genetics - lecture

### Faculty of Medicine

autumn / spring

### Extent and Intensity

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

### Supervisor

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

### 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 oncocytogenetics
- – genetic counseling - case reports.

### Literature

- Základem studia je látka přednášená na přednáškách a probíraná na seminářích a stážích z klinické genetiky a materiály v IS.
- 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 klinické genetiky*. 2. preprac. a rozš. vyd. Martin: Vydavatelství 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
- 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

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).

### 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: doc. MUDr. Zbyněk Rozkydal, Ph.D.

### 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 metastase.
- 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.). Ankylosing 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.
- CHALOUPKA, Richard. *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**

MUDr. Petr Jabandžiev, Ph.D.

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

#### **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.

#### *not specified*

- *Current diagnosis & treatment : pediatrics*. Edited by William W. Hay. 21st ed. New York: McGraw-Hill Medical, 2012. xxx, 1452. ISBN 9780071792899.
- *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.

**Teaching methods**

- Practical training
- Seminar

**Assessment methods**

- 90% attendance at practical training and seminars
- Short presentation/Power point/ on a given topic
- Written test or oral examination
- Credit

**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).

**Supervisor**

MUDr. Petr Jabandžiev, Ph.D.

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

Contact Person: MUDr. Milena Burianová, Ph.D.

**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*

- KLIEGMAN, Robert, Bonita F. STANTON, Joseph W. ST. GEME and Nina F. SCHOR. *Nelson textbook of pediatrics. Volume 2*. 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

## **aVLS7X1c Forensic Medicine - practice**

### Faculty of Medicine

autumn / spring

### Extent and Intensity

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

### 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 contain 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).

**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. *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

## aVLST7X1c Stomatology - practice

### Faculty of Medicine

autumn / spring

### Extent and Intensity

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

### Supervisor

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 output for both theoretical and practical knowledge of maxillofacial surgery, oral surgery, implantology, dental caries, diagnosis and therapy and its complications, treatment of

prosthetic options. Student practically know how to do patient therapeutic treatment plan of prosthetic dentistry with fixed and removable dentures and ortodontic 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. Characteriazation of some interventions: tooth extraction, incision, resection, apicoectomy, transplantation, implanation. Tumours of the orofacial region. Inflammatory diseases in the dentoalveolar region, dentitio 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 healty 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 nad 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).

## Supervisor

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. [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).

**Supervisor**

prof. MUDr. Hana Matějovská Kubešová, CSc.

Department of Internal Medicine, Geriatrics and Practical Medicine - Institutions shared with the Faculty Hospital Brno - Adult Age Medicine - Faculty of Medicine

**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 activitie, 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 Necessarity 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 syndrome
- 9 Sleeping disorders in elderly, behavioral disorders in elderly
- 10 Psychological disturbances in elderly, communication basics, stress situation management

## Literature

### *recommended literature*

- The Merck Manual of Geriatrics. <http://www.merck.com/mkgr/mmg/search.jsp>
- Geriatrie 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. Geriatrie (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 geriatrii (Emergencies in geriatrics)*. 1. vyd. Praha: Galén, 2009. 233 pp. akutní medicína, geriatrie. 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 pracovnílékařské péče*. Edited by Petr Brhel - Marta Manoušková - Evžen Hrnčíř. 1. vyd. Brno: Národní centrum ošetrovatelství 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. *Geriatrie 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. Practical training (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 of 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**

Test, essay as the case report, colloquium. 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

## **aVLDV7X1c Dermatovenerology - practice**

### **Faculty of Medicine**

autumn / spring

### **Extent and Intensity**

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

### **Supervisor**

prof. MUDr. Vladimír Vašků, CSc.

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 dermatovenereology,
- to choose appropriate topical therapy, further differential diagnosis in principal groups of skin and venereal diseases.

### **Syllabus**

- 1st Day: Morphology.
- 2nd Day: Skin Barrier Functions.
- 3rd Day: Examination of Skin Function and Skin Allergology.
- 4th Day: Phototherapy in Dermatology.
- 5th Day: Topical Therapy. Credit.

### **Literature**

#### *required literature*

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

#### *recommended literature*

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

### **Teaching methods**

Course is organized as one week internship at dermatovenereological clinics. Course is composed of collective seminars to the given topics and practical bed-side demonstrations in small groups. Practical training (about 10 % 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 of 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**

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. 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

# **aVLDV7X1p Dermatovenerology - lecture**

## **Faculty of Medicine**

autumn / spring

## **Extent and Intensity**

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

## **Supervisor**

prof. MUDr. Vladimír Vašků, CSc.

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 a actual theoretic base and recent clinical knowledge to chosen problems in dermatovenerology. Special attendance is given to problems of protective functions of the skin realised by different skin barrier systems, skin immunology, teoretical base of light interactions with the skin, phototherapy indications and contraindications, 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 basical differential diagnose, with 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 simoultaneously.

## **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).

### **Supervisor**

doc. Mgr. Josef Kuře, Dr. phil.

Department of Medical Ethics - Theoretical Departments - Faculty of Medicine

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

### **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

## aVLLP7X1 Medical Psychology and Psychosomatics

### Faculty of Medicine

autumn / spring

### Extent and Intensity

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

### Supervisor

PhDr. Miroslav Světlák, Ph.D.

Department of Psychology and Psychosomatics - Theoretical Departments - Faculty of Medicine

### Course objectives

The objectives of the subject are to enable students to:

- Integrate psychology into the context of basic medical education for future health care professionals
- Introduce psychology as an essential part of competent medical practice
- Provide a theoretical context / field to integrate the information gained so far about the functioning of the body with the principles of functioning of the psyche
- Present the complex outcomes of psychological science and clinical practice at the level of principles that can be applied in the work of a professional in the health care sector, to the benefit of his / her patients, as well as of the whole health teams
- Enhance students' understanding on the basic psychological and psychotherapeutic principles,

whose understanding is necessary not only for the understanding of health and illness but also for communication with patients in these states

- To acquaint students with the bio-psycho-social model of health and illness
- Helping students understand a human being as a psychophysiological unity
- To teach students to work with the basics of field theory, holistic approach and model "Connections and Health" / Autoregulation and Allostasis
- To acquaint students with basic communication algorithms that can be applied in various contexts and situations of medical practice
- Specify the possibilities of application of psychology in various fields of medicine

### **Learning outcomes**

- Student understand why psychology is important in medicine and distinguishes different approaches to disease and health
- Student understands the relationship between emotion, motivation and health
- Student understands the interaction approach to stress and the relationship of stress, health and illness
- Student understands the risks of stress in performing the profession of medical doctor / healthcare professional. Student can identify symptoms of chronic stress and knows the principles of their management and prevention in the process of developing the burnout syndrome
- Student is able to explain the role of different psychological factors in physical symptoms
- Student understands to placebo and nocebo effects and how they affect illness and recovery
- Student understands the importance of health behavior and health behavior change, student knows the different models of health behavior and understand how to apply these models in clinical practice
- Student will learn about the psychosocial relationships of chronic and incurable diseases
- Student will understand how developmental changes throughout life affect communication between doctor and patient
- Student will learn the basic communication skills necessary for conducting the clinical interview
- Student will know theoretical bases of various psychological therapies used in medical context
- Student will become acquainted with the psychosomatic paradigm in medicine
- The student will get acquainted with basic psychodiagnostic methods, possibilities and limits of psychological assessment

### **Syllabus**

- - Psychology and medicine, why is psychology important in medical practice
- - Definitions of health, comparison of biomedical and biopsychosocial approaches
- - Motivation, emotion, and health
- - Stress and health
- - Symptoms and illness
- - Health and behavior
- - Chronic illness, death, and dying
- - Developmental psychology in medical context
- - Clinical interviewing

- - Psychotherapeutic approaches, general psychotherapeutic interventions for professionals in medical practice
- - Psychosomatic paradigm, psychophysiological integration such as “body-mind” integration
- - Basic explanatory models of psychosomatic diseases
- - Psychological assessment

### **Literature**

- AYERS, Susan and Richard DE VISSER. *Psychology for medicine*. First published 2011. Los Angeles: Sage, 2011. xiv, 530. ISBN 9781412946902.

### **Teaching methods**

Theoretical preparation, self-experience exercises, training of communication skills.

### **Assessment methods**

Full attendance is required. Final Examination - Oral Form

### **Language of instruction**

English

## **aVLLP7X1c Medical Psychology and Psychosomatics - practice**

### **Faculty of Medicine**

autumn / spring

### **Extent and Intensity**

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

### **Supervisor**

PhDr. Miroslav Světlák, Ph.D.

Department of Psychology and Psychosomatics - Theoretical Departments - Faculty of Medicine

Contact Person: Vlasta Břicháčková

### **Course objectives**

The objectives of the subject are to enable students to:

- Help students identify their own sources of motivation for the profession of health care professional
- Through self-experience exercises, help students distinguish different levels of helping professions (a healthcare worker, such as a social role, a person, a patient)
- Help students identify their own sources of self-support
- Help students to learn the basic methods of stress management
- Link the theoretical background of medical psychology to general human existential themes through experiential exercises (responsibility, will to sense, meaning of life, hope, humility, gratitude)
- Rehearse essential counselling and psychotherapy skills in various medical contexts and situations under the direct supervision of clinical psychologist and psychotherapist
- To acquaint students with basic psychotherapeutic techniques in individual and group

psychotherapy (demonstration, short self-experience)

- Practice of basic relaxation techniques

### **Learning outcomes**

- Student understands which motives may be in the background of a medical profession
- Understands the concept of self-support and is able to identify own sources of self-support
- Student will learn effective stress management techniques
- Student will meet general human existential themes through experiential exercises (fear of death and dying, responsibility, will to sense, meaning of life, hope, humility, gratitude)
- Students will acquire the basic communication skills when communicating bad news to patients
- Student will learn basic communication skills in communication with children at different stages of development
- Student will learn basic communication skills in communication with patients with chronic diseases
- Student will learn basic communication skills in communicating with patients who experience strong emotions
- Student will learn to identify transference and countertransference phenomena
- Students will learn the principles of collecting anamnesis in psychosomatic patients
- Student will learn the principles of conducting the clinical interview

### **Syllabus**

- - Motivation of the medical profession
- - External and internal self-support system
- - Autogenic training
- - Mindfulness-based stress reduction
- - The general human existential themes
- - Basic communication skills in communication with children
- - Basic communication skills in communication with chronic disease patient
- - Basic communication skills in communication with children who experience strong emotions
- - Basic communication skills when communicating bad news to patients
- - Principles of collecting anamnesis in psychosomatic patients
- - Principles of conducting the clinical interview
- - Transference and countertransference phenomena
- - Ego defense mechanisms
- - Supervision in medicine
- - Team supervision

### **Literature**

*required literature*

- AYERS, Susan and Richard DE VISSER. *Psychology for medicine*. First published 2011. Los Angeles: Sage, 2011. xiv, 530. ISBN 9781412946902.

### **Teaching methods**

Interactive exercise and supervision.

### **Assessment methods**

Full attendance is required for credit.

### **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).

### **Supervisor**

MUDr. Daniela Vysloužilová, Ph.D.

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

Contact Person: 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 therapeutic 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 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. 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 (i 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).

### **Supervisor**

MUDr. Daniela Vysloužilová, Ph.D.

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

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

### **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 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. *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).

## Supervisor

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: Eva Podborská

## 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 basic otorhinolaryngologic assessment - to recognize normal finding in evaluated person - to suggest another medical tests in any pathology - to suggest basic treatment

## Syllabus

- 1st day (Monday, FNUSA) The hearing and balance system, applied anatomy and physiology, methods of investigation, inspection, palpation, otoscopy - practical training. The basic pathological finding on the ear drum I. - slides, demonstrations of patients. Video - function of hearing system, otoacoustic emissions (OAE). 2nd day (Tuesday, FNUSA) Radiography of the temporal bone (Schueller's view, Stenvers' view, CT), surgical treatment of acute and chronic Otitis Media, reconstructive surgery. Practical course and operating theatre. Stapedotomy - video demonstration. Video: FESS, slides: Ear II, Nose. Nose and paranasal sinuses, applied anatomy and physiology, external inspection and palpation, anterior rhinoscopy - practical course, radiology of the sinuses, classical radical treatment and functional endoscopic sinus surgery (FESS) - video demonstration. Pathologic findings - slides. 3rd day (Wednesday, FNUSA) Nasopharynx and oropharynx - applied anatomy and physiology, posterior rhinoscopy - practical training, investigation of the oral cavity and salivary glands, Waldayer's lymphoepithelial ring, functional assessment of the Eustachian tube. Pathologic findings - slides. The correction of saddle nose - videodemonstration 4th day (Thursday, FDN) Congenital anomalies of the ear, types of disorder, possibilities of treatment, slides. Otitis media acuta – etiology, otoscopy, diagnosis, therapy – slides, pathologic findings, video demonstration – paracentesis. Complications of middle ear inflammation, therapy, video demonstration – antromastoidectomy. Chronic inflammation of the middle ear – focused on children's age – etiology, diagnosis, therapy, video demonstration – implantation of pressure equalizing tube, myringoplasty. Practical training – otoscopy, presence in evaluation of children patient in outpatient room, presence in operating theatre. 5th day (Friday, FDN) Nasopharynx and oropharynx - applied anatomy and physiology, posterior rhinoscopy - practical training, Waldayer's lymphoepithelial ring, - focused on children's age. Acute and chronic inflammations in tonsil's region, obstructive sleep apnoe syndrome, evaluation, therapy. Video demonstration – tonsilotomy. Practical training – evaluation of nasopharynx and oropharynx. 6th day (Monday, FNUSA) Hypopharynx and Larynx - applied anatomy and physiology, methods of investigation - indirect laryngoscopy and hypopharyngoscopy – practical training, functional disorders of the larynx. Dyspnoe, tracheotomy – video demonstration. 7th day (Tuesday, FDN) Functional endoscopic sinus surgery (FESS) focused

on children's age, surgery of choanal atresia, dacryocystorhinostomy. Development of paranasal sinuses, acute and chronic inflammations, complications and their resolution - video demonstrations. Pathologic findings - slides. Foreign bodies in otorhinolaryngology – evaluation, methods of extraction, bronchoscopy. Practical training – evaluation of larynx, hypopharynx, rhinoscopy, external neck. 8th day (Wednesday, FNUSA) Cervical lymphatic system - applied anatomy and physiology, methods of investigation - practical training. Differential diagnosis of tumors of neck. Head and neck cancer - strategy of treatment. Endoscopy (Microlaryngoscopy and bronchoscopy) - in Otolaryngology. Video demonstration - Restoration of the voice by endolaryngeal surgery.

## 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).

### Supervisor

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: Eva Podborská

### Course objectives

Main objectives of the 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 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. Equilibrimetry - investigation of vestibular organs, differential diagnosis of vestibular disorders. The lecturer supposes a basic knowledge from 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. Smílek, PhD., Odb. as. 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. Smílek, PhD.: Basics principles in ENT Oncology 1. Etiology 2. Prognosis of Head and Neck Cancer 3. Basic strategy of treatment 4. Treatment of lymph node 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 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. Final grade: oral examination The students are expected to come to the Practice properly prepared, including the corresponding theoretical backgrounds.

### **Language of instruction**

English