

GENERAL MEDICINE – YEAR 5

SYLLABI OF THE COURSES OFFERED TO EXCHANGE STUDENTS

YEAR 5 / SEMESTER 9

aVLPD0932c Pediatrics II - practice

Faculty of Medicine

autumn

Extent and Intensity

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

Taught in person.

Guaranteed by

doc. MUDr. Petr Jabandžiev, Ph.D.

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

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

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

Course objectives

The aim of practical lessons in pediatrics is:

Introducing students to the field of therapeutic and preventive care in pediatrics

Understanding of pediatric propedeutics

Knowing the most common diseases in pediatrics

Acquiring examination methods needed to diagnose the most common diseases in pediatrics

Managing the differential diagnosis of the most common acute and chronic diseases in pediatrics

Understanding the principles of pharmacotherapy in pediatrics

Learning outcomes

After completing this course the student will have basic knowledge about:

- pediatric propedeutics
- the most common diseases in pediatrics and their diagnosis and treatment
- the care of the newborn
- nutrition in childhood

Syllabus

- Theoretical part (seminars):
- Neonatology
- Intensive care in pediatrics
- Nutrition in pediatrics
- Pediatric immunology
- Pediatric gastroenterology
- Inherited metabolic disorders
- Pediatric rheumatology
- Pediatric hematology
- Pediatric nephrology
- Pediatric endocrinology
- Pediatric oncology
- Practical part (ward):
- Practical bedside teaching
- Examination procedures in children (newborn, infant, toddler, pre-school and school-age child, adolescent) with diagnoses typical of these age groups
- Medical history
- Physical examination
- Differential diagnosing
- Designing of laboratory and instrumental examination
- Diagnosing and treatment

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

To get the credit:

- attendance at 90% of seminars and practical trainings
- active participation

Language of instruction

English

aVLPD0932p Pediatrics II - lecture

Faculty of Medicine

autumn

Extent and Intensity

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

Taught online.

Guaranteed by

doc. MUDr. Petr Jabandžiev, Ph.D.

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

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

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

Course objectives

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

Learning outcomes

The student will be acquainted with principal concepts and tasks of paediatrics.

The student will be acquainted with origin, diagnostics, therapy and prevention of basic nosological units in the childhood.

The student knows the system and contents of preventive examinations, vaccination.

The student is able to define risk factors endangering healthy development of child and adolescent.

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*. Edited by Richard E. Behrman. 20th edition. Philadelphia: Elsevier, 2016. lxxviii, 17. ISBN 9781455775668.
- *Current diagnosis and treatment : pediatrics*. Edited by William W. Hay. 22nd ed. New York: McGraw-Hill Medical, 2014. xxviii, 15. ISBN 9780071827348.
- *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

lecture

Assessment methods

credit

Language of instruction

English

aVLOZ0943c Public Health III - practice

Faculty of Medicine

autumn

Extent and Intensity

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

Taught in person.

Guaranteed by

Mgr. Bc. Michal Koščík, Ph.D.

Department of Public Health - Theoretical Departments - Faculty of Medicine

Contact Person: MUDr. Bohdana Rezková, Ph.D.

Supplier department: Department of Public Health - Theoretical Departments - Faculty of Medicine

Course objectives

The course is focused on a deeper acquaintance with selected topics in the field of public health, specifically in the field of preventive medicine, vaccinology and special epidemiology.

The AIMS OF TEACHING are:

- the acquisition of knowledge of such lifestyle recommendations and their adjustment, which will lead to a reduction in the risk of diseases and disorders, to an improvement in health and an increase in endurance and fitness, or to a reduction in the need for medicines and an improvement in disease,
- acquaintance with methods of examination of individual risks and obtaining information about the current lifestyle of an individual,
- gaining knowledge of general recommendations based on EBD principles,
- obtaining competencies in the prevention of transmission of infectious diseases, focusing on the most common or most serious community-related and healthcare-associated infections,
- understanding the patterns affecting the occurrence of infections - economic, environmental, social or cultural influences,
- getting acquainted with the current epidemiological situation in the Czech Republic and in the world and with the possibilities of abuse of agents of infections,
- to acquire the fundamentals of vaccination, focusing on the importance of vaccination and the safety of vaccines.

Learning outcomes

Student will be able to:

- understand of the importance of lifestyle-oriented prevention counselling.
- provide individualized counselling that will reduce the risk of disease and health disorders, improve health and increase resistance and fitness, or reduce the need for medications and improve the disease.
- use nutritional counselling methods to prevent obesity,
- apply knowledge of the incidence and transmission of infectious diseases in the provision of preventive and repressive anti-epidemic measures at the community level and in healthcare facilities,
- understand the determinants of infectious diseases and enter the secrets of the epidemic and pandemic spread of infections,
- use vaccination to prevent infections in their medical practice, including knowledge of reasoning on the general public.

Syllabus

Topics in the block:

- Prevention of obesity and nutritional counselling
- Lifestyle-oriented counselling in the prevention and primary prevention of cardiovascular diseases and cancer.
- Special epidemiology I
 - Water and food-borne infections.
 - HIV, sexually transmitted infections, viral hepatitis.
- Special epidemiology II
 - Environmental changes and their impact on the spread of infections.

- Respiratory tract infections. Highly contagious infections and biological weapons.
- Vaccination preventable infections, vaccination.

Literature

recommended literature

- Present knowledge in nutrition. Edited by John W. Erdman - Ian MacDonald - Steven H. Zeisel. 10th ed. Ames, Iowa: International Life Sciences Institute, 2012. xxii,1305. ISBN 9780470959176.
- Physical activity and obesity. Edited by Claude Bouchard - Peter T. Katzmarzyk. 2nd ed. Champaign, Ill.: Human Kinetics, 2010. xxi, 409. ISBN 9780736076357.
- Physical Activity Guidelines for Americans - 2nd edition. U.S. Department of Health and Human Services, 2018, 118 pp. https://health.gov/paguidelines/second-edition/pdf/Physical_Activity_Guidelines_2nd_edition.pdf
- Global recommendations on Physical Activity for Health (2011). https://www.who.int/dietphysicalactivity/factsheet_recommendations/en/
- 2016 European guidelines on CD prevention in clinical practice. European Heart Journal (2016) 37, 2315–2381. www.athero.cz/media/1542/2016-esc-eas-eacpr.pdf
- World Cancer Research Fund International: Diet, Nutrition, Physical Activity and Cancer: a Global Perspective - The Third Expert Report. London, UK, World Cancer Research Fund International; 2018 Available from: <https://www.wcrf.org/dietandcancer>
- https://www.who.int/vaccine_safety/en/
- Bonita R, Beaglehole R, Kjellström: Basic epidemiology. 2nd edition. Geneva - Switzerland: World Health Organization; 2006.
- Farmer R, Lawrenson R, Miller D: Epidemiology and public health medicine. 5th edition. Oxford - U.K.: Blackwell Publishing; 2004.
- <https://www.cdc.gov>
- Infectious disease epidemiology. Edited by I. Abubakar - Ted Cohen - Helen R. Stagg - Laura C. Rodrigues. First published. Oxford: Oxford University Press, 2016. 379 stran. ISBN 9780198719830.

not specified

- Mayhall's hospital epidemiology and infection prevention. Edited by David J. Weber - Thomas R. Talbot. Fifth edition. Philadelphia: Wolters Kluwer, 2021. xv, 742. ISBN 9781975124588.

Teaching methods

seminars, group work with discussion, group project

Assessment methods

A. REQUIREMENTS TO OBTAIN THE CREDIT (SUCCESSFUL COMPLETION OF THE COURSE):

To be awarded credit for the course, the student must obtain a MINIMUM of 26 POINTS generated and registered in the IS.

THE STUDENT CAN GET POINTS:

1. IN TEACHING:

- for the fulfilment of obligatory tasks given by the teacher of the lesson and submitted to the "Homework vault" (specified in the Interactive syllabus) - 1 point

- for participation in the lesson - 2 points

The maximum number of points that a student can get during the teaching block is 15 points.

2. FROM THE FINAL TEST

The maximum number of points that a student can get from the test is 20.

B. FINAL TEST INFORMATION:

1. Each student must register in the Information System (IS) in one of the offered final test terms. The final test has fixed examination terms/dates. No extra terms will be given.

2. Students registered to a final test term will fail the term if:

a) arrive late to the test. No late arrival will be allowed after the start of the test.

b) they are not present and previously do not cancel the term in the stipulated periods (see IS).

3. In case the student does not get a sufficient number of points from the final test for the credit, he/she can repeat the test TWICE and only in the announced terms.

4. In case the student does not get a sufficient number of points even in the third attempt (second repetition), he/she must repeat the subject in the following semester/academic year.

5. All final test questions are based on ALL REQUIRED LITERATURE, seminars and presentation.

6. The final test is a written examination → 20 multiple choice question test, with only one correct answer.

Correct answer = 1 point.

No answer = 0 point.

Language of instruction

English

aVLOZ0943p Public Health III - lecture

Faculty of Medicine

autumn

Extent and Intensity

1.5/0/0. 0 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

MUDr. Bohdana Rezková, Ph.D.

Department of Public Health - Theoretical Departments - Faculty of Medicine

Supplier department: Department of Public Health - Theoretical Departments - Faculty of Medicine

Course objectives

The course is focused on a deeper acquaintance with selected topics in the field of public health, specifically in the field of preventive medicine, vaccinology and special epidemiology.

The AIM OF TEACHING is:

- the acquisition of knowledge of such lifestyle recommendations and their adjustment, which will lead to a reduction in the risk of diseases and disorders, to an improvement in health and an increase in endurance and fitness, or to a reduction in the need for medicines and an improvement in disease,
- acquaintance with methods of examination of individual risks and obtaining information about the current lifestyle of an individual,
- gaining knowledge of general recommendations based on EBD principles,
- obtaining competencies in the prevention of transmission of infectious diseases, focusing on the most common or most serious community-related and healthcare-associated infections,
- understanding the patterns affecting the occurrence of infections - economic, environmental, social or cultural influences,

- getting acquainted with the current epidemiological situation in the Czech Republic and in the world and with the possibilities of abuse of agents of infections,
- to acquire the fundamentals of vaccination, focusing on the importance of vaccination and the safety of vaccines.

Learning outcomes

Student will be able to:

- understand of the importance of lifestyle-oriented prevention counselling.
- provide individualized counselling that will reduce the risk of disease and health disorders, improve health and increase resistance and fitness, or reduce the need for medications and improve the disease.
- use nutritional counselling methods to prevent obesity,
- apply knowledge of the incidence and transmission of infectious diseases in the provision of preventive and repressive anti-epidemic measures at the community level and in healthcare facilities,
- understand the determinants of infectious diseases and enter the secrets of the epidemic and pandemic spread of infections,
- use vaccination to prevent infections in their medical practice, including knowledge of reasoning on the general public.

Syllabus

Topics in the block:

- Prevention of obesity and nutritional counselling
- Lifestyle-oriented counselling in the prevention and primary prevention of cardiovascular diseases and cancer.
- Special epidemiology I
 - Water and food-borne infections.
 - HIV, sexually transmitted infections, viral hepatitis.
- Special epidemiology II
 - Environmental changes and their impact on the spread of infections.
 - Respiratory tract infections. Highly contagious infections and biological weapons.
- Vaccination preventable infections, vaccination.

Literature

- Bonita R, Beaglehole R, Kjellström: Basic epidemiology. 2nd edition. Geneva - Switzerland: World Health Organization; 2006.
- Farmer R, Lawrenson R, Miller D: Epidemiology and public health medicine. 5th edition. Oxford - U.K.: Blackwell Publishing; 2004.

Teaching methods

lectures

Assessment methods

The course is completed by credit. The condition for granting the credit is a credit from the subject Public Health III - practice.

Language of instruction

English

aVLDD91CH Differential diagnostics - Surgery

Faculty of Medicine

autumn

Extent and Intensity

0/1.3/0. 2 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

prof. MUDr. Miroslav Souček, CSc.

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

Contact Person: MUDr. Zdeněk Chovanec, Ph.D.

Course objectives

Learning outcomes of the course unit The aim of the course is to teach the student differential diagnosis in the investigation of patients with internal, surgical and neurological diseases and to acquire correct and effective procedures during individual examinations. Teaching is a follow-up to the presentation of the 5th year, which further deepens and improves practical skills.

Learning outcomes

Student will be able to diagnose differential diagnosis in the patient after graduation. Student will be able to: to get a good history from the patient . to set priorities in the differential diagnosis procedure and to develop a diagnostic-therapeutic plan . Perform Physical Examination That Is Focused on patient's symptoms . to interpret all available data from an examination including a history, objective examination, laboratory and instrumental outcome . based on the results obtained, make the necessary clinical

Syllabus

Teaching is carried out in individual specialized blocks - internal, surgical and neurological block in which differential diagnosis will be discussed: . fever . shock . breathlessness . chest pain on the chest . swelling of the lower legs . dysrhythmia . collapse . abdominal pain - acute bleeding from the digestive tract . jaundice,diarrhea . hepato- and splenomegaly . dyspepsia . cough and expectoration . haemoptysis (blood coughing) . acute and chronic kidney failure . abnormal urinary constituents . thyreopathies . joint pain . anemia . bleeding states . nodal syndrome . exanthema . falling in old age .

acute and chronic cognitive disorders, depression . headaches . attacks . back pain . ion equilibrium disorders . sudden chest events . complications in the postoperative period . pulmonary infiltrates

Literature

recommended literature

- LUKÁŠ, Karel and Aleš ŽÁK. Chorobné znaky a příznaky : diferenciální diagnostika. 1. vyd. Praha: Grada, 2014. xxii, 890. ISBN 9788024750675.
- Raftery a.T. Lim E. Diferenciální diagnoza. Grada, Praha, 2009, 520s. ISBN 978-80-247-2356-3

not specified

- Differential Diagnosis of Common Complaints Symons,A.B. , Seller, R.H., 7th Revised edition 2017, 480 p. ISBN13 9780323512329
- Diferenciální diagnostika ve vnitřním lékařství .Steffen, H.M, Griebenow,R. Meuthen, I a kol. Praha. Grada, 1. vydání, 2010, , 416 s.,ISBN 978-80-247-2780-6

Teaching methods

Practical training (about 100 % of the total volume of teaching) is complemented by a comprehensive range of simulation teaching methods on simulators with varying degrees of fidelity, trainers and virtual patients. Simulation results in subsequent debriefing (feedback to the student). There is also problem-oriented learning in the foreground, where the student is taught by solving the problem presented, as well as team-oriented teaching when small groups of students discuss and choose a solution to the problem. Emphasis is also placed on the development of soft skills, incl. so-called "21st century skills", particularly communication, decision-making skills, critical thinking, crisis communication and teamwork.

Assessment methods

Traditional methods are complemented by an 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. The learning is finished with the colloquium.

Language of instruction

English

****aVLFP091 Physiology and Pathology of Newborn**

Faculty of Medicine

autumn

Extent and Intensity

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

Guaranteed by

doc. MUDr. Petr Jabandžiev, Ph.D.

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

Contact Person: MUDr. Magdalena Rohanová

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

Course objectives

Pediatric is focused on diagnostic, treatment and prevention in childhood. There are specific conditions in childhood, different diagnostic tools and specific care. After the participation in the course students will be able to evaluate and summarize the state of the newborn after the delivery, during the transitional period perform the basic screenings, understand the impact of congenital and inherited diseases on children and their families. The target of the lectures is improve the knowledge of the students of most frequent disorders, basic diagnostic approach and therapeutical procedures in pediatrics.

Learning outcomes

The student will be able:

- knowledge of the origin, course, treatment and prognosis of the most common childhood diseases
- define risk factors that threaten the healthy development of the child.

Syllabus

- Organization of neonatology and perinatology. Physiology of newborn and adaptation changes of systems related to birth. Observation of newborn, morphological and functional characteristics. Newborn with low birth weight. Immature newborn. Hypotrophic and overmature newborn. Perinatal injuries. Newborn nutrition. Newborn with serious congenital defects. Asphyctic newborn. Newborn with bronchopulmonary dysplasia. Most frequent hereditary diseases. Neonatal screening. Age groups, growth and development of the child. Disorders of respiratory tract, GUT, cardiovascular, liver, hematologic disorders, neoplastic disease, endocrine disorder, inborn errors of metabolism, allergic disorders, immunodeficiency, infection in children.

Literature

recommended literature

- *Neonatology : management, procedures, on-call problems, diseases, and drugs.* Edited by Tricia Lacy Gomella. 4th ed. New York: Lange Medical Books/McGraw-Hill, 1999. xx, 698. ISBN 0838516157.

Teaching methods

lectures

Assessment methods

credit

Language of instruction

English

****aVLAL091 Anaesthesiology and Treatment of Pain**

Faculty of Medicine

autumn

Extent and Intensity

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

Taught partially online.

Guaranteed by

MUDr. Lukáš Dadák, Ph.D.

Department of Anesthesiology and Intensive Care - Institutions shared with St. Anne's Faculty Hospital - Faculty of Medicine

Contact Person: MUDr. Lukáš Dadák, Ph.D.

Course objectives

At the end of the course students should be able to:

understand basic concepts of general and regional anesthesia;

learn basic skills of airway management

Learning outcomes

Student will be able to:

- provide airway management on the manequine;
- discuss perioperative management of the patient;
- describe goals and complications of general and regional anaesthesia;
- propose prescription of basic pain killers for acute or chronic pain.

Syllabus

- Preoperative evaluation and premedication;
- Airway management
- General anaesthesia
- Regional anaesthesia
- Pain management
- Simulations: i.v. lines, Bag Mask ventilation, Laryngeal Mask, Intubation, General and Regional anesthesia.

Literature

recommended literature

- BROWN, David L. *Atlas of regional anesthesia*. Illustrated by Jo Ann Clifford - Joanna Wild. 3rd ed. Philadelphia: Elsevier Saunders, 2006. xviii, 438. ISBN 1416022392.

- *Clinical anesthesia*. Edited by Paul G. Barash - Bruce F. Cullen - Robert K. Stoelting. 4th ed. Philadelphia: Lippincott Williams-Wilkins, 2001. xvi, 1576. ISBN 0781722683.
- *Anesthesia*. Edited by Ronald D. Miller. 5th ed. New York: Churchill Livingstone, 2000. xx, 1662. ISBN 0443079889.

not specified

- TSUI, Ban C. H. *Atlas of ultrasound and nerve stimulation-guided regional anesthesia*. Illustrated by Carol T. S. Chan. New York: Springer, 2007. xxiii, 302. ISBN 9780387681580.
- LARSEN, Reinhard. *Anestezie*. Translated by Jarmila Drábková. 2. vyd. Praha: Grada, 2004. 1376 s. ISBN 8024704765.

Bookmarks

<https://is.muni.cz/in/tag/LF:aVLAL091!>

Teaching methods

lectures, simulation and debriefing

Assessment methods

Lectures in the beginning of semester. Internship in operating room and pain clinic after MCQ test and simulation.

Language of instruction

English

****aVLDO091 Clinical Training in Paediatric Oncology**

Faculty of Medicine

autumn

Extent and Intensity

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

Guaranteed by

prof. MUDr. Jaroslav Štěřba, Ph.D.

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

Course objectives

The aim of the lectures and practical exercises is to acquaint students with the issues of pediatric oncology, age specific differences of pediatric cancer comparing with adult type of cancer, the basic principles of diagnosis and treatment of pediatric malignant diseases.

Learning outcomes

After finishing the course student knows:

- the differences of pediatric and adult types of cancer,

- the most frequent types of pediatric malignancies,
- symptoms of pediatric cancer,
- the basic principles of diagnostic procedures and anticancer treatment.

Syllabus

- Specific differences of pediatric cancer (child as a patient, types of childhood cancer and their biology behavior), the most frequent types of childhood cancer, clinical symptoms, diagnostic procedures and principles of therapy, acute toxicity of the treatment, late toxicity, survivors of childhood cancer and quality of life.

Literature

recommended literature

- Philip A. Pizzo MD, David G. Poplack MD: Principles and Practice of Pediatric Oncology, ISBN-13: 978-1605476827
- Nathan and Oski's Hematology and Oncology of Infancy and Childhood, 2014, ISBN: 978-1-4557-5414-4
- Abrams, D.: Integrative Oncology, Oxford Univ. Press 2009, ISBN 978-0195309447

Teaching methods

Lecture, practical training.

Assessment methods

90 % attendance at lectures and practical training, credit

Language of instruction

English

YEAR 5 / SEMESTER 10

aVLPD1033c Pediatrics III - practice

Faculty of Medicine

spring

Extent and Intensity

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

Taught in person.

Guaranteed by

MUDr. Petr Jabandžiev, Ph.D.

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

Faculty of Medicine

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

Course objectives

The aim of practical lessons in pediatrics is:

Introducing students to the field of therapeutic and preventive care in pediatrics

Understanding of pediatric propaedeutic

Knowing the most common diseases in pediatrics

Acquiring examination methods needed to diagnose the most common diseases in pediatrics

Managing the differential diagnosis of the most common acute and chronic diseases in pediatrics

Understanding the principles of pharmacotherapy in pediatrics

Learning outcomes

After completing this course the student will have basic knowledge about:

- pediatric propaedeutic
- the most common diseases in pediatrics and their diagnosis and treatment
- the care of the newborn
- nutrition in childhood

Syllabus

Theoretical part (seminars):

- Neonatology
- Intensive care in pediatrics
- Nutrition in pediatrics
- Pediatric immunology
- Pediatric gastroenterology
- Inherited metabolic disorders
- Pediatric rheumatology
- Pediatric hematology
- Pediatric nephrology
- Pediatric endocrinology
- Pediatric oncology

Practical part (ward):

- Practical bedside teaching
- Examination procedures in children (newborn, infant, toddler, pre-school and school-age child, adolescent) with diagnoses typical of these age groups

- Medical history
- Physical examination
- Differential diagnosing
- Designing of laboratory and instrumental examination
- Diagnosing and treatment

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.

not specified

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

Completion of the subject Pediatrics I, II, III with an exam:

In the 5th year students will have to pass an exam. The test will be available at the end of the semester. • The exam will take the form of an online test, which will include questions from pediatric propaedeutics and pediatrics II. and III. (autumn semester - pediatrics II and spring semester - pediatrics III). The test contains 20 questions, 1 of 4 answers will always be correct. In preparation for the exam, read the list of recommended literature. The test will be written during the exam period. The total test time will be 30 minutes. • Test evaluation: • A 20–19 correct answers • B 18–17 correct answers • C 16–15 correct answers • D 14–13 correct answers • E 12–11 correct answers • F 10 or less correct answers. Students who fail the test twice will be required to take an oral exam.

Test rating:

A 20-19 correct answers

B 18-17 correct answers

C 16-15 correct answers

D 14-13 correct answers

E 12-11 correct answers

F 10 and less correct answers

Language of instruction

English

aVLVL101p Internal Medicine - lecture**Faculty of Medicine**

spring

Extent and Intensity

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

Guaranteed by

prof. MUDr. Miroslav Souček, CSc.

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

Contact Person: Eva Kašpárková

Course objectives

Particulars lectures on the most important issues of internal medicine.

Learning outcomes

Students will be acquainted with current knowledge in the lecture topics.

Syllabus

- Heart failure Echocardiography Therapy of bradycardia, pacemakers Unstable angina Functional gastrointestinal disease Nonfarmacology therapy of tachyarrhythmias Disorders of acid-base balance Kidney and farmakotherapy of Internal diseases Cardiovascular diseases and chronic stress Hypertension therapy Iodine-associated thyroid disease Management of treatment typ 2 diabetes Peptic ulcer disease Inflammatory bowel disease Genetics and arrhythmia Nutrition enteral and parenteral

Literature

- Davidson s Principles and Practise of Medicine. 20th Edition. N.A. Boon, N.R.Colledge, B.R.Walker
- Souček M., et all: Vnitřní lékařství pro stomatology
- Češka Richard.: Interna (2., aktualizované vydání) triton 2015, 870s, ISBN 978-80-885-6
- Klener P. et all. Vnitřní lékařství Druhé doplněné vydání. Praha. Galén . 2006,

Teaching methods

lecture

Assessment methods

Lectures are selective,optional.

Language of instruction

English

****aVLA091 Applied and Clinical Pharmacology**

Faculty of Medicine

autumn

Extent and Intensity

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

Taught in person.

Guaranteed by

doc. MUDr. Regina Demlová, Ph.D.

Department of Pharmacology - Theoretical Departments - Faculty of Medicine

Contact Person: Renata Blábllová

Course objectives

The aim of the course is to understand the basic principles of drug dose adjustment in renal and hepatic insufficiency, the course also focuses on the clinical pharmacology of selected groups of drugs, and emphasis will be placed on working with drug information, reasonable pharmacotherapy, applied kinetics and management of drug interactions. A separate topic is how to ensure the safety of pharmacotherapy. The course is delivered as interactive seminars in which virtual patients will be discussed.

Syllabus

- **Wednesday 14.09.2022 – 21.12.2022; 14:00 – 15:40; C15/311**
- 14.9. Clinical pharmacology of analgesics, pain management (Rychlickova)
- 21.9. Clinical pharmacology of diuretics, pharmacotherapy of ion disbalances (Rychlickova)
- 28.9. Public holiday – class is substituted by the COIL lecture on 29.9. (TBC)
- 29.9. (TBC) **16.30-18.00 online COIL** – Clinical pharmacology of antiepileptics, antiepileptics use (Burc Aydin)
- 5.10. Applied pharmacology of antithrombotics (Rychlickova)
- 12.10. class is substituted by the COIL lecture on 13.10.
- 13.10. **16.30-18.00 online COIL** – Clinical pharmacology of antihypertensive (Natália António)
- 19.10. Pharmacotherapy and renal impairment (Noskova) Applied pharmacology of antithrombotics (Rychlickova)
- 26.10. **16.30-18.00 online COIL** – The practice of safe prescribing, medication review (David Brinkman, Erik Donker)
- 2.11. Clinical pharmacology of targeted therapy in oncology (Demlova)
- 9.11. Therapy of symptoms associated with cancer treatment (Siska)
- 16.11. **15.00-16.30 online COIL** – Critical appraisal of clinical trials (Viktoria Nagy)
- 23.11. Clinical pharmacology of antibiotics, principles of antibiotic therapy in ICU (Balaz)
- 30.11. Clinical pharmacology of antipsychotic drugs, pharmacotherapy of delirium (Noskova)
- 7.12. Principles of drug dosing in patients with hepatic insufficiency (Rychlickova)

- 14.12. Applied drug-drug interactions (Souckova)
- 21.12. Case reports presentation – class might be postponed (TBC) (Rychlickova)
- 4.1.
- TBC – to be confirmed

Teaching methods

methods: interactive classes, virtual patients, case reports, discussion, collaborative international online learning (COIL). During the studying, the students can acquire the knowledge of applied and clinical pharmacology in the classes given by professionals in the field.

Assessment methods

1. The students have to present a case report provided by the teacher - The case report contains predefined drug-related problems related to the topics of the lectures.
2. The students have to pass the final test. The final multiple-choice test with only one correct answer consists of 30 questions. Minimum 21 of the test questions have to be answered correctly (70%).

Language of instruction

English

aVLOZ1144p Public Health IV – lecture

Faculty of Medicine

spring

Extent and Intensity

1.5/0/0. 2 credit(s). Type of Completion: z (credit).

Guaranteed by

prof. MUDr. Bc. Zuzana Derflerová Brázdová, DrSc.

Department of Public Health - Theoretical Departments - Faculty of Medicine

Supplier department: Department of Public Health - Theoretical Departments - Faculty of Medicine

Course objectives

Deep understanding of topics related to public health.

Learning outcomes

By the end of this course student should be able to:

- describe the term Public Health, describe theoretical framework and practice of Public Health;
- identify managerial and policy issues and techniques for decision-making in health care;
- demonstrate knowledge and understanding of a diverse range of global and national health policies, including current and emerging trends and also of disciplines relevant to the study of health policy, planning and financing (epidemiology, health economic and other social sciences);
- apply his knowledge and skills using a multidisciplinary approach to formulate and evaluate health policies and plans.

Syllabus

Chronic diseases related to public health. Xenobiotics in the food, diet and nutrition, additives. Epidemiology of viral hepatitis. Health care system - social, economic and legal aspects.

Literature

recommended literature

- TĚŠINOVÁ, Jolana, Roman ŽDÁREK a Radek POLICAR. Medicínské právo. Vyd. 1. V Praze: C.H.Beck, 2011. xxxiii, 41. ISBN 9788074000508
- Varkey P: Mayo clinic preventive medicine and public health board review. Edited by Prathibha Varkey. New York - United States: Mayo Clinic Scientific Press - Oxford University Press; 2010. pp 253-299.

Teaching methods

Lectures

Assessment methods

Test

Language of instruction

English

YEAR 4 / SEMESTER 9/10

aVLAM9X1c Intensive Care Medicine - practice

Faculty of Medicine

autumn / spring

Extent and Intensity

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

Taught in person.

Guaranteed by

MUDr. Jan Maláška, Ph.D.

Department of Anaesthesiology and Intensive Care Medicine - Institutions shared with the Faculty Hospital Brno - Adult Age Medicine - Faculty of Medicine

Contact Person: MUDr. Jan Maláška, Ph.D.

Course objectives

The aim of this practice is to acquaint the student with principles of advanced cardiopulmonary resuscitation and critically ill patients management.

Learning outcomes

At the end of the practice the student will be able to

identify the patient with organ dysfunction

initiate the basic steps to diagnosis and treatment of critically ill patients

perform advanced cardiopulmonary resuscitation

Syllabus

- **INTENSIVE CARE MEDICINE- PRACTICE- two weeks intensive course**
- **MONDAY:** We will present you the simulators, ICUs and other areas of The Simulation Centre during the first day of the practice from Intensive Care Medicine. The teachers and technicians of the centre will guide you there. Then, we will focus on the initial approach to the critical ill patient according to the ABCDE approach. You will try this approach on our simulators.
- **TUESDAY:** We will train basic skills focused on airway management and advanced life support in adults, the rules of safe defibrillation including, on the second day of the practice. You will know several oxygen delivery systems after this practice.
- **WEDNESDAY:** You will visit Department of Anaesthesiology and Intensive Care at St. Ann's University Hospital Brno on the third day. You will repeat initial approach to the critical ill patient during the practice. The rules of organ donation program, including the brain death diagnosis and care for potential organ donors, are part of this practice.
- **THURSDAY:** You will learn about basic steps in the diagnosis and treatment of some arrhythmias on thursday. We will focus on the unstable atrial fibrillation, as the most common tachyarrhythmias, but also the management of the bradyarrhythmias. The last topic of this practice is acute pulmonary edema, its diagnosis and treatment.
- **FRIDAY:** During this lesson, you will undergo three high fidelity simulations in SIMU. Structured debriefing will follow each of those simulations. The theme of this lesson will be acute respiratory failure and shock.
- **MONDAY:** On the sixth day, you will visit the Department of Anaesthesiology and Intensive Care at University Hospital Brno in Bohunice. You will repeat the initial approach to the critically ill patient during the practice. The basics of acid-base and electrolytes disorders are part of this practice.
- **TUESDAY:** During this lesson, you will undergo three high fidelity simulations in SIMU. Structured debriefing will follow each of those simulations. The theme of this lesson will be PALS (paediatric advanced life support), seizures, intoxication.
- **WEDNESDAY:** In today's practice, you will discuss various topics related to ICU nutrition, acute liver failure, palliative care and End of Life Decision (EOLD) in the debriefing room in SIMU.
- **THURSDAY:** In today's practice you will discuss the topic of Acute Kidney Injury (AKI) and Renal Replacement Therapy (RRT). Another topic is Multiple Organ Dysfunction Syndrome (MODS). This day will be spent in the Department of anaesthesiology and intensive care medicine, University hospital Brno, thus part of the teaching will also take place at the bedside of a patient.
- **FRIDAY:** In today's exercise, you'll be back at Simulation center to solve high-fidelity simulations that will test everything you've learned. Within these simulations, you will encounter several life-threatening conditions that await your solution.

Literature

- SINGER, Mervyn and Andrew R. WEBB. *Oxford handbook of critical care*. 3rd ed. New York: Oxford University Press, 2009. xxx, 669. ISBN 9780199235339.

Bookmarks

<https://is.muni.cz/in/tag/LF:aVLAM9X1c!>

Teaching methods

lectures and discussions, presentation of patients by consultant, simulation. Practical training (about 50 % 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

To answer the ROPOT form before practice. The participation on practice is compulsory, we accept one excused absence. The practice is finished by a credit test. This test is condition for oral exam registration.

Language of instruction

English

aVLAM9X1p Intensive Care Medicine - lecture

Faculty of Medicine

autumn / spring

Extent and Intensity

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

Taught in person.

Guaranteed by

MUDr. Jan Maláška, Ph.D.

Department of Anaesthesiology and Intensive Care Medicine - Institutions shared with the Faculty Hospital Brno - Adult Age Medicine - Faculty of Medicine

Contact Person: MUDr. Jan Maláška, Ph.D., EDIC

Course objectives

The aim of the course is to understand the basics of intensive care medicine. Lecture consist of ethiology, diagnostics and treatment of most frequent critical conditions. The specific management of critically ill will be explained, including mechanical ventilation and advanced cardiopulmonary resuscitation.

Syllabus

- Basic Life Support (BLS). Foreign Body Airway Obstruction Algorithm (FBAO) Defibrillation (Principles, indications). BLS + AED algorithm (Automatic External Defibrillator) Airway management Advanced Life Support Algorithm (ALS) ALS - Bradycardia Algorithm ALS - Tachycardia Algorithm Drugs for ALS (Indication, dosing, routes of drug administration). Post-resuscitation Care Reversible causes of cardiac arrest - 4H & 4 T (management during ALS). PEA (Pulseless Electrical Activity) Respiratory Failure (Background, classification). Oxygen Therapy (Equipment, indication, specific situation (COPD, ACS)) Principles of Artificial Ventilation (Invasive+Non-invasive) ARDS (Oxygenation Failure) Severe COPD a asthma (Ventilatory Failure) Circulatory Failure – Shock (Definition, types, management and monitoring) Vasoactive drugs (vasopressors, inotropes). Fluid Therapy (Crystalloids, Colloids) Arrhythmias in ICU (Diagnostics, drugs, cardioversion, cardiac pacing) Acute Heart Failure. Cardiogenic Shock Sepsis. Septic Shock Anaphylactic Shock. Obstructive Shock (Massive Pulmonary Embolism) Hemorrhagic Shock (Blood Products Therapy). Massive Bleeding (Life-Threatening Hemorrhage) Disorders of Consciousness (Definition, differential diagnostics, management). Seizures Acid-Base Disorders (Approach, definitions, simple disorders, therapy). Electrolytes Disorders (Hyperkalemia, hypo- and hyponatremia) Nutrition in Intensive Care Acute Renal Failure -Acute Kidney Injury (Renal Replacement Therapy (IHD x CRRT)) Acute Liver Failure (Approach, differential diagnostics and management) Hospital Acquired Infection (Definition). Principles of ABX (Antibiotics) treatment in Intensive Care Severe Brain Trauma (Brain edema, Intracranial Hypertension, Donor Program -principles) Severe Trauma-Polytrauma (Approach and management) Poisoning (General approach, eliminations, antidotes). Alcohols, CO and Acetaminophen poisoning

Literature

required literature

- Perkins GD, Handley AJ e al. Adult basic life support and automated external defibrillation section Collaborators. European Resuscitation Council Guidelines for Resuscitation 2015: Section 2. Resuscitation.2015 Oct;95:81-99.
- Soar J, Nolan Jpet al. Adult advanced life support section Collaborators. European Resuscitation Council Guidelines for Resuscitation 2015: Section 3. Adult advanced life support. Resuscitation. 2015 Oct;95:100-47
- ABC of intensive care. Edited by Graham Nimmo - Mervyn Singer. 2nd ed. Chichester, West Sussex, UK: Blackwell Pub., 2011. xi, 76. ISBN 9781405178037.
- Oxford Handbook of Critical Care, Mervyn Singer, Andrew Webb,26 Mar 2009, 704 pages, ISBN-10: 0199235333

recommended literature

- Oh's intensive care manual. Edited by Andrew D. Bersten - Neil Soni. 7th ed. [S.l.]: Butterworth-Heinemann, 2014. xix, 1242. ISBN 9780702047626.
- Oxford Textbook of Critical Care, Edited by Andrew Webb, Derek Angus, Simon Finfer, Luciano Gattinoni, and Mervyn Singer, Published: 26 May 2016, 1,960 Pages, ISBN: 9780199600830

Teaching methods

Lectures are obliged. The main teaching method is with a support of PPT.

Assessment methods

final classification: oral exam and written test – condition to pass the exam is credit of Intensive care medicine – practice.

Language of instruction

English

aVLCH9X33c Surgery III - practice**Faculty of Medicine**

autumn / spring

Extent and Intensity

0/6/0. 3 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by:

doc. MUDr. Igor Penka, CSc.

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

Contact Person: MUDr. Zdeněk Chovanec, Ph.D.

Course objectives

The tuition in the 5th year takes its course in the fourteen days block. It includes 10 teaching hours of neurosurgery and plastic surgery, 8 hours of urology and 2 hours of cardiac surgery. Students should acquire basic knowledge and general view of mentioned surgical specialities.

Syllabus

- Neurosurgery: Introduction, wards and outpatients clinic, craniotomy, endoscopy, gamma knife, unconsciousness, intracranial hypertension, cerebral trauma, surgical neurooncology, vascular brain disease, surgery of epilepsy, hydrocephalus, degenerative backbone disease, surgery of the peripheral nerves, pain surgery, intracranial inflammatory disease.
- Urology: Introduction, wards and outpatients clinic, clinical investigation in urology, uroinfection, urolithiasis, renal colic, traumatology in urology, benign prostatic hyperplasia, urethral stricture, urinary incontinence, urooncology, erectile dysfunction.
- Plastic surgery: Introduction, wards and outpatients clinic, skin and musculocutaneous flaps, replantation, microsurgery, craniofacial surgery, hand surgery, children plastic surgery, congenital defects, reconstructive plastic in oncologic surgery, aesthetic surgery, breast reconstructive surgery.
- Cardiac surgery: Introduction, extracorporeal circuit, valvular defects, CABG, heart transplantation, surgery of the thoracic aorta, congenital defects of the heart and major vessels.

Literature

- HANUŠ, Tomáš and Petr MACEK. *Urologie pro mediky*. Vydání první. Praha: Galén, 2015. 305 stan. ISBN 9788024630083.
- VESELÝ, Jiří. *Plastická chirurgie (Plastic surgery)*. Brno, 2007.
- SMRČKA, Martin and Vladimír PŘIBÁŇ. *Vybrané kapitoly z neurochirurgie: pro studenty lékařské fakulty*. 1. vyd. Brno: Masarykova univerzita, 2005. 98 s. ISBN 8021037881.
- ZEMAN, Miroslav. *Speciální chirurgie*. 2. vyd. Praha: Galén, 2004. xxiii, 575. ISBN 8072622609.

Teaching methods

The tuition is provided in seminars with discussion, students are present during the surgical procedures in the operating room, bedside procedures and also in outpatient clinic.

Assessment methods

The written test in the end of the particular speciality is highly recommended. The credits are given on condition of the full training attendance and successful test results.

Language of instruction

English

aVLIN9X22c Infectious diseases II - practice

Faculty of Medicine

autumn / spring

Extent and Intensity

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

Taught in person

Guaranteed by

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 programme is the continuation of the lessons of INF 1 and enriches them; it is the preparation for the examination, too. The aim of this course is to spread the information about infectious diseases obtained during course aVLIN7X21. The main stress is put on viral hepatitis, infectious of nervous and alimentary systems, Lyme diseases, sepsis, and differential diagnosis of infectious diseases.

Syllabus

- The carrier state (*Salmonella typhi abdominalis*, *Salmonella paratyphi B*, *Streptococcus pyogenes*, enteritic salmonellae - aetiology, treatment, regimen measures), viral carrier state, prion infections.

- Differential diagnosis of viral hepatitis, diarrheas, tonsillitis, lymphadenopathy, infectious exanthema, fever.
- Neuroinfections; bacterial meningitis - aetiology, clinical features, treatment. The problem of bacterial meningitis in the newborns, little babies and in the elderly.
- Serous meningitis. Tickborne encephalitis. Lyme borreliosis - stage, clinical features, treatment. The examination of the cerebrospinal fluid; differential diagnosis of meningitis.
- Infectious diseases in the pregnancy. Infectious disease and corticosteroid therapy.
- Anthroozoonoses. Anaerobic infections, tetanus.
- The introduction to the problem of geographic and travel medicine. Malaria, leishmaniasis, typhoid fever.
- Clinical demonstration of the patients.

Literature

required literature

- HUSA, Petr, Lenka KRBKOVÁ, Svatava SNOVKOVÁ, Václav MUSIL, Lukáš HOMOLA, Roman STEBEL, Lenka VOJTILOVÁ, Matúš MIHALČIN, Petr HUSA, Kateřina HAVLÍČKOVÁ, Miriam MALÁ, Evelína KOVÁCSOVÁ and Peter MIKOLÁŠEK. Infectious Diseases. 1st ed. Brno: Masarykova univerzita Brno, 2020. 180 pp. ISBN 978-80-210-9729-2.

recommended literature

- HUSA, Petr, Lenka KRBKOVÁ, Svatava SNOVKOVÁ, Matúš MIHALČIN, Václav MUSIL, Lukáš HOMOLA, Petr HUSA, Roman STEBEL, Zlatava JIRSENSKÁ, Lenka VOJTILOVÁ, Kateřina HAVLÍČKOVÁ, Miriam MALÁ, Evelína KOVÁCSOVÁ and Peter MIKOLÁŠEK. Infekční lékařství (Infectious Medicine). 1st ed. Brno: Masarykova univerzita, 2019. ISBN 978-80-210-9438-3.
- Beneš Jiří, hlavní autor a pořadatel. Infekční lékařství. 1. vyd. Praha: Galén 2009. ISBN 978-80-7262-644-1

Teaching methods

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

Assessment methods

Full attendance is necessary for giving course-unit credit. Update: The course will be completed in spring 2020 with a test. Successful completion of the test is a condition for granting credits.

Language of instruction

English

aVLIN9X22p Infectious Diseases II

Faculty of Medicine

autumn / spring

Extent and Intensity

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

Taught in person.

Guaranteed by

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 programme is the continuation of the lessons of INF 1 and enriches them; it is the preparation to the examination, too. The aim of this course is to spread the information about infectious diseases obtained during course aVLIN7X21. The main stress is put on viral hepatitis, infectious of nervous and alimentary systems, Lyme diseases, sepsis, and differential diagnosis of infectious diseases.

Syllabus

- The carrier state (*Salmonella typhi abdominalis*, *Salmonella paratyphi B*, *Streptococcus pyogenes*, enteritic salmonellae - aetiology, treatment, regimen measures), viral carrier state, prion infections.
- Differential diagnosis of viral hepatitis, diarrhoeas, tonsillitis, lymphadenopathy, infectious exanthema, fever.
- Neuroinfections; bacterial meningitis - aetiology, clinical features, treatment. The problem of the bacterial meningitis in the newborns, little babies and in the elderly.
- Serous meningitis. Tickborne encephalitis. Lyme boreliosis - stage, clinical features, treatment. The examination of the cerebrospinal fluid; differential diagnosis of meningitis.
- The infectious diseases in the pregnancy. The infectious disease and the corticosteroid therapy.
- Anthroozoonoses. Anaerobic infections, tetanus.
- The introduction to the problem of the geographic and travel medicine. Malaria, leishmaniosis, typhoid fever.
- Clinical demonstration of the patients.

Literature

required literature

- HUSA, Petr, Lenka KRBKOVÁ, Svatava SNOVKOVÁ, Václav MUSIL, Lukáš HOMOLA, Roman STEBEL, Lenka VOJTILOVÁ, Matúš MIHALČIN, Petr HUSA, Kateřina HAVLÍČKOVÁ, Miriam MALÁ, Evelína KOVÁCSOVÁ and Peter MIKOLÁŠEK. Infectious Diseases. 1st ed. Brno: Masarykova univerzita Brno, 2020. 180 pp. ISBN 978-80-210-9729-2.

recommended literature

- HUSA, Petr, Lenka KRBKOVÁ, Svatava SNOVKOVÁ, Matúš MIHALČIN, Václav MUSIL, Lukáš HOMOLA, Petr HUSA, Roman STEBEL, Zlatava JIRSENSKÁ, Lenka VOJTILOVÁ, Kateřina HAVLÍČKOVÁ, Miriam MALÁ, Evelína KOVÁCSOVÁ and Peter MIKOLÁŠEK. Infekční lékařství (Infectious Medicine). 1st ed. Brno: Masarykova univerzita, 2019. ISBN 978-80-210-9438-3. info
- Beneš, Jiří, hlavní autor a pořadatel. Infekční lékařství. 1. vyd. Praha: Galén 2009, 651 s. ISBN 978-80-7262-644-1

Teaching methods

Seminar, clinical demonstrations of patients.

Assessment methods

For credit is necessary full presence. Before passing of oral examination is necessary to have credit. In the semester Spring 2020 is possible to pass the exam like on-line test if the student is not able to come to the Czech Republic for oral examination.

Language of instruction

English

aVLNE9X1c Neurology - practice**Faculty of Medicine**

autumn / spring

Extent and Intensity

0/6/0. 3 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

doc. MUDr. Eva Vlčková, Ph.D.

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

Course objectives

The aim of the course is to provide the basic knowledge about:

- key principles of clinical neurological examination;
- the most important neurological symptoms and syndromes;
- topical diagnosis in neurology;
- clinical picture, and the differential diagnosis of the most important neurological diagnostic units;
- medical management of acute stroke patients;
- the most frequently used electrophysiological, imaging, and laboratory diagnostic tests in neurology including their indication and the interpretation of their most important results.

Learning outcomes

At the end of the course, the students should be able to:

- understand and explain the basic principles of neurology;
- work with information on the medical history and neurological examination to establish the symptoms and to derive syndromes of the neurological disorders;
- make reasoned decisions about the topical diagnosis and differential diagnosis based on the symptomatology;
- make deductions based on acquired knowledge in the field of neurology;
- indicate and interpret basic the most frequently used electrophysiological, imaging, and laboratory diagnostic methods in neurological patients.

Syllabus

- Clinical neurological examination, neurological propaedeutic, semiology, and syndromology. In particular, the following topics will be addressed:
 - taking neurological history;
 - reflexology, palsies, pyramidal signs;
 - examination of the cranial nerves;
 - sensory examination;
 - extrapyramidal and cerebellar signs;
 - examination of the spine and spinal cord;
 - disorders of the stance and walking;
 - meningeal syndrome, intracranial hypo-, and hypertension;
 - unconsciousness;
 - developmental neurology, neurological examination of pediatric patients.
- Practical experience with neurological patients in both in- and outpatient parts of the clinics including the intensive care unit, stroke unit, neurophysiological labs, and clinical wards (both in adult and children's parts of the hospital). Among others, this includes:
 - ward round participation;
 - participation in clinical neurological examinations performed by trained neurologists followed by the discussion in the interpretation of particular diagnostic tests and overall clinical status of the patient and suggestion of further diagnostic and treatment options (at least 10 patients)
 - clinical neurological examination of particular patients performed by students and followed by an instant debriefing with the teacher aimed at the clinical status of the patients, interpretation of particular clinical findings, syndromology, and topical diagnosis, the suggestion of further diagnostic tests and discussion on treatment options (in total, each student will examine at least 5 patients with different diagnostic units, including at least one stroke patient).
- Practical experience with the most important and most frequently used diagnostic methods in neurology:
 - electroencephalography;
 - nerve conduction studies and electromyography;
 - evoked potentials;
 - ultrasound examination (carotid + transcranial);
 - other imaging methods including interpretation of the results (MRI, CT, angiography) (within the frame of ward rounds, case report discussions, and simulation lecture focused on stroke - see below);
 - lumbar puncture and cerebrospinal fluid examination (among others within the frame of simulation lecture - see below).
- Simulation lectures:
 - medical management of acute stroke patients (SBL simulation) (if needed, the lecture can be substituted by direct experience with the management of acute stroke in an intensive care unit or stroke unit);
 - lumbar puncture and the cerebrospinal fluid examination (skills training) (if needed, the lecture can be substituted by direct experience with lumbar puncture procedure in an in- or outpatient part of the clinics);
 - headache (TBL simulation) (if needed, the lecture can be substituted by clinical experience with patients suffering from both primary and secondary headaches in an in- or outpatient part of the clinics).

Literature

required literature

- VIVEKANANDA, Umesh. Crash Course Neurology. Edited by Philip Xiu - Shreelata Datta. 5th edition. [Edinburgh?]: Elsevier, 2019. xi, 278. ISBN 9780702073854.

recommended literature

- Greenberg DA, Aminoff MJ, Simon RP. Lange Clinical Neurology, 11th Edition. McGraw Hill, 2020. xiii, 464. ISBN-10: 1260458350, ISBN-13: 978-1260458350
- RŮŽIČKA, Evžen, Karel ŠONKA, Petr MARUSIČ and Robert RUSINA. Neurologie. 1. vydání. Praha: Stanislav Juhaňák - Triton, 2019. xxxix, 541. ISBN 9788075536815.
- Učebnice speciální dětské neurologie : pro studenty 4. a 5. ročníku LF MU s rozšířenou výukou pediatrie (Special Pediatric Neurology for students of the 4th and 5th years, Medical Faculty, Masaryk University, with extended education in pediatrics). Edited by Hana Ošlejšková. 1. vyd. Brno: Masarykova univerzita, 2011. 123 s. ISBN 9788021056596.
- ŠTOURAČ, Pavel, Josef BEDNAŘÍK, Milan BRÁZDIL, Zdeněk KADAŇKA, Petr KAŇOVSKÝ, Marek MECHL, Jiří PRÁŠEK, Ivan REKTOR, Irena REKTOROVÁ and Radomír ŠLAPAL. Učebnice obecné neurologie (Textbook of General Neurology). 2., přepracované. Brno: Masarykova universita v Brně, 2003. 197 pp. ISBN 80-210-3309-6.
- Učebnice speciální neurologie. Edited by Zdeněk Kadaňka. 3., přeprac. vyd. Brno: Masarykova univerzita, 2010. 302 s. ISBN 9788021053205.
- ŠPINAR, Jindřich and Ondřej LUDKA. Propedeutika a vyšetřovací metody vnitřních nemocí. 2., přeprac. a dopl. vyd. Praha: Grada, 2013. 336 s. ISBN 9788024743561.
- AULICKÁ, Štefánia, Hana OŠLEJŠKOVÁ, Katarína ČESKÁ, Michaela HABALOVÁ, Klára ŠPANĚLOVÁ and Petra HANÁKOVÁ. Základy vývojové neurologie (Principles of developmental neurology). 1st ed. Brno: Masarykova univerzita, 2020. ISBN 978-80-210-9621-9.

Teaching methods

Initial workshops focused on particular steps in the clinical neurological examination followed by practical lectures provided by both the inpatient and outpatient parts of the neurological department (including the neurological intensive care unit and stroke unit) and special labs (ultrasonography, clinical neurophysiology, i.e. NCS + EMG, EEG, evoked potentials). The concept of learning is problem-oriented (students are taught by solving the problem presented) and team-oriented (small groups of students discuss and choose a solution to the problem). Special emphasis is laid on the development of soft skills, incl. so-called "21st-century skills", particularly communication, decision-making skills, critical thinking, crisis communication, and teamwork. Practical lectures are 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).

Assessment methods

Initial workshops focused on particular steps in the clinical neurological examination followed by practical lectures provided by both the inpatient and outpatient parts of the neurological department (including the neurological intensive care unit and stroke unit) and special labs (ultrasonography, clinical neurophysiology, i.e. NCS + EMG, EEG, evoked potentials). The concept of learning is problem-oriented (students are taught by solving the problem presented) and team-oriented (small groups of students discuss and choose a solution to the problem). Special emphasis is laid on the

development of soft skills, incl. so-called "21st-century skills", particularly communication, decision-making skills, critical thinking, crisis communication, and teamwork. Practical lectures are 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).

Language of instruction

English

aVLNE9X1p Neurology - lecture

Faculty of Medicine

autumn / spring

Extent and Intensity

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

Taught in person.

Guaranteed by

doc. MUDr. Eva Vlčková, Ph.D.

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

Course objectives

The aim of the course is to provide the introduction to clinical neurology. Basic information about the pathophysiology, clinical features, course, diagnosis and treatment of the most important clinical units in neurology will be provided. Based on these data, the students should be able to perform correct interpretation of the medical history and clinical neurological examination in patients with the most frequent neurological diseases, to create syndromological, topical and differential diagnosis, to suggest relevant paraclinic examinations and basic therapeutic approach for these clinical units.

Learning outcomes

At the end of the course, students should be able to:

- understand and explain the pathophysiology, clinical symptoms, clinical course, diagnosis, and treatment of the most frequent neurological diseases;
- create correct semiological, syndromological, and topical diagnoses based on medical history and clinical neurological examination;
- perform relevant differential diagnosis in patients with the most common neurological diseases;
- indicate appropriate paraclinical examinations and interpret their basic findings;
- make reasoned decisions about the possible etiological diagnoses.

Syllabus

- Practical workshops focused on following topics:
 - Cerebrovascular diseases, stroke
 - Spondylogenic disorders, spinal cord diseases
 - Infectious diseases of the nervous system, neurotraumatology
 - Headache and pain, neuropathic pain therapy
 - (Poly)neuropathies including the immune-mediated neuropathies (AIDP, CIDP)
 - Neuromuscular diseases
 - Multiple sclerosis, autoimmune encefalitis, paraneoplastic syndromes in neurology
 - Dementia, cognitive neurology
 - Movement disorders (Parkinson's disease)
 - Epilepsy
 - Developmental neurology, neurodevelopmental disorders, cerebral palsy
 - Neuromuscular diseases in childhood, paediatric epileptology

Literature

required literature

- VIVEKANANDA, Umesh. Crash Course Neurology. Edited by Philip Xiu - Shreelata Datta. 5th edition. [Edinburgh?]: Elsevier, 2019. xi, 278. ISBN 9780702073854.

recommended literature

- Greenberg DA, Aminoff MJ, Simon RP. Lange Clinical Neurology, 11th Edition. McGraw Hill, 2020. xiii, 464. ISBN-10: 1260458350, ISBN-13: 978-1260458350
- RŮŽIČKA, Evžen, Karel ŠONKA, Petr MARUSIČ and Robert RUSINA. Neurologie. 1. vydání. Praha: Stanislav Juhaňák - Triton, 2019. xxxix, 541. ISBN 9788075536815.
- ŠTOURAC, Pavel, Josef BEDNAŘÍK, Milan BRÁZDIL, Zdeněk KADAŇKA, Petr KAŇOVSKÝ, Marek MECHL, Jiří PRÁŠEK, Ivan REKTOR, Irena REKTOROVÁ and Radomír ŠLAPAL. Učebnice obecné neurologie (Textbook of General Neurology). 2., přepracované. Brno: Masarykova universita v Brně, 2003. 197 pp. ISBN 80-210-3309-6.
- Učebnice speciální neurologie. Edited by Zdeněk Kadaňka. 3., přeprac. vyd. Brno: Masarykova univerzita, 2010. 302 s. ISBN 9788021053205.
- ŠPINAR, Jindřich and Ondřej LUDKA. Propedeutika a vyšetřovací metody vnitřních nemocí. 2., přeprac. a dopl. vyd. Praha: Grada, 2013. 336 s. ISBN 9788024743561.
- Kolektiv autorů Kliniky děské neurologie a dalších pracovišť LF and Kolektiv autorů Kliniky děské neurologie a dalších pracovišť LF. Učebnice speciální děské neurologie pro studenty 4. a 5.ročníku LF MU s rozšířenou výukou pediatrie (Textbook of Pediatric Neurology for special students of the 4th LF MU and 5th year with extended teaching of pediatrics). 1. vydání. Brno: Masarykova univerzita Brno, 2011. 123 pp. ISBN 978-80-210-5659-6.

Teaching methods

Oral lectures on different and updated topics in neurology. Presentations by professionals in neurology. Based on the epidemiological situation, interactive synchronous online teaching might be used for these workshops.

Assessment methods

Classified final oral exam in Neurology.

Language of instruction

English

aVLON9X1c Clinical Oncology – practice

Faculty of Medicine

autumn / spring

Extent and Intensity

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

Taught in person.

Guaranteed by

doc. MUDr. Igor Kiss, Ph.D., MBA

Comprehensive Cancer Care Department - Institutions shared with the Masaryk Memorial Cancer Institute - Faculty of Medicine

Contact Person: Eva Čechmanová

Course objectives

Main objective of Oncology can be summarized as follow: to learn, how is possible to avoid development of cancer, To learn all, what is necessary for early detection of every malignant disease in early stage and early refer the patients to the specialised oncologic therapy. All doctors has to know, how to treat usually and anusually complication of malignant disease and complication of therapy. Therefore great attention is given to the supportive, symptomatic and paliative therapy.

Learning outcomes

Main outcome of Oncology can be summarized as follow:

- to learn, how is possible to avoid development of cancer
- to learn all, what is necessary for early detection of every malignant disease in early stage and early refer the patients to the specialised oncologic therapy
- to know, how to treat usually and anusually complication of malignant disease and complication of therapy, great attention is given to the supportive, symptomatic and paliative therapy

Syllabus

Pathogenesis of malignant disease. Chemotherapy, biotherapy and hormonotherapy. Radiotherapy. Histological and clinical staging. Bone marrow transplantation. Psychological problems of cancer patient. Basic information about the most frequent cancer: Breast cancer and other gynecological cancer, lung cancer, gastrointestinal tumors, cancer of kidney and bladder. Malignant hematological diseases.

Literature

required literature

- DOUBEK, Michael, Zdeněk ADAM, Zdeňka ČERMÁKOVÁ, Libor ČERVINEK, Martina DOUBKOVÁ, František FOLBER, Markéta HADRABOVÁ, Andrea JANÍKOVÁ, Jarmila KISSOVÁ, Marta KREJČÍ, Daniel LYSÁK, Miloslava MATYŠKOVÁ, Tomáš NEBESKÝ, Luděk POUR and Daniela ŽÁČKOVÁ. *Hematologie. Pomocník ke stážím na hematologických pracovištích*. 1. vyd. Brno: Masarykova univerzita, 2017. ISBN 978-80-210-8776-7.

not specified

- ADAM, Zdeněk, Marta KREJČÍ, Jiří VORLÍČEK, Zuzana ADAMOVÁ, Jaroslav BAČOVSKÝ, Viera BAJČIOVÁ, Otakar BEDNAŘÍK, Jan BLATNÝ, Tomáš BÜCHLER, Igor CRHA, Aleš ČERMÁK, Hana DOLEŽELOVÁ, Ladislav DUŠEK, Karel DVOŘÁK, Pavel FABIAN, Vuk FAIT, Antonín FASSMANN, Jindřich FIALA, Lukáš FIALA, Jindřich FÍNEK, Lenka FORETOVÁ, Radim GROSMAN, Jana HALÁMKOVÁ, Miroslav HEŘMAN, Martin HUSER, Ludmila HYNKOVÁ, Richard CHALOUPKA, Libuše KALVODOVÁ, Igor KISS, Iva KOČMANOVÁ, Martin KOMENDA, Jana KOPTÍKOVÁ, Zdeněk KORÍSTEK, Renata KOUKALOVÁ, Zdeněk KRÁL, Eva LÉTALOVÁ, Milan MACHÁLKA, Josef MALIŠ, Miloslava MATYŠKOVÁ, Jiří MAYER, Vojtěch MORNSTEIN, Mojmír MOULIS, Jan MUŽÍK, Miroslav MYSLIVEČEK, Milan NAVRÁTIL, Tomáš NEBESKÝ, Miroslav NEČAS, Rudolf NENUTIL, Jiří NEUBAUER, Martin ONDRÁK, Zdeněk PAVELKA, Miroslav PENKA, Vojtěch PEŘINA, Katarína PETRÁKOVÁ, Petr POKORNÝ, Luděk POUR, Jiří PRÁŠEK, Zdeněk RÁČIL, Martin REPKO, Zdeněk ŘEHÁK, Jiří SCHOVANEC, Ondřej SLÁMA, Petr SMÍŠEK, Jan STARÝ, Petr SZTURZ, Marek SVOBODA, Vlastimil ŠČUDLA, Roman ŠEFR, Pavel ŠEVČÍK, Pavel ŠLAMPÁ, Lenka ŠMARDOVÁ, Jiří ŠNAJDAUF, Jaroslav ŠTĚRBA, Michal TICHÝ, Jiří TOMÁŠEK, Miroslav TOMIŠKA, Marcela TOMÍŠKOVÁ, Vít UNZEITIG, Jiří VANÍČEK, Vladimír VAŠKŮ, Rostislav VYZULA, Barbora WEINBERGEROVÁ, Marie ZÍTKOVÁ and Karel ZITTERBART. *Obecná onkologie (General oncology)*. První vydání. Praha: Galén, 2011. 394 pp. ISBN 978-80-7262-715-8.
- ADAM, Zdeněk, Marta KREJČÍ and Jiří VORLÍČEK. *Speciální onkologie. Příznaky, diagnostika a léčba maligních chorob (Special oncology. Symptoms, diagnostics and therapy of malignant disease)*. 1. vyd. Praha: Galén, 2010. 418 pp. Med. ISBN 978-80-7262-648-9.

Teaching methods

practical training at the clinic

Assessment methods

Credit

Language of instruction

English

aVLON091p Clinical oncology – lecture

Faculty of Medicine

autumn / spring

Extent and Intensity

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

Guaranteed by

prof. MUDr. Zdeněk Adam, CSc.

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

Contact Person: Eva Čechmanová

Course objectives

The main objectives can be summarized as follow: to understand the basis teaching of oncology, supportive care and treatment of all frequent oncologic diseases

Learning outcomes

The main objectives can be summarized as follow: to understand the basis teaching of oncology, supportive care and treatment of all frequent oncologic diseases

Syllabus

General oncology

- Tumor development. Nutritional factors in tumor development. Nutritional issues in cancer patients. Morphological and clinical classifications. Anticancer chemotherapy, hormonotherapy and biotherapy. Radiotherapy. Oncological surgery. Use of radionuclides in diagnostics and therapy. Infectious complications in immunocompromised hosts, treatment of febrile neutropenia and sepsis. Palliative, supportive and analgesic care. Acute complications in oncological patients. Thrombophilia, coagulopathies, hypercalcemia, malignant osteolysis, hyperleukocytosis and hyperviscosity syndrome. Psychological support for cancer patients, their relatives and nursing staff. Hematopoietic stem cell transplantation.

Special oncology

- Head and neck cancer. Skin tumors. Breast cancer. Digestive tract cancers. Urinary tract tumors. Tumors of the pleura, mediastinum and lungs. Malignant hematological diseases.

Literature

- ADAM, Zdeněk, Marta KREJČÍ, Jiří VORLÍČEK, Zuzana ADAMOVIČ, Jaroslav BAČOVSKÝ, Viera BAJČIOVÁ, Otakar BEDNAŘÍK, Jan BLATNÝ, Tomáš BÜCHLER, Igor CRHA, Aleš ČERMÁK, Hana DOLEŽELOVÁ, Ladislav DUŠEK, Karel DVOŘÁK, Pavel FABIAN, Vuk FAIT, Antonín FASSMANN, Jindřich FIALA, Lukáš FIALA, Jindřich FÍNEK, Lenka FORETOVÁ, Radim GROSMAN, Jana HALÁMKOVÁ, Miroslav HEŘMAN, Martin HUSER, Ludmila HYNKOVÁ, Richard CHALOUPKA, Libuše KALVODOVÁ, Igor KISS, Iva KOČMANOVÁ, Martin KOMENDA, Jana KOPTÍKOVÁ, Zdeněk KOŘÍSTEK, Renata KOUKALOVÁ, Zdeněk KRÁL, Eva LÉTALOVÁ, Milan MACHÁLKA, Josef MALIŠ, Miloslava MATÝŠKOVÁ, Jiří MAYER, Vojtěch MORNSTEIN, Mojmír MOULIS, Jan MUŽÍK, Miroslav MYSLIVEČEK, Milan NAVRÁTIL, Tomáš NEBESKÝ, Miroslav NEČAS, Rudolf NENUTIL, Jiří NEUBAUER, Martin ONDRÁK, Zdeněk PAVELKA, Miroslav PENKA, Vojtěch PEŘINA, Katarína PETRÁKOVÁ, Petr POKORNÝ, Luděk POUR, Jiří PRÁŠEK, Zdeněk RÁČIL, Martin REPKO, Zdeněk ŘEHÁK, Jiří SCHOVANEC, Ondřej SLÁMA, Petr SMÍŠEK, Jan STARÝ, Petr SZTURZ, Marek SVOBODA, Vlastimil ŠČUDLA, Roman ŠEFR, Pavel ŠEVČÍK, Pavel ŠLAMPKA, Lenka ŠMARDOVÁ, Jiří ŠNAJDAUF, Jaroslav ŠTĚRBA, Michal TICHÝ, Jiří TOMÁŠEK, Miroslav TOMIŠKA, Marcela TOMÍŠKOVÁ, Vít UNZEITIG, Jiří VANÍČEK, Vladimír VAŠKŮ, Rostislav

VYZULA, Barbora WEINBERGEROVÁ, Marie ZÍTKOVÁ and Karel ZITTERBART. *Obecná onkologie (General oncology)*. První vydání. Praha: Galén, 2011. 394 pp. ISBN 978-80-7262-715-8.

- ADAM, Zdeněk, Marta KREJČÍ and Jiří VORLÍČEK. *Speciální onkologie. Příznaky, diagnostika a léčba maligních chorob (Special oncology. Symptoms, diagnostics and therapy of malignant disease)*. 1. vyd. Praha: Galén, 2010. 418 pp. Med. ISBN 978-80-7262-648-9.

Teaching methods

lecture

Assessment methods

Oncology for students of general medicine ends with oral examination.

Language of instruction

English

aVLP9X1 Gynecology and Obstetrics

Faculty of Medicine

autumn/spring

Extent and Intensity

3/6/0. 5 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

prof. MUDr. Martin Huser, Ph.D., MBA

Department of Gynecology and Obstetrics - Institutions shared with the Faculty Hospital Brno -

Institutions of Reproductive Medicine - Faculty of Medicine

Contact Person: Zdeňka Kroupová

Course objectives

The content of the course and all the necessary organizational information is here:

https://is.muni.cz/auth/do/med/el/GPK_portal/index_en.html

Learning outcomes

After completing the subject Gynecology and obstetrics, the student will be able to:

- Theoretically and practically perform gynecological and obstetrical examinations
- Know all common diagnostic and therapeutic procedures in the field
- Provide sufficient medical knowledge to monitor pregnancy and childbirth
- Will be sufficiently educated in symptoms, diagnosis and treatment of gynecological diseases
- Get enough practical and theoretical information about basic clinical decision making in the field

Syllabus

Obstetrics Diagnosis of pregnancy Human pelvis, delivery ways, pelvic measurements Examination of a pregnant woman - external and internal obstetric examination Prenatal care Mechanism of human birth – cephalic presentation Abnormal presentation of the fetus - causes, diagnosis, birth mechanisms Breech presentation Multiple pregnancy and delivery of twins Hypertension in

pregnancy - preeclampsia, eclampsia Trophoblastic diseases Fetal growth disorders - intrauterine growth retardation Premature birth - causes, clinical management Ectopic pregnancy - causes, symptoms, diagnosis, treatment Placenta previa and placental abruption Diseases of puerperium, puerperal sepsis Periparturine uterine bleeding and its treatment Prenatal diagnostics Ultrasound in obstetrics Gynecology Gynecological examination Laparoscopy in gynecology - indication, execution Hysteroscopy - Indication and execution Menstrual cycle disorders - classification, diagnosis, dysfunctional uterine bleeding Gynecological inflammation - etiology, pathophysiology Endometritis, myometritis, perimetritis Pelvic inflammatory disease and pelveoperitonitis Sexually transmitted diseases Endometriosis genital and extragenital Sterility, infertility - causes, meaning, treatment Contraception Benign and malignant neoplasms of gynecological organs Pre-canceroses of gynecological organs Diagnosis and treatment in oncogynecology Breast cancer, pre-cancerosis of the breast Benign breast disease Urinary incontinence in women Chronic pelvic pain Assisted reproduction

Literature

recommended literature

- ROZTOČIL, Aleš. *Moderní gynekologie*. 1. vydání. Praha: Grada Publishing, 2011. xviii, 508. ISBN 9788024728322.
- ROZTOČIL, Aleš. *Moderní porodnictví*. 1. vyd. Praha: Grada, 2008. 405 s. ISBN 9788024719412.
- *Dewhurst's textbook of obstetrics & gynaecology*. Edited by D. Keith Edmonds. Eighth edition. Chichester, West Sussex: Wiley-Blackwell, 2012. xv, 852. ISBN 9780470654576.
- HÁJEK, Zdeněk, Evžen ČECH and Karel MARŠÁL. *Porodnictví*. 3., zcela přepracované a d. Praha: Grada, 2014. 538 stran. ISBN 9788024745299.
- Procházka M., Pilka R. a kol. *Porodnictví pro studenty všeobecného lékařství a porodní asistence*. Olomouc: AED - Olomouc s.r.o., 2016, 243 s., ISBN 978-80-906280-0-7

Teaching methods

The content of the course and all the necessary organizational information is here: https://is.muni.cz/auth/do/med/el/GPK_portal/index_en.html

Assessment methods

Assessment methods and criteria The content of the course and all the necessary organizational information is here: https://is.muni.cz/auth/do/med/el/GPK_portal/index_en.html

Language of instruction

English

aVLVL9X62c Internal medicine part 2 – Pneumology

Faculty of Medicine

autumn / spring

Extent and Intensity

0/1.6/0. 2 credit(s). Type of Completion: z (credit).

Taught in person

Guaranteed by

doc. MUDr. Martina Doubková, Ph.D.

Department of Pulmonary Diseases and Tuberculosis - Institutions shared with the Faculty Hospital Brno - Adult Age Medicine - Faculty of Medicine

Contact Person: Kateřina Tichá

Course objectives

At the end of the course students should be able to understand pathophysiology of breathing, pulmonary function tests (spirometric, pletysmography, oxygen measurements), basic diagnosis and differential diagnosis of lung diseases (pneumonia, asthma bronchiale, chronic obstructive pulmonary disease, tuberculosis, lung cancer, interstitial lung disease). Students should be able to understand basic X-ray interpretation. Students will be able to use the acquired information in differential diagnosis of dyspnea, cough, chest pain, hemoptysis.

Learning outcomes

Students should be able to understand diagnostics and differential diagnosis of pulmonary diseases, evaluate physical findings of patients with lung disease, interpret pulmonary functional and radiological findings and suggest treatment.

Syllabus

- The lessons are focused on getting both theoretical and practical experience covering the entire area of pulmonology. The practice is done at the bedside in the ward and by demonstrating different methods of examination. The theory is discussed in seminars organized in the Departments pulmonary classroom. Day 1: Chronic obstructive pulmonary disease Day 2: Asthma bronchiale Day 3: Tuberculosis or lung cancer Day 4: Pneumonia. Day 5: Interstitial lung diseases. In the Simulation Center for Practical Training of Future Physicians, a practical demonstration of propedeutics with physical examinations, pulmonary functional examinations, analysis of blood gas, X-ray findings, drainage of pleural effusions, and bronchoscopic methods will be included.

Literature

required literature

- LONGMORE, J. M. *Oxford handbook of clinical medicine*. 9th ed. New York: Oxford University Press, 2014. 902 s. ISBN 9780199609628.

Teaching methods

The lesson consists of the theory and the clinical practice (practical group projects - examinations of patients, descriptions of chest X-ray, presentations by professionals). It is assumed that the student has knowledge of pathological physiology, propedeutics and pharmacology.

Assessment methods

The semester is closed by completing a simple multiple-choice test or an oral exam covering the information presented at the seminars. A 100% participation is a precondition for granting the credit.

Language of instruction

English

aVLVL9X63c Internal medicine part 3 - Nephrology, Diabetology, Rheumatology and Endocrinology

Faculty of Medicine

autumn / spring

Extent and Intensity

0/3.2/0. 3 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

prof. MUDr. Miroslav Souček, CSc.

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

Contact Person: Eva Kašpárková

Course objectives

After the completion of lessons the student will understand the problems of diseases taught in the block No. 3: diabetology, nephrology, endokrinology, rheumatology. diseases of water, elektrolyte, mineral and acid-base metabolism. He/she will be able to diagnose and know the therapy of these disorders.

Learning outcomes

After the completion of lessons the student will understand the problems of diseases taught in the block No. 3: diabetology, nephrology, endokrinology, rheumatology. diseases of water, elektrolyte, mineral and acid-base metabolism. He/she will be able to diagnose and know the therapy of these disorders.

Syllabus

- Kidney and urinary disease.
- Laboratoty diagnostic test and clinical examination of the kidney and urinary tract diseases.
- Glomerular diseases.
- Nefrotic syndrome.
- Diabetis nephropathy
- Tumorous of the kidney and urinary tract.
- Tubulointerstitial disease. reflux nephropathy. Renal vascular disease.
- Acute and chronic renal failure.
- Renal replacemet therapy.
- Haemodialysis.
- Renal transplantation.
- Endokrine disease.

- Laboratory diagnostic test and clinical examination of the endocrine diseases.
- Hypothalamic and pituitary disease.
- Diabetes insipidus.
- Acromegaly.Gigantism.
- Hyperprolactinaemia
- Cushing s disease.
- Thyroid and parathyroid glands diseases.
- Thyroid enlargement. Goitre diffuse. Solitary thyroid nodule.
- Autoimmune thyroid disease.
- Thyrotoxicosis. Thyrotoxic crisis(thyroid storm).
- Hypothyroidism.
- Hypothyroidism.
- Thyroid neoplasma.
- The parathyroid glands disease.
- Hyperparathyroidism, primary, secondary,tertiary.
- Pseudohypoparathyroism
- Adrenal glands diseases.
- Cushing s syndrome.
- Adrenal insufficiency.
- Congenital adrenal hyperplasia
- Pheochromocytoma.
- Neuroendokrine tumorous
- Diabetes mellitus
- Aetiology and pathogenesis of diabetes
- Investigations. Insulin delivery. Insulin regimens.
- Oral-antidiabetic drugs .
- Diabetes mellitus typ 1 - aetiology,pathogenesis, diagnostic,therapy.
- Diabetes mellitus typ 2 - aetiology,pathogenesis,diagnostic,therapy.
- Diabetes in pregnancy. Gestational diabetes.
- Diabetic ketoacidosis,
- Nonketotic hyperosmolar diabetic coma.

- Hypoglycaemia. Hypoglycaemic coma.
- Management of the diabetes. Dietary management.
- Long-term complications of diabetes
- Diabetic retinopathy. Diabetic neuropathy.
- The diabetic foot.
- Inflammatory joint disease.
- Laboratory diagnostic test and clinical examination of the inflammatory joint diseases.
- Rheumatoid arthritis.
- Seronegative spondylarthritis
- Systemic connective tissue disease.
- Systemic lupus erythematosus.
- Systemic sclerosis
- Polymyositis and dermatomyositis
- Sjogren's syndrome
- Systemic vasculitis
- Other forms of vasculitis
- Musculoskeletal manifestations of disease in other systems
- Osteoporosis, osteomalacia, osteonecrosis, drug-induced lupus syndrome, myositis.
- Psoriasis
- Gout
- Paget's disease
- Osteoarthritis. Spinal and back disease.
- Acute rheumatic fever
- Disorders of acid-base balance
- Investigation of water and electrolytes
- Metabolic acidosis, metabolic alkalosis, respiratory acidosis, respiratory alkalosis, mixed acid-base disorders
- Disorders of amino acid metabolism
- Metabolic disease.
- Obesity. Hyperlipidemia. Metabolic bone disease.
- Malabsorption.

- Nutrition, enteral and parenteral alimentation
- Artificial alimentation

Literature

recommended literature

- Češka R. akol. Interna Triton Praha, 2012, ISBN 978-80-7387-423-0
- Součk M. a kol. Vnitřní lékařství. Grada Publishing 2011, 1577s. ISBN 978-80-247-2110-1

not specified

- Dítě, P. a kol. Vnitřní lékařství. Druhé, doplněné a přepracované vydání Galen, 2007. 586 s.
- Klener P. et al. Vnitřní lékařství Druhé doplněné vydání. Praha. Galén. 2006,
- Davidson s Principles and Practise of Medicine. 20th Edition. N.A. Boon, N.R.Colledge, B.R.Walker

Teaching methods

Lessons are taking place in blocks of 14 days. Attendance at the tuition is obligatory. The students work in groups of 5-6 members at the patient s bed step by step in all specialized department of the clinic. Expert seminars are the part of education.

Assessment methods

Succesfull writen test on problems of internal medicine – block 3 is necessary for getting the credit. The test it consist of 20 questions and the student must make out correctly 60% of questions.

Language of instruction

English

aVLVL9X64c Internal medicine part 4 - Gastroenterology and Haematology

Faculty of Medicine

autumn / spring

Extent and Intensity

0/3.2/0. 3 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

doc. MUDr. Jiří Dolina, Ph.D.

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

Course objectives

The main objectives can be summarized as follows. To understand the basic teaching of gastroenterology during the stay on Clinic of Internal Medicine - Gastroenterology and to understand the basic knowledge of hematology during the stay on Clinic of Internal Medicine Hematooncology.

Learning outcomes

Students will know clinical symptoms and laboratory markers of all discussed diseases in this block. That they will in time recognise discussed diseases by their future patients.

Syllabus

- Internal medical education, block IV, at the internal hematooncological department consists of 5 seminars and practical case presentation in patients. 1. Malignant lymphoproliferative disease, 2. Anemia and thrombocytopenia. 3. Acute and chronic leukaemias. 4. Inherited and acquired coagulopathy. 4. Palliative and supportive treatment. Treatment of sepsis and septic shock

Literature

required literature

- DOUBEK, Michael, Zdeněk ADAM, Zdeňka ČERMÁKOVÁ, Libor ČERVINEK, Martina DOUBKOVÁ, František FOLBER, Markéta HADRABOVÁ, Andrea JANÍKOVÁ, Jarmila KISSOVÁ, Marta KREJČÍ, Daniel LYSÁK, Miloslava MATÝŠKOVÁ, Tomáš NEBESKÝ, Luděk POUR and Daniela ŽÁČKOVÁ. *Hematologie. Pomocník ke stáží na hematologických pracovištích*. 1. vyd. Brno: Masarykova univerzita, 2017. ISBN 978-80-210-8776-7.

recommended literature

- ADAM, Zdeněk, Marta KREJČÍ, Jiří VORLÍČEK, Zuzana ADAMOVIČ, Jaroslav BAČOVSKÝ, Viera BAJČIOVÁ, Otakar BEDNAŘÍK, Jan BLATNÝ, Tomáš BÜCHLER, Igor CRHA, Aleš ČERMÁK, Hana DOLEŽELOVÁ, Ladislav DUŠEK, Karel DVOŘÁK, Pavel FABIAN, Vuk FAIT, Antonín FASSMANN, Jindřich FIALA, Lukáš FIALA, Jindřich FÍNEK, Lenka FORETOVÁ, Radim GROSMAN, Jana HALÁMKOVÁ, Miroslav HEŘMAN, Martin HUSER, Ludmila HYNKOVÁ, Richard CHALOUPKA, Libuše KALVODOVÁ, Igor KISS, Iva KOCMANOVÁ, Martin KOMENDA, Jana KOPTÍKOVÁ, Zdeněk KOŘÍSTEK, Renata KOUKALOVÁ, Zdeněk KRÁL, Eva LÉTALOVÁ, Milan MACHÁLKA, Josef MALÍŠ, Miloslava MATÝŠKOVÁ, Jiří MAYER, Vojtěch MORNSTEIN, Mojmír MOULIS, Jan MUŽÍK, Miroslav MYSLIVEČEK, Milan NAVRÁTIL, Tomáš NEBESKÝ, Miroslav NEČAS, Rudolf NENUTIL, Jiří NEUBAUER, Martin ONDRÁK, Zdeněk PAVELKA, Miroslav PENKA, Vojtěch PEŘINA, Katarína PETRÁKOVÁ, Petr POKORNÝ, Luděk POUR, Jiří PRÁŠEK, Zdeněk RÁČIL, Martin REPKO, Zdeněk ŘEHÁK, Jiří SCHOVANEK, Ondřej SLÁMA, Petr SMÍŠEK, Jan STARÝ, Petr SZTURZ, Marek SVOBODA, Vlastimil ŠČUDLA, Roman ŠEFR, Pavel ŠEVČÍK, Pavel ŠLAMPKA, Lenka ŠMARDOVÁ, Jiří ŠNAJDAUF, Jaroslav ŠTĚRBA, Michal TICHÝ, Jiří TOMÁŠEK, Miroslav TOMIŠKA, Marcela TOMÍŠKOVÁ, Vít UNZEITIG, Jiří VANÍČEK, Vladimír VAŠKŮ, Rostislav VYZULA, Barbora WEINBERGEROVÁ, Marie ZÍTKOVÁ and Karel ZITTERBART. *Obecná onkologie (General oncology)*. První vydání. Praha: Galén, 2011. 394 pp. ISBN 978-80-7262-715-8.
- ADAM, Zdeněk, Marta KREJČÍ and Jiří VORLÍČEK. *Speciální onkologie. Příznaky, diagnostika a léčba maligních chorob (Special oncology. Symptoms, diagnostics and therapy of malignant disease)*. 1. vyd. Praha: Galén, 2010. 418 pp. Med. ISBN 978-80-7262-648-9.

not specified

- ADAM, Zdeněk, Marta KREJČÍ and Jiří VORLÍČEK. *Hematologie: přehled maligních hematologických nemocí*. 2., dopl. a zcela přeprac. Praha: Grada, 2008. 390 s.,x. ISBN 9788024725024.
- DÍTĚ, Petr and ET AL. *Vnitřní lékařství*. Druhé vydání. Praha: GALÉN, Na Bělidle 34, 2007. 586 pp. ISBN 978-80-7262-496-6.

Teaching methods

Lessons are taking place in blocks of 14 days. Attendance at the tuition is obligatory. The students work in groups of 5-6 members at the patient's bed step by step in all specialized department of the clinic. Expert seminars are the part of education.

Assessment methods

credit

Language of instruction

English

aVLVL9X65c Internal medicine part 5 - Cardiology and Angiology

Faculty of Medicine

autumn / spring

Extent and Intensity

0/3.2/0. 3 credit(s). Type of Completion: z (credit).

Taught in person.

Guaranteed by

prof. MUDr. Lenka Špinarová, Ph.D., FESC

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

Contact Person: prof. MUDr. Lenka Špinarová, Ph.D., FESC

Course objectives

The student should know the basic physical examination and functional tests in cardiology, should interpret ECG and recognize important arrhythmias. He/she must be able to describe basic examination in cardiology. He/she must be able to describe signs and symptoms of the most frequent cardiovascular disease, like hypertension, ischemic heart disease, myocardial infarction, arrhythmias, pulmonary embolism, peripheral artery disease, cardiogenic shock, syncope, pulmonary oedema, aortic aneurysm. He/she must know the basic pathology of congenital and acquired valve disease, endocarditis, myocarditis and pericarditis. He/she must know the cardiovascular pharmacology as well as non-pharmacological treatment including pacing, resynchronisation and defibrillation. He/she must be able to describe the methods in invasive cardiology and cardio surgery. He/she must know the cardiovascular risk factors and to describe the pathophysiology of atherosclerosis.

Learning outcomes

The student have to know the basic physical examination and functional tests in cardiology, should interpret ECG and recognize important arrhythmias. He/she must be able to describe basic examination in cardiology. He/she must be able to describe signs and symptoms of the most frequent cardiovascular disease vide objectives of the subject

Syllabus

- **Cardiology**

Chronic coronary artery disease

stable angina pectoris, silent ischemia angina pectoris inversa, etiology, pathophysiology, differential diagnosis of the chest pain, methods of examination, risk factors, primary and secondary prevention, complications, therapy, prognosis, classification (CCSC)

Acute coronary artery disease

nonstable angina pectoris, acute myocardial infarction, sudden death, etiology and pathophysiology, methods of examination, complications, therapy, prognosis

Myocarditis

virus, bacterial and parainfectious etiology, pathophysiology, methods of examination, complications, relation to dilated cardiomyopathy, prognosis, therapy

Endocarditis

noninfectious, bacterial endocarditis , etiology and pathophysiology, typical forms, high risk population (valvular disease, after valvular replacement, intravenous drug users, imunocompromised patients), methods of examination, differential diagnosis, surgical vs. nonsurgical treatment, indications, prognosis.

Tachyarrhythmias

supraventricular (atrial fibrillation, atrial flutter, other supraventricular tachcardias), ventricular (ventricular tachycardia, fast ventricular tachycardia, ventricular fibrillation), premature beats, etiology, pathophysiology, differential diagnosis, farmacologic, nonfarmacologic treatment including radiofrequency catheter ablations and implantable cardiovertors-defibrillators.

Bradyarrhythmias

sinus bradycardia, rythm of AV junction, sinoatrial arrest and block, AV block II. and III. ventricular asystole, etiology and pathophysiology, differential diagnosis, syncope, methods of examination, HUT test, farmacologic treatment, cardiac pacemaker implantation.

Left ventricular insufficiency

acute (Killip classification) etiology, pathophysiology, therapy, chronic, NYHA classification, etiology, pathophysiology, treatment (including heart transplantation), prognosis.

Cor pulmonale

acute (incl. acute pulmonary embolism), chronic, etiology, pathophysiology, differential diagnosis primary pulmonary hypertension, therapy, prognosis

Heart valvular disease

etiology and pathophysiology, congenital, febris rheumatica, single valvular disease, multiple valvular disease, differential diagnosis, complications, pharmacologic, surgical, catheterization therapy, prognosis

Congenital valvular disease in adults

defect of atrial septum, defect of ventricular septum, Fallot tetralogy, Ebstein's anomaly, transposition of main vessels, ductus arteriosus persistens, etiology, pathophysiology, therapy, prognosis

Venous disease

acute vein thrombophlebitis (flebothrombosis), etiology and pathophysiology, extraordinary forms (phlegmasia alba and coerulea dolens) differential diagnosis, methods of examination, complications, therapy, prevention, varicose complex, consequences of recurrent thrombophlebitis, superior and inferior vena cava syndrome.

Arterial disease

ischemic arterial disease, thrombangiitis obliterans, acute peripheral artery strokes (embolisation and thrombosis). coarctation of the aorta, aortic dissection, etiology, pathophysiology, differential diagnosis, methods of examination, complications, therapy, prognosis.

Arterial hypertension

essential and secondary hypertension, etiology, pathophysiology, classification methods of examination, complications, therapy, prognosis

Pericarditis and pericardial effusion

viral, bacterial malignant and noninfectious etiology, pathophysiology, differential diagnosis, methods of examination, complications, therapy, prognosis

Cardiomyopathy

definition, primary (idiopathic), secondary (specific), morphologic stratification, hypertrophic, dilated and restrictive), arrhythmogenic right ventricle dysplasia, etiology pathophysiology, differential diagnosis, methods of examination, complications, therapy, prognosis

Methods of examination in cardiology

anamnesis, laboratory assessment, noninvasive methods (electrocardiography, X ray methods, NMR, echocardiography, radionuclear methods, stress examinations, signal averaged ECG, Holter monitoring, heart rate variability, baroreflex sensitivity), invasive (right and left heart catheterization, coronary angiography, electrophysiology, heart biopsy)

Literature

recommended literature

- *Davidson's principles and practice of medicine*. Edited by Brian R. Walker. 22nd ed. Edinburgh: Churchill Livingstone/Elsevier, 2014. xix, 1372. ISBN 9780702050350.

- SOUČEK, Miroslav, Jindřich ŠPINAR, Jiří VORLÍČEK, Zdeněk ADAM, Dagmar ADÁMKOVÁ KRÁKOROVÁ, Lenka BABIČKOVÁ, Karola BALŠÍKOVÁ, Drahomíra BARTOŠOVÁ, Otakar BEDNAŘÍK, Richard BERGER, Šárka BOHATÁ, Petr BRHEL, Tomáš BRYCHTA, Yvona BRYCHTOVÁ, Alena BULIKOVÁ, Petr BURKOŇ, Ivan ČAPOV, Aleš ČERMÁK, Eva ČEŠKOVÁ, Milan DASTYCH, Regina DEMLOVÁ, Petr DÍTĚ, Jiří DOLINA, Michael DOUBEK, Martina DOUBKOVÁ, Lenka DUBSKÁ, Ladislav DUŠEK, Pavel FABIAN, Vuk FAIT, Zdeněk FOJTÍK, Lenka FORETOVÁ, Tomáš FREIBERGER, Renata GAILLYOVÁ, Roman GÁL, Ladislav GROCH, Marek HAKL, Jana HALÁMKOVÁ, Aleš HEP, Jitka HILLOVÁ MANNOVÁ, Ota HLINOMAZ, Ivo HOFÍREK, Jan HOLČÍK, Alena HOLČÍKOVÁ, Alena HONDLOVÁ, Anna HRAZDIROVÁ, Jan HRUDA, Petr HUSA, Libuše HUSOVÁ, Richard CHALOUPKA, Václav CHALOUPKA, Josef CHOVANEC, Stanislav JANOUŠEK, Jana JURÁNKOVÁ, Ladislav KABELKA, Zdeněk KADAŇKA, Bohdan KADLEC, Zdeněk KALA, Bohuslav KIANIČKA, Dagmar KINDLOVÁ, Igor KISS, Jarmila KISSOVÁ, Martin KLABUSAY, Ivo KOCÁK, Jiří KÖNIG, Jana KOPTÍKOVÁ, Zdeněk KOŘÍSTEK, Zdeněk KRÁL, Milan KRATOCHVÍL, Lenka KRBKOVÁ, Marta KREJČÍ, Petr KRIFTA, Petr KROUPA, Darja KRUSOVÁ, Lucie KŘIKAVOVÁ, Růžena LÁBROVÁ, Radek LAKOMÝ, Jan LATA, Jolana LIPOLDOVÁ, Jiří LITZMAN, Ondřej LUDKA, Jan MALÁSKA, Hana MATĚJOVSKÁ KUBEŠOVÁ, Jiří MATOUŠEK, Pavel MATUŠKA, Miloslava MATÝŠKOVÁ, Jaroslav MELUZÍN, Hana MELUZÍNOVÁ, Zdeněk MERTA, Blanka MIČÁNKOVÁ ADAMOVÁ, Miroslav MORÁŇ, Vojtěch MORNSTEIN, Jan MUŽÍK, Tomáš NEBESKÝ, Anna NEČASOVÁ, Marta NEDBÁLKOVÁ, Miloslava NEKULOVÁ, Petr NĚMEC, Jiří NEUBAUER, Pavel NOHEL, Jana BĚLOBRÁDKOVÁ, Miroslav NOVÁK, Bronislava NOVOTNÁ, Petr ŠTOURAC and Vojtěch THON. *Vnitřní lékařství (Internal Medicine)*. 1.vyd. Praha, Brno: Grada, 2011. 1788 pp. Vnitřní lékařství. ISBN 978-80-247-2110-1.

Teaching methods

Course is organized as 10 days intership at cardiological clinics. Course is composed of collective seminars to the given topics and practical bed-side demonstrations in small groups.

Assessment methods

The condition for giving course unit credit is full attendance in all lessons and completion of final credit.

Language of instruction

English