Study program : MEDICINE

Type and level of studies: Integrated academic studies, Level 1/2

Course unit: Nuclear medicine

Teacher in charge : Assistant professor Vladimir Vukomanovic, MD, DSc

Language of instruction : ENGLISH

ECTS: 3

Prerequisites: Completed course in pathophysiology and internal medicine

Semester: WINTER SEMESTER

Course unit objective: Acquiring knowledge and skills in nuclear medicine.

Learning outcomes of Course unit:

explain the basic biophysical postulates of the use of radioactive isotopes in medicine; explain the principle operation of visualization systems in medicine; explain the differences and complementarity of nuclear medicine methods and other diagnostic procedures in medicine; explain biodistribution in vivo applied radiolabels as a basis for morphological and functional tests in nuclear medicine, whether diagnostic or therapeutic; explain the principles of in vitro diagnostic procedures in nuclear medicine.

- provide medical students with basic information about the clinical possibilities of diagnostic and therapeutic application of radiopharmaceuticals in diagnostics and therapy through theoretical and practical classes.

Course unit contents

Theoretical classes

Includes lectures in general and clinical nuclear medicine. In the general part, it is planned to get acquainted with the physics-chemical characteristics of radionuclides, mechanisms of distribution of radiopharmaceuticals, specifics of nuclear medicine instrumentation and basics of radionuclide methods.

Lectures from the clinical part deal with the application of radionuclide methods in various clinical disciplines.

Practical classes

Principles of patient examination. Principles tailoring tumor-seeking tracer selection and determination of dosage regimens according to a patient's needs. Dosing in children and elderly. Discovering potential drug-drug and drug-food interactions. Causal interpretation of adverse events.

Literature

Sandler MP. Diagnostic Nuclear Medicine, Lippincot Williams and Wilkins, Phildalphia, 2003.
Biersack HJ, Freeman LM Eds. Clinical Nuclear Medicine, Berlin, Springer-Verlag, 2007
Practical Nuclear medicine, Editors: P.F.Sharp, H.G.Gemmell, A.D.Murray, Springer 2005
Nuclear Medicine, Editors: H.Ziessman, J Malley, J Thrall, Elseivier, 4th edition, 2013.

Number of active teaching hours				**Other classes**
Lectures: 15	Practice: 15	Other forms of classes:	Independent work:	
Teaching methods: Lectures, practice in a clinic, clinical problems solving				
Examination methods (maximum 100 points)				
Exam prerequisites	**No. of points:**	**Final exam**		**No. of points:**
Student's activity during lectures	**30**	oral examination		
practical classes/tests	**70**	written examination		
Seminars/homework				
Project				
Other				

Grading system		
Grade	**No. of points**	**Description**
10	**95-100**	**Excellent**
9	**85-94**	**Exceptionally good**
8	**75-84**	**Very good**
7	**65-74**	**Good**
6	**55-64**	**Passing**
5	**< 54**	**Failing**

Course unit description