[Medicinski fakultet u Rijeci]

Curriculum
2024/2025

[Za kolegij]

Ultrasound examination in emergency situations I

Study program:	**Medical Studies in English (R)** (elective) [Sveučilišni integrirani prijediplomski i diplomski studij]
Department:	**[Katedra za anesteziologiju, reanimatologiju, hitnu i intenzivnu medicinu]**
Course coordinator:	**prof. dr. sc. Protić Alen, dr. med.**
Year of study:	**5**
ECTS:	**1.5**
Incentive ECTS:	**0 (0.00%)**
Foreign language:	**No**

Course information:

The use of ultrasound examination is a mandatory skill for modern doctor, and every doctor must be able to perform an ultrasound examination of a patient in life-threatening condition. Through this course, students acquire the basics of sonoanatomy and ultrasonography for examining patients according to the FAST-ER protocol (Focused Assessment with Sonography for Trauma/Extended Respiration). This protocol detects the presence of free fluid in 4 spaces - perisplenic, perihepatic, in the space of Douglas and the pericardial space. The extended protocol includes the detection of free intrathoracic fluid, as well as the detection of pneumothorax. By practicing on the models, students will handle different ultrasound probes and learn the main ultrasound characteristics for the detection of free fluid and pneumothorax, which are critical skills in caring for a patient in a life-threatening condition and can be done quickly and directly at the patient's bedside, and based on them, decide on further procedures in patient treatment.

Course contetnt

Sonoanatomy basics. Handling of the ultrasound device. The FAST-ER protocol. Ultrasonic identification of free liquid. Ultrasound recognition of pneumothorax.

[Ishodi učenja]:

- To learn the basics of sonoanatomy relevant for the FAST-ER protocol

- Handle the ultrasound device and

- To understand the basics of the ultrasound physics

- Choose an appropriate ultrasound probe

- Disinfect the ultrasound device

- To master FAST-ER protocol

- To detect free liquid in the perisplenic space

- To detect free liquid in the perihepatic space

- To detect free fluid in the Douglas space

- Detect free intrathoracic fluid

- Recognize pneumothorax using ultrasound

List of assigned reading:

Šustić A, Sotošek V et al. Handbook of Anesthesiology, Reanimatology and Intensive Care Medicine for student of Medicine and Dental Medicine, Zagreb: Medicinska naklada; 2021.

List of optional reading:

https://www.ncbi.nlm.nih.gov/books/NBK470479/

Curriculum:

[Predavanja] list (with titles and explanation):

L1 Basic of sonoanathomy and physics

L2 FAST-ER protocol

L3 Ultrasound of the pleural space

P1 FAST-ER protocol

P2 Detect free liquid in the perisplenic and perihepatic space

P3 Detect free fluid in the Douglas space

P4 Detect free intrathoracic fluid

P5 Recognize pneumothorax using ultrasound

Student obligations:

Students are required to regularly attend and actively participate in all forms of classes.

Exam (exam taking, description of the written/oral/practical part of the exam, point distribution, grading criteria):

Evaluation of students is carried out in accordance with the current Rulebook on studies of the University of Rijeka and the Rulebook on evaluation of students of the Faculty of Medicine in Rijeka (adopted by the Faculty Council of the Faculty of Medicine in Rijeka). Students' work will be evaluated during the course and in the oral exam. During the class, students will be continuously evaluated using appropriate forms. On the learning platform, they will solve small tests of knowledge.

Other notes (related to the course) important for students:

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COURSE HOURS 2024/2025

Ultrasound examination in emergency situations I

[Predavanja] (Place and time or group)
05.05.2025

L1 Basic of sonoanathomy and physics:
• [Kabinet vještina, vježbalište 1] (08:00 - 11:45) [259]
  ○ UEIESI
 	
L2 FAST-ER protocol:
• [Kabinet vještina, vježbalište 1] (08:00 - 11:45) [259]
  ○ UEIESI
 	
L3 Ultrasound of the pleural space:
• [Kabinet vještina, vježbalište 1] (08:00 - 11:45) [259]
  ○ UEIESI
 	
P1 FAST-ER protocol:
• [Kabinet vještina, vježbalište 1] (12:00 - 20:00) [259]
  ○ UEIESI
 	
P2 Detect free liquid in the perisplenic and perihepatic space:
• [Kabinet vještina, vježbalište 1] (12:00 - 20:00) [259]
  ○ UEIESI
 	
P3 Detect free fluid in the Douglas space:
• [Kabinet vještina, vježbalište 1] (12:00 - 20:00) [259]
  ○ UEIESI

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P4 Detect free intrathoracic fluid:
• [Kabinet vještina, vježbalište 1] (14:00 - 20:00) [259]
  ○ UEIESI
 	
P5 Recognize pneumothorax using ultrasound:
• [Kabinet vještina, vježbalište 1] (14:00 - 20:00) [259]
  ○ UEIESI

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List of lectures, seminars and practicals:

[PREDAVANJA] (TOPIC)	Number of hours	Location
L1 Basic of sonoanathomy and physics	1	[Kabinet vještina, vježbalište 1]
L2 FAST-ER protocol	2	[Kabinet vještina, vježbalište 1]
L3 Ultrasound of the pleural space	2	[Kabinet vještina, vježbalište 1]
P1 FAST-ER protocol	4	[Kabinet vještina, vježbalište 1]
P2 Detect free liquid in the perisplenic and perihepatic space	4	[Kabinet vještina, vježbalište 1]
P3 Detect free fluid in the Douglas space	4	[Kabinet vještina, vježbalište 1]
P4 Detect free intrathoracic fluid	4	[Kabinet vještina, vježbalište 1]
P5 Recognize pneumothorax using ultrasound	4	[Kabinet vještina, vježbalište 1]

EXAM DATES (final exam):