[Medicinski fakultet u Rijeci]

**Curriculum**
**2024/2025**

[Za kolegij]

# Practical Application of Ultrasound in Surgery and Urology

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|---|---|
| Study program: | **Medical Studies in English (R)** (elective)<br>[Sveučilišni integrirani prijediplomski i diplomski studij] |
| Department: | **[Katedra za urologiju]** |
| Course coordinator: | **prof. dr. sc. Španjol Josip, dr. med.** |
| Year of study: | **5** |
| ECTS: | **1.5** |
| Incentive ECTS: | **0 (0.00%)** |
| Foreign language: | **Possibility of teaching in a foreign language** |

## Course information:

The goal of this course  is to encounter  students with basic knowledge and skill in the field of abdominal ultrasonography. Further goal is to introduce and train students how to prepare  a patient for an ultrasound examination, how to recognize normal ultrasound anatomy of intra-abdominal organs, how to apply ultrasound as a method of detecting kidney, liver, bladder and testicular tumors, and how to apply ultrasound FAST procotol in the diagnosis of abdominal trauma. And also the use of interventional ultrasound and indiciations for applying ultrasound as a diagnostic and interventional method.

## List of assigned reading:

Fučkar Ž. i suradnici, Sonografija urogenitalnog sustava I. i II. dio, Digital Point, Rijeka, 2001.

## List of optional reading:

Rumock C, Wilson S. - Diagnostic Ultrasound, Mosby, London, 2002.

## Curriculum:

### [Seminari] list (with titles and explanation):

**Introduction to the course**

Understanding to the aims, contents and requirements of the course.

**Historical review of ultrasound**

To know the brief historical development and application of ultrasound in medicine.

**Thoracic ultrasound**

To know the basics of thoracic ultrasound and the FASTER protocol.

**Ultrasound-guided percutaneous tracheostomy**

To know the basics of tracheostomy placement using ultrasound.

**Retroperitoneal ultrasound**

To know the basics of ultrasound imaging of the retroperitoneum.

**Evaluation of bladder pathology by transabdominal ultrasound**

To know the basics of bladder patholoy in transabdominal ultrasound.

**Evaluation of prostate and seminal vesicle pathology by ultrasound**

To know the ultrasound anatomy of the prostate and seminal vesicles and the most common pathological presentations.

**Evaluation of scrotal and penile pathology by ultrasound**

To know the basic ultrasound pathology of the testicles and genitals.

**Ultrasound in urological emergency**

To know how to use ultrasound in the diagnosis and treatment of urgent urological conditions.

**The place of interventional ultrasound in urology**

To know what are the indications for certain methods of interventional ultrasound and how to use them.

To know how to prepare patients for certain methods of inteventional ultrasound.

To know the “true cut” biopsy algorithm under ultrasound control.

To know the algorithm for introducing a drain under ultrasound control.

**Liver and gallbladder / biliary ultrasound**

To know how to place the patient in the appropriate position for examination.

To know how to show and recognize the normal ultrasound anatomy of the liver and the gallbladder.

**Sonography of the pancreas and spleen**

To know how the place the patient in the appropriate position for examination.

To know how to show and recognize the normal ultrasound anatomy of the pancreas and the spleen.

**Renal transplant ultrasound**

To know the ultrasound diagnostics of a transplanted kidney.

**The role of ultrasound in vascular pathology by ultrasound I**

To know the basic ultrasound imaging of the large abdominal blood vessels.

**The role of ultrasound in vascular pathology by ultrasound II**

To know the most common pathology of the large abdominal blood vessels.

**Focus Assessment sonography**

To know how the place the patient in the appropriate position form examination.

To know typical anatomical sites for assessing the presence of free fluid in the abdomen, phrenicocostal sinuses, and pericardial cavity.

To know how to recognize free fluid in the abdomen and phrenicocostal sinuses.

**Interventional abdominal ultrasound**

To know the basics of the interventional ultrasound.

**Kidney ultrasound**

To know how to place the patient in the appropriate position form examination.

To know how to show and recognize the normal ultrasound anatomy of the kidney.

**Ultrasound imaging of the adrenal glands**

To know the basics of the adrenal ultrasound.

**Musculoskeletal ultrasound**

To know how to use ultrasound in the treatment and diagnosis of pathological conditions of the locomotor system.

**Point-of-care (PoCUS) ultrasound in primary care**

To know how to use ultrasound in primary care.

**Exam**

Written test.

## Student obligations:

Regular attendance of classes.

Be prepared for seminars.

Taking a written exam.

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

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

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## COURSE HOURS 2024/2025

Practical Application of Ultrasound in Surgery and Urology

**[Seminari]**
(Place and time or group)

**11.11.2024**

Introduction to the course:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Historical review of ultrasound:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Thoracic ultrasound:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Ultrasound-guided percutaneous tracheostomy:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Retroperitoneal ultrasound:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

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**12.11.2024**

Evaluation of bladder pathology by transabdominal ultrasound:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Evaluation of prostate and seminal vesicle pathology by ultrasound:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Evaluation of scrotal and penile pathology by ultrasound:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Ultrasound in urological emergency:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

The place of interventional ultrasound in urology:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

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**13.11.2024**

Liver and gallbladder / biliary ultrasound:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Sonography of the pancreas and spleen:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Renal transplant ultrasound:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

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**14.11.2024**

The role of ultrasound in vascular pathology by ultrasound I:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

The role of ultrasound in vascular pathology by ultrasound II:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Focus Assessment sonography:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Interventional abdominal ultrasound:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

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**15.11.2024**

Kidney ultrasound:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Ultrasound imaging of the adrenal glands:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Musculoskeletal ultrasound:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Point-of-care (PoCUS) ultrasound in primary care:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

Exam:
- [Katedra za urologiju] (17:00 - 20:45) [173]
  - PAUSU

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## List of lectures, seminars and practicals:

| [SEMINARI] (TOPIC) | Number of hours | Location |
|---|---|---|
| Introduction to the course | 1 | [Katedra za urologiju] |
| Historical review of ultrasound | 1 | [Katedra za urologiju] |
| Thoracic ultrasound | 1 | [Katedra za urologiju] |
| Ultrasound-guided percutaneous tracheostomy | 1 | [Katedra za urologiju] |
| Retroperitoneal ultrasound | 1 | [Katedra za urologiju] |
| Evaluation of bladder pathology by transabdominal ultrasound | 1 | [Katedra za urologiju] |
| Evaluation of prostate and seminal vesicle pathology by ultrasound | 1 | [Katedra za urologiju] |
| Evaluation of scrotal and penile pathology by ultrasound | 1 | [Katedra za urologiju] |
| Ultrasound in urological emergency | 1 | [Katedra za urologiju] |
| The place of interventional ultrasound in urology | 1 | [Katedra za urologiju] |

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|---|---|---|
| Liver and gallbladder / biliary ultrasound | 2 | [Katedra za urologiju] |
| Sonography of the pancreas and spleen | 1 | [Katedra za urologiju] |
| Renal transplant ultrasound | 2 | [Katedra za urologiju] |
| The role of ultrasound in vascular pathology by ultrasound I | 1 | [Katedra za urologiju] |
| The role of ultrasound in vascular pathology by ultrasound II | 1 | [Katedra za urologiju] |
| Focus Assessment sonography | 1 | [Katedra za urologiju] |
| Interventional abdominal ultrasound | 2 | [Katedra za urologiju] |
| Kidney ultrasound | 1 | [Katedra za urologiju] |
| Ultrasound imaging of the adrenal glands | 1 | [Katedra za urologiju] |
| Musculoskeletal ultrasound | 1 | [Katedra za urologiju] |
| Point-of-care (PoCUS) ultrasound in primary care | 1 | [Katedra za urologiju] |
| Exam | 1 | [Katedra za urologiju] |

**EXAM DATES (final exam):**

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