



Study program: Doctoral Academic Studies in Biomedical Sciences

Name of the subject: CURRENT ISSUES IN ANAESTHESIA AND PERIOPERATIVE MEDICINE

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Status of the subject: elective

Number of ECTS points: 20

Condition: -

Goal of the subject

The main goal of the education is to introduce students with current events in perioperative medicine, education in the field of general and regional anesthesia and intensive care of patients, as well as education in the field of scientific research.

Outcome of the subject

Introducing students to contemporary trends in anesthesia and methods of diagnostics and intensive care of patients as well as clinical research projects whose implementation is underway.

Application of knowledge and skills in scientific research work through defining the topic, realization and presentation of the results of scientific research. Each candidate during doctoral studies should write one paper in a journal with an impact factor.

Content of the subject

Theoretical lectures

1. The impact of the intensive care unit on the family, community and society
2. Shock
3. Sepsis
4. Postoperative delirium-the role and importance
5. Anesthesia in geriatric patients
6. Anesthetic challenges in cancer patients
7. Enhanced Recovery After Surgery - The role of anesthesiologist
8. Anesthesia for intervention procedures
9. Anesthesia for awake brain tumor surgery
10. Nutritional assessment and indirect calorimetry
11. Rehabilitation in critically ill patients
12. Specific of neonatal anesthesia
13. Principles of mechanical ventilation in children
14. Novel trends in regional anaesthesia
15. Diagnostic algorithm and therapy of vasospasm associated with spontaneous subarachnoid haemorrhage
16. The influence of anaesthesiologist postoperative visit on patient satisfaction with anesthesia
17. Perioperative anesthesia goals for liver transplantation
18. Shock induced endotheliopathy
19. New trends in sepsis research

Practical lectures

1. Introduction to contemporary anesthesiological techniques, diagnostic methods and therapeutic procedures in the intensive care
2. Active participation in all phases of perioperative treatment: preoperative preparation of patients, anesthesia, postoperative treatment of patients in the intensive care unit
3. Training for scientific research work through problem identification, literature review, hypothesis setting, defining research goals and methodologies
4. Introduction to current scientific research projects whose realization is in progress.
5. Writing a seminar paper.

Recommended literature

1. Morgan & Mikhail's Clinical Anesthesiology, 6 Ed -International edition
2. Manual of Pediatric Anesthesia, Jerrold Lerman, Charles J. Coté, David J. Steward
3. Singer M; Deutschman CS, Seymour CW. The Third International Consensus Definitions for Sepsis and Septic Shock (Sepsis-3); JAMA. 2016; 315(8):801–81

4. Vincent JL, De Baker D. Circulatory shock. N Engl J Med 2013;369:1726.
5. Vincent JL, Jean-Louis, Lelubre C. Sepsis biomarkers. Handbook of sepsis. Springer, Cham, 2018. 81-94.
6. Henriksen, Hanne H., et al. Metabolic systems analysis of shock-induced endotheliopathy (SHINE) in trauma: A new research paradigm. Annals of Surgery 2019.
7. Oprea AD, Russell RR, Russell KS, Abu-Khalaf M. Chemotherapy agents with known cardiovascular side effects and their anesthetic implications. J Cardiothorac Vasc Anesth. 2017;31:2206-26.
8. Allan N, Siller C, Been A. Anaesthetic implications of chemotherapy. Contin Educ Anaesth Crit CarePain. 2012; 12: 52–6.
9. Beverly A, Kaye AD, Ljungqvist O, Urman RD. Essential elements of multimodal analgesia in enhanced recovery after surgery (ERAS) guidelines. Anesthesiol Clin. 2017 Jun;35(2):e115-e143.
10. Brindle M, Nelson G, Lobo DN, Ljungqvist O, Gustafsson UO. Recommendations from the ERAS® Society for standards for the development of enhanced recovery after surgery guidelines. BJS Open. 2020;4:157-163.

Number of active classes

Theory: 60

Practice: 45

Methods of delivering lectures

Lectures. Practical work: demonstration and active participation of students in the in the perioperative treatment of patients. Writing a seminar paper.

Evaluation of knowledge (maximum number of points 100)

activities during lectures: 20

practices: 30

seminar work: 10

oral exam: 40