

<b>Study program:</b> Integrated Academic Studies in Medicine
<b>Course title:</b> Emergency Medicine
<b>Teachers:</b> Ilija Lj. Srdanović, Vladimir Č. Manojlović, Goran S. Rakić, Vesna M. Pajtić, Nemanja M. Gvozdenović.
<b>Course status:</b> compulsory
<b>ECTS Credits:</b> 2
<b>Condition:</b> Surgery; Internal medicine; Pharmacology and Toxicology 2.
<p><b>Course aim</b></p> <p>Students are introduced to prehospital and initial hospital organization and management of emergency and critical conditions in medicine, basic and extended measures of cardiopulmonary resuscitation. It is essential to introduce a student to sudden death diagnosing and management, not only sudden death victims, but those who survive, as well as positive and comforting influence on family and friends. Mastering skills for practical application of acquired knowledge in practice. Development of critical thinking and capability for scientific research.</p>
<p><b>Expected outcome of the course</b></p> <p>Knowledge: Introducing students to prehospital and initial hospital organization and management of emergency and critical cases in medicine. Introducing students to mistakes that can occur during management in emergency medical practice. Obligations of a doctor in case of sudden death. Use of medicaments and sophisticated technologies in emergency medicine and possibility of use in scientific research.</p> <p>Skills: Mastering basic and extended measures of cardiopulmonary resuscitation (adults and children), basic and extended measures and procedures in injury management (adults and children). Mastering skills is conducted on phantoms and patients, as well as presentations of possible health issues with questions, answers and discussions.</p>
<p><b>Course description</b></p> <p><i>Theoretical education</i></p> <p>1. Principles of emergency medicine. Vital function assessment. Pain as vital parameter. 2. Assessing, maintaining and providing airway. Artificial ventilation. 3. Acute chest pain (evaluation and management). 4. Acute coronary syndromes. 5. Cardiogenic shock. Acute heart failure. 6. Emergency conditions in vascular medicine (dissection, rupture, acute occlusions, deep venous thrombosis, emboly). 7. Peri-arrest arrhythmia (tachycardia, bradycardia) Syncope. 8. Hypertensive emergency conditions. 9. Acute cardiac arrest. Basic and extended measures of cardiopulmonary resuscitation in adults and children. 10. Death – phases of sudden death diagnosis, communication with the family. Medico legal aspects of emergency medicine. 11. Acute peripheral arterial ischemia. 12. Acute active hemorrhaging. Hypovolemic shock. Volume resuscitation. 13. Anaphylactic shock. 14. Respiratory insufficiency. Acute asphyxia (identification signs, initial management). 15. Acute abdominal pain (evaluation, differential diagnosis, initial management). 16. Acute intracranial / spinal compression. 17. Acute intestinal obstruction. Acute urinary obstruction. 18. Epilepsy and convulsions. Delirium and acute states of confusion. 19. Acute headache. Ischemic stroke. Transitory ischemic attack (TIA). 20. Subarachnoid hemorrhage (SAH). 21. High body temperature in children. Dehydrated child. 22. Trauma – severe isolated and severe multiple. Prehospital primary examination (ABCDE principle) and on-site stabilization. 23. Prehospital management during transportation. Initial hospital management. 24. Acute poisoning.</p> <p><i>Practical education</i></p> <p>1. Evaluating and maintaining airways – practice on mannequin. Side relaxing position – practice on mannequin. 2. Mechanical devices for airway securing. Bolus obstruction in adults and children (algorithm to procedures) – practice on mannequin. 3. Difficult airway (algorithm to procedures). 4. Methods of artificial respiration – practice on mannequin. 5. Intravascular access (peripheral venous, central venous, intraosseal) – practice on mannequin. 6. Infusion solutions for volume compensation. 7. Vasoactive, inotropic and anti-arrhythmic medicines as initial pharmacotherapy of emergency conditions (ways of administration, preparation, dosage, indications). 8. Basic measures of CPR in adults and children (algorithm to procedures) – practice on mannequin. 9. ECG forms of cardiac arrest and ECG recognition of periarrest arrhythmia. 10. Early defibrillation (types of defibrillators, indications). Cardioversion. Trans acute cardiac pacing - practice on mannequin. 11. Extended CPR measures in children and adults (algorithm to procedures) – practice on mannequin. 12. Pharmacotherapy of cardiac arrest (types of medicaments, ways of administration). 13. Therapeutic algorithm of asistoly – practice on mannequin. 14. Therapeutic algorithm of pulsless electrical activity – practice on mannequin. 15. Therapeutic algorithm of ventricular fibrillation and ventricular pulsless tachycardia – practice on mannequin. 16. Simulation of cardiac arrest and CPR in adults and children. 17. Simulation and management of peri-arrest arrhythmia and management. 18. External compression, compress bandage. Application of MAST. Insertion of nasogastric tube. Bladder</p>

catheterization. Front and back nasal tamponade. Toracostomy with needle. Decompressive pericardic intesis with needle – practice on mannequin. 19. Simulation of multiple trauma: primary ABCDE and secondary examination. 20. Simulation of multiple traumas – score system in diagnostics and assessment of the outcome of the traumatized. 21. Sedation and analgesia (indications, types of medicaments and ways of administration). 22. Introducing to contents of prehospital management of the Institute for emergency medicine. 23. Introducing to contents of initial hospital management in Emergency Centre.

**Literature**

*Compulsory*

1. Hans L, Mawji Y. The ABCs of Emergency medicine. 12th ed. Universsity of Toronto. 2012.

*Additional*

2. ERC (European Resuscitation Council) ALS manual 2016 (PDF). (available at Medical Faculty site)

3. ERC (European Resuscitation Council) Paediatric ALS 2016 (PDF). (available at Medical Faculty site)

<b>Number of active classes</b>	<b>Theoretical classes: 15</b>	<b>Practical classes: 30</b> <b>Other classes: 30</b>
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**Teaching methods**

<b>Student activity assessment (maximally 100 points)</b>			
<b>Pre-exam activities</b>	<b>points</b>	<b>Final exam</b>	<b>points</b>
Lectures	15	Written	30
Practices	15	Oral	40
Colloquium		.....	
Essay			