



MEDICINE AND SOCIETY

FIFTH YEAR OF STUDIES

Academic year 2024/2025

RESUSCITATION 1

Subject:

RESUSCITATION 1

The course is evaluated with 4 ECTS. There are 3 hours of active teaching per week (2 hours of lectures and 1 hour of work in a small group).

TEACHERS AND ASSOCIATES:

PB	Name and surname	Email adress	Teacher - head of the module
1.	Asis prof dr Jelena Vuckovic	jelenavufi@gmail.com	Asisst.profesor
2.	Assist.prof dr Vlada ignjatovic	vladaig@yahoo.com	Asisst.profesor
4.	Prof. Dr. Ivan Chekerevac	icekerevac63@sbb.rs	Full.profesor
5.	Prof. Dr. Aleksandra Lučić Tomić	sanlusa@ptt.rs	Full.profesor
6.	Professor dr Tatjana Vulovic	tatjana_vulovic@yahoo.com	associate professor
7.	Professor dr Nenad Zornic	nenadzornic@gmail.com	associate professor
8.	Instructors of ERC		

COURSE STRUCTURE

Modul	Name of the module	Week	Lectures	Work in a small group	Teacher - head of the module
	RESUSCITATION 1	15	2	1	Professor Nenad Zornic
					Σ 30+10=40

Work in small groups is held in 2 blocks, according to a marked schedule. The first block of work in a small group has 15 school hours, it is held in the Institute for Emergency Medical Assistance

Assessment :

The student masters the subject in modules. The grade is equivalent to the number of points earned (see tables). Points are earned in three ways:

ACTIVITY DURING THE LESSON: In this way, the student can earn up to 10 points, with a maximum of 6 points gained after the first block of exercises, and a maximum of 4 points after the second block. Knowledge of the material, preparedness for working in a small group and team work are evaluated.

PRACTICAL SKILLS TEST: in the primary approach, assessment and resuscitation of a seriously injured patient. The skills acquired in the first block of exercises, during the duration of the first semester, are evaluated according to a defined schedule. A student can earn up to 30 points, where до 30 поена, при чему се бодовање врши на следећи начин:

SKILLS	Maximum points
Performing maneuvers and respest procedures, chest compression and secure defibrillation	10
Knowledge of the algorithms of the initial assessment and abcde approach, monitoring, urgent measures, recognition of heart strain rhythms, consideration of reversible causes of cardiac delay	10
Solve the given scenarios of clinical situations in a sudden cardiac store	10
Σ	30

FINAL TESTS BY MODULE: In this way, the student can gain up to 60 points, and according to the attached table, each question carries 2 points.

FINAL TEST		Maximum points			
		activity during classes	assessment of acquired skills	final test	Σ
	Primary approach and assessment of vitally endangered patient. Acute coronary syndromes. Basics of electrocardiographic diagnostics. Per-insurtical disorders of the heart rate.				
	Advanced life support algorithm. Acido-base status. Anaphylactic reactions. Heart stall in special circumstances; Hypothermia.				
	Heart stall in special circumstances - poisonings; Trauma. Medicines in a heart standing. Postresuscitacional treatment. Ethical aspects of resuscitation.			60	60
		10	30		40
	Σ	10	30	60	100

The final grade is formed as follows:

In order to pass the course, the student must obtain a minimum of 51 points and pass all modules. To pass the module the student must:

1. obtains more than 50% points in that module.
2. acquires more than 50% of the points provided for the activity in teaching in each module.
3. pass the module test, i.e. have more than 50% correct answers.
4. obtain more than 50% points on the practical skills test.

number of points won	grade
0 - 50	5
51 – 60	6
61 - 70	7
71 – 80	8
81 - 90	9
91- 100	10

FINAL TEST

The test has 30 questions.
Each question is worth 2 points.

LITERATURE:

MODULE	TITLE OF TEXTBOOK	AUTHORS
Advanced Life Support Groups by Erca	Advanced Life Support Groups by Erca	Advanced Life Support Groups by Erca

THE PROGRAM:

lectures 2 hours

work in a small group 1 hour

• **Recognizing the deterioration of the condition in patients and the prevention of cardiorespiratory downtime**

- o How to recognize and treat patients with heart standstill risk, using ABCDE access.
- o Early warning score

• **Acute coronary syndromes**

- o Definition, pathogenesis, division of acute coronary syndromes
- o Clinical picture
- o diagnosis (ECG, laboratory tests)
- o get acquainted with ways of emergency treatment of acute coronary syndrome
- o General measures
- o coronary reperfusion therapy
- o Percutaneous coronary interventions
- o Complications
- o Secondary prevention

• **Fundamentals of electrocardiographic diagnostics and cardiac monitoring**

- o get acquainted with the physiology of the electrical activity of the heart
- o get acquainted with indications for continuous cardiac monitoring
- o Learn the interpretation of the electrocardiographic record
- o Learn the rhythms that occur in the peri-arrest period
- about heart **rate disorders in a heart standing**

• **Defibrillation**

- o get acquainted with rhythms that meet in heart standstill: ventricular fibrillation, ventricular tachycardia, asystole, heartless electrical activity of the heart, and their treatments
- o get acquainted with the defibrillation mechanism
- • learn about the types of defibrillator and their basic characteristics
- o Learn about the security of the defibrillator, both manual and external automatic defibrillator

• **Peri-arrest disorders of cardiac rhythm.**

Tachycardia.

- about the algorithm of handling code
- Peri-arrest tachycardia
- o get acquainted with the way of assessing the condition of the patient
- o Learn the basic characteristics of peri-arrest rhythms: sinus tachycardia, paroxysmal supraventricular tachycardia, fluttering and fibrillation of atria, ventricular tachycardia (regular and irregular), fibrillation of the chamber
- o Learn about the basics of treatment of peri-arrest tachycardia (cardiovascular, medicine therapy)

• **PERI-CARDIAC DISORDERS OF CURRENT RIT.**

• **Bradycardia**

• **Basic life support**

- o Checking the state of consciousness
- o Breathing assessment
- o Chest compressions

• **Provision of respiratory path and artificial ventilation**

- o Patient ventilation with a self-inflating balloon with a mask
- o Setting up the oropharyngeal tube
- o Installation of Laryngeal Mask

• **Quick ECG analysis**

- o Through the simulation on the phantom of different heart rate disorders, learn their recognition on the monitor
- o Six step rhythm analysis

• **Defibrillation.**

- o Execution defibrillation on phantom. Proper electrode positioning, selecting appropriate energy, safe delivery of shock.
- o Simulation of shockable rhythms
- o Trusting the reprimand and secure application of the defibrillator

• **Acute coronary syndromes**

- o Work through the simulation on phantom per scenario of acute myocardial infarction treatment with such a patient
- o Understand the importance of the urgent application of general therapy for ischemic heart disease.
- o Truploying the algorithm of cardiopulmonary resuscitation

• **Tachycardia**

- o Simulation on phantom per scenario of tachyarrhythmias-rhythm identification
- o Treatment by tachycardia algorithm.

Application of synchronized DC shock and corresponding

- o get acquainted with the definition of basic characteristics: sinus bradycardia, an atrioventricular block of first degree, an atrioventricular block of another degree, atrioventricular block of third degree; get acquainted with the notion of agonal rhythm
- o Understand Indications for Cardiac Pacing During Peri-Thankful Rhythm Disorders
- o Learn how non-invasive translational electric pacing applies
- o get acquainted with possible problems in the present temporary transvenous or permanent implanted peaker-mane and the way of solving them
- **Advanced life support algorithm**
 - o The importance of high-quality chest compressions
 - o Treatment of shockable and non-compliant rhythms
 - o When and how to give medication during the heart standstill
 - o Potential reversible causes of cardiac delay
- **Medicines in CPR**
 - o Understand indications, doses, and mechanism of drugs that apply in CPR:
 - adrenalin, vasopressin
 - Amiodaron, Lidocaine
 - Atropin
 - magnesium sulfate
 - calcium, sodium bicarbonate-tromboliticterapy
 - o learn about ways and roads of drug application:
 - canulation of peripheral and central veins
 - Intratraheal Path of drug applications
 - Intry of drug applications
- **Life threatening electrolyte disorders, acidobase equilibrium and oxygenations**
 - o get acquainted in the way of origin, prevention, treatment and KPR code:
 - Remptions of serum potassium concentration (hypo- and hyperkaliemia)
 - Remptions of serum calcium concentration (hypo- and hyperkalciemia)
 - Remptions of serum magnesium concentration (hypo and hyperermagnesium)
- o **Get acquainted with the definitions, mechanisms of formation and compensation, as well as the treatment of acidobase disorders:**
 - Respiratory acidosis
 - Respiratory alkalosis
 - Metabolic acidosis
 - Metabolic alkalosis
 - mixed acidobase disorders
- **Disorders caused by the effect of the cold. System hypothermia ..**
 - About getting to know the definition, clinical picture and predisposing hypothermia factors:
 - Definition and division.
 - physiological changes and complications.
 - CPR and drowning.
 - CPR and cooling techniques.
- **Drowning**
 - o Definition

drugs.

- **Simulation on phantom per bradyrhythmy scenario - rhythm identification**
 - o Dating with pacing methods
 - o Truing the application of transcounted pacing - proper installation of electrodes, choosing adequate pacing frequency, and dialing mode of the appropriate power.
- **Canulation of peripheral veins**
 - Interpretation of gas analyzes
 - o Mastering the skill of rapid interpretation of gas analysis of arterial blood method in 5 steps
- **Simulation on phantom per asthma attack scenario**
 - o Recognition of acute asthma attack
 - o The treatment of acute asthma attack
 - About Algorithm modifications in a patient in a heart standing due to acute napda asthma
- **Simulation on phantom per scenario of allergic reactions by type of anaphylaxis**
 - o Recognition of anaphylaxis
 - o Treatment of aanaflaxse
 - o Algorithm modifications in a patient in a heart caution caused by anaphylaxis caused
- **Simulation on phantom per scenariodrowning**
 - o Treples of drowning people
 - About Algorithm modifications in drowning
 - Simulation on phantom per scenario: hypothermia
 - o Recognition and classification of hypothermia
 - o Patient treatment with hypothermia, knowledge of heating methods
 - About Algorithm modifications in drowning
- **Pregnancy and heart failure**
 - about algorithm modifications in a pregnant woman in a heart stitch, exercise on phantom
- **Communication with relatives of Reanimated**

- o Specifics in CPR
- o Postresuscitatory therapy in drowning
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- **Anaphylactic reactions**
- o etiology
- About symptoms and signs
- o Therapeutic algorithm in anaphylactic reactions
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- **Poisoning**
- o Initial CPR in poisoned patients
- o General detoxification measures (prevention of absorption, promotion of elimination, specific antidotes).
- o Healing specific types of poisoning:
- - Opioids
- - Benzodiazepines
- - Amphetamines and other stimulants
- - Tricyclic antidepressants
- - caustic substances
- - Ethanol and other alcohols
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- **Postresuscitatory treatment**
- o get acquainted with possible complications and outcomes of cardiopulmonary resuscitation
- o realize the necessity of continuing supportive measures and after establishing Spontaneous circulation
- o Learn how the optimal functioning of the organism is provided after successful resuscitation
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- **Ethical problems in resuscitation**
- o Understand how the real choice of patients for the decision "is not for resuscitation".
- o Respiratory policy in hospitals.
- o Understand when the resuscitation should not be started
- o When to terminate the resuscitation efforts

- o get acquainted with the way of communication with relatives during resuscitation and the way of notifying relatives about the outcome of resuscitation efforts

LECTURE SCHEDULE

**Institute for Emergency Medical
Assistance**

THURSDAY

10:30 - 12:00

SCHEDULE OF EXERCISES

**Institute for Emergency Medical
Assistance**

THURSDAY

15:40 - 19:00

LESSON SCHEDULE FOR RESUSCITATION SUBJECT 1

модул	недеља	тип	назив методске јединице	наставник
1	1	II	Recognizing vitally endangered patient. Prevention of a heart standstill	Professor dr Nenad Zornic
1	1	B	And the group	
1	2	II	Acute coronary syndromes	Asis prof dr Jelena Vuckovic
1	2	B	II Group	
1	3	II	Fundamentals of electrocardiographic diagnostics and cardiac monitoring	Asis prof dr Jelena Vuckovic
1	3	B		
1	4	II	Per-insurtical disorders of the heart rate. Tachycardia.	
1	4	B		Assist, prof Vlada ignjatovic
1	5	II	Per-insurtical disorders of the heart rate. Tachycardia.	Assist, prof Vlada ignjatovic
1	5	B	II група	
2	6	II	Advanced life support algorithm	Professor dr Nenad Zornic
2	6	B		
2	7	II	Acido-base status and oxygenation	Professor Nenad Zornic
2	7	B	And the group	
2	8	II	Anaphylactic reactions	Prof. Dr. Aleksandra Lučić Tomić

модул	недеља	тип	назив методске јединице	наставник
2	8	В	II Group	
2	9	II	Heart stall in special circumstances- asthma	Prof. Dr. Ivan Chekerevac
2	9	В	III Group	
2	10	II	Heart stall in special circumstances - hypothermia	Professor dr Nenad Zornic
2	10	В		
3	11	II	Heart stall in special circumstances - poisonings	Professor dr Nenad Zornic
3	11	В		
3	12	II	Heart stall in special circumstances - Trauma	Professor dr Nenad Zornic
3	12	В		
3	13	II	Drugs in a heart standing	Professor dr Nenad Zornic
3	13	В		
3	14	II	Postresuscitatal treatment	Professor dr TatjanaVulovic
3	14	В		
3	15	II	Ethical aspect and support for the family during the resuscitation	Professor dr TatjanaVulovic
3	15	В		

модул	недеља	тип	назив методске јединице	наставник
		ЗТМ	Final test	
		И	Exam (June Due)	

Exercises - The first block

Exercises on the KPR model, for 5 school classes. Imported in the Institute for Emergency Medical Assistance

- Basic life support
 - o Checking the state of consciousness
 - o Breathing assessment
 - o Chest compressions
- Provision of respiratory path and artificial ventilation
 - o Patient ventilation with a self-shaping balloon with a mask
 - o Setting up the oropharyngeal tube
 - o Installation of Laryngeal Mask
- Safe defibrillation

Exercises - Second block

Exercises on the KPR model, for 5 school classes. Imported in the Institute for Emergency Medical Assistance

- Recognition of rhythms in heart shower and interpretation ECG in 6 steps
- Recognizing the deterioration of the general condition of the patient b c d e access
- Cardiac Station Scenario

About ABCDE access

on the application of immediate measures (respiratory path, oxygen, venous road, monitoring)

- o Application of appropriate therapy (Mona, Adrenaline, Atropin, Antiarrhythmics)
- o Recognition of a heart standing
- o Recognition of a shockable or non-smart rhythm
- o Consideration of reiercible signs of cardiac delay

Exercises - the third block

Exercises on the KPR model, for 5 school classes. Imported in the Institute for Emergency Medical Assistance

- Resolving the clinical scenario of the heart standstill. Heart stall in special circumstances