MEDICINE AND SOCIETY

FIFTH YEAR OF STUDIES

RESUSCITATION 1

Academic year 2023/2024

Subject:

RESUSCITATION 1

The course is evaluated with 3 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:

РБ	Name and surname	Email adress	**Teacher - head of the module**
1.	Asis prof dr JelenaVuckovic	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 TatjanaVulovic	tatjana_vulovic@yahoo.com	associate professor
7.	Professor dr Nenad Zornic	nenadzornic@gmail.com	associate professor
8.	InstructorsofERC		

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 e
valuated.

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	**assessmnt 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. Postresuscitational 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 wort 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 periarest period • about heart **rate disorders in a heart standing** • **• Defibrillation** • o get acquainted with rhythms that meet in heart stitch: ventricular fibrillation, ventricular tachycardia, assistant, heartless	**• 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** • **• 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 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 cardiopulmonal resuscitation** • • **• Tachycardia** • **o Simulation on phantom per scenario of tachyarrhythmias- rhythm identification** • **o Treatment by tachycardia algorithm.**

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

• Per-insurtical disorders of cardiac rhythm. Tachycardia.

- about the algorithm of handling code
- Periarest tachycardia
- o get acquainted with the way of assessing the condition of the patient
- o Learn the basic characteristics of peri-decorated rhythms: sinus tachycardia, paroxysmal supraventricular tachycardia, fluttering and fibrillation of atrheaters, ventricular tachycardia (regular and irregular), fibrillation of the chamber
- o Learn about the basics of treatment of peri-decorated tachycardia (cardiovius, medicine therapy**)**
-
- **• PERI-CARCER DISORDERS OF CURRENT RIT.**
- **Bradycardia**
- o get acquainted with the definition of basic characteristics: sinus bradycardia, an atrioventricular block of first degree, an attriventricular 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
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• 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-trombolitic**t**erapy
-
- o learn about ways and roads of drug application:
- -canulation of peripheral and central veins

Application of synchronized DC shock and corresponding 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 aanafilaxse
- 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 get acquainted with the way of communication with relatives during resuscitation and the way of notifying relatives about the outcome of resuscitation efforts

- -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
- o Specifics in CPR
- o Postresuscitational therapy in drowning
-

• **Anaphylactic reactions**

- o etiology
- About symptoms and signs
- o Therapeutic algorithm in anaphylactic reactions
-

• 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
-

• **Postresuscitational treatment**

- o get acquainted with possible complications and outcomes of cardiopulmonal 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
-

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

LESSON SCHEDULE FOR RESUSCITATION SUBJECT 1

модул	недеља	тип	назив методске јединице	наставник
1	1	**L**	Recognizing vitally endangered patient. Prevention of a heart standstill	Professor dr Nenad Zornic
1	1	**WSG**	I Group	
1	2	**L**	Acute coronary syndromes	Asis prof dr JelenaVuckovic
1	2	**WSG**	II Group	
1	3	**L**	Fundamentals of electrocardiographic diagnostics and cardiac monitoring	Asis prof dr JelenaVuckovic
1	3	**WSG**		
1	4	**П**		
1	4	**В**	Per-insurtical disorders of the heart rate. Tachycardia.	Assist,prof Vlada ignjatovic
1	5	**П**		
1	5	**В**	II група	
2	6	**П**	Advanced life support algorithm	Professor dr Nenad Zornic
2	6	**В**	III Group	
2	7	**П**	Acido-base status and oxygenation	Professor Nenad Zornic
2	7	**В**	I Group	
2	8	**П**	Anaphylactic reactions	Prof. Dr. Aleksandra Lučić Tomić
2	8	**В**	II Group	
2	9	**П**	Heart stall in special circumstances-asthma	Prof. Dr. Ivan Chekerevac
2	9	**В**	III Group	
2	10	**П**	Heart stall in special circumstances - hypothermia	Professor dr Nenad Zornic
2	10	**В**		
3	11	**П**	Heart stall in special circumstances - poisonings	Professor dr Nenad Zornic
3	11	**В**		
3	12	**П**	Heart stall in special circumstances - Trauma	Professor dr Nenad Zornic

модул	недеља	тип	назив методске јединице	наставник
3	12	**В**		
3	13	**П**	Drugs in a heart standing	Professor dr Nenad Zornic
3	13	**В**		
3	14	**П**	Postresuscitational treatment	Professor dr TatjanaVulovic
3	14	**В**		
3	15	**П**	Ethical aspect and support for the family during the resuscitation	Professor dr TatjanaVulovic
3	15	**В**		
		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

WEEKLY COURSE SCHEDULE

COURSE	THURSDAY
RESUSCITATION 1 (2+1)	**LECTURES** 10:30 - 12:00 **(H44)** **PRACTICE*** **15:40 - 19:00** (Institute for Emergency Medical Assistance)