


ОҢТҮСТІК ҚАЗАҚСТАН <b>MEDISINA</b> <b>AKADEMIASY</b> «Оңтүстік Қазақстан медицина академиясы» АҚ	 <b>SKMA</b> -1979-	SOUTH KAZAKHSTAN <b>MEDICAL</b> <b>ACADEMY</b> АО «Южно-Казахстанская медицинская академия»
Department of Emergency Medicine and Nursing		044-57/19 ( )
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## Methodological recommendation for teachers on teaching clinical skills at the practical skills Center

(using the execution algorithm)

**Specialty:** 6B10101 «General medicine»  
**Discipline:** «Emergency medical care 1, 2»  
**Course:** 5  
**Department:** «Emergency medical care and nursing»  
**Compiled by:** Auyezkhankyzy D.





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**1. Name of the current skill:** Defibrillation algorithm.

**2. Learning objectives:** To learn how to assess the terminal condition of patients, to get acquainted with the causes and manifestations of comatose states, learn how to effectively perform defibrillation.

**3. Time for briefing and working with mannequins:** 7 min.

**4. Time to acquire skills:** 30 min.

**5. Required theoretical knowledge of the skill:**

**Basic knowledge:**

- basic terminal states;
- methods of diagnosis of terminal conditions;
- basic clinical skills;
- the main medicines used in terminal conditions.

**By topic of the lesson:**

- sequence of emergency medical care measures in terminal conditions;
- defibrillation technique;
- evaluation of the effectiveness of defibrillation;
- errors during defibrillation.

**6. Simulator, simulator, dummy, list of models:** dummy simulator "VOLODYA" for cardiopulmonary resuscitation, defibrillator.

**7. List of medical instruments and equipment:** masks, sterile gloves, sterile bandages, ambu bag, syringe, patch.

**8. The execution of skill:**

№	Step-by-step actions	Execution		
		Yes	Yes	Yes
1	Introduce yourself to the patient (if possible and the patient is conscious);			
2	Explain the purpose and course of the procedure (if possible and the patient is conscious);			
3	Carry out the processing of hands in accordance with the Methodological recommendations for the processing of hands of employees of medical organizations of the Republic of Kazakhstan;			
4	Set the required charge on the scale (approximately 3 J / kg for adults, 2 J / kg for children), the next 4 J / kg and above, not exceeding 10 J / kg); charge the electrodes; lubricate the plates with gel. To minimize electrical resistance during electropulse therapy, the skin under the electrodes is degreased with alcohol;			
5	It is more convenient to work with two hand electrodes. Install electrodes on the anterior surface of the chest: <ul style="list-style-type: none"> <li>• One electrode is placed above the zone of cardiac dullness (in women - outward from the top of the heart, outside the mammary gland), the second -</li> </ul>			

	<p>under the right clavicle, and if the electrode is dorsal, then under the left shoulder blade.</p> <ul style="list-style-type: none"> <li>• The electrodes can be placed in the anteroposterior position (along the left edge of the sternum in the area of the 3rd and 4th intercostal spaces and in the left subscapular region).</li> <li>• The electrodes can be placed in an anterolateral position (Cor between the clavicle and the 2nd intercostal space along the right edge of the sternum and over the 5th and 6th intercostal spaces, in the region of the apex of the heart).</li> </ul>			
6	<p>In the presence of a permanent pacemaker or cardioverter and the impossibility of turning it off, an anteroposterior location of the defibrillator electrodes is preferable. The anterior electrode is 20 cm away from the pacemaker. If the electrodes are located anteriorly, the nearest electrode must be at least 13 cm away from the pacemaker.</p>			
7	<p>The electrodes are pressed against the chest wall tightly and with force;</p>			
8	<p>Perform defibrillation. The discharge is applied at the moment of complete exhalation of the patient. If there is no effect of defibrillation, it should be repeated, while the voltage of the electric discharge must be increased.</p>			
9	<p>After completion of defibrillation, treat the electrodes with alcohol wipes;</p>			
10	<p>Dispose of alcohol wipes and gloves in the KBSU for medical waste class "B".</p>			


### 9. Tasks:

- Assessment of the patient's condition.
- Performing effective defibrillation.

### 10. The materials for the lesson:

#### Test questions:

1. If ventricular fibrillation is noticed in a timely manner, it should be immediately ... .
  - A. enter medications
  - B. start artificial respiration
  - C. start open heart massage
  - D. perform heart defibrillation
  - E. continue ECG monitoring
2. The use of "mechanical" defibrillation in ventricular fibrillation of the heart can lead to the development of:
  - A. shallow-wave ventricular fibrillation
  - B. Frederick
  - C. syndrome. asystoles
  - D. Morgagni-Adams-Stokes syndrome

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E. electro-mechanical dissociation

3. The electric charge during defibrillation in an adult begins with ...

A. 1 j /kgm.t.

B. 2 j / kgm.t.

C. 3 j / kgm.t.

D. 4 j/kgm.t.

E. 5 j / kgm.t.

4. In a patient with coronary artery disease - acute transmural anterior-septum myocardial infarction, ventricular fibrillation has developed, it is necessary to do:

A. defibrillation

B. enter strophanthin

C. enter lidocaine

D. enter obsidan

E. enter cordarone

5. According to the ANA (2021), the initial discharge value of the biphasic defibrillator in clinical death should not exceed:

A. 120 J

B. 360 J

C. 100 J

D. 300 J

E. 200 J

6. The effectiveness of electrical defibrillation is increased by:

A. adrenaline

B. atropine

C. lidocaine

D. strophanthin

E. potassium salts

7. The only correct action when FH-VT is detected on the monitor is:

A. intubation of the trachea, rehabilitation of the tracheobronchial tree

B. primary electrical defibrillation

C. creation of venous access and administration of 1 mg of adrenaline

D. creation of venous access and administration of 300 mg of cordarone

E. introduction of air duct and ventilator

8. A list of manipulations that most fully describes the basic CPR according to the European standard:

A. artificial respiration and non-direct heart massage

B. artificial respiration, indirect heart massage and medication administration

C. primary tracheal intubation and artificial respiration

D. electrical defibrillation, restoration of airway patency, heart massage and artificial respiration


E. artificial respiration and drug therapy

9. The doctor plans to provide electro-pulse therapy to a patient with a non-stopping attack of paroxysmal tachycardia. Considering that the patient feels satisfactory and there are no signs of heart failure, he decided to defibrillate at first with a very weak discharge. As a result of such tactics of the doctor, the patient may develop a serious complication:

A. vagal cardiac

arrest B. spinal cord

injury C. ventricular fibrillation of the heart

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D. respiratory  
arrest E. asystole

10. Electrical defibrillation of the heart is most effective when registering on an ECG:

- A. large - wave oscillations of the correct form
- B. asystoles
- C. of small-wave arrhythmic oscillations
- D. of all listed disorders
- E. of complete a-, b-blockade

### 11. Criteria for the evaluation of the implementation of:

**Completed:** according to clinical skills, the student completed 10 step-by-step actions. Correctly assessed the patient's condition and performed defibrillation completely correctly. Correctly assessed the effectiveness of the activities carried out.

**Partially completed:** according to clinical skills, the student completed 5-6 steps of 10 step-by-step actions. I did not fully assess the patient's condition and performed defibrillation. I did not correctly determine the effectiveness of the activities carried out.

**Not completed:** according to clinical skills, the student did not complete 10 step-by-step actions. They could not correctly assess the patient's condition and perform defibrillation. The effectiveness of the activities carried out was not evaluated.


### 12. References:

#### Basic literature:

1. The state program of healthcare development of the Republic of Kazakhstan "Health" on 2021-2024 years
2. Order of the Ministry of health of the Republic of Kazakhstan dated July 3, 2017 No. 450 "on approval Of the rules for emergency medical care in the Republic of Kazakhstan".
3. Vertkin A., Sveshnikov K. Guidelines for emergency medical care. Moscow. – E. publishing house – 2017. - 560 p.
4. Emergency care in a therapeutic clinic. Under the editorship of A. V. Gordienko. - Speclit. - 2017. - 229 p.
5. Urgent outpatient and polyclinic cardiology: a brief guide / V. V. Ruksin. - 2nd ed. - Moscow: GEOTAR-Media, 2016. - 255 p
6. Emergency medical care. Clinical recommendations. Under the editorship of S. F. Bagnenko. - GEOTAR-Media. - 2018. - 896 p.

#### Additional literature:


1. Acute cardiac care. Edited By p. p. Ogurtsov, V. E. Dvornikov. - GEOTAR-Media. - 2016. - 272 p.
2. Clinical Protocol of diagnosis and treatment "Sudden death". Approved by the joint Commission on the quality of medical services of the Ministry of Health of the Republic of Kazakhstan dated June 23, 2016. Protocol No. 5.
3. Emergency medical care. Clinical recommendations / ed. by S. F. Bagnenko, Moscow: [B. I.], 2015. -871 p.

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4. Emergency care for children: Handbook: translated from German. / - М. : Medpress-inform, 2014.

### 13. Standard of correct answers based on evaluation materials:

<b>1</b>	<b>Д</b>
<b>2</b>	<b>С</b>
<b>3</b>	<b>В</b>
<b>4</b>	<b>А</b>
<b>5</b>	<b>Е</b>
<b>6</b>	<b>А</b>
<b>7</b>	<b>В</b>
<b>8</b>	<b>Д</b>
<b>9</b>	<b>С</b>
<b>10</b>	<b>А</b>

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