

№ЛД-16ИИ

Federal State Budgetary Educational Institution of Higher Education

"North Ossetian State Medical Academy" of the Ministry of Health of the
Russian Federation

Department of Anesthesiology, Intensive Care and Intensive Care

APPROVED

of the meeting of the Central Coordinating
Educational and Methodological Council
from " 23" May 2023 No. 5

EVALUATION MATERIALS

In the discipline "ANESTHESIOLOGY, INTENSIVE CARE, INTENSIVE CARE.
TRAINING SIMULATION COURSE 3"

the main professional educational program of higher education is the specialty
program in the specialty 31.05.01 Medical Care, approved on 24.05.2023.

for 6th year students

specialty 31.05.01 Medical Care

Reviewed and approved at the meeting of the department
dated 18.05.2023 (Protocol No. 6)

Head of the Department

Prof. D.M.N.



V.D. Slepushkin

Vladikavkaz, 2023

STRUCTURE OF EVALUATION MATERIALS (EM)

1. Title page
2. EM structure
3. Reviews of EM
4. EM passport
5. A set of EM:
 - questions for the module
 - questions for the test
 - situational tasks
 - standards of test tasks
 - tickets for the test

**FEDERAL STATE BUDGETARY EDUCATIONAL INSTITUTION OF HIGHER
EDUCATION "NORTH OSSETIAN STATE MEDICAL ACADEMY" OF THE MINISTRY
OF HEALTH OF THE RUSSIAN FEDERATION**

**REVIEW
to the appraisal fund**

in the discipline "Anesthesiology, resuscitation, intensive care. Training Simulation Course 3"

for 6th year students of the Faculty of Medicine

by specialty 31.05.01 General Medicine

The fund of evaluation funds was compiled at the Department of Anesthesiology, Resuscitation and Intensive Care on the basis of the discipline program "Anesthesiology, Resuscitation, Intensive Care" and meet the requirements of the Federal State Educational Standard of Higher Education in the specialty 31.05.01 General Medicine.

The Fund of Evaluation Funds was approved at a meeting of the Central Coordinating Educational and Methodological Council. The fund of assessment means includes a bank of test tasks, situational tasks and tickets for the final test in the discipline.

The bank of test items includes test items and answer templates. All tasks correspond to the work program of the discipline "Anesthesiology, resuscitation, intensive care" and cover all its sections. Number of test items enough for the final score.

Number of tickets for conducting a test in discipline "Anesthesiology, resuscitation, intensive care" is 24, which is enough for the final standings. The content of the questions refers to the various sections of the program, allowing you to more fully cover the material of the discipline.

There are no comments on the peer-reviewed fund of evaluation tools.

In general, the fund of assessment tools for the discipline "Anesthesiology, resuscitation, intensive care" contributes to a qualitative assessment of the level of mastery of students in universal and professional competencies.

The peer-reviewed fund of evaluation tools in the discipline "Anesthesiology, resuscitation, intensive care" can be recommended for use for intermediate certification for students studying in the specialty 31.05.01 General Medicine.

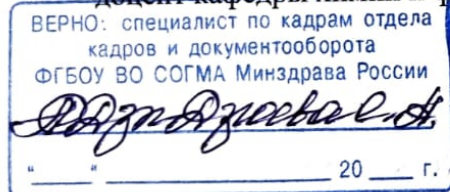
Рецензент:

Председатель ЦУМК

естественно-научных и математических дисциплин

с подкомиссией экспертизы оценочных материалов,

доцент кафедры химии и физики



Н.И. Боцьева

**Passport of the fund of appraisal funds
by discipline
Anesthesiology, resuscitation, intensive care.
Simulation Training Course 3 »**

For specialties **31.05.01 General medicine**

No. p/n	Name of the controlled section of the discipline	Code of the formed competence (stage)	Name of the evaluation tool
1	2	3	4
Type of control	current, intermediate		
1.	Fundamentals of modern anesthesiology. Pain. Pathophysiology of pain. The simplest methods of anesthesia in the practice of resuscitation and intensive care	PC-11	Test control Tickets to offset Situational tasks
2.	Acute respiratory failure	PC-11	Test control Tickets to offset Situational tasks
3.	Acute heart failure. TELA	PC-11	Test control Tickets to offset Situational tasks
4.	terminal states. Cardiopulmonary resuscitation. Algorithm 2015.	PC-11	Test control Tickets to offset Situational tasks
5.	Basic principles of infusion-transfusion therapy. Infusion-transfusion media	PC-11	Test control Tickets to offset Situational tasks
6.	Shock. Types of shock Etiology, pathogenesis, clinic, intensive care.	PC-11	Test control Tickets to offset Situational tasks
7.	Violations of VEB and KOS	PC-11	Test control Tickets to offset Situational tasks
8.	Acute disturbances of consciousness (fainting, delirium, stunning, stupor, coma). Intensive care of coma	PC-11	Test control Tickets to offset Situational tasks
9.	Acute renal failure. Acute liver failure	PC-11	Test control Tickets to offset Situational tasks
10.	Resuscitation and intensive care in case of accidents (drowning, electric shock, hypothermia, heat stroke).	PC-11	Test control Tickets to offset Situational tasks
11.	Acute poisoning	PC-11	Test control Tickets to offset Situational tasks

Questions to prepare for the test

1. Respiratory regulation mechanisms
2. The main components of macro- and microcirculation
3. Oxygen capacity of blood. How is it defined?
4. Hypoxia. Types of hypoxia.
5. Acute respiratory failure. Classification, stages.
6. Clinical and biochemical signs of acute respiratory failure.
7. Asthmatic condition. Treatment at the prehospital stage.
8. Acute heart failure. Principles of therapy.
9. TELA. Principles of therapy.
10. Cardiogenic shock. Intensive therapy..
11. Traumatic shock - pathophysiology, resuscitation and intensive care.
12. Hemorrhagic shock. Pathophysiology, diagnosis, resuscitation and intensive care.
13. Anaphylactic shock. Etiology, pathophysiology, resuscitation and intensive care.
14. Burn shock. Pathophysiology, biochemical changes. Resuscitation and intensive care, features of anesthesia, infusion therapy.
15. Toxic-septic shock. Pathophysiology, diagnosis, resuscitation and intensive care.
16. Resuscitation measures in transfusion shock due to transfusion of incompatible blood.
17. terminal states. clinical, biological, social death. Pathophysiology. Clinical signs. Indications and conditions for refusing resuscitation.
18. Etiology, pathogenesis of syncope, collapse, coma. Differential diagnostic features.
19. Types of coma. Coma severity. Methods of intensive therapy.
20. Resuscitation and intensive care in case of accidents (drowning in salt and fresh water, asphyxia, electrical injury, hypothermia, heat stroke, prolonged compression syndrome).
21. General principles for the treatment of acute poisoning.
22. Modern algorithm of cardiopulmonary resuscitation.
23. Specific and non-specific methods of body detoxification (antidote therapy, intra- and exogenous methods of detoxification).
24. Poisoning by alcohol and its surrogates,

SITUATIONAL TASKS

1. Patient M., 65 years old, was admitted to the intensive care unit with complaints of pressing pain behind the sternum, an attack of frequent heartbeats that occurred 2 hours ago. Pulse 176 beats/min, rhythmic, BP 90/70 mm Hg, breathing 28 per 1 min, hard breathing in the lungs. An ECG was recorded a {Fig. 3.9).

What is your diagnosis? What IT should be done for this patient?

After 5 hours of IT, the patient recorded an ECG b (see Fig. 3.9). What is your conclusion?

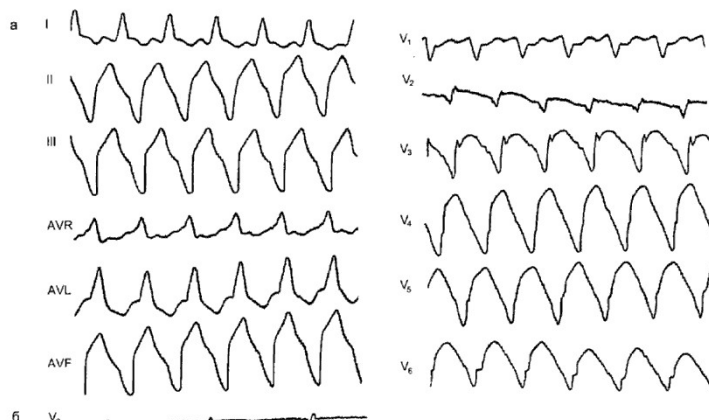


Рис. 3.9. ЭКГ к задаче 1.

ANSWER:

Based on the clinical picture and ECG data, it can be concluded that the patient has a ventricular form of paroxysmal tachycardia.

In order to stop this complication under the control of a heart monitor, it is first necessary to anesthetize the patient with intravenous administration of narcotic analgesics or drugs for neuroleptanalgesia, and then inject a polarizing mixture intravenously, lidocaine 200 mg bolus and 200 mg intravenously drip; if they are ineffective, conduct electropulse therapy (EIT) under intravenous anesthesia.

On the basis of ECT b, it can be concluded that the attack of ventricular tachycardia in this patient was stopped and her sinus rhythm was restored.

2. Patient G., 63 years old, developed severe compressive pain behind the sternum 2 hours ago, which did not stop after intravenous administration of morphine with atropine. A suddenly excited patient in front of the doctors of the ambulance service and the resuscitator on duty lost consciousness; cessation of breathing, absence of a pulse in the carotid arteries. Registered ECG a {Fig. 3.10).

What is your diagnosis? What IT and resuscitation should be carried out for this patient.

After a successful resuscitation, an ECG was registered b. Your conclusion. What IT needs to be carried out?

Later, an ECG was recorded in (see Fig. 3.10). Primary diagnosis? Treatment plan.

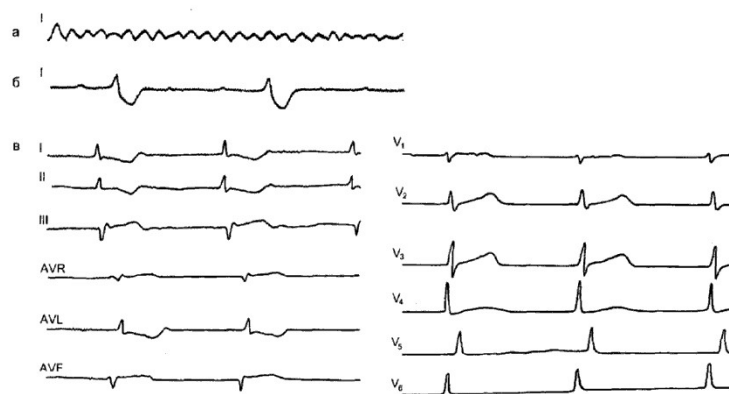


Рис. 3.10. ЭКГ к задаче 2.

ANSWER: The patient experienced a sudden circulatory arrest by the type of ventricular fibrillation.

In order to resuscitate this patient, it is necessary to perform mechanical ventilation with an AMBU apparatus and indirect heart massage, electrical defibrillation with a discharge of 300–360 J, and chemical defibrillation with intravenous administration of lidocaine.

Based on ECG b, it can be concluded that ventricular fibrillation was stopped in this patient, and on the basis of ECG c, that the patient has an acute myocardial infarction of the posterior wall of the left ventricle.

3. Patient B., 45 years old, while crossing the street, suddenly felt pain behind the sternum of a pressing character, and then lost consciousness for 1-2 minutes. The ambulance team took her to the intensive care unit, where ECG a was recorded (Fig. 3.11).

What is your diagnosis? What IT needs to be carried out?

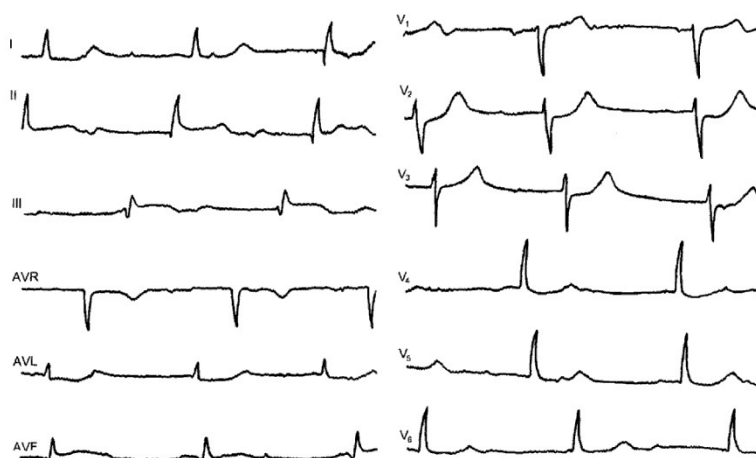


Рис. 3.11. ЭКГ к задаче 3.

ANSWER: Based on the clinical picture and ECG, it can be concluded that the patient developed acute myocardial infarction of the posterior wall of the left ventricle, complicated by complete atrioventricular block and Morgagni-Adams-Stokes syndrome.

Intensive therapy of this complication includes effective pain relief with intravenous administration of narcotic analgesics or drugs for neuroleptanalgesia, intravenous administration of atropine, adrenaline, dopamine; if they are ineffective, conduct transvenous electrical stimulation of the heart.

4. Patient N., 48 years old, fell ill acutely 2 hours ago, when there were pains behind the sternum of a compressive nature; there was a brief loss of consciousness. Upon admission to the intensive care unit, the pulse was 36 beats / min, blood pressure was 120/90 mm Hg, ECG a was recorded (Fig. 3.12).

What is your diagnosis? What IT needs to be carried out?

After 1 hour, the patient's condition worsened, she lost consciousness, developed cyanosis, acrocyanosis, convulsions, heart rate 30 beats/min, blood pressure 100/90 mm Hg, ECG was recorded b.

What complication has developed in the patient? What IT needs to be carried out?

Subsequently, an ECG was recorded in (see Fig. 3.12). What is your conclusion on the ECG in dynamics and IT results?

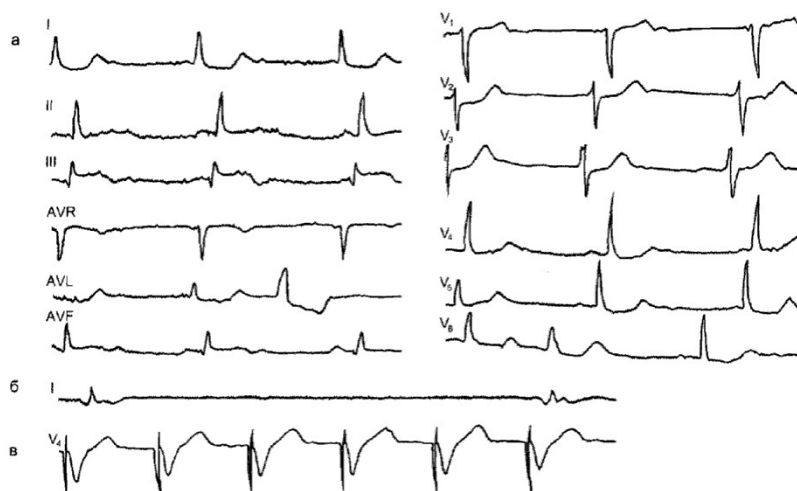


Рис. 3.12. ЭКГ к задаче 4.

ANSWER: Based on the clinical picture and ECG a, it can be concluded that the patient developed acute myocardial infarction of the posterior wall of the left ventricle, complicated by atrioventricular blockade and Morgagni-Adams-Stokes syndrome.

Intensive therapy for this condition includes the immediate start of chest compressions, the use of anesthesia with intravenous narcotic analgesics, intravenous atropine, adrenaline to increase ventricular contractions, corticosteroids, saluretics.

ECG b shows very rare ventricular contractions, which indicates the ineffectiveness of drug therapy and dictates the need to connect a pacemaker. On the ECG, after each electrical impulse, QRSTb complexes are recorded in the form of a right ventricular extrasystole, which indicates the effectiveness of the transvenous electrical stimulation of the heart used in this patient.

5. In a patient with hyperosmolar dehydration, the plasma sodium concentration is 155 mmol/l. What liquid and in what quantity should be administered to the patient to correct this type of dehydration:

- A) 2 liters of 0.9% sodium chloride solution;
- B) 1.5 l of Ringer-Locke solution;
- B) 4.5 l of 5% glucose solution;
- D) 3 l of 5% glucose solution;
- E) 1.5 l of 10% glucose solution.

ANSWER: D. It is known that every 3 mmol / l of sodium above the upper limit of the norm (145 mmol / l) corresponds to a deficiency of 1 liter of water. With hyponatremia, it is necessary to inject a liquid without sodium content in it. $155 \text{ mmol / l} - 145 \text{ mmol / l} = 10 \text{ mmol / l}$, $10 \text{ mmol / l} : 3 = 3.3 \text{ l}$.

6. Patient A., 38 years old. The second day after gastrectomy due to ulcerative bleeding. Complaints of discomfort, thirst, pain in the epigastric region. On examination: vesicular breathing in the lungs,

no wheezing; BP 110/70 mm Hg; pulse 116 beats / min; CVP 0 mm water column; the abdomen is not swollen, soft on palpation. Laboratory data: Hb 80 g/l; Ht 45%; potassium 2.8 mmol/l; sodium 145 mmol/l; Osm 330 mosm/l; KOS: pH 7.34; PCO₂ 33 mm Hg; BE = -3.

Choose the correct answers.

A. The leading pathological syndromes of the postoperative period are:

- 1) violation of the CBS;
- 2) electrolyte imbalance;
- 3) hypovolemia;
- 4) cellular dehydration;
- 5) pain syndrome.

B. What infusion-transfusion media are indicated for the correction of BCC:

- 1) blood;
- 2) erythrocyte mass;
- 3) rheopolyglucin;
- 4) 5% glucose solution;
- 5) 4% sodium bicarbonate solution.

B. To correct electrolyte disturbances, you must enter:

- 1) potassium solution 10%;
- 2) sodium chloride solution 0.9%;
- 3) potassium solution with glucose 10%;
- 4) panangin;
- 5) 40% glucose solution with insulin.

ANSWER:A-2, 3,4, 5;

B - 3, 4;

B - 3, 4.

7. Patient C, 92 years old, body weight 82 kg. The third day after gastric resection. Complaints of weakness, excruciating thirst, dry mouth. The patient is transfused with 2500-3000 ml of colloid and crystalloid solutions per day. The patient is conscious, slightly euphoric. Skin turgor is reduced, mucous membranes are dry. BP 120/80 mm Hg; pulse 110 beats / min. Laboratory data: Hb 120 g/l; Ht 55%; plasma sodium 155 mmol/l; potassium 3.5 mmol/l; Osmolarity 320 mosm/l; CVP +20 mm w.c. Diuresis 1500-2000 ml/day.

Determine the form of water disturbances and indicate the ways of its correction.

ANSWER:Thirst, dry mucous membranes, tachycardia, blood clots, elevated plasma sodium, high osmolarity, low CVP indicate hyperosmolar (hypernatremic) dehydration. Correction: the introduction of hypo- or isotonic solutions that do not contain sodium, observing the speed parameters for reducing plasma sodium.

8. Patient M., aged 46, body weight 80 kg. Ninth day after surgery for diffuse purulent peritonitis. Severe condition, stupor, dry skin, independent breathing 32 per 1 min. BP 70/50 mmHg with a downward trend. Pulse 128 beats/min, rhythmic. Laboratory data: Hb 110 g/l; Ht 60%; plasma sodium 118 mmol/l; potassium 4.0 mmol/l; Osm 170 mosm/l; CVP is negative. Diuresis 200 ml/day.

ANSWER:Unstable hemodynamics, decreased blood pressure, tachycardia, negative CVP indicate severe hypovolemia. Blood clotting, low plasma sodium, low osmolarity indicate hypotonic dehydration. Correction: the introduction of iso- and hyperosmolar solutions. According to the calculation formula, sodium deficiency is determined. Sodium deficiency = total water volume (desired sodium - available sodium). OVR in women is on average 50%, and in men 60% of body weight (0.9% sodium chloride solution contains 154 mmol / l sodium). In this case: sodium deficiency = $80 \times 0.6 \times (130-118) = 576$ mmol / l. To correct the sodium level in the safe area, the patient should enter: $576/154 = 3.7$ liters of 0.9% sodium chloride solution. Infusion should be

carried out at a rate of 0.5-1.0 mmol/h.

9. Patient G., 44 years old, was operated on for acute appendicitis and widespread peritonitis. In the mind, somewhat euphoric. Within 3 days after the operation, peritoneal dialysis was performed in combination with abdominal hypothermia. On the 5th day, the patient was diagnosed with massive hypostatic pneumonia.

Respiratory rate 36-40 in 1 min, tachycardia up to 120 beats / min, blood pressure 100/50 mm Hg, cyanosis of the lips, acrocyanosis, hyperthermia up to 38 ° C. Sputum is viscous, purulent.

pH 7.26; PCO₂ 60 mm Hg; PO₂ 74 mmHg; BE -3 mmol/l.

Conducted antibacterial, cardiotonic, oxygen therapy, soda inhalation with mistabron. However, despite the ongoing therapy, the patient's condition remained without positive dynamics.

Outline the most effective IT methods in this situation:

A) percutaneous tracheal catheterization; B) activation of the patient;

B) detoxification therapy; D) IVL.

ANSWER:A, B

10. Patient G., 35 years old, was delivered by ambulance in serious condition with a diagnosis of bilateral pneumonia. Consciousness is preserved, however, speech and motor excitation is periodically noted; temperature up to 39.2 °C, RR 46 in 1 min. In the lungs on both sides, breathing is weakened, wet rales of various sizes. Pulse 124 beats/min, BP 90/60 mm Hg, heart sounds are muffled.

Data of CBS and blood gases: pH 7.2; BE 10 mmol/l; PO₂ 60 mm Hg; PCO₂ 65 mmHg

For this patient, the priority is:

A) oxygen therapy;

B) helio-oxygen therapy;

B) hyperbaric oxygen therapy;

D) VIVL;

D) IVL.

ANSWER:D

11. Patient A., aged 38, was transferred from the therapeutic department because of an intractable attack of bronchial asthma. In the therapeutic department, the patient received the following therapy: eufillin intravenous bolus at a dose of 0.24 g 2 times; prednisolone 30 mg intravenously 2 times; diphenhydramine 0.02 mg intravenously; oxygen therapy through a nasal catheter. There has been no improvement. On examination: confusion, restless behavior of the patient, cyanosis, increased moisture of the skin. In the lungs - breathing is significantly weakened, a lot of wheezing of various sizes, exhalation is difficult, respiratory rate 32 per 1 min; pulse 124 beats / min. Heart - muffled tones, single extrasystoles. BP 170/90 mm Hg; KOS and blood gases: pH 7.2; BE-8; PCO₂ 76 mm Hg; PO₂ 50 mmHg

Determine the stage of status asthmaticus and justify the priority of IT and resuscitation methods:

A) IVL;

B) bronchial lavage;

B) bronchodilator therapy;

D) rehydration therapy;

D) hormone therapy.

ANSWER:A

12. During induction of anesthesia, a 27-year-old woman operated on for an ectopic (tubal) pregnancy developed regurgitation. After sanitation of the tracheobronchial tree through the endotracheal tube, the operation was continued. On the 2nd day after the operation, the patient's

condition worsened. Skin and visible mucous membranes are pale; cyanosis, acrocyanosis; confused mind; shallow breathing; Respiratory rate up to 44 in 1 min. There was a decrease in the excursion of the right half of the chest during breathing. Percussion in the region of the middle and lower lobes of the right lung is determined box sound. On the radiograph, there is no pulmonary pattern in the region of the middle and lower lobes of the right lung. Pulmonary pattern is clearly seen in the area of the upper lobe of the right lung, in the root zone is enhanced. The shadow of the heart is sharply shifted to the left. In the study of the gas composition of the blood, the following data were obtained: PO₂ 63 mm Hg; PCO₂ 79 mmHg

Make a differential diagnosis between.

- A) atelectasis;
- B) aspiration pneumonitis;
- B) aspiration pneumonia.

Determine priority IT measures.

- D) bronchoscopy;
- D) antibiotic therapy;
- E) IVL.

ANSWER: A, G

13. Patient I., 35 years old, who was operated on 2 days ago for a severe ectopic pregnancy, developed postoperative psychosis, for which she was transferred to the psychosomatic department. A history of alcohol abuse. Due to a sharp drop in blood pressure, the patient was transferred to the intensive care unit after examination by a resuscitator. The patient has a catheter in the left subclavian vein. Consciousness confused, inadequacy of behavior. BP 70/50 mm Hg, pallor of the skin, pulse 120 beats / min, respiratory rate 30 in 1 min. Auscultatory in the lungs - breathing is not audible on the left. When x-rays in the ward in the position of the patient lying down - total darkening on the left (massive hydrothorax).

Specify the sequence of IT methods:

- A) removal of the subclavian catheter from the pleural space;
- B) puncture of the pleural cavity;
- B) oxygen therapy;
- D) infusion therapy.

ANSWER: A B C D

14. Patient O. suddenly felt a sharp pain in the chest, shortness of breath. The ambulance crew took him to the hospital. Upon admission, the behavior is restless, moderate cyanosis. In the lungs, breathing on the right is not audible, percussion - tympanitis. Tracheal displacement to the left was noted. Respiratory rate 28 in 1 min, pulse 112 beats/min, rhythmic, satisfactory filling; BP 120/80 mm Hg; heart sounds are clear, pure.

Outline a plan for examining the patient and the sequence of therapeutic measures:

- A) chest x-ray;
- B) ECG;
- B) puncture and drainage of the pleural cavity;
- D) IVL.

ANSWER: A, B

15. Patient I., 35 years old, was operated on 5 days ago for uterine fibroids. History of varicose veins of the lower extremities. Against the background of a satisfactory condition, after getting out of bed, the patient developed sharp pains in the right half of the chest, severe cyanosis of the upper body, a drop in blood pressure to 70/50 mm Hg. Art., pulse 132 beats / min, respiratory rate 36 in 1 min. Auscultatory breathing in the lungs is hard, no wheezing. On the ECG - signs of overload of the right heart. On the radiograph of the lungs on the right, a triangular shadow with the apex towards the root of the lung.

Make a differential diagnosis between:

- A) pneumonia;

- B) pneumothorax;
- B) TELA;
- D) pleurisy;
- D) collapse of unclear etiology.
- E) antioxidant drugs;
- G) corticosteroids;
- 3) diuretic drugs;
- I) artificial surfactant (exosurf).

ANSWER: AND

16. Patient G., 25 years old, was admitted to the surgical department for acute gastrointestinal bleeding from a duodenal ulcer, which was managed to be stopped conservatively.

3 liters of single-group blood were transfused. On the 3rd day, the patient had a gradually increasing ARF with further rapid progression. Confused consciousness, gray-cyanotic skin color, hemodynamic instability. In the lungs, a large number of various rales. X-ray of the lungs revealed a large number of focal and diffuse infiltrates. In the study of blood gases RO₂ 45 mm Hg; PCO₂ 30 mmHg With a short-term (within 30 minutes) supply of 100% O₂, arterial blood PO₂ remains within 45-50 mm Hg. The patient was transferred to mechanical ventilation in PEEP mode. After a few hours of IVL, PO₂ increased to 70 mm Hg. Auscultation showed a decrease in the number of moist rales, with repeated radiography - a positive trend.

What data can be used to suggest the diagnosis of adult respiratory distress syndrome:

- A) the presence of a provoking factor;
- B) blood gas data: severe hypoxemia and normal PaCO₂ values;
- B) positiveUhlenbrook test;
- D) bilateral infiltration of lung tissue.

And add to the ongoing treatment (ventilation in the PEEP mode):

- D) rheological preparations;
- E) antioxidant drugs;
- G) corticosteroids;
- 3) diuretic drugs;
- I) artificial surfactant (exosurf).

ANSWER:A B C D E F

17. Patient V., aged 65, was admitted to the intensive care unit with a diagnosis of stage 111 hypertension, acute cardiovascular insufficiency, and pulmonary edema. On examination, complaints of suffocation, a feeling of lack of air. The patient is excited; skin is cyanotic; Resp 36 in 1 min. In the lungs, multiple bubbling rales; BP 180/100 mmHg Conducted therapy with cardiac glycosides, narcotic analgesics, ganglionic blockers. The patient's condition improved, but after 3 hours there was a sharp excitation, a sharp cyanosis, bubbling breathing, a decrease in blood pressure to 80/40 mm Hg. Art., pulse 120 beats / min, rhythmic.

Auscultation revealed a mass of various wet rales. Treatment with corticosteroids, cardiac glycosides, and small doses of Lasix had no effect.

Your next steps:

- A) continuation of drug therapy;
- B) transfer to I VL.

ANSWER:A.B

18. Patient N., 67 years old, body weight 57 kg, after intravenous administration of 0.15 mg of fentanyl to relieve pain in myocardial infarction, breathing slowed down and then stopped.

Your tactics:

- A) the introduction of respiratory analeptics;
- B) oxygen therapy;
- B) IVL with an AMBU bag;
- D) tracheal intubation and transfer to mechanical ventilation.

ANSWER:IN

19. Patient A. with a diagnosis of tetanus was on a ventilator for 72 hours. An attempt to cancel muscle relaxants and transfer to spontaneous breathing is accompanied by the occurrence of tonic-clonic seizures.

Your first steps:

- A) the introduction of anticonvulsants, respiratory analeptics and transfer to spontaneous breathing;
- B) continuation of mechanical ventilation against the background of muscle relaxation;
- B) tracheostomy;
- D) continuation of mechanical ventilation through a tracheostomy.

ANSWER:C, D

20. Patient Ya., 15 years old, was delivered to the intensive care unit by the SMP team with a diagnosis of epilepsy and convulsive syndrome. The SMP doctor intramuscularly injected 2.0 ml of chlorpromazine and 2.0 ml of seduxen without a lasting effect. Upon admission, the patient's condition was severe, consciousness was confused, frequent clonic convulsions. The skin is pale, acrocyanosis. Vesicular breathing in the lungs, no wheezing. Respiratory rate 32 in 1 min, BP 110/80 mm Hg, pulse 110 beats/min, rhythmic, satisfactory filling. Heart - tones are muffled, pure.

Further treatment tactics:

- A) re-introduction of seduxen;
- B) the introduction of short-acting barbiturates;
- B) the introduction of muscle relaxants and transfer to mechanical ventilation.

ANSWER:IN

21. Patient N., 48 years old, was admitted to the intensive care unit with a diagnosis of diabetes mellitus in the stage of decompensation, hyperglycemic coma III, ketoacidosis. Blood glucose 24 mmol/l; glucose in urine 3.3%; ketone bodies +++; blood pH 7.2; PCO₂ 26 mm Hg; BE- -19; Hb 160 g/l; blood clotting time 3 min.

Determine the correctness and sequence of therapeutic measures.

- A) infusion of 0.9% NaCl solution up to 1500 ml or more;
- B) infusion of 0.06% NaCl solution (500.0 ml);
- B) infusion of rheopolyglucin;
- D) insulin therapy;
- D) hemosorption;
- E) plasmapheresis.

ANSWER:A B C D

No. LD-16

Federal State Budgetary Educational Institution of Higher Education "North Ossetian State Medical Academy" of the Ministry of Health of the Russian Federation

Department of Anesthesiology, Resuscitation and Intensive Care

Samples of test tasks

by discipline «ANESTHESIOLOGY, REANIMATION, INTENSIVE CARE. TRAINING
SIMULATION COURSE 3»

the main professional educational program of higher education - specialist's programs in the
specialty 31.05.01 General Medicine,
approved on 24.05.2023

for students _____ 6th year students _____

specialty ____ 31.05.01 General Medicine _____

Reviewed and approved at the meeting of the department
dated 18.05.2023 (minutes No. 6)

Department head

prof. Doctor of Medical Sciences



V.D. Slepushkin

Vladikavkaz

TESTS

Clinical physiology of respiration and circulation in intensive care

Most of all there is blood in the following section of the cardiovascular system:

- {00} in capillaries
- {00} arteries of the systemic circulation
- +{00} in the veins of the systemic circulation
- {00} in the vessels of the lungs and heart

What are the normal indicators of the partial tension of oxygen (pO_2) in capillary blood:

- {00} 60 - 70 mmHg Art.
- +{00} 80 - 100 mmHg Art.
- {00} 110 - 120 mmHg Art.
- {00} 40 - 20 mmHg Art.

Microcirculation disorders are judged by:

- +{00} white spot symptom, diuresis
- {00} Jugular vein congestion
- {00} peripheral pulse filling

Violation of the respiratory function of the blood is:

- +{00} decrease in blood oxygen
- {00} impaired diffusion between tissue capillaries and mitochondria
- {00} parenchymal respiratory failure

The main mechanisms of violation of gas exchange in tissues:

- {00} microcirculation disorders
- {00} violation of redox processes in cells
- {00} cyanide poisoning
- +{00} that's right

With a decrease in carbon dioxide in the blood, the following occurs:

- {00} vasodilation
- +{00} vasoconstriction
- {00} increased vascular wall permeability
- {00} Vessel diameter remains unchanged
- {00} complete vascular paresis

Adequate blood circulation in the body is maintained by:

- {00} myocardial contractility
- {00} vascular tone
- {00} VCC
- {00} heart rate
- +{00} all listed factors

The pumping function of the heart is supported:

- {00} normal level of energy metabolism in the myocardium
- {00} sufficient venous return to the heart
- {00} preservation of compensatory abilities
- {00} normal heart rate
- +{00} all listed factors

The basis of acute heart failure is not:

- +{00}normovolemia
- {00}decrease in myocardial energy reserves
- {00}impaired electrolyte metabolism
- {00}hypervolemia
- {00}impaired myocardial contractility

The volume of circulating blood in an adult is:

- {00}5-6% body weight
- +{00}7-8% body weight
- {00}9-10% body weight
- {00}15-20% body weight
- {00}25-30% body weight

Acute respiratory failure

The main causes of airway obstruction are:

- {00}Language drop
- {00}laryngospasm
- {00}vomit
- {00}foreign body aspiration
- +{00}all of the above

Increased breathing is indicated by the term:

- {00}bradypnea
- {00}apnea
- {00}dyspnea
- +{00}tachypnea

All oxygen inhalation methods require:

- {00}elevated position of the patient
- +{00}moisturizing the breathing mixture
- {00}breathing gas warming
- {00}prescribing bronchospasmolytics to the patient

To ensure free patency of the patient's airways, it is necessary:

- {00}lay on the back, turn the head to one side, push the lower jaw forward
- +{00}Lay on your back, put a roller under your shoulder blades, tilt your head back, push the lower jaw forward
- {00}lay on your back, turn your head to one side, put a roller under your shoulder blades

The main signs of ODN:

- {00}cyanosis or other skin discoloration
- {00}shortness of breath, change in respiratory rate
- {00}hemodynamic changes
- {00}participation in breathing of auxiliary muscles
- +{00}that's right

In order to maintain adequate gas exchange in the body, it is necessary:

- {00}replenish BCC with infusion solutions
- +{00}restore adequate transport of oxygen and carbon dioxide at the level alveolo-capillary membrane, tissues;
- {00}provide the optimal oxygen tension in the inhaled mixture

Violation of the respiratory function of the blood is:

- +{00}decrease in blood oxygen
- {00}impaired diffusion between tissue capillaries and mitochondria
- {00}parenchymal respiratory failure

The main mechanisms of violation of gas exchange in tissues:

- {00}microcirculation disorders
- {00}violation of redox processes in cells
- {00}cyanide poisoning
- +{00}that's right

A conicotomy is required if:

- {00}respiratory arrest due to electrical injury
- {00}stop breathing when drowning
- {00}pulmonary edema
- {00}respiratory arrest due to TBI
- +{00}Upper airway obstruction

In patients with status asthmaticus, when oxygen is inhaled, there may be:

- {00}sharp arousal
- +{00}decreased excitability of the respiratory center and apnea
- {00}tachypnea with increased tachycardia
- {00}vomit
- {00}status clipping

Antihistamines (diphenhydramine, pipolfen, etc.) for asthmatic status may cause:

- {00}tachycardia and muscle tremors
- {00}increased cough reflex
- {00}severe respiratory depression
- +{00}sputum thickening, making it difficult to evacuate

Acute heart failure

Profuse, frothy, pink or yellow sputum points to:

- {00}carbon monoxide poisoning
- {00}foreign body in bronchi
- {00}acute laryngospasm
- +{00}pulmonary edema

Symptoms of cardiac asthma include:

- {00}chest pain when coughing
- +{00}shortness of breath with difficulty breathing
- {00}persistent dry cough
- {00}viscous sputum

For pulmonary edema, the following are used as emergency therapy:

- {00}Nitroglycerin
- {00}sulfocamphocaine
- {00}atropine
- +{00}Lasix

When conducting infusion therapy in patients with cardiogenic shock, you should:

- {00} inject liquid based on daily requirement
- {00} inject only colloidal solutions
- {00} inject fluid for 500-700 ml more than the daily requirement
- +{00} limit the amount of fluid injected

Obzidan belongs to the pharmacological group:

- +{00} b-blockers
- {00} a-blockers
- {00} ganglion blockers
- {00} calcium antagonists
- {00} myotropic antispasmodics

Pentamine belongs to the pharmacological group:

- {00} postganglionic blockers
- {00} vasodilators
- {00} calcium antagonists
- +{00} ganglion blockers
- {00} all of the above are incorrect

With cardiogenic pulmonary edema, the doctor does not need to:

- {00} ensure free airway patency
- +{00} put the patient in a horizontal position
- {00} improve myocardial contractility
- {00} prescribe diuretics
- {00} start infusion of nitro drugs

An uncharacteristic cause of cardiogenic shock is:

- {00} heart attack, myocarditis
- {00} rhythm and conduction disorders
- +{00} decreased venous pressure
- {00} TELA
- {00} hemopericardium

In the treatment of cardiogenic shock, it is necessary:

- {00} increase venous pressure, peripheral resistance,
- {00} introduce cardiotonics
- +{00} administer cardiotonic drugs, carry out infusion therapy under CVP control,
- {00} reduce OPS with nitrates
- {00} do not carry out infusion therapy, administer cardiotonic drugs, nitrates
- {00} infusion therapy, diuretics, cardiotonics
- {00} infusion therapy, nitrates, diuretics

A distinct effect on hemodynamics, used for neuroleptanalgesia, provides the drug:

- +{00} droperidol
- {00} fentanyl
- {00} nitrous oxide

Shock

Indications for transfusion of blood and blood substitutes:

- {00}anaphylactic shock
- +{00}burn shock and traumatic shock, acute blood loss
- {00}cardiogenic shock

Name the drugs and transfusions needed to provide

first aid for hemolytic shock:

- {00}transfusion of canned donor blood with a shelf life of up to 3 days
- +{00}administration of hormones, antishock drugs, blood substitutes and antispasmodics
- {00}administration of antihistamines

A biological test during the transfusion of blood and its components is carried out:

- {00}drip 15-20 ml 3 times
- +{00}spray 10 - 15 ml 3 times

The most rational way of introducing drugs into the bloodstream when performing CPR is:

- {00}peripheral vein
- +{00}main vein
- {00}artery
- {00}trachea
- {00}under the root of the language
- {00}cavity of the ventricles of the heart

The choice of vascular access in traumatic shock:

- {00}peripheral vein
- +{00}central venous catheterization

The drug of choice for anaphylactic shock is:

- +{00}adrenaline
- {00}antihistamines
- {00}antibiotics
- {00}ephedrine

Specify the concentration of glucose solution, which is isotonic:

- {00}0.85%
- {00}3%
- {00}4.2%
- +{00}5%
- {00}10%

When transfusing plasma, the recipient must:

- {00}compatibility test according to the AB0 system
- +{00}biological test
- {00}plasma transfusion according to Rh-affiliation

What are the primary clinical signs of complications during transfusion?
incompatible blood to the patient:

- {00}respiratory and cardiac arrest
- {00}vomiting and hemoptysis, loss of consciousness

+{00}marked restlessness, chills, pain in the head, lower back, shortness of breath, hyperemia faces, tachycardia, a sharp drop in blood pressure

Basic principles of care at the prehospital stage in case of traumatic shock:

- +{00}anesthesia, infusion therapy
- {00}anticoagulants, antibacterial therapy

Name the drugs that are used in anaphylactic shock:

- {00}Native and fresh frozen plasma
- {00}broad-spectrum antibiotics
- +{00}adrenaline, hormones, antihistamines, diuretics

When determining the blood group using coliclones, agglutination in the samples is not happened. What is the patient's blood type?

- {00}AB (IV) 0
- {00}A (II) β
- {00}B (III) α
- +{00}0 (I) $\alpha\beta$

The main in emergency care for traumatic shock is:

- {00}administration of cardiac drugs
- +{00}pain relief
- {00}oxygen therapy
- {00}complete rest

Start infusion therapy for massive blood loss with a transfusion:

- {00}blood
- {00}plasma
- {00}lipofundin
- +{00}voluven

For arterial bleeding, a tourniquet is applied:

- {00}below wound
- {00}on wound
- +{00}above the wound

In anaphylactic shock with collapse, emergency care should be started with introductions:

- {00}voluven
- {00}diphenhydramine
- +{00}adrenaline
- {00}cordiamine

In acute hemorrhage observed:

- {00}fast and weak pulse
- {00}decreased blood pressure
- {00}pallor of the skin
- +{00}that's right

Is it possible to determine the approximate blood loss by pulse and systolic pressure:

- +{00}yes

-{00}no

First aid for burns includes:

+{00}administration of anesthetics, cooling the burnt surface

-{00}aseptic dressing

-{00}Bubble burst

In the mechanism of development of sepsis, the following factors are important:

+{00}microbial and organism reactivity

-{00}Antibiotic overdose

-{00}hypervolemia

The severity of the condition with blood loss does not depend on:

-{00}from the rate of decrease in bcc

-{00}from the capacity of the bloodstream

-{00}from the absolute value of the BCC deficit

-{00}from the initial state of the body

+{00}of blood fibrinogen concentration

The Algover shock index is:

+{00}Ratio of heart rate to systolic blood pressure

-{00}Ratio of heart rate to diastolic blood pressure

-{00} BP/HR ratio

-{00}Ratio of IOC and OPS

-{00}ratio of OPS and IOC

The Algover shock index for normovolemia is:

-{00}0.1

+{00}0.5

-{00}1.0

-{00}1.5

-{00}2.0

Shock index in the event of a shortage of BCC 20-30% of the expected value during the time of acute blood loss is:

-{00}0.5

-{00}0.75

+{00}1.0

-{00}1.5

-{00}2.0

In a patient during acute blood loss up to 10% of the BCC:

+{00}no dynamic changes

-{00}heart rate increased by 20%

-{00}systolic blood pressure decreases

-{00}diastolic blood pressure drops

-{00}diastolic blood pressure rises

A decrease in systolic blood pressure during acute blood loss occurs with an increase BCC deficit:

-{00}up to 10%

+{00}more than 15%

-{00}more than 20%

- {00}more than 30%
- {00}systolic blood pressure
- {00}does not depend on the amount of blood loss

With a blood loss of 2 liters, blood pressure decreases:

- {00}up to 90-100 mmHg Art.
- {00}up to 80-90 mmHg Art.
- +{00}up to 70-80 mmHg Art.
- {00}less than 70 mmHg Art.
- {00}not defined

Tachycardia in acute blood loss occurs with an increase in BCC deficiency:

- {00}up to 10%
- +{00}more than 15%
- {00}more than 20%
- {00}more than 30%
- {00}tachycardia in acute blood loss absent

The loss of BCC leads to the occurrence of shock of the first degree:

- {00}1%
- {00}5%
- {00}10%
- +{00}20%
- {00}30%

3rd degree shock is characterized by blood pressure:

- +{00}below 60 mmHg Art.
- {00}60-80 mmHg Art.
- {00}90-100 mmHg Art.
- {00}100-120 mmHg Art.
- {00}120-140 mmHg Art.

Shock II degree is characterized by blood pressure:

- {00}below 60 mmHg Art.
- +{00}60-80 mmHg Art.
- {00}90-100 mmHg Art.
- {00}100-120 mmHg Art.
- {00}120-140 mmHg Art.

For shock I degree is characterized by blood pressure:

- {00}below 60 mmHg Art.
- {00}60-80 mmHg Art.
- +{00}80-90 mmHg Art.
- {00}100-120 mmHg Art.
- {00}120-140 mmHg Art.

A decrease in hourly urine output during acute blood loss occurs with an increase in the deficit of BCC:

- {00}up to 10%
- {00}more than 15%
- +{00}more than 20%
- {00}more than 30%

-{00}more than 40%

Intensive care in the early stages of the treatment of hypovolemic shock is aimed at:

+{00}to restore BCC

-{00}to improve myocardial contractility

-{00}to improve the rheological properties of blood

-{00}for dehydration

-{00}for all of the above

The rate of infusion therapy is determined by:

-{00}baseline blood pressure

-{00}baseline CVP level

-{00}shock phase

+{00}speed and degree of blood loss

-{00}all listed factors

The initial rate of infusion of plasma-substituting solutions with an undetectable blood pressure against the background of acute blood loss should be:

-{00}60 drops per minute

-{00}jet 100-200 ml per minute

-{00}jet 200-250 ml per minute

+{00}jet 250-500 ml per minute

-{00}Infusion therapy not indicated

Quantity of crystalloid plasma expander required for reimbursement blood loss in the absence of colloidal solutions:

-{00}2 times smaller

-{00}2x more

+{00}3x more

-{00}equal to required amount of colloidal solution

-{00}4-5 times more

BCC

The volume of emergency replenishment of acute blood loss is 15-20% (approximately 1 l)

should be:

-{00}100% blood lost

-{00}150-200% blood lost

+{00}200-250% blood lost

-{00}at least 300% blood lost

-{00}more than 300% blood lost

BCC

The volume of emergency replenishment of acute blood loss is 25-40% (approximately 2 l)

should be:

-{00}100% blood lost

-{00}150-200% blood lost

-{00}200-250% blood lost

+{00}at least 300% blood lost

-{00}more than 300% blood lost

The volume of emergency replenishment of acute blood loss 50-60% (approximately 3 l)

BCC

should be:

- {00} 100% blood lost
- {00} 150-200% blood lost
- {00} 200-250% blood lost
- {00} at least 300% blood lost
- +{00} more than 300% blood lost

The volume ratio of poured crystalloid and colloidal solutions at acute blood loss of more than 2 liters should be:

- {00} 3:1
- {00} 2:1
- +{00} 1:1
- {00} 1:2
- {00} 1:3

The leading factor in the pathogenesis of the first phase of infectious-toxic shock is:

- {00} decreased cardiac index
- +{00} decreased vascular tone (OPSS)
- {00} decrease in BCC
- {00} all of the above
- {00} VCB increase

Hyperdynamic form of blood circulation is:

- {00} for cardiogenic shock
- {00} in traumatic shock
- +{00} for toxic shock
- {00} for anaphylactic shock
- {00} for neurogenic shock

Mandatory components of the treatment of any shock are:

- {00} administration of vasopressors
- {00} analgesia
- +{00} infusion therapy
- {00} use of antihistamines
- {00} transport immobilization

Indications for transfusion of blood and blood substitutes:

- {00} anaphylactic shock
- +{00} burn shock and traumatic shock, acute blood loss
- {00} cardiogenic shock

Name the drugs and transfusions needed to provide first aid for hemolytic shock:

- {00} transfusion of canned donor blood with a shelf life of up to 3 days
- +{00} administration of hormones, antishock drugs, blood substitutes and antispasmodics
- {00} administration of antihistamines

A biological test during the transfusion of blood and its components is carried out:

- {00} drip 15-20 ml 3 times
- +{00} spray 10 - 15 ml 3 times

Blood substitutes of hemodynamic action (anti-shock):

- +{00}hydroxyethylated starches
- {00}fibrinogen
- {00}Ringer's solution

The choice of vascular access in traumatic shock:

- {00}peripheral vein
- +{00}central venous catheterization

In the mechanism of development of sepsis, the following factors are important:

- +{00}microbial and organism reactivity
- {00}Antibiotic overdose
- {00}hypervolemia

Cardiopulmonary resuscitation

The most rational way of introducing drugs into the bloodstream when performing CPR is:

- {00}peripheral vein
- +{00}main vein
- {00}artery
- {00}trachea
- {00}under the root of the language
- {00}cavity of the ventricles of the heart

The choice of vascular access in traumatic shock:

- {00}peripheral vein
- +{00}central venous catheterization

Loss of consciousness due to sudden cessation of blood circulation in the brain comes through:

- +{00}7 - 10 sec.
- {00}15 - 30 sec.
- {00}30 - 45 sec.
- {00}1 min.

Specify the sequence of symptoms in acute circulatory arrest:

- +{00}switching off consciousness, seizures, dilated pupils
- {00}dilation of pupils, loss of consciousness, appearance of convulsions, appearance of convulsions,
dilated pupils, turning off consciousness

Correction of metabolic acidosis is carried out by intravenous infusion:

- {00}0.9% saline
- {00}10% glucose solution
- {00}5% glucose solution
- +{00}4% sodium bicarbonate solution

Which is not the cause of the terminal state:

- {00}acute blood loss
- {00}acute heart and respiratory failure
- +{00}obesity
- {00}drowning

-{00}electrical injury

When blood circulation stops, convulsions appear:

- {00}simultaneously with cardiac arrest
- {00}after 30 - 60 sec. after cardiac arrest
- +{00}simultaneously with loss of consciousness or somewhat later
- {00}simultaneously with respiratory arrest

Termination of resuscitation is carried out through:

- {00}2 hours after the start of resuscitation
- {00}1 hour after the start of resuscitation
- +{00}30 min. with the ineffectiveness of resuscitation measures

When conducting an external heart massage for a newborn, the number of compressions is equal to:

- {00}60 - 70 per min.
- {00}80 - 100 per minute
- +{00}100 – 120 per minute
- {00}120 - 150 per minute

To what depth should the sternum sag during chest compressions:

- {00}2 - 3 cm
- +{00}4 - 5 cm
- {00}6 - 7 cm

To what depth should the chest sag during closed heart massage newborn:

- +{00}1.5 - 2 cm
- {00}4 - 5 cm
- {00}5 - 6 cm
- {00}7 - 8 cm

To ensure free patency of the patient's airways, it is necessary:

- {00}lay on the back, turn the head to one side, push the lower jaw forward
- +{00}Lay on your back, put a roller under your shoulder blades, tilt your head back, push the lower jaw forward
- {00}lay on your back, turn your head to one side, put a roller under your shoulder blades

To prevent retraction of the root of the tongue during resuscitation, the head the victim must be:

- {00}turned sideways
- +{00}thrown back
- {00}bent forward
- {00}in normal position

Signs of clinical death:

- {00}no consciousness
- {00}wide pupils that do not react to light
- {00}lack of breath
- {00}lack of cardiac activity
- +{00}that's right

The main signs of cardiac arrest:

- +{00}no carotid pulse
- {00}lack of spontaneous breathing
- {00}small pupils
- {00}wide pupils

Reliable signs of biological death:

- {00}appearance of cadaverous spots
- {00}appearance of "cat's eye" symptom
- {00}appearance of rigor mortis
- +{00}that's right

With the introduction of atropine observed:

- +{00}tachycardia, dilated pupils
- {00}bradycardia;
- {00}pupil constriction.

Resuscitation measures are not carried out when:

- {00}signs of biological death
- {00}injuries incompatible with life
- {00}end-stage incurable diseases
- +{00}that's right

The primary complex of cardiopulmonary resuscitation includes:

- {00}restoration of airway patency
- {00}artificial lung ventilation
- {00}maintain circulation
- +{00}that's right

Signs of the effectiveness of cardiopulmonary resuscitation:

- {00}distinct pulsation on the carotid artery
- {00}skin color improvement
- {00}pupil constriction
- {00}restoring spontaneous breathing
- +{00}that's right

Before starting cardiopulmonary resuscitation, the patient should be given the position:

- +{00}horizontal, on the back with a solid base
- {00}on the back with a raised head end (Fauler position)
- {00}on back with lowered head end
- {00}(Trendelenburg position)
- {00}semi-sitting with a cushion under the shoulder blades
- {00}lying on your back with your head turned towards the resuscitator

In a state of disrepair:

- +{00}confused mind
- {00}no consciousness
- {00}doubt
- {00}consciousness saved
- {00}coma

In the pre-agonal state:

- {00}no breathing
- {00}breath is rare
- +{00}severe shortness of breath
- {00}breathing is frequent, deep
- {00}paradoxical breathing (Biottovo, etc.)

In the preagonal state, the pulse can be determined:

- {00}on peripheral arteries
- {00}on the carotid and femoral arteries
- +{00}on peripheral, carotid and femoral arteries
- {00}only on femoral arteries
- {00}only on carotid arteries

In the preagonal state, blood pressure is:

- +{00}60/20 mmHg
- {00}40/0 mmHg
- {00}not defined
- {00}80/40 mmHg
- {00}90/45 mmHg

In the agonal state, the corneal reflex:

- {00}present
- {00}missing
- +{00}drastically weakened
- {00}upgraded
- {00}not changed

If you suspect respiratory arrest in a patient, you should:

- {00}apply a mirror to the patient's mouth and nose
- {00}palpation to determine the absence of respiratory excursions of the chest
- {00}visually determine changes in the color of the skin
- {00}auscultatively identify breath sounds
- +{00}put one hand on the patient's chest, the other on the patient's stomach and by the difference excursions to determine the presence of breathing

The main sign of cardiac arrest is:

- +{00}no carotid pulse
- {00}lack of spontaneous breathing
- {00}small pupils
- {00}wide pupils
- {00}no consciousness

After acute cardiac arrest, the maximum expansion of the pupils is recorded:

- {00}in the first seconds
- {00}no later than the first 25 seconds
- +{00}after 30-60s
- {00}after 80-120 s
- {00}after 60-80 s

The optimal time to start revival after complete cessation of breathing and blood circulation in potentially healthy people is:

- {00} 10 minutes
- +{00} 3-5 minutes
- {00} 5-7 minutes
- {00} 7-10 minutes
- {00} 10-15 minutes

The resuscitation prognosis is the most favorable:

- {00} at primary circulatory arrest
- +{00} for primary apnea
- {00} with primary lesion of the central nervous system
- {00} in case of cardiac arrest in a patient with acquired heart disease
- {00} in case of cardiac arrest in a patient with chronic glomerulonephritis

The severity of the development of irreversible conditions after cardiopulmonary resuscitation defined:

- {00} myocardial hypoxia
- +{00} death of cerebral cortex cells
- {00} cell necrosis of parenchymal organs
- {00} increased activity of lysosomal enzymes
- {00} impaired pulmonary ventilation

Cordiamin has:

- +{00} stimulating effect on the respiratory center
- {00} direct cardiotropic action
- {00} vasodilating effect
- {00} anticonvulsant action
- {00} property to inhibit the respiratory center

When performing resuscitation, one rescuer should follow the ratio:

- +{00} 2 breaths + 30 compressions
- {00} 3 breaths + 18 compressions
- {00} 5 breaths + 20 compressions
- {00} 1 breath + 5 compressions
- {00} 1 breath + 4 compressions

If small-wave ventricular fibrillation is recorded on the ECG, you should:

- {00} go to closed heart massage, inject calcium chloride, ventilator
- +{00} inject intravenous adrenaline,
- {00} prepare defibrillator for operation, start closed heart massage
- {00} inject cardiac glycosides, perform defibrillation
- {00} prepare defibrillator for work
- {00} inject lidocaine into a vein, perform defibrillation,
- {00} closed heart massage

Effective electrical defibrillation of the heart is possible when registering on the ECG:

- {00} asystole
- {00} small-wave arrhythmic oscillations
- +{00} regularly shaped large-wave oscillations
- {00} all listed violations
- {00} complete av blockade

Jet injection of calcium chloride is indicated:

- {00} for asystole
- {00} with electromechanical dissociation
- +{00} for verapamil overdose with arterial hypotension
- {00} for ventricular fibrillation
- {00} in all listed situations

The most convenient vein for catheterization against the background of the massage is:

- {00} external jugular vein
- {00} femoral vein
- {00} subclavian vein
- +{00} cubital vein
- {00} internal jugular vein

Fainting, collapse, coma. Resuscitation and intensive care in medicine catastrophes (earthquakes, fires, floods, accidents, production, etc.)

With convulsions, emergency care consists in the introduction of:

- {00} euphylline
- {00} analgin, diphenhydramine
- +{00} relanium, barbiturates
- {00} antibiotics

Specify the correct definition of the term "fainting":

- {00} gradually developing and long-lasting loss of consciousness
- +{00} sudden and brief loss of consciousness
- {00} sudden and prolonged loss of consciousness
- {00} all definitions are correct

To bring the patient out of a hypoglycemic coma, you must enter:

- +{00} v/v 40% glucose - 40 - 60 ml
- {00} insulin
- {00} w/w NaCl 0.9% - 1000.0
- {00} antihistamines
- {00} s/c 0.5 adrenaline

For a victim with poisoning in a coma, gastric lavage is performed:

- {00} with lowered head end
- {00} with raised head end
- {00} in side position
- +{00} after tracheal intubation

Therapeutic tactics for varying degrees of overheating include:

- {00} physical cooling methods
- {00} intravenous lytic mixture
- {00} intravenous administration of crystalloids
- {00} anticonvulsants
- {00} hospitalization
- +{00} all of the above

With hyperglycemic coma, the tone of the eyeballs on palpation:

- {00} upgraded

- {00}regular
- +{00}reduced
- {00}not defined
- {00}can be any of the above

With asphyxic drowning, it is characteristic primarily:

- {00}Asystole
- {00}ventricular fibrillation
- +{00}No circulatory arrest
- {00}complete av blockade
- {00}av 2nd degree blockade

Clinically, "syncope" drowning is characterized by the presence of a primary:

- {00}laryngospasm
- {00}agonal period
- +{00}primary cardiac (circulatory) arrest
- {00}primary traumatic brain injury,
- {00}Cervical spine fracture
- {00}primary respiratory arrest

The optimal method of removing from hypoglycemic coma is the introduction of:

- +{00}intravenous bolus 40% glucose
- {00}intravenously drip 40% glucose
- {00}intravenously drip 5% glucose
- {00}IV 40% glucose + 6-8 IU insulin
- {00}intravenous bolus 5% glucose

A patient with a hypoglycemic state regained consciousness. Your actions:

- {00}offer the patient to eat
- +{00}inject 40% glucose
- {00}inject short-acting insulin, then offer the patient food
- {00}introduce polarizing mixture
- {00}all of the above are incorrect

For hyperglycemic coma:

- {00}sudden loss of consciousness occurs
- +{00}there is a gradual decrease in consciousness until complete loss
- {00}motor excitation is observed
- {00}with subsequent loss of consciousness
- {00}consciousness saved
- {00}all of the above are correct

For hyperglycemic coma is not typical:

- {00}dehydration
- {00}sense of hunger
- {00}thirst
- {00}convulsions
- +{00}fast development

The smell from the mouth in ketodiabetic coma resembles:

- {00}almond scent

- +{00}smell of acetone
- {00}doesn't happen
- {00}rotten egg smell
- {00}smell of overripe melon

With hyperglycemic coma, there is:

- {00}Chain Breath - Stokes
- +{00}Kussmaul's breath
- {00}normal breathing
- {00}apnea
- {00}Biott's Breath

A patient in the post-resuscitation period has a complete lack of consciousness, he does not respond to any, including painful, stimuli. This condition is characterized by a neurological term:

- +{00}coma
- {00}sopor
- {00}delirium

The following statements are true regarding heat stroke:

- {00}accompanied by an increase in body temperature above 40.6 degrees C
- {00}may develop in healthy young adults during exercise
- +{00}correct everything

Therapeutic tactics for varying degrees of overheating include:

- {00}physical cooling methods
- {00}intravenous lytic mixture
- {00}intravenous administration of crystalloids
- {00}anticonvulsants
- {00}hospitalization
- +{00}all of the above

Acute exogenous poisoning

In case of poisoning with cauterizing poisons, gastric lavage through a tube carried out within the time frame:

- {00}up to 3 days after poisoning
- {00}up to 2 days after poisoning
- {00}up to 24 hours after being poisoned
- +{00}up to 12 hours after being poisoned

For a victim with poisoning in a coma, gastric lavage is performed:

- {00}with lowered head end
- {00}with raised head end
- {00}in side position
- +{00}after tracheal intubation

In case of enteral poisoning, it is necessary first of all:

- {00}provide peace
- {00}set up oxygen inhalation
- +{00}gastric lavage
- {00}inject tonic drugs

In case of parenteral poisoning, it is first necessary:

- +{00}start infusion therapy
- {00}ensure complete peace
- {00}Give activated charcoal
- {00}gastric lavage

Antidote therapy is carried out:

- {00}at any time since poisoning
- +{00}in the first hours after being poisoned
- {00}within a day from the moment of poisoning

The following drug is an opioid antagonist:

- {00}codeine
- {00}ceraxon
- +{00}naloxone
- {00}dioxidine

The negative aspects of the action of barbituric acid preparations (thiopental sodium, hexenal are all of the following except:

- {00}respiratory center function suppression
- +{00}quick induction and recovery from anesthesia
- {00}inhibition of the contractile status of the myocardium
- {00}decreased vascular tone
- {00}decreased liver and kidney function

Morphine hydrochloride has the following effects on breathing:

- {00}reduces depth, respiratory rate, MOD, CO₂ sensitivity
- +{00}reduces respiratory rate, minute ventilation
- {00}and sensitivity to CO₂, increases the depth of breathing
- {00}increases muscle tone
- {00}decreases inspiratory volume,
- {00}which leads to the development of respiratory failure
- {00}reduces alveolar-capillary permeability

In case of poisoning with caustic alkalis or acids, the most appropriate method removal of poison from the stomach is:

- {00}administration of emetics
- +{00}aspiration of stomach contents with a nasogastric tube
- {00}administration of emetics and then gastral lavage

The appointment of emetics is not indicated for poisoning:

- {00}barbiturates
- {00}Adelfan
- +{00}strong acids
- {00}iodine
- {00}dichloroethane

Contraindications for gastric lavage with a nasogastric tube are:

- {00}unconscious state

- {00}convulsive syndrome
- {00}decompensated circulatory failure
- +{00}no contraindications
- {00}chemical burn of the esophagus

Pain syndrome causes poisoning:

- {00}hepatotropic poisons
- {00}nephrotoxic poisons
- +{00}corrosive poisons
- {00}cardiotropic poisons
- {00}psychotropic poisons

When strong acids are ingested, a clinical picture develops. the symptoms listed, except:

- {00}burns of the esophagus and stomach
- {00}expressed pain syndrome
- {00}esophageal-gastric bleeding
- +{00}acute development of hemiparesis
- {00}hemolysis

Respiratory disorders do not cause poisoning:

- {00}barbiturates
- +{00}salicylates
- {00}organophosphorus substances
- {00}carbon monoxide
- {00}neuropeptides

Specific antidote in the "toxic" phase of acute poisoning organophosphates are:

- {00}prozerin
- {00}bemegrid
- +{00}atropine
- {00}nalorphine
- {00}pilocarpine

Doctor's actions when calling to a child with enteral ingestion of poison:

- {00}Immediate hospitalization in an extracorporeal detoxification center
- +{00}gastric lavage
- {00}hospitalization to a hospital or toxic resuscitation
- {00}call a toxicologist or an ambulance at home
- {00}immediate hospitalization
- {00}to any nearest intensive care unit
- {00}immediate start of forced diuresis

The greatest absorption of ethyl alcohol occurs:

- {00}in the stomach
- +{00}in the small intestine
- {00}in the large intestine
- {00}evenly throughout the alimentary canal
- {00}in the mouth

Visual disturbances, severe metabolic acidosis and impaired renal function may cause:

- {00}acetic essence
- +{00}methyl alcohol
- {00}ethylene glycol
- {00}acetone
- {00}chlorinated hydrocarbons

The shortest incubation period occurs with poisoning:

- +{00}fly agaric
- {00}Pale Toadstool
- {00}poison mushroom
- {00}false honey agaric

Contraindication for gastric lavage is:

- {00}impurity of blood in wash water
- {00}digestive tract burn
- {00}unconscious state
- +{00}no contraindications
- {00}VL

Methods for diagnosing acute poisoning at the prehospital stage are:

- {00}determination of a toxic substance in the blood and urine
- +{00}clinical diagnostics
- {00}functional diagnostics
- {00}all listed methods
- {00}none of the listed methods

The main method of detoxification at the prehospital stage is:

- {00}hemodialysis
- {00}forced diuresis
- +{00}gastric lavage
- {00}hemisorption
- {00}plasmapheresis

Clinical signs of chlorophos poisoning are:

- {00}excitation, dry skin, hyperkinesis
- {00}wide pupils
- +{00}excitation, sweating, myofibrillation, bronchorrhea
- {00}constricted pupils
- {00}convulsions of epileptiform type, dilated pupils
- {00}vomiting, abdominal pain, hemoglobinuria
- {00}coma

Paralysis of the respiratory center without the presence of a coma can cause:

- {00}large tranquilizers (chlorpromazine, droperidol)
- {00}dichloroethane
- {00}ataracts (Valium, Seduxen)
- +{00}opiates
- {00}ethylene glycol

Paralysis of the respiratory muscles can cause:

- {00} atropine
- {00} dichloroethane
- {00} ethyl alcohol
- +{00} FOS
- {00} Pale Toadstool Poison

In case of poisoning with sleeping pills by the method of complex detoxification is:

- {00} gastric lavage through a tube, intestinal lavage
- +{00} gastric lavage through a tube, forced diuresis,
- {00} hemo- and peritoneal dialysis, hemosorption
- {00} gastric lavage through a tube, forced diuresis, plasmapheresis
- {00} plasmapheresis
- {00} all of the above

The basis for stopping atropinization of a patient with FOS poisoning on prehospital is:

- {00} disappearance of miosis
- +{00} salivation, bronchorrhea
- {00} myofibrillations
- {00} all symptoms
- {00} all of the above

In case of poisoning with strong acids, gastric lavage is used:

- +{00} water
- {00} weak sodium bicarbonate solution
- {00} weak citric acid solution
- {00} vegetable oil
- {00} all of the above

In case of poisoning with barbiturates, the ambulance doctor is obliged to provide washing stomach:

- {00} in the first 6-8 hours after the poison
- {00} in the first 12 hours after the poison
- +{00} until 24 hours after the poison arrives
- {00} up to 3 days after the poison arrived
- {00} in the first 1-4 hours after the poison has arrived