

First Aid Guide

This Guide has been developed on the basis of the following documents:

Federal Law No.323-FZ “*On the Fundamentals of Public Healthcare in the Russian Federation*” dated November 21, 2011

Directive No.477n “*On Approving the list of Conditions that Require First Aid, and the list of First Aid Procedures*” of the Ministry of Health and Social Development dated May 04, 2012

Standard First Aid Guide No.22 approved by Federal Road Department of the Russian Ministry of Transport dated March 11, 1993.

1. General Provisions

1.1. First aid is an array of emergency procedures administered

- a) in case of a sudden illness or injury to address the condition and prevent it from worsening;
- b) to mitigate life-threatening conditions;
- c) to alleviate suffering;
- d) to prepare the patient for transportation to a healthcare facility.

1.2. First aid comprises basic medical assistance provided at the scene right after the accident.

1.3. First aid is administered until professional medical help is available. It is intended to

- a) preserve human life;
- b) prevent the condition from worsening;
- c) facilitate subsequent treatment and recovery.

1.4. First aid cannot replace professional medical services and is administered only until the ambulance arrives.

1.5. Depending on their nature, injuries can be subdivided into the following types:

- a) Mechanical (wounds, bruises, organ rupture, bone fracture, dislocation);
- b) Physical (burns, heatstroke, frostbite, injuries caused by electric current or lightning, radiation sickness, etc.);
- c) Chemical (caused by acids, bases or poisonous substances);
- d) Biological (induced by microbial toxins);
- e) Psychological (panic, shock, etc.).

1.6. The choice of first aid procedures depends on the type of injury. Individuals administering first aid should adhere to the following recommendations:

1.6.1. List of First Aid Procedures

1.6.1.1. Procedures for assessing the situation and ensuring safe environment for first aid measures:

- a) Determine if there is any threat to your life and health;



- b) Determine if there is any threat to life and health of the injured;
- c) Eliminate the threats to life and health;
- d) Prevent further damage to the injured (prevent their further exposure to electric current, chemicals, water, etc.; assess their condition; if necessary, lead (carry) them outside, free them from clothing that constricts breathing);
- e) Determine the number of people injured;
- f) Extricate the injured from the vehicle or any other inaccessible place;
- g) Transport the injured.

1.6.1.2. Calling an ambulance or other special services or arranging for transportation of the patient to the nearest healthcare facility. For emergency assistance call 112 or 03 (numbers valid on the entire territory of Russia).

1.6.1.3. Assessment of overall condition of the patient:

- a) Consciousness
- b) Blood supply and respiration
- c) External bleeding
- d) Foreign objects blocking the airway
- e) Injuries to any body parts
- f) Burns, damage from high temperature or thermal radiation
- g) Frostbite or other damage from low temperature
- h) Poisoning.

1.6.1.3.1. If the patient has several injuries, determine which one is the most dangerous. Conditions that restrict the oxygen supply, especially to the brain, must be addressed first.

1.6.1.3.2. If there are several people injured, determine who should be treated first.

1.6.1.4. Procedures for clearing the patient's airway and checking vital signs:

- a) Perform the head-tilt/chin-lift manoeuvre;
- b) Perform the jaw-thrust manoeuvre;
- c) Listen, look and feel for breathing;
- d) Check blood circulation and pulse over the major arteries.

1.6.1.5. Procedures for cardiopulmonary resuscitation (CPR) until signs of life return:

- a) Chest compression;
- b) Mouth-to-mouth resuscitation;
- c) Mouth-to-nose resuscitation;
- d) Resuscitation using a special device for artificial respiration.

1.6.1.6. Procedures for maintaining an open airway:

- a) Put the patient in a recovery position;
- b) Perform the head-tilt/chin-lift manoeuvre;
- c) Perform the jaw-thrust manoeuvre.

1.6.1.7. Procedures for overall examination of the patient and temporary bleeding control:



- a) Check the patient for any visible bleeding;
- b) Apply pressure on the artery with your fingers;
- c) Fasten a tourniquet;
- d) Bend the limb joint as far as possible;
- e) Apply direct pressure to the wound;
- f) Put a pressure bandage.

1.6.1.8. Examination procedures to check if the patient suffers from injuries, poisoning or other conditions that pose a threat to life and health, and administer first aid if needed:

- a) Head examination;
- b) Neck examination;
- c) Chest examination;
- d) Back examination;
- e) Abdominal examination;
- f) Limbs examination;
- g) Dressing wounds on different body parts, including occlusive dressing to treat chest wounds;
- h) Immobilization (with materials at hand; self-immobilization; with medical supplies);
- i) Immobilizing cervical spine (manually; with materials at hand; with medical supplies);
- j) Mitigating the exposure to hazardous chemicals (empty the stomach by drinking water and induced vomiting, remove the agent and rinse the injured area with water);
- k) Topical cooling for burns and other heat-induced injuries;
- l) Rewarming for frostbitten areas or other frost-induced injuries;

1.6.1.9. Putting the patient in a recovery position.

1.6.1.10. Monitoring the patient's condition (consciousness, breathing, blood supply) and providing psychological support.

1.6.1.11. Handing the patient over to the ambulance crew or other emergency services.

1.7. First aid procedures must be performed in order of urgency.

2. First Aid Treatment

2.1. First Aid Treatment for Electric Shock

2.1.1. First aid procedures depend on the condition of the patient who's suffered an electrical injury.

2.1.2. To assess the patient's condition, immediately perform the following actions:

- a) Lay the patient down on the back on a hard surface;
- b) Check if the patient is breathing (visually, by watching their chest move, or with a mirror);
- c) Check radial or carotid pulse;
- d) Check the pupils (constricted or dilated); dilated pupils usually indicate a rapid decrease in blood supply to the brain.

2.1.3. If an electrical injury is sustained, always summon professional medical help regardless of the patient's condition.



2.1.4. If the patient was unconscious but has regained consciousness, put them in a comfortable position (spread a blanket under them or cover them with some clothing), ensure complete rest until medical help arrives, and keep monitoring pulse and breathing. Do not let the patient move or return to work, as even if there are no serious symptoms present after an electric shock, the condition can deteriorate later on. If professional medical assistance cannot be obtained fast, find adequate means of transportation or a stretcher and transport the patient to a healthcare facility as soon as possible.

2.1.5. If the patient is unconscious but breathing and has a pulse, place them on a level surface in a comfortable position, unbutton their clothing, ensure steady inflow of fresh air, give the patient some ammonia spirit to inhale, sprinkle their face with water and ensure complete rest. If the patient's breathing is slow and irregular (as if dying), start CPR.

2.1.6. The patient who has no clear signs of life (no pulse or breathing) must be immediately administered CPR, or death will occur. Artificial respiration must be administered before and after the medical help arrives. The decision of whether to stop or continue artificial respiration is then up to a healthcare professional.

2.1.7. First aid must be administered immediately and, if possible, right at the scene of the accident. The patient should be moved to a different location only if there is still a danger to them or the person providing first aid, or if administering first aid at the scene is not possible.

2.1.8. The patient can be pronounced dead only by a medical professional.

2.2. Cardiopulmonary Resuscitation (CPR)

2.2.1. A patient injured by an electric current can be resuscitated in several ways, all of which involve artificial respiration. One of the most effective methods is rescue breathing administered together with chest compressions.

2.2.2. Artificial respiration should be administered only if the patient is not breathing or has breathing difficulties (slow, irregular rate), or if the breathing gets worse.

2.2.3. Artificial respiration must be started immediately after the patient is separated from the electric source and continue until a positive outcome is reached or until visible signs of death become apparent (rigor mortis and lividity).

2.2.4. While administering artificial respiration, watch the patient's face. If the patient moves their lips or eyelids, or makes swallowing movements, check if they may breathe independently. Once the patient starts breathing normally, artificial respiration must be stopped, as it might harm the patient.

2.2.5. If the patient stops breathing again, immediately resume artificial respiration.

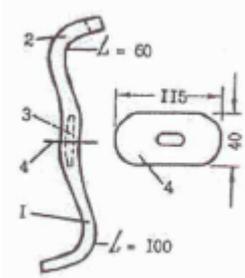
Before starting artificial respiration, make the following preparations:

- a) Free the patient from any constricting clothes (unbutton the collar, remove the tie or scarf, undo the trousers);
- b) Remove all foreign objects (including dentures, if applicable) and mucus from the patient's mouth;
- c) If the patient's mouth is shut tightly, loosen it by thrusting the lower jaw upwards.

2.3. Rescue Breathing

2.3.1. Rescue breathing involves blowing air into the patient's lungs via a special device (a breathing tube) or directly into the mouth or nose (Picture 2).





1,2 – flexible plastic tube, 60 and 100 mm long, 8-12 mm in diameter;

3 – rigid plastic tube, 40 mm long;

4 – oval rubber cuff

Picture 2

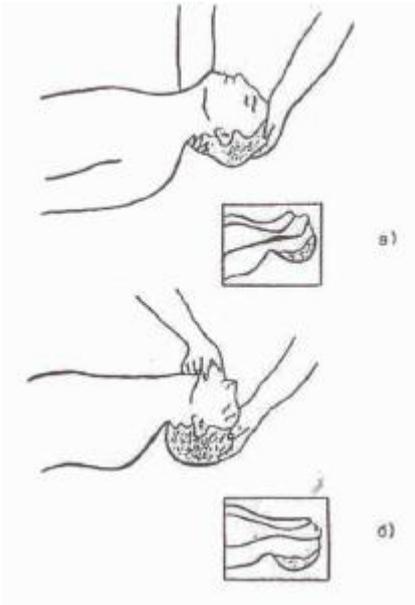
2.3.2. Rescue breathing is the most efficient means of artificial respiration, as it lets 4 times as much air into the patient's lungs. Moreover, this method allows to monitor the patient's breathing closely by watching their chest rise with each blow of air and fall with each passive exhalation.

2.3.3. To perform rescue breathing, lay the patient on the back, open their mouth, remove any foreign objects and mucus from it (using a handkerchief or a piece of clothing), and insert a tube (Picture 3). Take care to prevent the tongue from obstructing the airway and to insert the tube in the air passage, not the esophagus. Thrust the patient's jaw slightly upwards to prevent the tongue from falling back.



Picture 3

2.3.4. To open the airway, tilt the patient's head back by placing one hand under the occiput and using the other hand to apply pressure to the forehead, so that the chin is aligned with the neck (Picture 4). This establishes a patent airway to allow for more efficient artificial respiration.



- a) Initial head position
- b) Head position for rescue breathing

Picture 4

2.3.5. To adjust the tube in the patient's mouth and direct it to the air passage, gently move the patient's jaw up and down.

Kneel down beside the patient's head and press the cuff of the breathing tube firmly to the patient's lips, pinch their nose closed with both thumbs, so that the air flowing in through the tube cannot



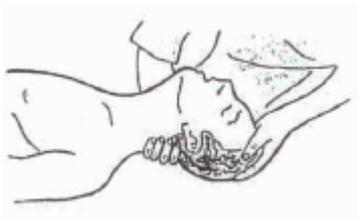
escape before reaching the lungs. Then start blowing steadily into the tube at the rate of 10-12 exhalations per minute (every 5-6 seconds) until the patient's breathing is restored or until medical help arrives.

2.3.6. To let the air escape freely from the patient's lungs, free their mouth and nose after each blow (without removing the breathing tube).

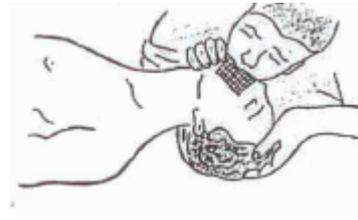
2.3.7. The patient's chest must rise after each blow and fall after each exhalation. To facilitate deeper exhalations, press on the patient's chest gently.

2.3.8. When performing rescue breathing, make sure that the air goes into the patient's lungs, not the stomach. If the stomach is rising with each blow instead of the chest, quickly press on the upper part of the stomach below the thoracic diaphragm to let the air out, and readjust the breathing tube into the right position by moving the patient's jaw up and down. After that, resume rescue breathing as described above.

2.3.9. If a special device is not available, quickly open the patient's mouth (as described above), remove all foreign objects and mucus, tilt back their head (see Picture 5) and thrust the lower jaw forward. Then cover the patient's mouth with a gauze or handkerchief, take a deep breath and blow into their mouth (Picture 6). Press your lips around the patient's mouth, forming a tight seal, and cover their nose with your face.

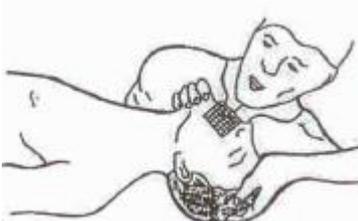


Picture 5



Picture 6

2.3.10. Draw back and take another breath. At this point the patient's chest should fall as they exhale passively (Picture 7). Facilitate the exhalation by pressing on the patient's chest gently.



Picture 7

2.3.11. Once normal breathing resumes, continue the procedure until the patient is fully conscious or until medical help arrives. The air should be blown in at the same time as the patient inhales.

2.3.12. Do not expose the patient to cold while rescue breathing is performed (do not leave them on the ground, stone, concrete or metal floor). Spread a warm blanket under and over the patient.

2.4. Chest Compressions

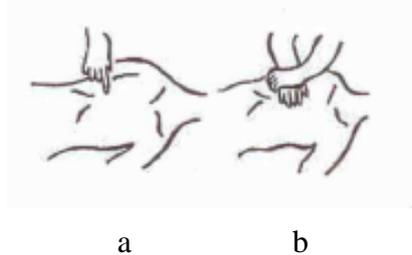
2.4.1. If there is no pulse, start chest compressions together with artificial respiration (rescue breathing) to resuscitate the patient (restore blood circulation), regardless of what has caused the heart failure. Remember that without timely and correct first aid measures professional medical help available later may be rendered futile.

2.4.2. Chest compressions consist in rhythmically applying pressure to the front chest wall by pressing on the lower part of the sternum right above the heart. It generates a pressure gradient and



forces the blood from the heart into systemic circulation. Continue compressions at a rate of 60-70 per minute to provide sufficient blood flow while the heart is not functioning.

2.4.3. Place the patient on the back on a firm surface (a low table, a bench or the floor), bare their chest, remove a belt, braces or any other clothes that constrict breathing. Lean to the left or the right over the patient. Place the heel of one hand on the lower third of the sternum (Picture 8a) and the other hand directly on top of it (Picture 8b), and start pressing on the patient's chest, leaning down slightly with each compression.



- a) pressure point on the sternum
- b) positioning your hands for chest compressions

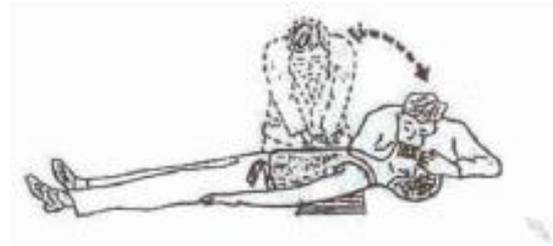
Picture 8

2.4.4. Pressure should be applied as a swift push, so that the lower sternum is pressed 3-4 cm (or 5-6 cm for overweight patients) down to the spine. Pressure is directed to the lower sternum because it is connected to the lower rib bones via cartilage, which makes it mobile. Upper sternum is attached firmly to rib bones and can break if pressure is applied to it. Also avoid pressing on the ends of the lower ribs, as it can cause a fracture, and under no circumstances apply pressure to the soft tissue below the rib cage, as it can damage internal organs, in particular, the liver. Repeat chest compressions at a rate of about 1 per second.

2.4.5. After a swift push, hold hands in the same position for about a third of a second and then remove them for the chest to recoil. This will allow the heart to fill with blood flowing from major veins.

2.4.6. As applying pressure to the chest constricts its expansion for inhaling, rescue breathing should be performed in-between chest compressions or during a special pause taken between every 4-6 chest compressions.

2.4.7. If you have no assistant and must perform all CPR procedures alone, alternate the procedures in the following order: blow two or three times into the patient's mouth or nose and perform 4-6 chest compressions, then blow two or three times into the patient's mouth or nose again and repeat 4-6 chest compressions, and so on (Picture 9).



Picture 9

2.4.8. If there are two people administering first aid, the less experienced one should perform rescue breathing (Picture 10), as this procedure is simpler, and the more experienced one should administer chest compressions. To blow air into the patient's lungs, wait until the chest is released from pressure or stop chest compressions for about 1 second.





Picture 10

2.4.9. If both people administering first aid are equally qualified, they should take turns performing chest compressions and rescue breathing, changing places every 5-10 minutes.

2.4.10. If CPR is effective, each chest compression will produce an arterial pulse (should be checked by another person).

2.4.11. If CPR is administered correctly, the patient should exhibit the following signs of life:

- a) Complexion changes from sallow and bluish-grey to pink;
- b) The patient starts making respiratory movements that become steadier as the CPR procedures continue;
- c) Pupils constrict.

2.4.12. Pupil constriction is the most reliable indicator of effective CPR. Constricted pupils indicate adequate oxygenation of the brain, but if pupils start dilating, it means that blood supply to the brain is insufficient and more effective measures must be taken to save the patient. Raising the patient's legs about 0.5 m above the ground and leaving them raised during CPR procedures might prove helpful in this case. It facilitates blood flow to the heart from peripheral veins in the lower part of the body. To keep the legs raised, prop them with some object.

2.4.13. CPR must be performed until the patient starts breathing independently and the heart resumes beating. However, weak breaths (if the pulse is present) do not mean that artificial respiration can be stopped. In this case, as was described above, the air should be blown in at the same time as the patient inhales.

2.4.14. The presence of a regular pulse not supported by chest compressions means that the heartbeat has resumed. To check the pulse, stop chest compressions for 2-3 seconds; if the pulse is still present, the heart is functioning on its own. If the pulse disappears, resume chest compressions.

2.4.15. Remember that interrupting CPR procedures for up to 1 minute can cause irreversible damage.

2.4.16. Once visible signs of life appear, continue CPR for 5-10 minutes, blowing in the air at the same time as the patient inhales.

2.5. First Aid Treatment for Wounds

2.5.1. Wounds can be contaminated with bacteria from the wounding object, the patient's skin, dirt, soil, dressing or hands of the person administering first aid.

2.5.2. To avoid tetanus infection, patients should get a tetanus shot as soon as possible, especially for wounds contaminated with soil.

2.5.3. To avoid wound contamination during dressing, wash your hands thoroughly or, if the former is not possible, sanitize your hands with iodine tincture. Touching the wound, even with washed hands, must be avoided.

2.5.4. Remove any coarse, loose foreign objects and the patient's clothing without touching the wound. Sanitize 6-10 cm around the wound with 3% hydrogen peroxide solution and 3-5% iodine solution. Then cover the wound with sterile gauze and bandage it.



2.5.5. If shreds of skin and tissue are formed in a chest wound and they are sucked in with each inspiration, sanitize the wound, place several layers and cover it with some occlusive dressing (adhesive dressing, oilcloth, cellophane, etc.). Then bandage the chest tightly.

2.6. First Aid Treatment for Bleeding

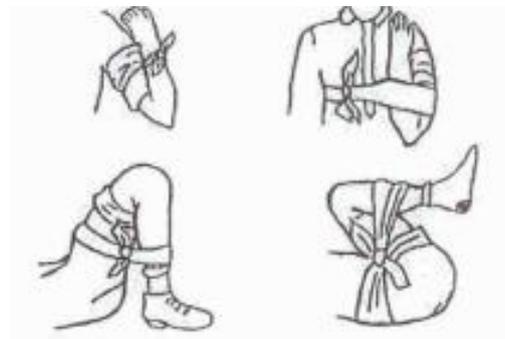
2.6.1. External bleeding may be arterial and venous, capillary and mixed. In arterial bleeding, the blood is bright-red and it pours out in pulsating spurts. In venous bleeding, the blood is dark-red and flows out steadily. The most dangerous is arterial bleeding.

2.6.2. To stop the bleeding, perform the following procedures:

- a) Elevate the wounded limb;
- b) Dress and bandage the wound without touching its surface with your fingers;
- c) In case of heavy arterial bleeding that cannot be controlled by bandaging, apply pressure to the blood vessels feeding the wounded area by keeping the limb bent and constricting the vessels with your fingers or a tourniquet. If the bleeding is heavy, immediately seek professional medical assistance.

2.6.3. Bleeding from medium or major blood vessels can be stopped temporarily by pressing on them with fingers. Nosebleeds can be stopped by pinching the nose with fingers or inserting a cotton swab or gauze soaked in hydrogen peroxide into the nose so that it touches the nasal walls.

2.6.4. If the bleeding is from the vessels of the limb and there are no apparent signs of a bone fracture (sharp pain on palpation, crunching sounds, abnormal mobility), bend the limb above the wound and lock it in this position, or place a tourniquet (Picture 11). For weak bleeding, elevate the limb. If it proves effective, no other actions are needed.



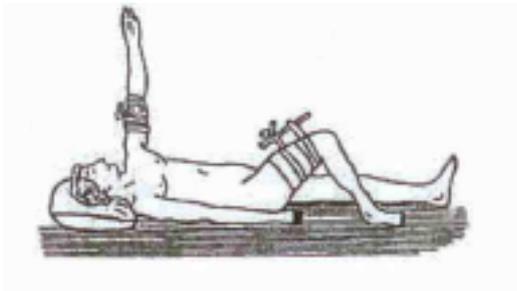
Bleeding control by bending the joint

Picture 11

Before applying a tourniquet, elevate the wounded limb and cover the site of application with several layers of gauze (or a handkerchief, towel, piece of clothing). Place a tourniquet under the limb, pull on its end, wrap it tightly around the limb 2 or 3 times (take care to avoid pinching or twisting the skin) and fasten it. If the tourniquet is applied correctly, the bleeding should stop and there should be no pulse in the arteries below the tourniquet.

Tourniquet time must not exceed 1.3-2 hours, or tissue damage may occur. Always place a note indicating the time of tourniquet application under the tourniquet (Picture 12).

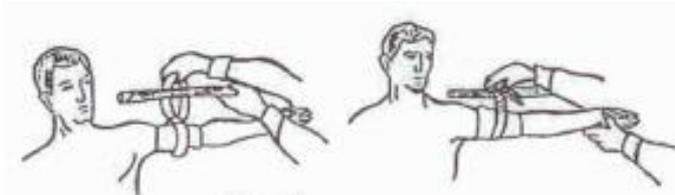




Picture 12

If professional medical help is not available within 1.5-2 hours, loosen the tourniquet for 10-15 minutes and control the heavy bleeding by pressing down with your fingers.

If no purpose-made tourniquet is available, a necktie, belt, scarf, towel, etc. may be used as an improvised tourniquet (Picture 13).



Picture 13

Place a tourniquet under the limb covered with some padding and tie it on the lateral surface of the limb. Place a torsion device, such as a stick, on top of (or under) the knot and twist it until the bleeding stops (but not too tightly). Once twisted sufficiently, tie the stick down so the tourniquet doesn't loosen.

2.6.5. To control venous bleeding, apply a sterile pressure bandage over the wound. Remember that air entering a major vein and then passing to the pulmonary vein can be fatal.

2.6.6. Capillary bleeding is caused by small cuts with blood seeping from the entire wound surface. Sanitize such wounds with hydrogen peroxide and iodine and apply a pressure bandage.

2.6.7. In case of a nosebleed, sit or lay the patient down with their head tilted back slightly, unbutton their collar, place a cold pack (change it as needed) on the nose and nasal root and press on wings of the nose with your fingers. Insert a cotton swab or gauze soaked in hydrogen peroxide into the nose.

2.6.8. As a rule, a mixture of capillary and venous bleeding or venous and arterial bleeding is presented. For heavy and predominantly arterial bleeding, a tourniquet must always be applied.

2.6.9. If bleeding is accompanied by a bone fracture, place a tourniquet above the bleeding site and provide the necessary first aid treatment for fractures, or control the bleeding by pressing your fingers, immobilize the fracture and then apply a tourniquet.

2.6.10. Vomiting blood may be a sign of gastrointestinal bleeding. If presented, lay the patient on the back, turn their head to the side and take care to prevent the vomit from obstructing the airway.

2.7. First Aid Treatment for Fractures, Bruises, Dislocations and Ligament Sprains

2.7.1. First aid treatment for fracture and dislocation should concentrate on ensuring safe and most comfortable position of the injured limb by immobilizing it completely. It will not only alleviate the pain but also prevent additional tissue damage, such as piercing by the fractured bone.



2.7.2. Skull fracture:

2.7.2.1. A head injury resulting from a fall or a hit on the head that caused unconsciousness, bleeding from the mouth or ears may suggest a skull fracture. As a first aid measure, hold some cold object against the patient's head (an ice or cold water pack, cold compress, etc.).

2.7.3. Spinal fracture:

2.7.3.1. Falling from a height or getting caught in an avalanche can lead to spinal fracture (sharp pain in the spinal cord, inability to bend or turn), first aid treatment for which includes the following procedures: slide a board under the patient carefully, without lifting them, or place the patient on their stomach facing down. Take extra care not to bend their body while lifting or turning, as it could damage the spinal cord.

2.7.4. Collarbone fracture or dislocation:

2.7.4.1. Symptoms: pain and swelling around the collarbone.

2.7.4.2. First aid treatment:

- a) Place a small lump of cotton wool, gauze or any fabric into the patient's armpit on the injured side;
- b) Bandage the arm bent at a 90-degree angle to the body (Picture 14) in the direction from the injured arm to the back;
- c) Place a cold pack over the injured area.



Picture 14

2.7.5. Arm fracture or dislocation:

2.7.5.1. Symptoms: pain along the bone, arm deformity, mobility beside the joint (in case of fracture), swelling.

2.7.5.2. First aid treatment: apply a splint or, if no splint is available, proceed as with the collarbone fracture and place the arm in some sling fastened behind the neck and bandage it to the body without placing a lump into the armpit. If the arm is dislocated and sticking out at an angle to the body, place something soft between the arm and the body (some folded clothing, a bag, etc.).

Place a cold pack over the injured area.

2.7.6. Hand and finger fracture or dislocation:

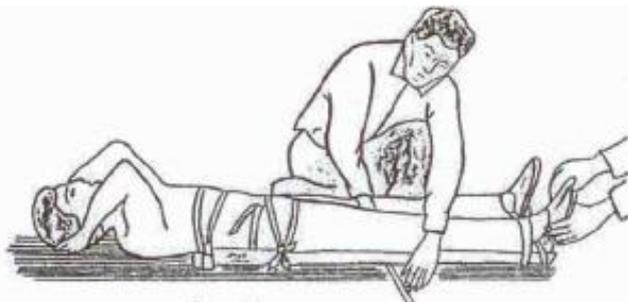
2.7.6.1. If a fracture or dislocation of the bones of the hand is suspected, bandage the hand to a wide (palm-wide) splint whose length must be sufficient to immobilize the area from the mid-forearm to the fingertips. Prior to that, put a small lump of cotton wool, gauze, etc. so that the fingers are bent slightly. Place a cold pack over the injured area.



2.7.7. Leg fracture or dislocation:

2.7.7.1. Symptoms: pain along the bone, swelling, deformity at the site with no joint (in case of fracture).

2.7.7.2. In case of a hip injury, immobilize the affected leg with a splint, stick, piece of plywood, cardboard or any similar object; the splint should be long enough to reach from the armpit to the heel (Picture 15). A second splint stretching from the perineum to the heel may be applied if necessary. This method ensures full immobilization of the leg. Bandage the splints to the leg in 2 or 3 places, but not on the fracture site or too close to it. If possible, perform the splinting without raising the patient's leg by holding on to it with a stick. Use some object to push the bandages under the lower back, elbow or heel. Place a cold pack over the injured area.



Picture 15

2.7.8. Rib fracture:

2.7.8.1. Symptoms: pain when breathing, coughing or moving.

2.7.8.2. First aid treatment: bandage the chest tightly or tie it with a towel upon exhalation.

2.7.9. Bruises

2.7.9.1. If you are certain that the patient has only sustained a bruise, rather than a fracture or dislocation, place a cold pack on the bruised area and bandage it tightly. If there is no wound, do not apply iodine, rub the bruised area or apply a warm compress, as it would only exacerbate the pain.

2.7.9.2. In case of a stomach bruise, loss of consciousness, sudden discoloration of the face, sudden pallor and severe pain, call an ambulance right away to transport the patient to a healthcare facility (it may be a sign of rupture of internal organs and subsequent internal bleeding). Take the same course of action if the patient has sustained general injuries to the body or has fallen from a height.

2.7.10. Ligament Sprains:

2.7.10.1. Acute joint pain and swelling indicate ligament sprain (such as foot sprain). First aid in this case consists in placing a cold pack on the injured area, bandaging it tightly and keeping it at rest.

2.8. First Aid Treatment for Burns

2.8.1. Depending on how deep and severe they are, burns are classified into 4 categories:

First degree – skin redness, pain and swelling;

Second degree – blistering, sharp pain;

Third degree – blood blisters, destruction of all layers of the skin (grey or yellowy eschars), sharp pain;

Fourth degree – brown or black eschars, charred skin, muscles, tendons, bones (fourth-degree burns covering over 50% of total body surface area are fatal).

2.8.2. In case of a severe burn, remove the patient's clothing carefully or, preferably, cut it off. Contaminated burn wounds start to fester and take very long to heal. Therefore, do not touch the



burnt skin with your hands or apply any ointments, oils or solutions. Cover the burnt area with a sterile dressing and bandage it like any regular wound. Then transport the patient to a healthcare facility.

2.8.3. Do not try to burst blisters, remove materials or pieces of clothing stuck to the burn; if necessary, cut off the stuck pieces of clothing with sharp scissors.

2.8.4. In case of an acid burn, rinse the damaged skin under running cold water for at least 15-20 minutes and then neutralize it with sodium bicarbonate 3% solution.

2.8.5. In case of a burn to the eye, rinse the eye under running water for at least 13-20 minutes, then neutralize it with sodium bicarbonate 3% solution and rinse it with water again.

2.8.6. In case of a burn in the oral cavity, rinse your mouth with sodium bicarbonate 50% solution for at least 15-20 minutes.

2.8.7. In case of an alkali burn, rinse the damaged skin under running water for at least 15-20 minutes, then neutralize it with acetic or citric acid (lemon juice) 2% solution.

2.8.8. In case of a burn to the eye, rinse the eye under running water for at least 15-20 minutes and then neutralize it with boric acid 2% solution.

2.8.9. In case of a burn in the oral cavity, rinse your mouth with acetic acid 3% solution or boric acid 2% solution.

2.8.10. In case of burns caused by quicklime, remove the quicklime and treat the burn with melted butter or vegetable oil, and cover the wound with sterile gauze dressing. Do not rinse it with water.

2.9. First Aid Treatment for Frostbite

2.9.1. Frostbite can be subdivided into 4 categories:

First degree – localized skin pallor and numbness;

Second degree – same symptoms as for the first degree, but the pain is more intensive, and after a while, blisters filled with light liquid are formed;

Third degree – skin necrosis, blood blisters;

Fourth degree – destruction of soft tissue and bones.

2.9.2. In case of a first degree frostbite, immediately rub the damaged area and smear petroleum jelly over it. Once warmed up, the skin will redden, and the pain and swelling may appear; in 2 or 3 days, the frostbitten skin will start peeling.

2.9.3. In case of a second and up to fourth degree frostbite, transport the patient to a warm place and rub the affected areas with alcohol until the skin is red. If relatively large area of the limbs is frostbitten, draw a warm bath (32-36 degrees) with weak (pale-pink) potassium permanganate solution or place warm objects over the affected area.

2.9.4. In case of generalized hypothermia, place the patient in a warm bath (20-22 degrees). If there are no blisters or ulcers, wash the affected areas with a soap solution, give the patient a hot drink and transport them to a medical facility.

2.10. First Aid Treatment for Dizziness, Heatstroke and Poisoning

2.10.1. If the patient is about to faint (vertigo, nausea, shortness of breath, chest tightness, darkening vision), lay them down with legs raised, give them some water and have them inhale some ammonia spirit. Do not place a wet cloth or ice pack over their head. Perform the same procedures if the patient has already fainted.



2.10.2. A heatstroke may develop as a result of working in a hot place under direct sunlight in dry, windless weather. Heatstroke victims present with weakness and headache, and they must be immediately relieved from work and should get outside or in the shade.

2.10.3. If the patient suddenly develops heatstroke symptoms (weak rapid pulse, feeling about to faint, weak shallow breathing, seizures), move them away from the heat to a cool place, lay them down, remove the clothing, cool their skin, fan their face and sprinkle their head and chest with cold water.

If the breathing stops or becomes irregular, start artificial respiration. Call an ambulance as soon as possible.

2.10.4. Patients poisoned by toxic fumes (carbon monoxide, acetylene, natural gas, petrol fumes, etc.) present with headaches, ringing in the ears, vertigo, nausea, vomiting, loss of consciousness, sudden breathing difficulties, pupil dilation. Patients exhibiting such symptoms should be immediately taken outside and supplied with plenty of oxygen. An ambulance should also be called as soon as possible.

If the patient develops severe breathing difficulties, start artificial respiration and ensure oxygen supply.

If no breathing oxygen is available, administer the same first aid procedures as for loss of consciousness.

If possible, have the patient drink a lot of milk.

2.10.5. In case of a chlorine poisoning, proceed as described above and also have the patient inhale some diluted ammonia.

2.10.6. In case of poisoning with copper compounds, patients present with metallic taste in the mouth, profuse salivation, vomiting green or bluish-green fluid, headache, vertigo, abdominal pain, excessive thirst, weak and irregular pulse, falling temperature, delirium, seizures and paralysis.

2.10.7. Patients who exhibit the aforementioned symptoms should be administered gastric lavage with water or potassium permanganate solution (1:1000); they should also intake a lot of milk and egg whites.

2.11. First Aid for Drowning

2.11.1. The choice of first aid procedures depends on the patient's condition:

2.11.1.1. The patient is conscious, breathing and heart rate are normal, no breathing difficulties. Undress the patient, lay them on a solid surface with the head tilted back, wipe them with a dry cloth, cover with a warm blanket and transport to a healthcare facility.

2.11.1.2. The patient is unconscious, weak pulse, breathing difficulties. Perform the jaw-thrust manoeuvre. Insert a hard object (or some gauze) between the teeth to prevent the mouth from closing. If necessary, clean their nasal and oral cavity, remove water from the lungs and administer artificial respiration. Then call an ambulance or transport the patient to a healthcare facility.

2.11.1.3. The patient is unconscious, no breathing, no heartbeat, no pulse on large vessels is detected. Free the airway from water. If there is no water in the airway, administer CPR. CPR should be continued until heartbeat and breathing are restored or until the medical help arrives. The patient then must be delivered to a healthcare facility as soon as possible.

3. Transporting the Patient to a Healthcare Facility

3.1. Upon administering the necessary first aid procedures, the patient should be carefully transported to a healthcare facility as soon as possible, if you cannot wait until an ambulance arrives.



3.2. Position in which the patients are transported depends on their condition and the type of emergency:

3.2.1. Patients with heart failure – lying down or reclining;

3.2.2. Patients with a head injury - lying down or reclining;

3.2.3. Patients with an injury to the upper limbs, shoulder joint, shoulder blade, or with a minor injury to the chest – sitting or reclining with the head bent to the injured side (the patient's breathing must be monitored closely);

3.2.4. Patients with a major chest injury - lying on the injured side or on the back (as an exception, such patients can also be transported in a reclining position);

3.2.5. Patients with spine injury – lying face-up (or rolled to that position, in case of a fracture) on a hard even surface or face-down on a stretcher; such patients must not be sitting during transportation;

3.2.6. Patients with an injury to the lower limbs – lying down or sitting (in case of the latter, take special care not to exacerbate the injury);

3.2.7. Patients with burns – lying down on the side that was not injured, wrapped carefully, and provided with a lot of water (as an exception, such patients can also be transported in a reclining position);

3.2.8. Patients with electric shock – lying down or reclining.

3.3. Carrying patients from the vehicle to the healthcare facility must be supervised by medical professionals.

Head of the Occupational Safety Unit

<signature>

V.I. Mikhailichenko

