

Charles University, Faculty of Medicine in Hradec Králové

Dean's measure No 16/2019

Title: **First Aid Plan at the Faculty of Medicine in Hradec Králové**

Validity and effectiveness: On the day of the Dean's signature

**Article 1
Initial Provisions**

1. This Measure regulates the rules and methods of first aid for employees and students of the Faculty of Medicine in Hradec Králové (hereinafter 'the LF HK' or 'the Faculty'), according to the relevant provisions of Act No. 262/2006 Coll., Labour Code, Act No. 89/2012 Coll., Civil Code, Act No. 40/2009 Coll., Criminal Code, and the relevant constitutional laws and regulations of appropriate health and safety authorities, all as amended.
2. The First Aid Plan is a set of measures and procedures which everyone is obliged to apply, if they can do so, to provide necessary aid to another person who has suffered injury, is at risk of death, or shows signs of serious health disorder or other serious illness, in order to avoid or limit, as far as possible, the risk to the life or health of the person, the consequences of the harm suffered, and the extent of the damage.

**Article 2
Scope of Validity and General Responsibility**

1. This Measure is binding on all employees and students of the Faculty to the extent of their status, functions and responsibilities.
2. Any employee or student of the LF HK (also referred to as 'the obliged person') is obliged, in accordance with the general moral and legal obligations of the natural persons and under this Measure, to provide, within the limits of their ability and professional competence, the necessary first aid to a person (employees, students and the public) who has suffered injury, is at risk of death, or shows signs of serious health disorder or other serious illness and is located at or around the Faculty's premises and departments or elsewhere during the performance of work or study duties by obliged persons.
3. The general obligation of each person to provide or facilitate the necessary aid to a person who has suffered injury, is at risk of death, or shows signs of serious health disorder or other serious illness is the result of the provisions of Article 150 and Article 151 of Act No. 40/2009 Coll., Criminal Code, where the offenses of Failure to Provide Aid and Failure to Provide Aid by the Driver of a Vehicle are defined, and the custodial sentences for these offenses laid down. For qualified persons, this obligation is emphasized by increased custodial sentences and the prohibition of activities as a result of a failure to provide aid. Failure to provide the necessary aid to a person who is at risk of death or

who shows signs of serious health disorder or other serious illness, without danger to oneself or others, constitutes a criminal offense involving a custodial sentence of up to 2 years. Failure to provide such necessary aid by a person who, according to the nature of their employment, is obliged to provide such aid (qualified persons — physicians and other health professionals) is a criminal offense involving a custodial sentence of up to 3 years or a prohibition of activity. Failure to provide the necessary aid by a driver of a vehicle after a traffic accident, which they have been part of, to a person who has suffered any harm to their health during the accident, without danger to oneself or others, constitutes a criminal offense involving a custodial sentence of up to 5 years or a prohibition of activity.

Article 3

Organizational Safeguarding and Employee Responsibilities

1. The head of department is responsible, at their site, for complying with the obligations of the LF HK to prevent and limit the occurrence of risks and for their immediate removal, for fulfilling the employer's other obligations under the provisions of Article 102 paragraphs 5, 6 and 7 of Act No. 262/2006 Coll., Labour Code and for complying with the relevant provisions of Act No. 309/2006 Coll., on ensuring additional health and safety conditions, and Government Decree No.101/2005 Coll., on more detailed requirements for the workplace and the working environment, and other relevant health and safety regulations, all as amended.
2. The head of department is responsible for providing technical and organizational means for the implementation of this Measure at their workplace, in particular for equipping the workplace with first-aid kits and other first-aid equipment, and for ensuring the Emergency Medical Services, Fire Rescue Service of the Czech Republic or the Police of the Czech Republic can be called.
3. The head of department is responsible for ensuring that the technical and organizational means of execution of this measure are adapted to the current changing circumstances, for checking their effectiveness and compliance, and ensuring that the working environment and working conditions are improving.
4. The head of department shall designate (in Annex 1) the employee responsible for the contents of each first-aid kit at the workplace, the organization of the first aid and the calling of Emergency Medical Services, the Fire Rescue Service of the Czech Republic, or the Police of the Czech Republic (hereinafter 'the responsible employee').
5. The contents of the first-aid kit (completeness, quantity and expiry date of medical supplies and medication in the first-aid kit) are the responsibility of the responsible employee.

Article 4

First Aid Policy

1. The timely and proper, in terms of scale and quality, first-aid provision can not only prevent immediate danger to life, but also reduce the consequences of the injury.

2. **First aid requires effectiveness, speed and decisiveness.**
3. It is always necessary for the obliged person to assess the potential danger to themselves or to other persons and the safety of the affected person and always call the emergency medical service (**Emergency Medical Services: 155, 112**). If they can do so without danger to themselves or others, it is necessary to provide the affected person assistance and first to ensure that the vital functions of the affected person are maintained – breathing and blood circulation (the brain cells die without adequate oxygen supply in as little as 4–5 minutes).
4. **First Aid Procedure:**
 - a) **Ensure the conditions for first aid**
Get the affected person out of the range of the harmful effect, switch off the electricity, extinguish the fire, extricate the affected person.
 - b) **Examine the condition of the affected (injured) person**
Determine if the person is conscious. If **unconscious, immediately call medical assistance (Emergency Medical Services: 155, 112)**, prior to the start of resuscitation.
 - c) **Provide first aid**
First ensure basic vital functions (breathing and blood circulation), stop major bleeding, then treat other injuries (fractures, burns, poisoning, foreign bodies, etc.).
 - d) **Call medical services** if they have not been called already, before first aid is provided.
 - e) **Ensure continued supervision until the arrival of medical assistance.**
 - f) **Ensure that information on injuries and treatments is recorded.**

Article 5

Options for Manipulation

1. **MANIPULATION WITH THE AFFECTED PERSON**
 - a) If the affected person is lying on their back, under no circumstances support the head, only the neck can be supported when the head needs to be tilted back.
 - b) If a cervical spine injury is suspected, the affected person needs to be manipulated by at least two people, one person always holding the neck firmly in a stable position.
 - c) If a spinal injury is suspected, head, neck, torso and legs need to be inline in one direction.
2. **RECOVERY POSITION** – The affected person must breathe by themselves and have a functioning blood circulation.
 - a) Put the person on their back.
 - b) Kneel by the person from the side, place the nearer arm of the person under the body, bend the farther leg at the knee joint, bend the farther arm at the elbow, and place it by the nearer cheek. Grasp the person's farther hip and shoulder and slowly turn them towards you.
 - c) When the person is lying on their side, release the arm underneath and let it lie behind their back. Tilt the head slightly. The person is supported by a bent leg, ensuring that they cannot turn over onto the abdomen.
 - d) If the person has been in the recovery position for more than 30 minutes, turn them to the other side.

3. **PASSIVE LEG RAISE** – An attempt to maintain blood supply to important organs (heart, lungs, brain, kidneys).
The legs need to be raised and supported. In the case of severe blood loss, the legs can be dressed up to the groin with an elastic bandage; especially if internal bleeding is suspected.
4. **PNEUMOTHORAX POSTURE** – Air entering the thoracic cavity causes a lung collapse and respiratory arrest.
Try to cover the opening tightly, or turn the injured person to the side where the injury is to prevent further air from entering the thoracic cavity.

Article 6

First Aid

1. **UNCONSCIOUSNESS** – The affected person does not respond to a loud address, painful stimuli, etc. Causes – respiratory failure, circulation, central nervous system failure, bite by poisonous animals.
 - a) Turn the person onto their back and clear the airway by tilting the head back (pulling the chin, pushing the forehead), along with removing any present foreign body from inside the airway.
 - b) Keep the airway clear and determine if the person is breathing normally (so-called gasping for air, in up to 40% of people with sudden cardiac events, is not normal). In the event of any doubt, treat the person as if they were not breathing. Normal breathing is best verified by placing the back of the hand in front of the person's mouth, glasses or a mirror can be also used, or lowering your own face near the mouth.
 - If the person is breathing normally, put them in a recovery position and check their condition regularly.
 - If the person is not breathing normally, **call medical assistance immediately (Emergency Medical Services: 155, 112) and then start CPR.**
2. **INDIRECT CARDIAC MASSAGE (cardiopulmonary resuscitation – hereinafter referred to as 'CPR')** – simulation of the mechanical activity of the heart as a pump. Forcing the blood into circulation and, when pressure on the chest is released, creating a vacuum in the chest cavity to ease the suction of blood into the heart.
It needs to be performed in a position with the affected person laying on their back on a hard surface. Place one hand on the centre of the sternum and the other over the first. Perform compressions with elbows and arms locked so that the movement comes from the entire upper body. Compress the chest by 4–5 cm 100x per minute (almost 2x per second). Compression and release of the chest should take the same amount of time. After 30 chest compressions, reopen the airway with the tilt of the head and provide 2 rescue breaths, each of them 1 second long. Continue with CPR by combining 30 compressions at the same frequency and 2 breaths until the person reaches normal breathing, medical assistance arrives, or the rescuer is exhausted. Exchange of rescuers is appropriate, if possible, after 2 minutes of recovery.

3. ARTIFICIAL RESPIRATION

- a) **Mouth to mouth** – press nostrils, breathe air into mouth.
- b) **From mouth to nose** – press lips, breathe air into nose.
- c) **From mouth to nose and mouth** (only for young children) – breathe out the air into the nose and mouth at the same time.

If the chest does not rise, adjust the tilt of the head and look for any obstruction in the airway, if present, try to remove it. If the chest rises, perform one more breath and check the pulse. If the pulse is palpable, continue at a rate of 12 breaths per minute in adults, 20 breaths per minute in children.

If, for any reason, mouth-to-mouth resuscitation is not possible, or the rescuer does not want to perform it, for example, because of their own safety, it is permissible to perform only cardiac massage.

4. FOREIGN BODY IN THE AIRWAY

- a) If the affected person is conscious and capable of coughing, encourage them to cough,
- b) If the affected person is being suffocated by the inhaled body, strike the person with an open palm between the shoulder blades. This procedure can be repeated 5 times.
- c) Heimlich manoeuvre (not to be performed on children and pregnant women) – from behind, clasp the person with arms around the torso, at a height below the end of the sternum and press this place with force. Repeat 5 times, possibly alternating with the previous manoeuvre.

5. STOPPING BLEEDING

a) Capillary Bleeding

Bleeding from the small end vessels of the bloodstream. Predominantly stops spontaneously. Clean the wound, disinfect and patch it with a plaster.

b) Venous Bleeding

Bleeding from veins. The blood is dark coloured (deoxygenated) and flows freely out of the wound. Stop the bleeding with a pressure dressing.

c) Arterial Bleeding

Bleeding from the arteries. The blood is light coloured (oxygenated) and gushes out of the wound. Bleeding is stopped by pressing the spot above the wound or directly on the place of the injury to the bone. A pressure dressing is desirable. If a tourniquet is used, the time of application must be accurately recorded and it also needs to be loosened every 10 minutes to ensure blood supply to the peripheral part of the limb.

Never remove an **object in the wound**! Moving such an object could make the injury worse. Only cover the wound with a sterile covering and secure the object against movement.

Nosebleeds are quite common, especially in younger children, but may also be a symptom of a serious illness. When a nosebleed occurs, it is recommended that the person sits with their head tilting forward so that the blood can flow freely and does not run back into the respiratory and digestive tract. The back of the head can be cooled. Cold contracts vessels and therefore helps stop the bleeding. Bleeding can be stopped by pressing the cartilaginous parts of the nostrils against each other for 10 minutes. This is

usually enough to stop the bleeding. If bleeding does not stop within 15 minutes, it is recommended to seek medical assistance.

6. **SHOCK**

Circulatory failure due to a lack of oxygen in tissues caused by blood loss, loss of blood plasma, decrease in cardiac output (cardiogenic shock), impaired microcirculation (anaphylactic, septic shock).

Symptoms:

- a) Fast heart rate (more than 100 beats per minute).
- b) Rapid breathing (normal frequency is around 14 to 17 breaths/min).
- c) Paleness.
- d) Sweaty skin (cold or warm).
- e) Loss of consciousness may occur.

Anaphylactic Shock

Acute reaction to allergens – some medicines, foods or insect stings.

Symptoms usually occur within 30 minutes of the introduction of the allergen. In addition to the general signs of shock, it is demonstrated mainly by redness of the skin and conjunctiva, hives, swelling. Nausea and vomiting may also occur.

Septic Shock

Septic shock is associated with the presence of bacteria or parts of bacteria in the blood circulation. Due to their impact, blood pressure decreases and blood supply to the target organs becomes inadequate. This condition may lead to multisystem organ failure.

Treatment:

- a) It is critical to ensure medical assistance as a matter of urgency.
- b) Stabilize vital functions according to the CPR principles (see Article 6(2)).
- c) Keep airways clear.
- d) Investigate the causes of shock (e.g. bleeding).
- e) Perform passive leg raise.
- f) Provide warmth.

7. **BURNS**

The most common cause of burns is fire and hot liquid. Burns can also be caused by hot steam, chemicals, or electric shock.

Depending on severity, burns are divided into 4 degrees:

- a) First degree: **redness**
- b) Second degree: **blister**
- c) Third degree: **damage to deeper structures**
- d) Fourth degree: **charring**

Burn range (Rule of Nine):

- a) head = 9%
- b) each of arms = 9%
- c) each of legs = 18%
- d) front body = 18%
- e) back body = 18%

f) genitals = 1%

Treatment:

Only less serious burns can be cooled. More serious burns need to be covered with a sterile cover. It is best to use vaseline gauze, never a dry cloth. Blisters and burnt clothing are not to be torn off. Nor should the rescuer tear off burning clothing. It is recommended to cover the fire with a blanket, for example, in order to prevent air supply.

Burns to more than 20% of the body in an adult and 10% of the body in a child always require medical treatment, even if they are not serious. There is a risk of infection and severe loss of fluids. Severe burns require medical attention, even if they are not large.

8. ELECTRIC SHOCK

First, turn off the power. Only then is it possible to touch the person and move them away from the electric source. If the source cannot be cut off, move the person from the area using a non-conductive object (e.g., a broom handle, etc.). If the person is holding onto the source, the grip can be released by hitting them over the limbs with a non-conductive object using appropriate force. The person will reflexively release the grip.

Treatment:

Electricity can cause burns, which are to be treated as other burns.

However, electricity can also cause heart rhythm disorders with subsequent cardiac arrest. In this case, provide first aid according to the CPR principles (see Article 6(2)).

9. HYPOGLYCAEMIA – low blood sugar.

Most frequently occurs in poorly controlled diabetes (diabetes mellitus).

A diabetic unconscious due to hypoglycaemia is pale and sweaty, sometimes it is possible to smell acetone odour from the mouth.

Most people suffering from diabetes carry an identification for diabetics.

Treatment:

The first aid for low sugar levels is their compensation. If the person is conscious, this can be done just with the sugar that most diabetics carry with them. If sugar is not available, it is possible to use, for example, sweets which are to be placed in the mouth on the facial mucosa. **If the person is unconscious, nothing should be placed into the mouth!**

In such cases, vital functions should be checked and medical assistance called.

10. POISONING

The most common types of poisoning are food poisoning, liquid chemicals poisoning (e.g. stored in plastic bottles from beverages) and alcohol poisoning.

a) Food Poisoning

If food poisoning is suspected, try to preserve food remains. If the person is conscious, induce vomiting. The easiest way is to put the person's finger, not your own, down the throat. It is also recommended to provide the vomit for subsequent analysis. It is possible administer charcoal tablets (25 g in 100 ml water). If the condition of the person does not improve, or a significant time has passed since ingestion, transport the person to a doctor.

b) Poisoning by Caustic Substances, Acids and Lyes

This poisoning most often occurs when such a liquid is accidentally swallowed. Do not induce vomiting; repeated passage of the substances through the oesophagus could cause even greater burns. Try to dilute acids and lyes as much as possible with water, especially if you do not know exactly what the substance is. The affected person together with the rest of the liquids needs to be transported to the doctor.

c) Detergent Poisoning

Do not induce vomiting which could cause foam formation (a risk of inhalation) nor dilute with water. The detergents are best reduced by oily liquids, it is recommended to have the person drink as much oil as possible.

d) Alcohol Poisoning

It is important to keep airways clear. Place the unconscious person in the recovery position so that any vomit can escape freely. Take care to ensure that there is sufficient warmth.

In the absence of vital signs, initiate CPR in accordance with the CPR principles (see Article 6(2)).

In a conscious person, try to induce vomiting to egest alcohol from the body. Vomiting is best caused by irritation of the upper palate with the finger of the affected person (not your own).

If the condition of the person does not improve, call for **medical assistance (Emergency Medical Services: 155, 112)**.

More detailed information on the toxic effects of substances can be obtained at the Poisons Information Centre: 224 91 92 93, 224 915 402

11. EPILEPTIC SEIZURE

Epilepsy is a brain disorder, manifested by a variety of seizures. For example, in children there is a so-called absence – a steady gaze and a lack of awareness of the surroundings for a short period of time, while the child remembers nothing. Other seizures may manifest by slight muscle twitching, smell hallucinations, etc.

The most serious seizure is the so-called grand mal – a large-type seizure with loss of consciousness and tonic-clonic seizures. The affected person suddenly loses consciousness. The seizure lasts only a short period of time and the majority of those affected regain consciousness spontaneously.

Injuries are usually caused by striking nearby objects and falling to the ground.

Treatment:

For the duration of the seizure, try to remove dangerous objects from the area around the affected person, remove their glasses, remove a cigarette, etc. Never try to reach into their mouth or manipulate their tongue. Most likely it will not be possible to overcome their clenched jaws, and the rescuer risks being bitten. There is no risk of blocking the airway with the tongue.

The main assistance is needed after the seizure subsides. First of all, it is crucial to check the vital functions and, in their absence, initiate CPR. Since the affected person does not remember anything, it is recommended to inform them of what happened, where they are located, and so on.

Small wounds need to be treated.

It is recommended that you **always** call for **medical assistance (Emergency Medical Services: 155, 112)**.

12. EYE INJURY

Never attempt to pull any stuck objects out of the injured eye. Only rinse the eye as much as possible with a sterile solution (clean water can be used) and cover. The injured person should not move the eye. As the eyes move synchronously, it is better to cover the other eye as well.

The injured person needs to be transported to an ophthalmologist.

13. STROKE

A stroke is a lack of oxygen in brain tissue – hypoperfusion due to a fracture of the vascular wall (bleeding) or blockage of the vessel by a blood clot (ischemic).

Symptoms:

- a) Sudden faintness or numbness of the face, hands or feet, especially on one side of the body.
- b) Sudden confusion.
- c) Sudden difficulty in speaking or understanding, sudden difficulty in seeing in one or both eyes, sudden difficulty in walking, balance, coordination of movements, dizziness.
- d) Sudden headache, sudden nausea and vomiting, brief disorder of consciousness – fainting, confusion, convulsions, unconsciousness.

If stroke is suspected, **the Emergency Medical Services must be called immediately**. Place the person in the recovery position and monitor them until the arrival of the doctor or the Emergency Medical Services.

The symptoms may disappear very quickly, within about 5 minutes. This is a warning sign. It is necessary to see a doctor as soon as possible. Information on the medications used by the person and on the diseases for which they are treated in the long term and over the last 3 months are welcome.

14. ACUTE MYOCARDIAL INFARCTION

Necrosis of a part of the heart muscle due to closure of the corresponding coronaries.

Symptoms:

Sudden pain most often beyond the sternum, that can extend into the lower jaw, neck, shoulder, left arm and abdomen. Anxiety, sweating, nausea, breathlessness to unconsciousness.

Breathing and blood circulation must be ensured – perform CPR (see Article 6(2) and (3)).

Call medical assistance immediately (Emergency Medical Services 155, 112).

Article 7

Emergency phone numbers

Single emergency number	112
Emergency Medical Services	155
Fire Rescue Service of the Czech Republic	150
Police of the Czech Republic	158
Municipal Police	156

Article 8 First Aid Kits at Workplaces

1. In order to ensure first aid and treatment of the affected persons, first-aid kits, visibly marked with a white cross on a green background, are located at the LF HK workplaces, in a quantity corresponding to the size of the workplace and the number of employees.
2. The minimum recommended contents of first-aid kits are identified in Annex 1 to this Measure.
3. The first-aid kit shall include this Measure, supplemented in the Annex by the name of the workplace and the name of the authorized responsible employee (as referred to in Article 3(4), (5)), signed by the head of the department and the responsible employee.

Article 9 Final Provisions

1. The first aid procedures and minimum contents of the first-aid kit have been developed in cooperation with and also approved by the occupational health service provider.
2. This measure shall be valid and take effect on the date of the Dean's signature.
3. The First Aid Plan, issued by the Dean on 7th September 2010, is hereby repealed.

In Hradec Králové on 5 December 2019

prof. MUDr. Jiří Mandřák, Ph.D.

Recommended minimum first-aid kit contents at the workplace

(for approx. 20 employees at the workplace)

Type	Number of pieces
Disinfectant (e.g. Ajatin, Septonex, Betadine)	1
Absorbent gauze, 7.5 x 7.5 cm, sterile	2
Adhesive bandage, coil	1
Emergency adhesive bandage, 1 m x 6 cm (or 10-piece patch with pads)	1
Dressing, sterile, 10 cm x 5 m	3
Dressing, sterile, 6 cm x 5 m	2
Single-pad bandage (or ready-to-use bandage no. 2)	2
Double-pad bandage (or ready-to-use bandage no. 3)	2
Absorbent cotton wool, folded, 50 g	1
Triangular sling	1
Vaseline gauze	2
Resuscitation mask	1
Tourniquet, rubber	1
Tweezers	1
Scissors	1
Medical thermometer	1
Gloves, surgical, non-sterile	1

LF HK department (Dean's office, institute, clinic, department and other parts according to the LF HK Constitution):

Responsible
employee.....

I hereby accept the authorization. Signature of the responsible person.....

.....

Head of the Department

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Signature