First aid for electrical injury

FIRST AID FOR ELECTRICAL INJURY

- 1. BE AWARE OF THE RISKS connected with electrical injury.
- 2. TURN OFF POWER. While it is obvious, it is not always easy, especially when unaware of the installation details. Even a professional electrician may panic, make a mistake or be unable to find "the right" circuit breaker.
- 3. CONSIDER WHAT YOU ARE TURNING OFF if possible, only turn off the electricity in the circuit that is causing harm, and not e.g. lighting in a place without windows. If turning off is not possible, try to remove the injured person away from the live wire e.g. using a dry non-conducting object.
- 4. HOWEVER, NEVER TRY REMOVING THE VICTIM FROM THE SOURCE OF HIGH-VOLTAGE ELECTRICITY.
- ALWAYS ENSURE YOU HAVE TURNED OFF THE RIGHT CIRCUIT BREAKER, REMOVED THE RIGHT CABEL OR WIRE ETC. Better be 10 seconds late because of double-checking than turning off the wrong breaker and causing further injury.

FIRST AID - HOW TO PROCEED

Call the ambulance (155) and then:

- > If the injured person is CONSCIOUS (aware of their surroundings, responsive, etc.):
 - sit the injured person up;
 - monitor the injured person CONTINUOUSLY talk to them, check repeatedly how they are feeling;
 - report any changes to the emergency line operator.
- If the injured is UNCONSCIOUS (unresponsive):
 - position the person on their BACK and slightly tilt the head back;
 - check again for signs of consciousness (slap on the cheek, talk);
 - check if the person is breathing:
 - if there are clear signs of breathing (NORMAL breathing rate as if asleep), leave the person positioned on the back and CONTINUOUSLY check their breathing. DO NOT TURN them into the recovery position where breathing is hard to monitor!
 - if the person is NOT BREATHING or breathing unevenly (intermittently with long gaps, gasping, or mouthing) immediately INITIATE CARDIOPULMONAR RESUSCITATION (CPR).

Even in HIGH-VOLTAGE injuries, first deal with life functions. If the injured person is stabilized, conscious and breathing normally, cool and eventually cover the burned areas. Use clean cold water (never use ice!) and only cool the burned areas, not the whole body. Bandage the wounds only if sterile bandage is available and the injured person needs to be transported, or whenever the ambulance is expected to take long to arrive. In case of extensive burns, concentrate on maintaining breathing and blood circulation, and only cool the neck and genitals (if affected). Trying to cool the whole body (e.g. showering) may only worsen the situation – it could lead to hypothermia and shock!

CARDIOPULMONAR RESUSCITAION (CPR) - REVIVAL

Initiate resuscitation whenever the injured person is unresponsive or breathing unevenly (gasping for air after long gaps, mouthing):

- 1. Position the injured person evenly on their back and make sure the head is tilted slightly back (Fig. 1).
- 2. Keeping your arms straight push down firmly the person's breastbone depressing the chest 5-6 cm / 2-2.5 inches (for an adult) at a rate of 100 per minute (Fig. 2).
- 3. Continue the CPR until the ambulance arrives or the injured person starts responding (breathing, blinking, talking, moving etc.).

Do not hesitate to begin resuscitation - if the victim is "weird", does not respond, or breathes strangely, START RESUSCITATION. You won't seriously harm the person if the heart is beating, but you can save the life, if it is not!



Figure 1. Opening the airway. The most common cause of airway obstruction is the tongue. To keep the airway open perform the head-tilt, chin-lift. Place one hand on the victim's forehead and put the fingers of your other hand under the bony part of the chin.

Figure 2. Cardiopulmonary resuscitation (CPR). Use both hands to give 5-6 centimeter deep chest compressions at a rate of 100 per minute. Make sure both your arms remain stretched.

CPR MYTHS AND INCORRECT USE

Mouth-to-mouth rescue breathing is mainly ineffective in electrical injuries. Most often, loss of conscience results from irregular heartbeat. After the victim has stopped breathing, there is enough oxygen in the body for another 6 to 10 minutes of life functions to continue. If there are gasps for air during the resuscitation, this means the circulation has stopped, not that the victim is recovering. Continue compressing in spite of the gasps. If the diaphragm has been affected by electrical shock, breathing may spontaneously resume due to other breathing muscles becoming involved.

Do not try to check the pulse. You may end up feeling your own pulse at the tips of your fingers, mistakenly concluding the victim's pulse is normal.

Do not try to pull out the victim's tongue as this may lead to injury and consequently blood may be accidentally inhaled.

If the victim is unconscious, laying on the ground, and muscle spasms continue, do NOTHING – just wait until the spasms disappear. Do not try to pry open the jaws as this may lead to injury to teeth and gums. The victim is unable to breath anyway while having spasms.