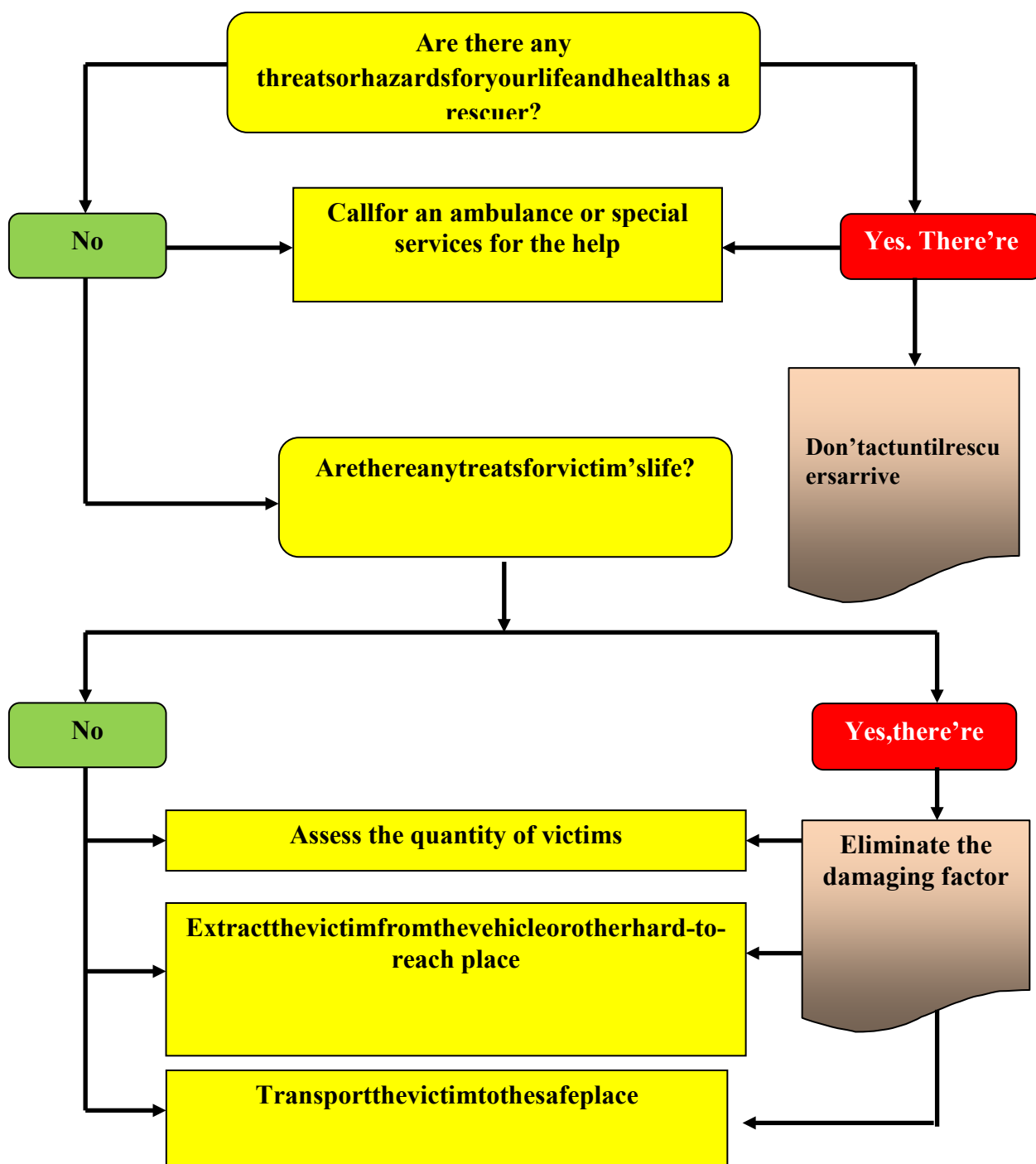


Topic 1.10 part 1. «Safety provision for the first aid»

Safety provision for the first aid.

The rescue procedure doesn't depend on the character of trauma when we speak about the first step of the first aid. The main purpose is to provide self-rescue and self-safety, safety of witnesses and safety of victims.

Scheme 1



P. 1. The order of calling emergency medical service and other special services obliged to provide first aid.

- Name the street and number of nearest building (in the city) or well-known landmarks of the scene and access ways to it (in the suburb);
- Point out the time of the accident or the time of finding out the consequences;
- Tell about additional hazards;
- Point out the number of victims and the presence of pregnant women and children among them;
- Give information about surname, age and sex of victims. If casualties are unknown give information about their sex and somewhere about their age;
- Reveal yourself and your phone number;
- Meet medical emergency brigade or other special services.

P. 2 Elimination of damaging factors.

A. In the case of high voltage trauma

Turn off the source of electricity, if possible. If not, move the source away from you and the person, using a dry, nonconducting object made of cardboard, plastic or wood. Don't touch the exposed skin of the victim.

The first step to do is to disconnect the power supply. Turn off the electricals supply, unplug the machine, or switch off the fuse box, if within reach. Don't attempt to touch the victim until you're certain the power supply is turned off.

Be careful in areas that are wet such as bathrooms, pool areas, and wet grounds.

Water is an electrical conductor and you may get electrocuted. If you're uncertain about wet grounds, make sure the main electricity supply of the house or building is turned off.

If turning off the power supply is not possible, use a material that does not conduct electricity to separate the person from the electrical source. You can use a wooden broom handle or any dry wooden objects.

As soon as the victim has been freed from the electrical source, call for an ambulance or medical help if you are alone with the patient.

Remember that:

- Electricity can spread outward through the ground in a circular shape from the point of contact.
- As you move away from the center, large differences in voltages can be created.
- To minimize the path of electric current and avoid electrical shock, shuffle away in small steps (“goose-step”) or hop along from the dissipating voltage area.
- To approach a victim use “goose-step”. Shuffle without lifting feet.
- Do not fall or lay down on the floor.

B. When the house collapses

Transport the victim to the safe place (“non-avalanche zone”).

Recommended distance for “non-avalanche zone” is half of the height of damaged construction plus 3 m.

C. In the case of fire.

First of all, stop the effect of the damaging factor, try to extinguish the flame immediately.

1. Use special means for the extinguishment;
2. Run large amount of cool water over the burning area. Do not use small amount of water, therefore flame won't go out, water will evaporate and enhance the lesion.
3. Cover the victim with heavyweight non-synthetic fabric like coat or blanket to stop oxygen supply for fire.

4. Remove clothing from the burned areas, except clothing stuck to the skin.
5. If patient's mouth or nose is full of soot, clean it immediately with your finger wrapped in wet napkin.

D. In the case of carbon monoxide poisoning

Snatch the victim from the contaminated area immediately (to the street or to the other well-ventilated zone).

Unfasten the collar, loosen the clothing, provide the access of fresh air.

P. 3 Extraction from vehicle or other hard-to-reach place. The main rule is to minimize harm while extraction!

Conditions for victim's extraction:

- The presence of potential threat for victim's life;
- Inability to determine the severity of the lesion;
- The character of trauma or severe victim's condition doesn't allow to provide the first aid for victim;
- Weather conditions do not allow to abandon the victim.

If there are no conditions above and there is the risk of further trauma while extraction, it is necessary to stop extraction.

There are several ways how to extract the victim:



Pic. 1



Pic. 2

If the victim is unconscious it is acceptable to extract him or her without neck fixation.

- 1) turn the victim back to you;
- 2) put your hands under victim's axillary creases and grab one of his or her forearms (less traumatized);
- 3) place the victim on your breast;
- 4) pull out the victim from the vehicle or other hard-to-reach place (pic. 1)

If the victim is unconscious extract him or her with neck fixation.

- 1) Do the above technique but support the chin (not neck!);
- 2) Fix victim's head by pressing it down to your breast;
- 3) Pull out the victim from the vehicle or other hard-to-reach place (pic. 2);
- 4) Use your corpus as a smooth non-bending surface.

Use hard surface after extraction (hard stretcher or plank).
Fix neck with makeshift collar (use some upper garment).

P. 4 Transportation.

If there are no contraindications for transportation (severe traumas, unconsciousness), the victim can move independently leaning on rescuer's arm.

If the victim can't move independently, rescuers should transport him or her with rescuer stretcher or some makeshift means.

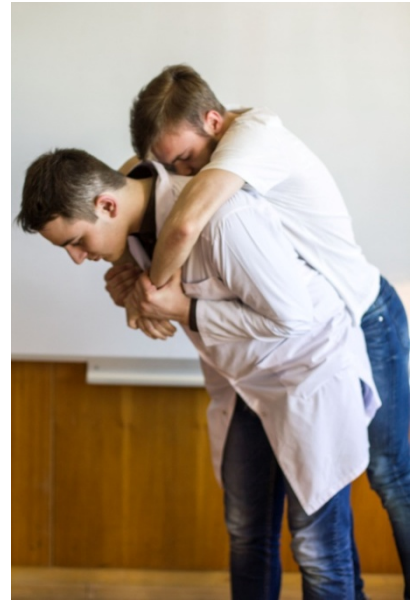
Transfer of the victim by one rescuer is performed on the shoulder, back or arms.

Transportation on the shoulder is acceptable for unconscious patient without other contraindications. (pic.3)

Transportation on the back:
the rescuer supports victim's thighs; the victim holds for the rescuer's neck (pic.4)

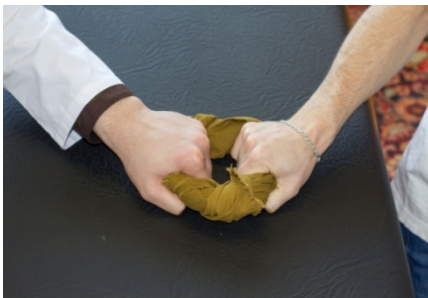


Pic. 3



If there are two rescuers it is acceptable to use for transportation.

“locks from the hands”



Pic. 5



Pic. 6



Pic. 7

Two-handed seat.

Use towel or piece of fabric to make the sling. Rescuers will grab the sling and support the victim with free hands. (pic.5).

Three-handed seat. Wrist-lock grip from 3 hands. The fourth hand is for supporting victim's neck (pic. 6).

Four-handed seat. Wrist-lock grip from 4 hands. While facing each other rescuers should grasp one another's wrists in wrist-lock grip. (pic.7)

Transfer with a rescue stretcher is the most comfortable and safe way. If there are no standard rescue stretchers you can use makeshift means for them (e.g. use straps, belts, chairs and sheets).

It is important to put the victim on the stretcher properly, not to worsen his or her condition with further pain or trauma. It is desirable to put the victim on the stretcher with one partner at least.



Pic.8

Rescuers lift the victim and put him or her on the stretcher; 1st bearer grips the victim under his or her armpits, victim's head is on bearer's forearm or hands, 2nd bearer puts his arms under victim's pelvis. (pic.8)

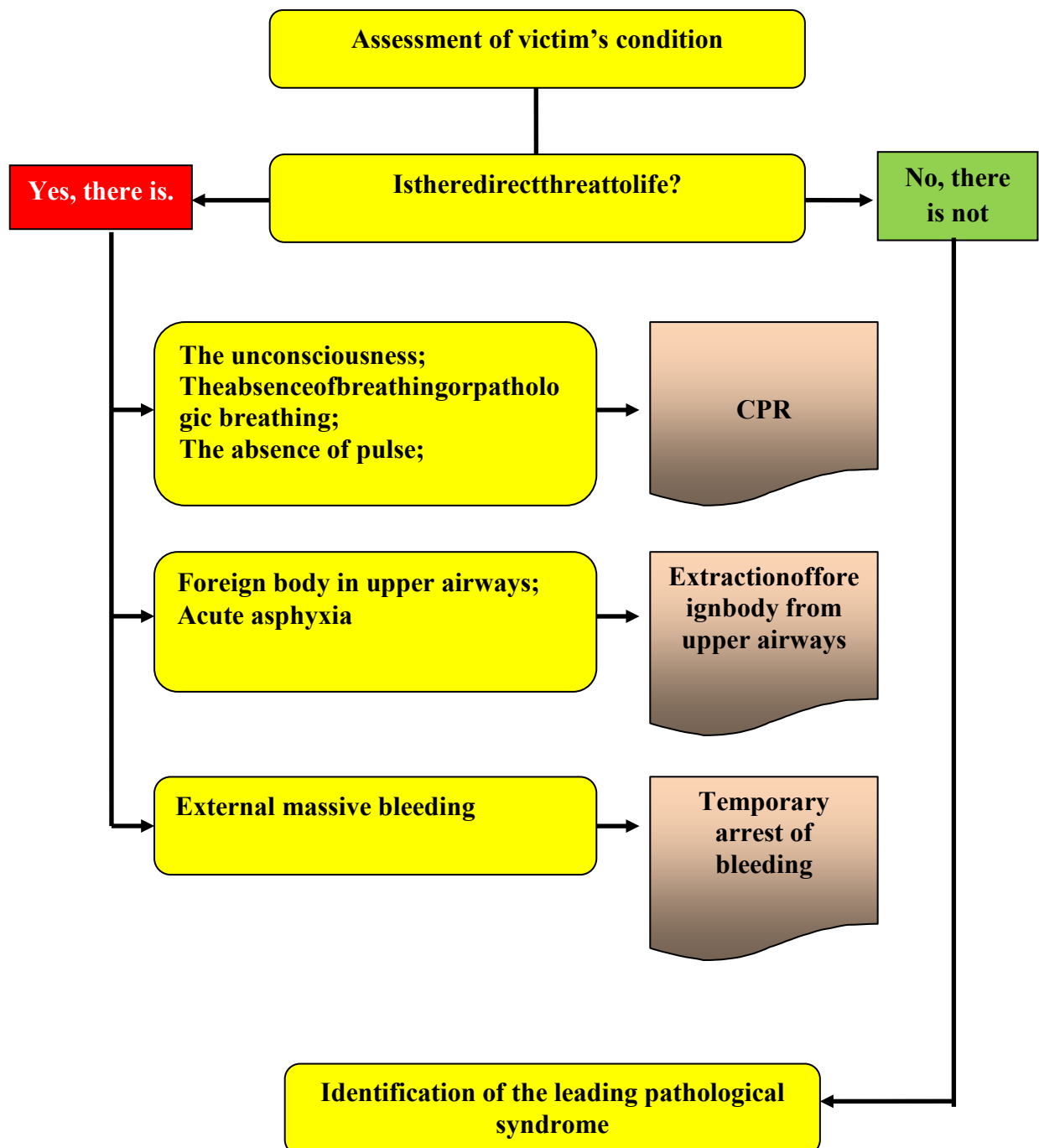
It is necessary to fix the patient with belts. Lift and movement of the stretcher is performed only in response to a command. Use route step for moving on flat surface.

If you go downstairs, the victim is transported feet-first; if you go upstairs – headfirst.

But victims with severe trauma of lower limbs should be transported in reverse order to provide comfortable position for traumatized legs (uphill – feetfirst, downhill direction – headfirst).

Assessment of victim's condition. Common examination.

Scheme 2



The purpose of common examination is quick evaluation of main lesion that may cause further injury or even death.

Firstly, it's necessary to exclude life-threatening conditions, and in the case of their presence – provide the first aid immediately (scheme 2).

Rules of common examination:

- Readiness to different situations
- Ability to act quickly and confident without fluster and fuss
- To treat a victim by name
- To reveal your name
- To hear out all victim's complains
- Explain your actions if it is possible
- Do all manipulations carefully and gently
- Give tasks to bystanders (to bring first aid kit, to fence round the scene of accident, to look for victim's stuff)
- Don't answer on possible rudeness or anger (that can be probably a manifestation of fear)
- Prevent disputes and quarrels between bystanders
- Try to point time of carrying-out all actions

There are two main questions to assess victim's condition:

1) What happened?

2) Wheredoesitheart?

First question will give us following information:

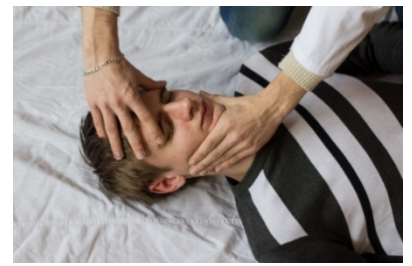
- Victim doesn't answer → he or she is unconscious
- Victim answers that he or she doesn't remember what had happened → amnesia (the possible reason is poisoning, even drug poisoning)

- Victim answers correctly, but speaks in monosyllables and slowly → patient is in clouded consciousness or stunned (shock, severe bleeding, severe trauma, craniocerebral trauma and etc.)
- Victim answers correctly, but in jerky, staccato manner → trouble with respiratory system (chest injury, pulmonary lesion)
- Victim answers heatedly → inceptive shock or emotional stress

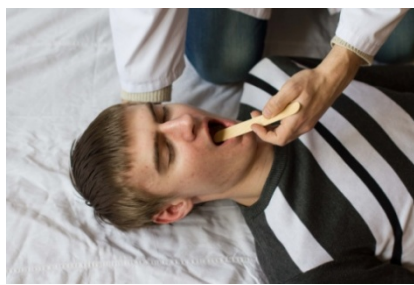
Second question will help to:

- Define the localization of pain and its possible source;
- Draw attention to invisible injury that hurts most of all;
- Define sensitive disturbances in injured limbs (the rate of spinal disturbance).

The order of common examination.



Pic.9 Pic.10 Pic.11



Pic.12 Pic.13 Pic.14



Pic.15Pic.16Pic.17



Pic. 18Pic.19Pic.20



Pic. 21Pic.22Pic.23

1. Carry out victim's careful examination and quick questioning simultaneously to detect the signs of any injuries or other life- and health threatening conditions:
2. Head examination: deformation, bleeding, bruise, skin disturbance etc. Examine scalp with fingers carefully to detect swelling or painful area. Stop palpation immediately if you feel bone crepitus (Pic.9)
3. Face/forehead examination: draw attention to face symmetry, wounds, bruises (Pic. 10)

4. Face/eyes examination: eyelid wounds, eye globe wounds, hemorrhage, intraocular foreign body. Assess pupillary response to light and victim's ability to fix the gaze. (Pic. 11)
5. Noise/ears examination: deformations, wounds, nose bleeding, blood clots in nostrils, ear tract bleeding (symptom of basal skull fracture) Pic. 12
6. Mouth/lower jaw examination: lower jaw deformation, teeth absence, wounds on oral mucosa or tongue (Pic. 13)
7. Neck examination: try to do this part of examination without victim's head displacement (Pic. 14)
8. Chest examination: ribs fractures (usually multiple), subcutaneous crepitation (this is the symptom of subcutaneous emphysema) Pic.15,16
9. Abdomen examination: bruises, wounds, foreign bodies, prolapse of internal organs. Palpate abdomen carefully: soft or hard, painful or not (Pic. 17)
10. Pelvis examination: palpate pelvis bones, palpate iliac bones softly to detect pain irradiation to sacrum or perineum (Pic. 18)
11. Thighs examination: wounds, bleedings, deformations, fractures, pathologic flexibility, bone crepitation. It is strictly prohibited to change thigh's position if there is bone crepitation or strong pain because this may lead to injury aggravation and more severe hemorrhage development (Pic. 19)
12. Shins: wounds, bleedings, deformations, fractures, pathologic flexibility, bone crepitation. It is strictly prohibited to change shin's position if there is bone crepitation or strong pain because this may lead to injury aggravation and more severe hemorrhage development (Pic. 20)
13. Pes: wounds, bleedings, deformations, fractures, pathologic flexibility, bone crepitation. It is strictly prohibited to change foot's position if there is bone crepitation or strong pain.

14. Joints flexibility: the ability to bend and unbend the limbs, pain during this movements (Pic.21)
15. Arms, forearms, hands: examine as thighs and shins. It is strictly prohibited to change limb's position if there is bone crepitation or strong pain. (Pic. 22)
16. Back examination: check up back and spinal column if it is possible from the outset (e.g. patient is laying sidelong or on his belly) Pic. 23

Honorable students!

After learning this material, you need to pass the test in Google-form. Please fill all gaps properly (name, faculty, number of your group).

<https://docs.google.com/forms/d/e/1FAIpQLSfYXjobdt2YWvcbmSSE1HfnkEfDvf5vpIJGPdG2GPT68oK-g/viewform>