

MUNI | SIMU
MED

Traffic accidents

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Presentation structure

1. Your safety/Making the accident area safe
2. Quick assessment of the circumstances, the environment, and number of injured
3. Call for help -emergency medical service (EMS)
4. Initial patient assessment
 1. Control severe external bleeding
 2. SSS cABC
 3. Cervical spine protection
5. Special populations

Learning objectives

- Student will know, how to search for and evaluate the dangers of providing first aid in a traffic accident.
- Student will learn the priorities of examination and current treatment.
- Student will know the specifics of care for selected groups of patients.

Injury / trauma

– Injury

- Sudden health disorder - bodily injury that occurs independently of the will of the casualty by sudden and violent action of external forces.

– Polytrauma

- Simultaneous injury to at least two body systems
- The disability of at least one of them or their combination endangers the basic life functions of the affected person

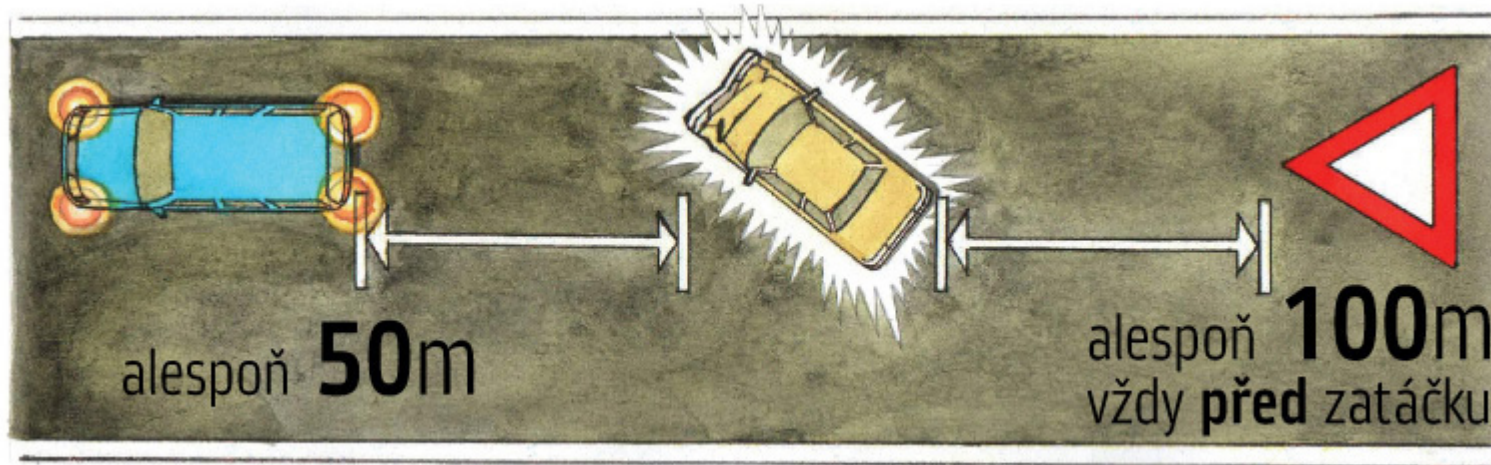
Injuries – traffic accidents

- Frequent cause of death/disability of young people
- Who can be the casualty?
 - Person in a vehicle, pedestrian, cyclist
 - Mass-casualties events - bus, train, plane crash
- We can be direct participants or just bystanders
- Severity of the accident
 - From none to death on the scene due to the injuries incompatible with life

Danger....

- **Your safety comes first**
- Dead savior = useless savior
- Stay calm, act wisely
- Assess the circumstances of the accident site and identify possible sources of danger

Where to park your car safely



- Hazard lights flashing
- High-visibility jacket/vest
 - Immediately
 - In the door



- Set up warning triangles

Securing the accident site

- Stop your own vehicle after an accident
- Switch off the engine, brake, switch on the hazard warning lights
- Reflective vest
- Warning triangle
 - The triangle must be placed on the edge of the road in such a way that it is clearly and clearly visible to oncoming drivers, at a distance of at least 50 m, on the motorway at least 100 m behind the vehicle. In the municipality, this distance may be shorter if circumstances so require. "
- Send helpers to warn oncoming drivers to slow down
- Securing a crashed vehicle
 - Switch off the engine, remove the ignition key, apply the parking brake

Vehicle / surroundings fire

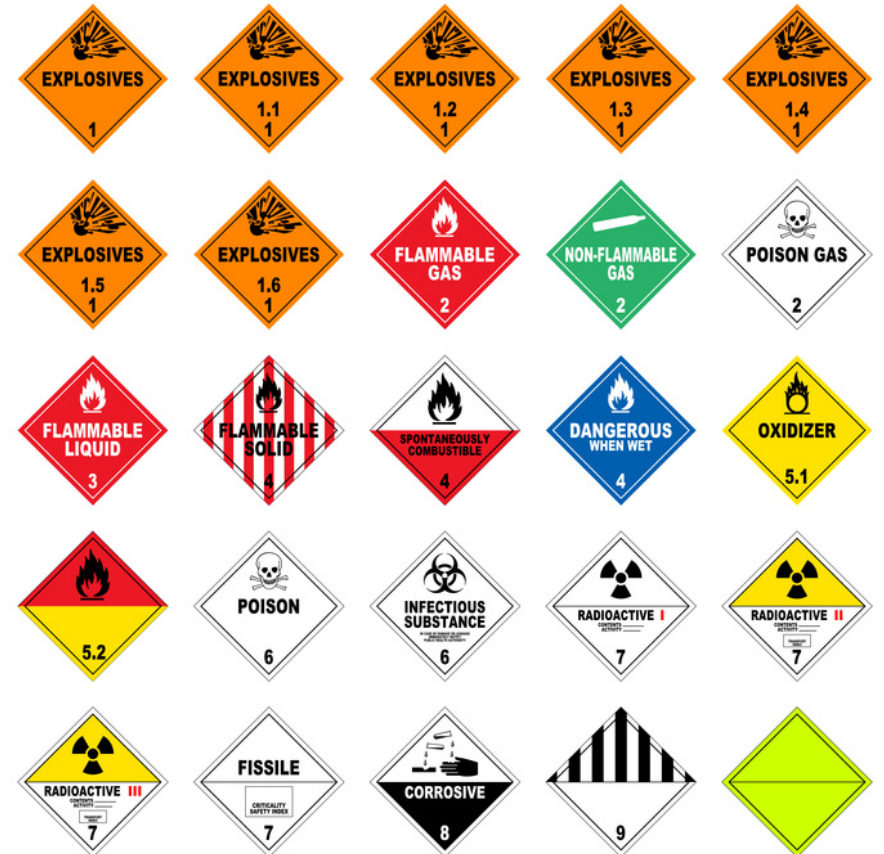
- In case of fire - stay away
 - Call the firefighters 150



Labeling of dangerous goods

ADR - Accord Dangereuses Route

Class 1	Explosive substances and articles
Class 2.1	Gases
Class 2.2	Non-flammable and non-toxic gases
Class 2.3	Toxic gases
Class 3	Flammable liquids
Class 4.1	Flammable solids
Class 4.2	Self-igniting substances
Class 4.3	Substances in contact with water which cause flammable gases
Class 5.1	Flame retardants
Class 5.2	Organic peroxides
Class 6.1	Toxic substances
Class 6.2	Infectious substances
Class 7	Radioactive substances
Class 8	Corrosive substances
Class 9	Other dangerous substances and articles



Personal protective equipment - first aid kit

- Each vehicle
- Your safety
 - ready-made bandage with two cushions, patch
 - smooth spoon
- Gloves
 - prevention of
 - bilateral protection of infection transmission
- Resuscitation mask



First aid kit

ready-made bandage with two cushions, patch
smooth spoon, scissors and isothermal foil

prevention of
bilateral protection of infection transmission



Call for medical help

- Call the ambulance
 - Where
 - What
 - When
 - Number of injured
 - Severity of injury
 - Who's calling
 - **!! do not hang up!!**

155 (112)



Application Záchranka

- Simply press the emergency button to call line 155
- Submit your exact location
- Help is on the way ...



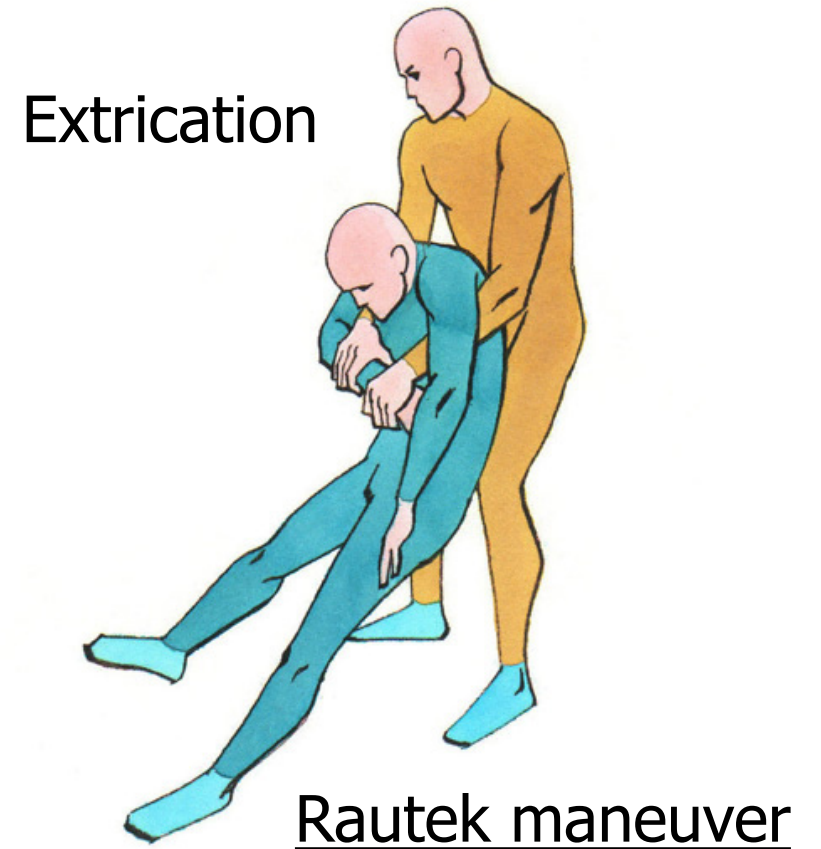
Extrication from vehicles

- YES- If the vehicle poses an additional danger to the victim
 - For example, it is smoking
 - The patient is unconscious and not breathing normally
- Otherwise, leave in the vehicle
 - Stop bleeding in the vehicle
 - Psychological support

Extrication from vehicle

- Do not overestimate your own strength
- Do not cause secondary injury

- CAVE:
- Loosen or cut the seat belts
- Airbags - may be activated



Inspection of the accident site

- So-called „tunnel vision“
 - not to pay attention to the first screaming or moaning wounded man
 - usually there are far worse injured who are silent - unconscious, developing shock,...
- Casualties outside the vehicle
 - ejection, cyclist, hit pedestrian

CAVE:

- Confused / shaken people around the accident
- Children
- Persons under the vehicle

Inspection of the accident site

- Accident mechanism
- Mechanism of injury
- According to this information, the extent of the injury can be assumed

Person in a vehicle

- High speed
 - In a head-on collision, the speeds add up
 - Rotation through the roof
- Unrestrained person in the vehicle
- Ejection
- Unsecured objects in the vehicle
- Protective elements
 - The vehicle is equipped with deformation zones
 - Restraint system - belts
- Airbags
- Child car seat

Motorcyclist

- Often **high speed**
 - High momentum of the motorcycle
 - CAVE: passenger
- Protective elements
 - Head protection - helmet
 - C spine protector
 - Spinal belts
 - Protective clothing

Cyclist

- Even higher speeds up to 50km / h
- No rider protection
- Protective elements
- Head protection - helmet
- Collision with a vehicle
- Tight vehicle passage
- Cyclist's own mistake

Pedestrian

- Highly vulnerable
 - No protection
 - Often at a pedestrian crossing
 - Little children
 - Side impact
 - Lower limb trauma
 - Bumped by vehicle
 - Ejection
- Protective elements
 - None

Public transport

Places of occurrence of a higher number of people, higher number of injured in one event

- Buses, trams, trains, planes, ships...

Mass-casualties events

- 1. Look at the overall situation
- 2. Call for help
- 3. DO NOT treat the first injured person
 - Go through all the injured

Consciousness - breathing (head tilt) - stop massive external bleeding - go to the next one !!!!

- *START system*

SSS cABC algoritmus

- S – Safety... .. Your safety first
- S – Stimulate... Ask, shake, painful stimulus
- S – Shout for help

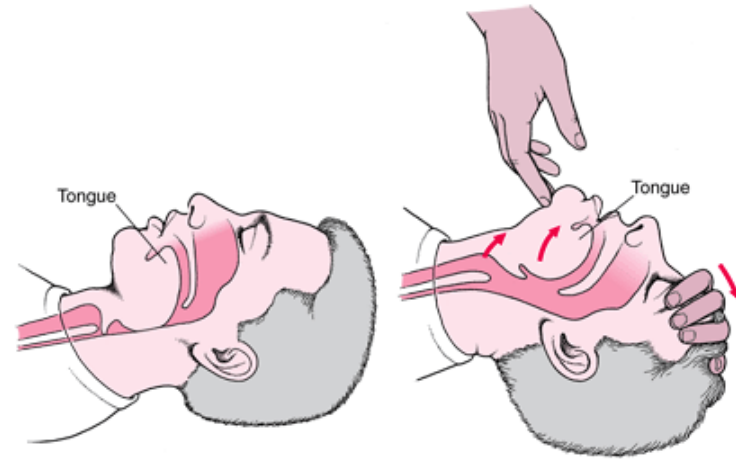
Control severe external bleeding

- A – Airway + cervical spine protection
- B – Breathing
- C – Circulation + bleeding

A = Airway = Cervical spine protection

- Airway obstruction
- Maintain airway
- Chin lift/jaw thrust

- 10 seconds !!!
- Look
 - chest motion
- Listen
 - breath sounds
- Feel
 - person's breath on your cheek and ear



Cervical spine protection

- In most traffic accidents, it is necessary to think about a possible injury to the cervical spine
 - Especially in unconscious patients
- If it is not necessary, do not move with the patient
- If it is necessary to move the patient
 - Sufficient number of rescuers
 - According to the situation (position of the victim, state of consciousness, necessity of CPR)
 - To rotate the whole body, including the head, synchronously in the long axis of the body

Cervical spine protection – biker, motorcyclist

- Helmet removal is a potentially risky maneuver for C spine injuries
- Consider the need before ambulance arrive

- Sure: motorcyclist - unconscious
- YES: unconscious cyclist, not breathing
- Rather NO: conscious motorcyclist, cyclist

Cervical spine protection – biker, motorcyclist

- Protective helmet removal technique
- Cooperation of two rescuers
- MILS technique - manual in-line stabilization
 - One rescuer carefully takes off helmet
 - Second: stabilizes the head by holding the mastoid and the lower jaw by both hands



C = Circulation

- Not trained person
- Don't delay looking for a pulse

Treatment of conscious victim

- Ask the patient- state of consciousness
 - What hurts you?
 - What is your name?
- Look for bleeding
- Control massive external bleeding
- If there is no reason - do not pull out of the vehicle
- Maintain contact with the casualty until the EMS arrive
 - Calm him down

Regularly check the vitals ABC

Hand over to EMS

- Stay at the scene until the EMS arrival
- Hand over patient/s
- Pass the necessary information:
 - Accident mechanism
 - Condition of the injured
 - Detected injuries
 - Performed therapeutic actions
 - *Anamnestic data*

Special populations I

– Pregnant woman

- Mother's life is a priority
- Risk of abdominal injuries (placenta, fetus) - always examination in a hospital
- Syndrome vena cava inferior
 - elevate of the pregnant right's side by about 10-15 cm or 15 ° inclination

– Small child

- Different anatomical-physiological conditions
- More difficult to estimate blood loss
- Faster loss of body heat
- More difficult to establish communication

– Seniors

- Impaired adaptive abilities of the organism
- Pre-existing comorbidities

Special populations II

- Obese patients
 - Smaller reserves of the organism
 - Difficult and prolonged extrication from vehicles
- Athletes
 - Higher compensation ability
 - The risk of underestimating the severity of blood loss
- Injuries under the influence of narcotics
 - Non-cooperation or aggression of the patient
 - Inadequate patient response

Learning outcomes

- Student is able to evaluate safety risks in a traffic accident.
- Student knows when it is necessary to extract the patient from the vehicle.
- Student is able to describe the extraction method from the vehicle.
„Be energetic in action, however keep calm“

Thank you for your attention

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