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MED

# Cervical spine injury

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# Learning objectives

- Student will learn main approach to the casualty with a cervical spine injury.
- Student will learn how to immobilize cervical spine while moving with a casualty.

# Introduction

- different types of injuries (fractures of the vertebrae, discs, ligaments, cord damage)
- associated injuries
- **spinal cord injury** - damage to the spinal cord that causes temporary or permanent changes in its function
  - loss of muscle function, sensation, or autonomic function in the parts of the body served by the spinal cord below the level of the injury
- significant cause of death and disability

# Mechanism of an injury

- **High-energy trauma:**

- car accident
- sport injuries
- fall injury
- uncontrolled water jumps
- fights
- back injury



Image source: <http://www.insuranceconsult.ca/life-annuities/all-you-need-to-know-if-you-meet-a-slip-and-fall-injury.html>  
<https://www.euoparl.europa.eu/news/en/headlines/society/20190307STO30715/safer-roads-new-eu-measures-to-reduce-car-accidents>  
<https://www.nytimes.com/2010/07/18/nyregion/18ritual.html>

# Symptoms

- movement failure
- loss of sensation
- tingling
- pain (neck, back,...)
- incontinence of urine and stool
- impaired consciousness or breathing failure

# First aid



**SAFETY  
FIRST**

- **safety first!!!**
- high-energy trauma? Symptoms? → suspect cervical spine injury
- **ATTENTION: RISK OF SECONDARY INJURY**

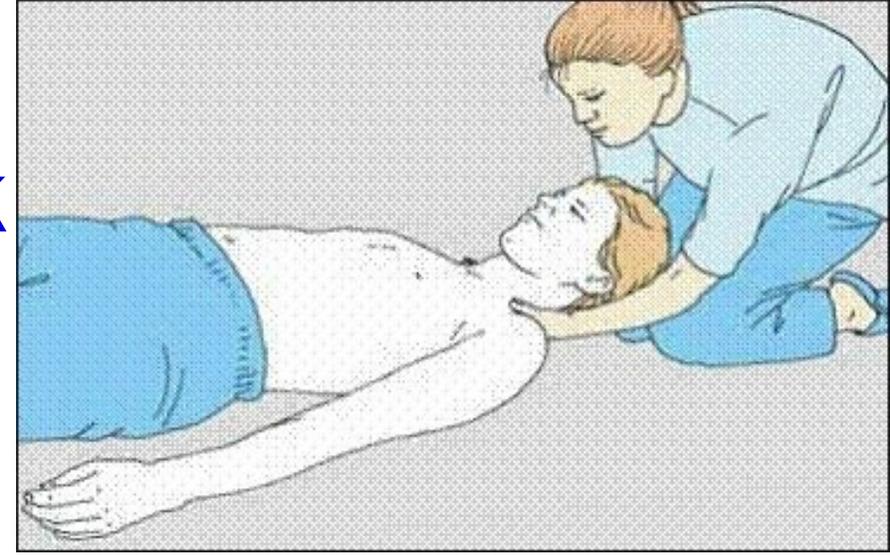
An actual neurological damage may not correlate with the severity of the injury or symptoms. Do not move with the casualty if it is not necessary!

# First aid

- call EMS if any suspicion on the cervical spine injury
- do not move or minimize movement with the casualty
- SSS ABC
- examine the casualty from head to heels and treat severe bleeding
- ensure thermal comfort and psychological help
- if A or B are at risk (is not breathing or lost consciousness) – turn him on his back and start providing CPR following ERC Guidelines 2015
- in case of danger or transport use hard desk

# First aid – turning on the back

- ideally provide in more rescuers
- fix casualty's head and neck as showed in the picture



The easiest technique is to hold head of the casualty between both forearms.

The rescuer's hands are leaning against his shoulders.

Then you can turn the casualty slowly on his back with the help of more rescuers.

**ATTENTION! Casualty's spine must stay in the same line all the time while turning!**

# Summary

- do not move with the casualty if it is not necessary
- your own safety first and call EMS
- if the casualty:
  - is breathing normally → leave him in the same position and check vital signs
  - **is not** breathing normally → turn him on his back and start CPR

## **When should I move with the casualty?**

→ i.e. CPR, danger, severe bleeding, unable to check the vital functions (consciousness, breathing)

# Learning outcomes

- Student is able to distinguish when it is necessary to move with the casualty and when it is not.
- Student knows how to move with the casualty correctly and safely.

# Resources

– FA-CPR-AED-Part-Manual.pdf [online] [cit. 22.08.2020].

Available from:

[https://www.redcross.org/content/dam/redcross/atg/PHSS\\_UX\\_Content/FA-CPR-AED-Part-Manual.pdf](https://www.redcross.org/content/dam/redcross/atg/PHSS_UX_Content/FA-CPR-AED-Part-Manual.pdf)

– Spinal injury: First aid. In: Mayo Clinic [online] [cit. 22.08.2020].

Available from: <https://www.mayoclinic.org/first-aid/first-aid-spinal-injury/basics/art-20056677>

**Thank you for your attention.**

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