

POLYTRAUMA, RTA, MULTIPLE CASUALTIES

University Hospital Brno, December 2013

Overview

- Polytrauma/multiple injuries
- Traffic incidents
- Major incidents/multiple casualties

Terminology

- Trauma – external force injury
- Polytrauma/multiple injuries in one casualty – injury of one or more systems – e.g. head + chest

Trauma deaths

First peak

- Within minutes of injury
- Major neurological or vascular injury
- Medical treatment will rarely improve outcome

Second peak

- Occurs during the 'golden hour'
- Due to intracranial haematoma, major thoracic or abdominal injury

Third peak

- Days or weeks later
- Sepsis, multiple organ failure

Mechanism of injury

- Type of injury is related to how the injury is caused
- Look at circumstances in which an injury was sustained and forces involved
- E.g. Side impact more serious versus frontal collision, seat belt?
- Whiplash injury



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Assessing a casualty

Primary survey

- **A** – Airways and cervical spine
- **B** - Breathing
- **C** – Circulation
- **D** – Dysfunction of the central nervous system

Secondary survey

- History
- Symptoms
- Signs

Definitive treatment

Primary survey

Airways + C spine

Is the airway open and clear?

If the casualty is talking to you, the airway is open and clear

~~suspect C spine injury – mechanism~~

Breathing

Is the casualty breathing normally?

not breathing? – call 112 + start CPR

Circulation

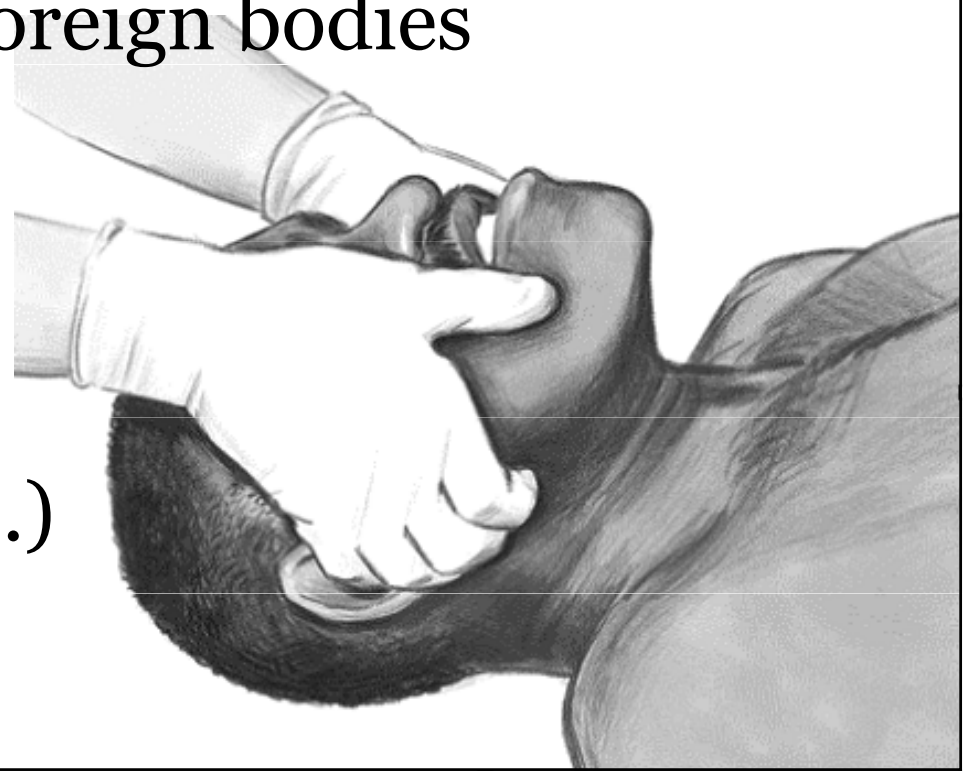
Is the casualty bleeding severely?

Cervical spine

High energy force – always suspect cervical spine injury

If airway compromised initially attempt a jaw thrust and clear airway of foreign bodies

- EMS
- 100% Oxygen
- Secure Airway
(Intubate, Laryngeal Mask ..)

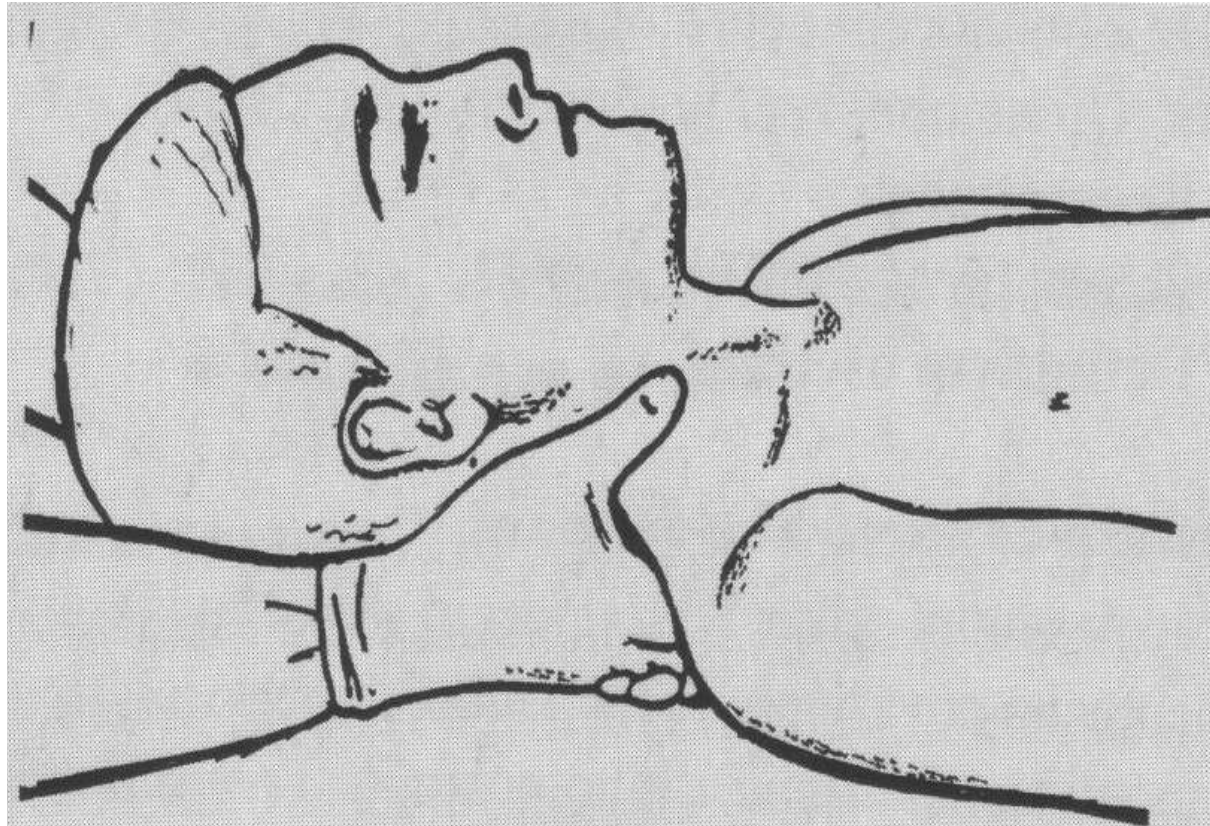


Do not move the casualty unless

- Not moving them would be an immediate threat to their life.
- They are vomiting.
- They are choking on blood.
- You need to check for breathing

Cervical spine stabilization

- Manual In Line Stabilization - MILS



Cervical spine stabilization

- If you **HAVE** to move a person you suspect has a neck injury,
- keep their head and neck immobile and move their entire body as one unit.



ADAM.

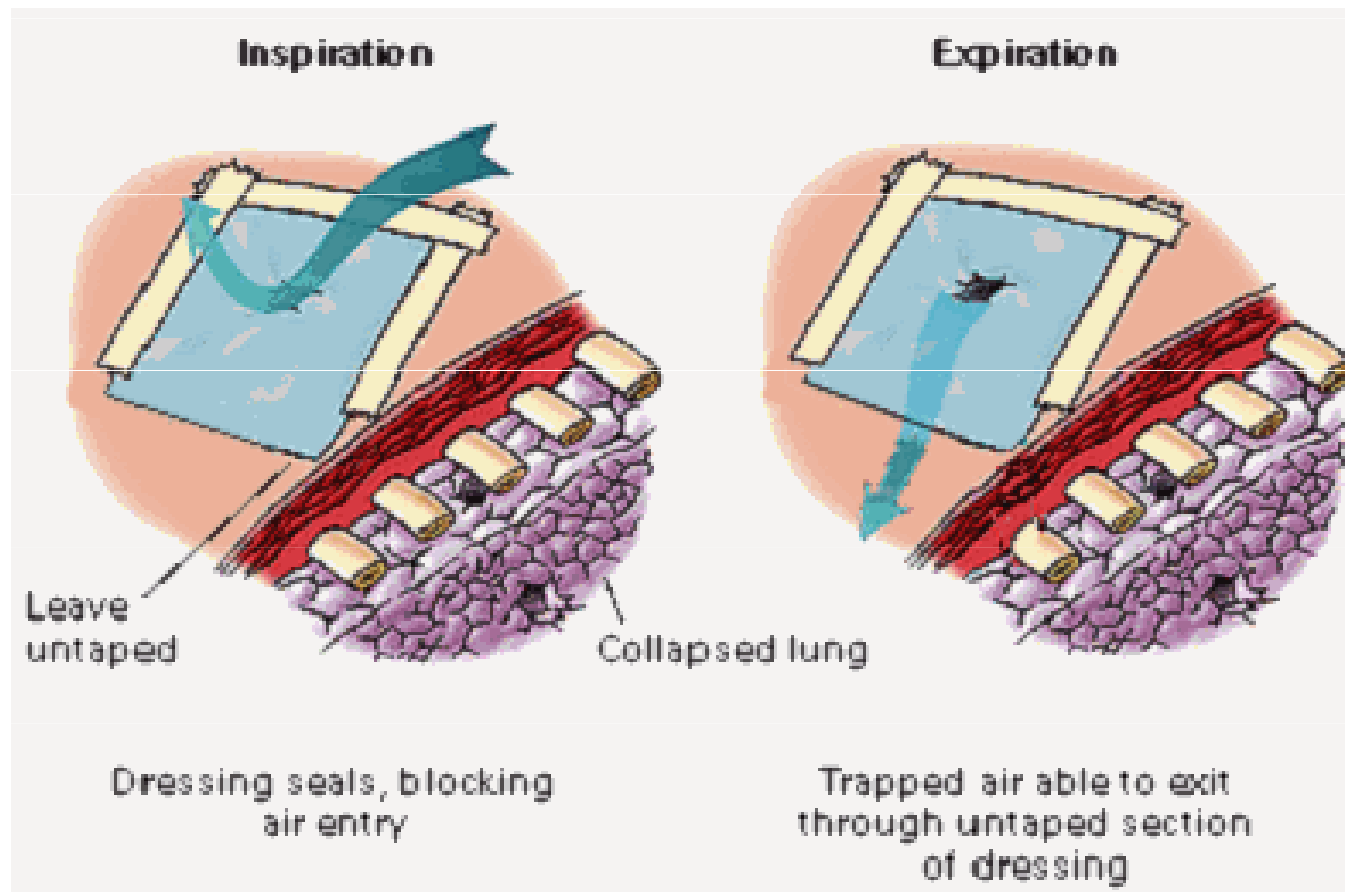


ADAM.

B - breathing

- Check position of trachea, respiratory rate and air entry
- If clinical evidence of tension pneumothorax will need immediate relief
- EMS
- Place venous cannula through second intercostal space in the mid-clavicular line

Open chest wound



C - circulation

- Assess pulse and capillary return
- Identify severe bleeding and apply direct pressure

EMS

- Place two large calibre intravenous cannulas
- Give intravenous fluids (crystalloid or colloid)
- Attach patient to ECG monitor

D – dysfunction of CNS

- Assess level of consciousness using AVPU method
 - A = alert
 - V = responding to voice
 - P = responding to pain
 - U = unresponsive
-
- Assess pupil size, equality and responsiveness

Secondary survey

History

A - Allergies

M - Medication

P – Past medical history

L – Last meal and drink

E – event history

Symptoms – what the casualty tells you about

Signs - what you can see, hear, feel, head to toe examination

Multiple casualties

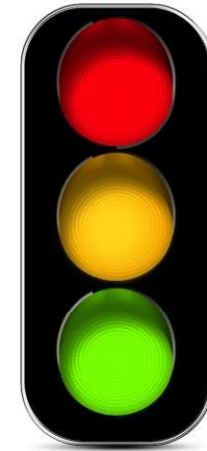
several casualties at the same time

- 1. Call EMS
 - Type of incident – fire, traffic incident, explosion
 - Location , access, any particular hazards, approximate number of casualties
- 2. Assess the scene - without putting your safety at risk
- 3. **Triage**
- 'do the most for the most'

Triage

- Ability to walk
 - Cannot walk
 - Walking – injured, uninjured

- Airway
- Respiratory rate
- Pulse rate or capillary return



Traffic incidents

- fall from a bicycle major incident with many casualties
- serious risks to safety - traffic



1. Danger – Safety first

protect yourself, the casualty and other road users



- Park your car safely, turn lights on, set hazard lights flashing, high-visibility vest
- Do not cross a busy motorway to reach other side
- Set others to warn other coming drivers
- Set up warning triangle 50 metres from the incident
- Make vehicles safe – switch off ignition of any damaged vehicle, Is anyone smoking?
- Stabilize vehicles – handbrake, gear in

2. Assess – check all casualties

- quick assessment – primary survey
- no moving
- apply life-saving treatment



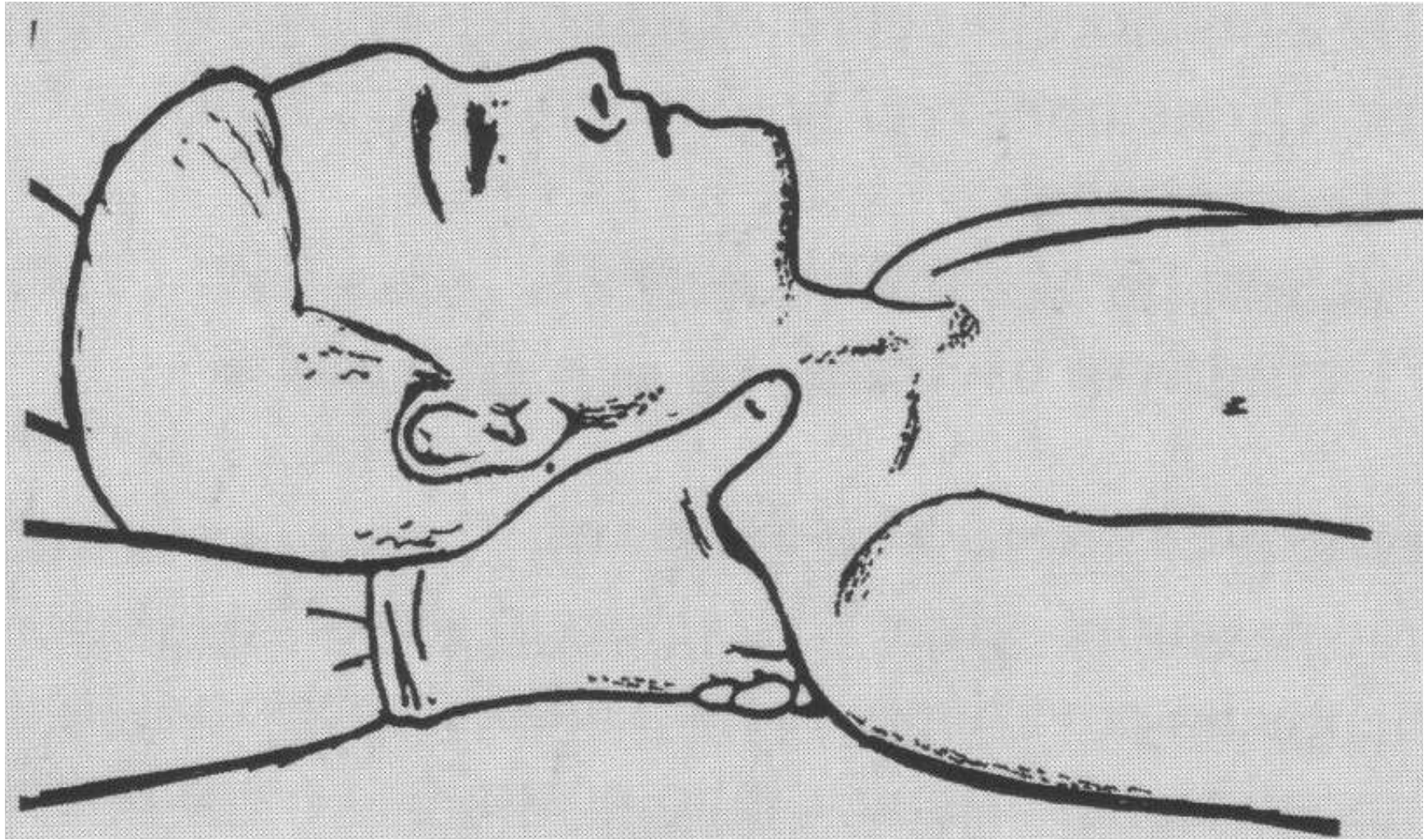
3. Treat

- in the position found
- first life-threatening or potentially serious injuries



4. Search of area

To be sure you don't overlook any casualties who may have been thrown clear or wandered away from the site





"LET'S MEET
AT AKUTNE.CZ"

SEARCH

Education → All algorithms

Car accident

AKUTNE.CZ Car accident

02:40



You are driving one afternoon through the country, it is rather foggy and the visibility is far from ideal. Around a corner you see a car that has skid off the road and crashed into a tree. You are alone in the car and it looks like there is nobody else nearby who could be of assistance. What would you do?

- Pull over to the side of the road, engage the hand brakes, to prevent the car from moving, turn on the hazard lights and switch off the engine. Take your mobile phone, first-aid kit, 'warning triangle', put on the reflective vest and head towards the crashed car.
- Stop the car in the middle of the road, engage the hand brakes, to prevent the car from moving, turn on the hazard lights and switch off the engine. Wait for another vehicle to pass by with someone who can help. It is not safe to go alone to the place of accident. In the mean time call the ambulance.
- Not stop at all, I am travelling alone. There is always the risk that it might be some robbers who have set up the accident so that they can

SPO₂ Not Available

glc Not Available

ECG Not Available

CBC Not Available

RR Not Available

ABR Not Available

NIBP Not Available

Electrolytes Not Available



Warning — always think ...
» Display help

Back

Questions ?

