Teaching goals

To understand:
- Trauma team organization and functioning
- Systematic approach to trauma patient
- How to recognize and treat life threatening injuries

European Trauma Course

Good team work consists out of four key elements:
1. Team functioning
2. Team management
3. Team organization and defining tasks
4. Team members

1. Team functioning
- Recognition and management of life threatening and other injuries
- Ordering adequate diagnostic procedures and treatment
- Arranging transport of trauma patient

2. Team management
- Orders and control
- Coordination
- Communication
3. Team organization and defining tasks

- Tasks must suit team member’s competence
- Respecting and valuing each member’s contribution
- Possibility to expand the roll of team member, if necessary

4. Team members

Team size:
- Local possibilities
- Number of patients
- Local politics

Management on the trauma scene:
- Basic ABC
- Primary management and resuscitation
- Beginning of secondary management
European Trauma Course

Pre-hospital informations
• Time and mechanism of the accident
• Number, age and sex of the injured
• Identified injuries
• Treatment
• Vital signs

European Trauma Course

Preparation:
• Protection
• Equipment check
• Assigning tasks

European Trauma Course

Hospital admittance:
• Safe handling
• “Five second round”
• Information exchange from pre-hospital and hospital team

European Trauma Course

Primary management and resuscitation:
Treat all life threatening conditions immediately!

Primary management and resuscitation

Airway with cervical spine control

A irway
B reathing
C irculation
D ysfunction
E xposure
Breathing and ventilation

• Ventilation if breathing is inadequate
• Resolve immediately any life threatening conditions involving thorax

Breathing and ventilation

Five signs on the neck:
• Wounds
• Distended neck veins
• Position of trachea
• Subcutaneous emphysema
• Laryngeal crepitation

Breathing and ventilation

Five life threatening conditions:
• Tension pneumothorax
• Open chest wound
• Massive hemothorax
• Unstable chest wall
• Cardiac tamponade

Breathing and ventilation

Inspection
• Frequency, breathing effort
• Symmetry
• Wounds
Palpation
• Midaxillary line
• From the front

Breathing and ventilation

Auscultation
• Midaxillary line
• Above and under the mammillary line

Percussion
• Midaxillary line
• Above and under the mammillary line

Breathing and ventilation

Intubated and ventilated:
• Endotracheal tube position
• Tidal volume
• Respiratory rate
• Peak inflation pressure
• End tidal CO₂
• Oxygen saturation

Breathing and ventilation

Circulation and bleeding control

Stopping the hemorrhage:
• Direct pressure
• Immobilization
• Hemostasis and wound management

Pulse
Blood pressure
ECG
Signs of shock
Circulation and bleeding control

Shock severity – clinical signs of hypovolemic shock:

• Tachypnea, tachycardia
• Pale, cold skin, CRT > 2 s
• Weak peripheral pulse, low diuresis
• Drop in systolic blood pressure (late sign)
• Consciousness impairment (very late sign)

Circulation and bleeding control

Shock management:

• IV/IO access
• Fluids
• Blood
• Platelets and clotting factors

Circulation and bleeding control

Hypotensive reanimation

• Uncontrolled internal bleeding
• The goal is appropriate tissue oxygenation without increased bleeding
• Systolic blood pressure goal → 80-90 mmHg

Immediate surgical intervention!

Circulation and bleeding control

Don’t forget:

• Old age
• Medications/pacemaker
• Tissue damage
• Pregnancy
• Hypothermia

CNS assessment

• Fast neurological examination
  – AVPU scale
  – Pupils
• Mini-neurological examination
  – GCS
  – Pupils
  – Lateralization
Exposing the patient and environment

- Take the clothes off in order to examine the whole body
- Prevent hypothermia
- Remove spine immobilization board

Questions?

Conclusion

- Trauma team organization and functioning
- Systematic approach to trauma patient
- How to recognize and treat life threatening injuries