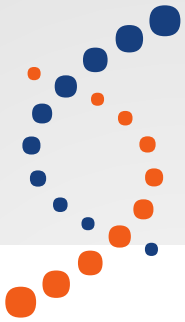

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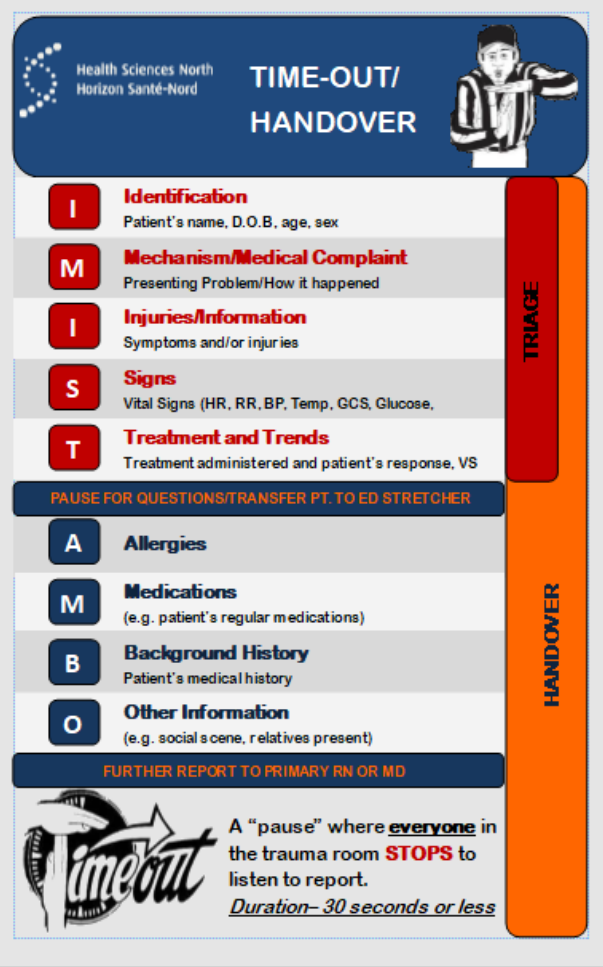
Trauma Services Department

Trauma Assessment & Initial Management

TRAUMA TIME OUT



- Patient safety and the seamless transition of patient information has become a national concern.
- "Prehospital communication is a critical first step towards ensuring efficient management of critically injured patients during trauma resuscitation." Zhang et al. 2013.
- Time Outs increase the amount of clinically **RELEVANT** patient information.

Time outs should not take any longer than 30 seconds

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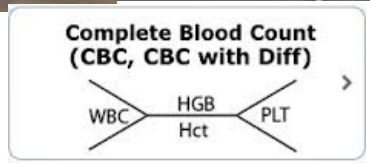
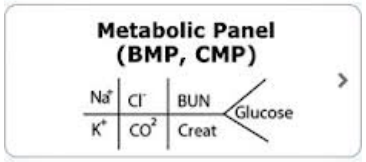
early goals in resuscitation

→→→→→

- Definitive airway
- IV access x 2
  - Warmed fluids
  - Ability to infuse quickly
- Avoid hypothermia
- Assess & monitor perfusion
  - Lactate and/or BE (Base Excess)
  - Vital Signs
- Control bleeding
- Prepare for massive transfusion
  - O-neg initially
  - Order plasma & platelets





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ATLS 10th Edition-American College of Surgeons

INITIAL ASSESSMENT

2 Phases:

1. **Primary**
2. **Secondary**

PRIMARY SURVEY

A -- Airway Maintenance with cervical spine precautions

Establish airway patency by talking to the patient

Considerations:

Foreign bodies?
Blood/secretions?
Facial fractures?
Laryngeal/tracheal fractures? (crepitus)
Swelling – hematoma or edema?
High C-spine injury (C3-C5)?
Inhalational injury – pulmonary damage?

B -- Breathing and Ventilation

Airway patency alone does not ensure adequate ventilation

Lungs, chest wall, and diaphragm need to function to provide adequate ventilation and oxygenation. (ATLS 10th Edition)

Considerations:

Flail Chest?
Hemothorax?
Pneumothorax?
Tension?
Tamponade?

IMMEDIATE ED TREATMENTS

Tension pneumothorax – needle decompression
Open pneumothorax – occlusive dressing
Flail chest – intubate, ventilate
Massive hemothorax – chest tube

PRIMARY SURVEY

C - - Circulation

Assessment of skin color and temperature, cap refill, pulse rate and character (thready, present or absent), level of consciousness?

Considerations:

External or internal hemorrhage?
Obstructive shock

D - - Disability

Baseline Neurological Evaluation:
GCS
Pupillary response and size
Extremity movement

Considerations:

Head injury?
Decreased cerebral oxygenation?
Alcohol consumption?
Drugs – Narcotics?
Hypoglycemia?

GCS <8
Intubate!

COAGULOPATHY IN TRAUMA

Pre-hospital → The trauma patient is quickly exposed to the elements and strapped to a hard wooden board.

Hospital Arrival → Patient is once again exposed in the ED, bleeding is assessed. As the temperature of the trauma patient decreases the body's ability to halt bleeding decreases.

Hypothermia = ↓ **Coagulopathy** ↻ **Acidosis = "DIC"**

Disseminated Intravascular Coagulation

"DIC"- Death Is Coming

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PRIMARY SURVEY

E - - Exposure and Environment

Remove all clothing. Patient can be hypothermic upon arrival after exposure to environment or may develop during resuscitation

Considerations:

Warm IV fluids?
Warm room?
Hemorrhage controlled?
Any further wounds posteriorly?

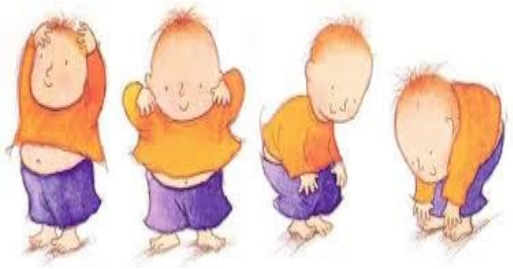
Adjuncts to Primary:

Monitoring equipment
Blood work
Arterial blood gases
Nasogastric tube/orogastric tube
Foley catheter to urometer (if not contraindicated)
Radiology/diagnostics
FAST (focused assessment sonography for trauma)

SECONDARY SURVEY

H - - History/Head-to-Toe Assessment

- Suspected Injuries (mechanism of injury)
- Allergies
- Medications Used
- Past Medical History
- Last Meal/LMP
- Events/Environment Related to Injury



Head, shoulders, knees and toes

Complete a physical examination with inspection, auscultation and palpation. Some injuries can be expected when considering mechanism of injury, age, and biomechanics.

DEFINATIVE DISPOSTION

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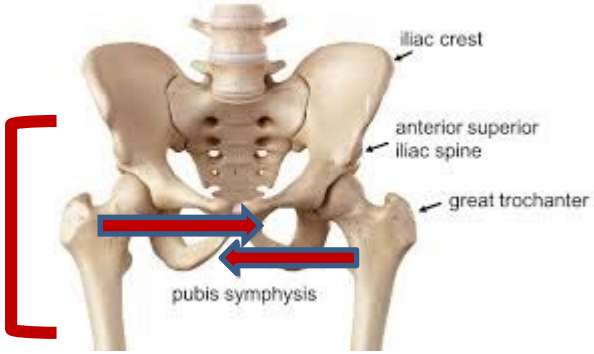
PELVIC STABILIZATION

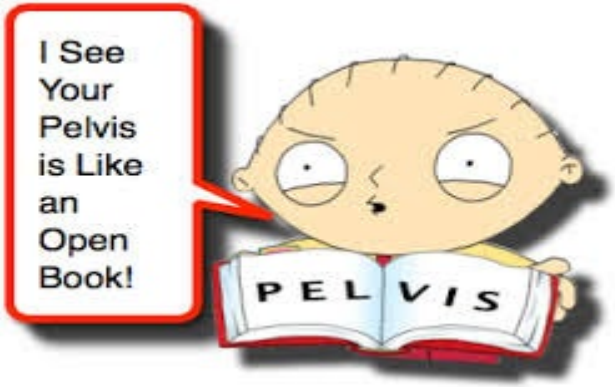
T-POD (Trauma Pelvic Orthotic Device)

- Reduces pelvic volume/tamponades bleeding
- Prevents additional damage to veins and arteries in the area of the fracture
- Prevents additional damage to nerves in the area of the fracture
- Prevents additional movement of the bones near the fracture site
- Reduces pain

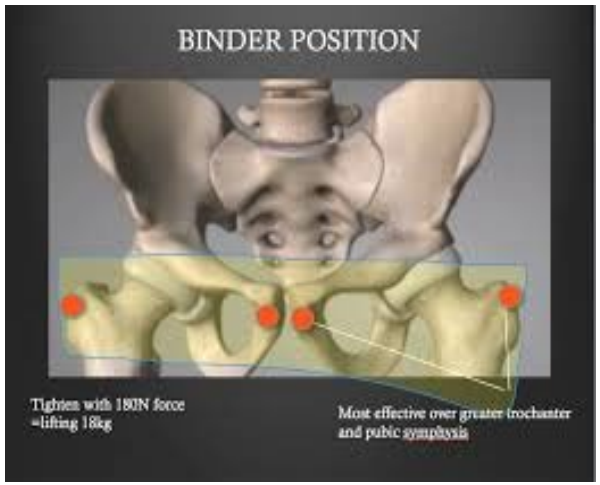
Considerations:

- 100% radiolucent.
- One time use.
- One size fits all (including children ≥ 50 lbs.).
- If not contraindicated, a foley catheter should be placed prior to application if needed.
- Injuries to the bladder, urethra, prostate, uterus, vagina, and anal canal can also be present.
- Skin checks should be done every 12 hrs.
- Monitor neurovascular status prior to and after application.
- Center over greater trochanters.





Open book pelvic #



Vascular Anatomy

- External iliac a.
- Internal iliac a.
  - Superior gluteal a.
  - Obturator a.
  - Internal pudendal a.
- Venous system
  - Most common source of significant bleeding

TOURNIQUET USE AND CARE

Indications for use:

1. Amputation (partial or total)
2. Crushed or mangled extremity
3. Penetrating injury (lacerations, gunshot, stabbing)
4. Open fracture with uncontrolled bleeding

Considerations:

- The first step is to apply direct pressure to the wound. For large wounds pack gauze tightly into the wound until bleeding stops and hold pressure.

- If bleeding continues or if direct pressure/packing is not attainable apply a tourniquet.

- **ALWAYS** provide pain medication to the patient.

SIMULATION SCENARIOS

1. A 21 year old male who sustained multiple stab wounds outside a night club tonight:

- Weapon was a 3 inch hunting knife
- Patient is conscious but very anxious
- Vital signs – BP 100/60, HR 100, RR 26, has a NRB on
- EMS identified 3 stab wounds to chest and abdomen
- Small amount of blood at the scene
- EMS has a 20g. IV with ringers lactate infusing as a bolus

2. A 56 year old male involved in a motorcycle crash on a busy street. Car forced him off the road and he was thrown into a ditch. He was wearing a helmet. EMS (BLS) crew scooped and ran:

- Arrival vital signs – BP 75/55, HR 100, RR 20, SpO_2 100% on NRB
- C-spine collar and back board
- Patient is talking

SIMULATION SCENARIOS

3. A 27 year old male was swimming and was struck by a motorboat:

- He has a LARGE laceration to the back of his head and his right thigh
- He has swallowed lots of water
- Vital signs – BP 130/90, HR 125, RR 26, SpO_2 87% with NRB, T 35.8

References

1. American College of Surgeons (2018). Advanced Trauma Life Support, Student course Manual 10th Edition.

2. Pyng Medical (2019). T-PODResponder Pelvic Stabilization Device. Retrieved from http://www.pyng.com

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