

Trauma

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EMERGENCY - URGENCE

- What is Trauma?
- Who is part of a trauma team?
- How to prepare for an incoming trauma?
- What is a systematic approach to trauma?

Outline

A woman with long blonde hair, wearing a black uniform, is shown in a state of intense distress, shouting with her mouth wide open. Her hair is blowing in the wind. In the background, a chaotic scene unfolds: a white car is overturned and on fire, a helicopter is flying in the sky, and a city skyline is visible under a cloudy sky. The overall atmosphere is one of a major disaster or emergency.

What is trauma?

- Trauma is a **disease**
- Trauma is **preventable**
- Trauma is the **leading cause of mortality globally, and leading cause of death in Canada for those under the age of 44.**

What is trauma?

- **Blunt trauma**
 - Motor vehicle collision (1.3 million deaths worldwide/year)
 - Pedestrian versus automobile
 - Falls
- **Special situations**
 - Burns
 - Crush injuries
 - Drownings
- **Penetrating trauma**
 - Gun shot
 - Stabbing
 - Impalement

Mechanism of injury



Who's part of a trauma team?

- **Rural hospitals:** May be limited to one physician, a nurse and EMS.
- **Major trauma centers:** May include emergency physicians, trauma surgeons, subspecialist surgeons, emergency nurses, respiratory therapists, technicians, and social workers.

Trauma team

BOX 2. Levels of trauma centers (TCs)

Level I

- Regional resource hospital that is central to trauma care system
- Provides total care for every aspect of injury, from prevention through rehabilitation
- Maintains resources and personnel for patient care, education, and research (usually in university-based teaching hospital)
- Provides leadership in education, research, and system planning to all hospitals caring for injured patients in the region

Level II

- Provides comprehensive trauma care, regardless of the severity of injury
- Might be most prevalent facility in a community and manage majority of trauma patients or supplement the activity of a Level I TC
- Can be an academic institution or a public or private community facility located in an urban, suburban, or rural area
- Where no Level I TC exists, is responsible for education and system leadership

Level III

- Provides prompt assessment, resuscitation, emergency surgery, and stabilization and arrange transfer to a higher-level facility when necessary
- Maintains continuous general surgery coverage
- Has transfer agreements and standardized treatment protocols to plan for care of injured patients
- Might not be required in urban or suburban area with adequate Level I or II TCs

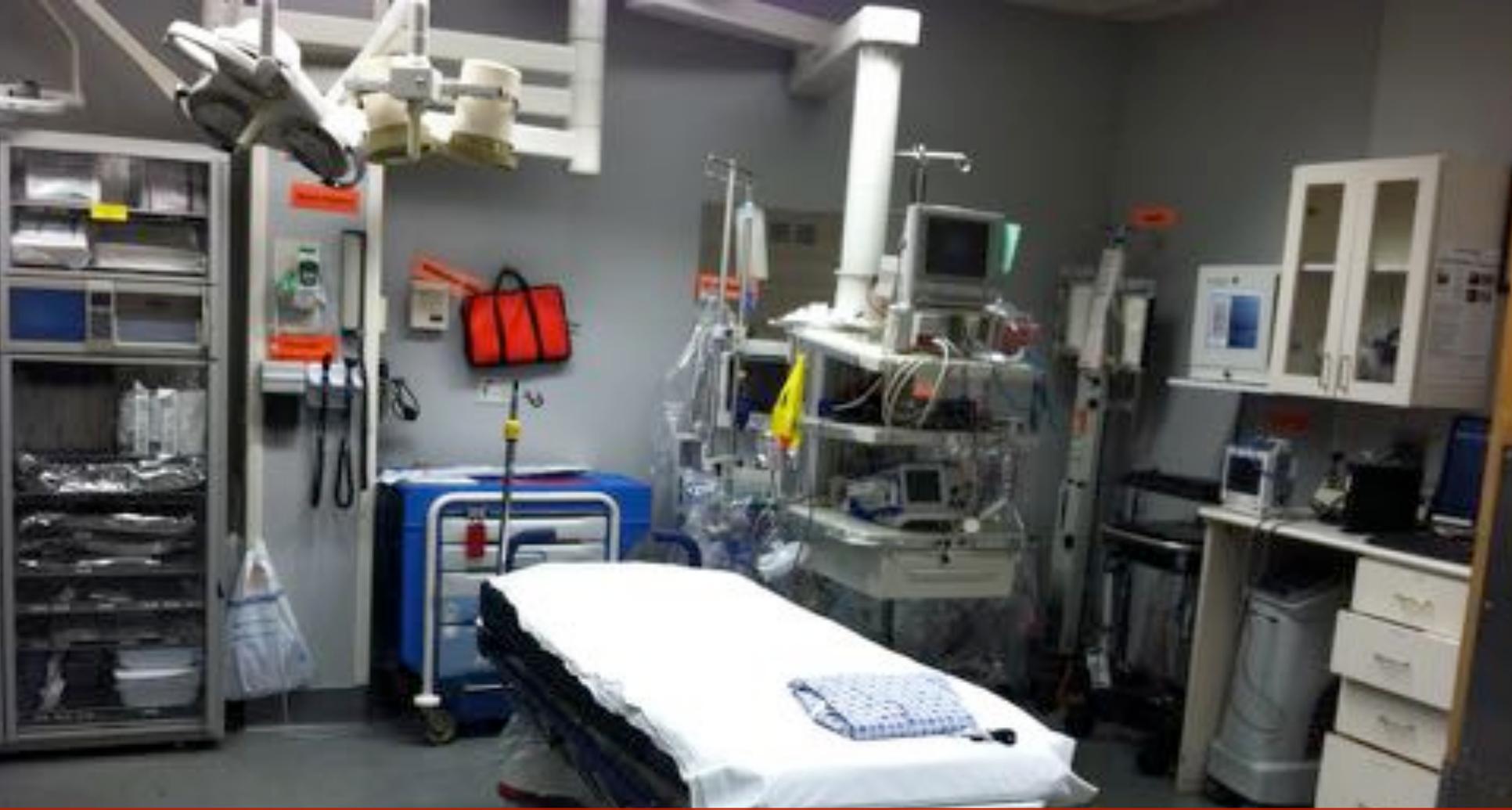
Level IV

- Rural facility that supplements care within the larger trauma system
- Provides initial evaluation and assessment of injured patients
- Must have 24-hour emergency coverage by a physician
- Has transfer agreements and a good working relationship with the nearest Level I, II, or III TC

SOURCE: Adapted from the American College of Surgeons, *Resources for the optimal care of the injured patient*. Chicago, IL: American College of Surgeons, 2006.

- Regardless of the setting, all teams must have a **clearly designated leader** who determines the overall management plan and assigns specific tasks.
- Optimal care of a trauma patient requires **effective and efficient communication** and teamwork among all members.

Communication is key



How to prepare for incoming trauma

- **EMS notifies hospital** that trauma patient is en route
 - Patient age and sex
 - Mechanism of injury
 - Vital signs
 - Apparent injuries
 - **ED staff prepare** for incoming trauma
 - Gloves, gowns, masks, and eye protection.
 - Notify additional services (eg: trauma surgery, obstetrics, orthopedics)
 - Prepare for anticipated procedures (Intubation, chest tube)
 - Prepare for blood transfusion (Mass transfusion protocol)
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ABCDEF

A Systematic Approach to Trauma

A T L S A l g o r i t h m

ASSESSMENT

A	Airway Maintenance and Cervical Spine Protection
B	Breathing and ventilation
C	Circulation and hemorrhage control
D	Disability
E	Exposure

T I M E

Unconscious
Chest injuries ? - Ribcage - Bruising
Abdominal injury ? - Retroperitoneum - Pelvis
Normal mot./sen. Exam Normal Reflexes Normal Sphincter tone
Abnorm. mot./sen. Exam Abnorm. Reflexes Abnorm. Sphincter tone
<u>Log-Roll & Spine exam</u> Posterior Processus ? Tenderness ? Bruising ?

S P I N E T R A U M A

Only Withdraw spinal precautions in the alert and conscious patient

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References
