

Introduction to Trauma Care

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Key concepts, phases, and essential actions for managing injured patients

1. What Is Trauma Care?

Aspect	Description
Definition	Immediate medical management of physical injuries caused by external forces (e.g., blunt, penetrating, thermal, chemical).
Goal	Preserve life, prevent disability, and promote recovery by rapidly identifying and treating life-threatening conditions.
Setting	Pre-hospital (EMS), Emergency Department (ED), trauma bays, intensive care units, and rehabilitation facilities.
Team	Multidisciplinary: EMS providers, physicians (trauma, surgery, emergency medicine), nurses, respiratory therapists, radiologists, pharmacists, social workers.

2. The “ABCDE” Primary Survey (Immediate Assessment)

Letter	Focus	Critical Actions
A – Airway	Ensure a clear airway and protect against aspiration.	• Head-tilt/chin-lift or jaw thrust. • Endotracheal intubation if compromised. • Cervical spine protection throughout.
B – Breathing	Evaluate ventilation and oxygenation.	• Inspect chest rise, auscultate lungs. • Provide supplemental O₂ (≥10 L/min). • Treat tension pneumothorax (needle decompression) or massive hemothorax (chest tube).
C – Circulation	Identify and control hemorrhage; assess perfusion.	• Direct pressure, tourniquets, hemostatic dressings. • Rapid IV/IO access (≥2 large-bore lines). • Crystalloid bolus (if indicated) and early blood product administration (1:1:1 PRBC:Plasma:Platelets).

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Letter	Focus	Critical Actions
D – Disability	Quick neurologic check (AVPU or GCS).	• Assess level of consciousness. • Pupillary size/reactivity. • Treat reversible causes (hypoxia, hypoglycemia).
E – Exposure/Environment	Fully examine the patient while preventing hypothermia.	• Remove clothing, inspect for hidden injuries. • Warm blankets, active warming devices, warmed fluids.

The primary survey is **repeated** after each intervention until the patient is stable.

3. Secondary Survey (Comprehensive Evaluation)

1. History – “AMPLE”

- Allergies
- Medications
- Past medical/surgical history
- Last meal (NPO status)
- Events leading to injury (mechanism)

2. Head-to-Toe Physical Exam

- Inspect, palpate, and auscultate each body region.
- Document injuries, deformities, tenderness, and neurovascular status.

3. Adjuncts

- **Imaging:** FAST (Focused Assessment with Sonography for Trauma), X-ray (C-spine, chest, pelvis), CT scan as indicated.
 - **Laboratory tests:** CBC, coagulation profile, type & crossmatch, serum lactate, base deficit, arterial blood gas.
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4. Damage Control Principles

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Phase	Objective	Typical Interventions
Damage Control Resuscitation (DCR)	Prevent the lethal triad (hypothermia, acidosis, coagulopathy).	• Balanced blood component therapy (1:1:1). • Minimize crystalloid use. • Warm patient