EMT Trauma Study Guide

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This study guide covers Trauma for EMTs. It aligns with the NREMT EMT certification exam (updated format effective April 2025), National EMS Education Standards, National EMS Scope of Practice Model 2019 (with Change Notices), and current prehospital trauma guidelines including CDC Field Triage Guidelines and AHA BLS 2025 (current as of 2026). Trauma represents a major portion of the Patient Treatment and Transport domain (~20–24% total exam content) and integrates into Primary Assessment and Scene Size-Up. EMT Scope in Trauma: Control life-threatening hemorrhage, maintain airway/breathing/circulation, immobilize suspected spinal injuries, splint musculoskeletal injuries, treat shock, and provide rapid transport to the appropriate facility (trauma center when indicated). No advanced interventions (e.g., needle decompression, surgical cricothyrotomy, or IV fluid administration beyond protocol exceptions in some regions). Key Principle: Identify and treat life threats in order of priority (C-ABCDE): Catastrophic hemorrhage → Airway → Breathing → Circulation → Disability → Exposure/Environment. Minimize scene time for critical trauma patients ("load and go").

Disclaimer: This is a study aid, not an official document. For PDF, copy into a word processor and export. Always verify with current NREMT skill sheets, local protocols, and the latest trauma triage guidelines.

Section 1: Scene Size-Up & Primary Assessment in Trauma

Scene Size-Up (NREMT Emphasis):

Scene Safety – BSI/PPE, scene hazards (traffic, fire, violence, downed wires, hazardous materials), number of patients, need for additional resources.

Mechanism of Injury / Nature of Illness – High-energy (ejection, death in same vehicle, intrusion >12 in, falls >20 ft adult / >10 ft child, etc.) vs. low-energy trauma; medical vs. trauma.

Number of Patients – Single vs. multiple; request additional units if needed.

Consider ALS Intercept – Unstable patient, advanced airway/IV/medication needs.

C-spine Precautions – If MOI suggests spinal injury.

Personal & Scene Safety Priorities:

Never enter unsafe scenes without proper training/resources (law enforcement, fire, hazmat).

Use traffic cones/flares/reflective vests on roadways.

Violence/domestic scenes: Stage until cleared by law enforcement.

Infectious disease: Standard precautions + droplet/airborne if indicated.

Primary Assessment – Trauma Focus (C-ABCDE):

C – Catastrophic Hemorrhage: Control massive external bleeding immediately (direct pressure, tourniquet, hemostatic dressing).

A – Airway: Open/maintain with manual maneuvers (jaw thrust preferred in trauma); adjuncts (OPA/NPA) if needed; suction as required.

B – Breathing: Assess for adequate ventilation; treat life threats (open chest wound → occlusive dressing;

flail chest → manual stabilization/high-flow O&sub2;).

C – Circulation: Check for major hemorrhage, pulses, skin signs; treat shock (keep warm, high-flow O&sub2;, rapid transport).

D – Disability: AVPU or GCS; check pupils; rapid neurologic status.

E – Exposure/Environment: Expose to find hidden injuries; prevent hypothermia.

Indications for Rapid Transport ("Load and Go"):

Unstable ABCs

Altered mental status

Signs of shock

Penetrating trauma to head, neck, chest, abdomen

High-energy MOI with significant injury potential

Section 2: Hemorrhage Control (High-Yield for NREMT)

Bleeding Type	Signs/Characteristics	EMT Management (Priority Order)	Key Notes
Life-Threatening External (Arterial / Massive)	Bright red, spurting; pooling rapidly	1. Direct pressure (gloved hand/dressing) 2. Tourniquet (high & tight, note time) 3. Hemostatic dressing if available	Tourniquet preferred for extremity; document application time.
Venous / Moderate	Dark red, steady flow	Direct pressure; elevate if no fracture suspected	Pack wound if deep & uncontrolled.
Internal Hemorrhage	Signs of shock without external bleeding	High-flow O&sub2;; keep warm; rapid transport; treat for hypovolemic shock	No field reversal; focus on supportive care.

Tourniquet Application Steps (NREMT Skill):

Place 2–3 inches above bleeding site (never over joint).

Tighten until bleeding stops.

Note time of application (write on tourniquet or skin).

Do NOT loosen once applied.

Section 3: Spinal Motion Restriction (SMR) / Immobilization

Indications for SMR:

Mechanism suggestive of spinal injury (high-energy MOI)

Midline spinal tenderness/pain

Numbness/tingling/paralysis

Altered mental status

Intoxication

Distracting painful injury

EMT Spinal Immobilization Techniques:

Manual stabilization first (maintain neutral alignment).

Cervical collar (proper sizing).

Backboard or vacuum mattress / scoop stretcher.

Secure with straps (torso first, then head).

2025 Update Consideration: Many agencies moving toward selective immobilization; follow local protocol (focus on high-risk mechanisms and clinical signs). NREMT Skill Emphasis: Spinal Immobilization – Supine Patient – Verbalize BSI; manual stabilization; assess distal neuro; apply collar; secure to board; reassess.

Section 4: Chest & Abdominal Trauma

Injury	Signs/Symptoms	EMT Management	Key Notes
Open Chest Wound (Sucking Chest)	Air movement through wound; bubbling; dyspnea	Immediately apply occlusive dressing (3 sides taped); monitor for tension pneumothorax	High-flow O&sub2;; rapid transport.
Flail Chest	Paradoxical chest movement; severe pain/dyspnea	High-flow O&sub2;; manual stabilization of flail segment; assist ventilations if inadequate	Pain management limited; supportive care.
Abdominal Evisceration	Organs protruding from wound	Cover with moist sterile dressing; do NOT reinsert; occlusive over top; keep warm	High-flow O&sub2;; rapid transport.
Impaled Object	Object still in place	Stabilize in place (bulky dressings); do NOT remove; control bleeding around object	Exception: airway obstruction or interferes with CPR – remove only then.

Section 5: Musculoskeletal Injuries & Splinting

General Principles:

- Check pulses, motor, sensation (PMS) before & after splinting.
- Align with gentle traction if distal circulation impaired (except femur/humerus mid-shaft in some protocols).
- Splint in position found if no distal compromise.

Common Splints (EMT Scope):

- Rigid splints (SAM, board splints) for extremities.
- Sling & swathe for upper arm/shoulder.
- Traction splint (e.g., Hare, Sager) for mid-shaft femur (if trained/local protocol).
- Pelvic binder for suspected pelvic fracture (commercial or sheet wrap).

NREMT Skill: Splinting – Long Bone Fracture – Assess PMS; manual stabilization; measure/prepare splint; immobilize; reassess PMS & circulation.

Section 6: Shock Recognition & Management (Trauma Focus)

Types Relevant to EMT Trauma:

- Hypovolemic (most common – blood loss)
- Distributive (neurogenic from spinal injury)

Signs of Compensated → Decompensated Shock:

- Tachycardia → hypotension
- Pale, cool, clammy skin

Pale, cool, clammy skin

Delayed cap refill (>2 sec)

Altered mental status (late sign)

Weak pulses

EMT Management:

Control bleeding

High-flow O&sub2;

Keep patient warm (blankets)

Position supine (or Trendelenburg if no spinal injury)

Rapid transport to trauma center

Section 7: NREMT Trauma Skill Emphasis & High-Yield Scenarios

Trauma Primary Assessment & Rapid Extrication – Identify life threats; prioritize hemorrhage control; minimize on-scene time for unstable patients.

Scenarios: MVC with ejection → rapid extrication if unstable; full spinal precautions. Penetrating chest trauma → occlusive dressing + high-flow O&sub2;. Amputation → control bleeding; preserve amputated part (wrap in sterile gauze, place on ice—not directly on ice). Pediatric trauma → Use length-based tape; higher head-to-body ratio; rapid transport.

Example Math (Tourniquet Time Calculation):

Question: Tourniquet applied at 14:32. Current time is 15:10. How long has the tourniquet been on? **Solution:** 15:10 – 14:32 = 38 minutes.**Reasoning:** Subtract application time from current time (convert to minutes: 10 min past 15 – 32 min past 14 = 38 min elapsed). Review NREMT skill sheets (Bleeding Control/Shock Management, Spinal Immobilization, Splinting) and practice trauma scenarios. Focus on bleeding control priority and rapid transport decisions. Good luck on your EMT exam—stay calm and systematic!