

Introduction to Emergency Medical Services

Introduction to Emergency Medical Services (EMS)

Designed as a quick-reference guide for students, new EMTs, and anyone interested in the basics of EMS.

1. What Is EMS?

Element	Description
Definition	A coordinated system that provides pre-hospital emergency care, transport, and medical oversight to patients with acute illness or injury.
Primary Goals	1. Preserve life 2. Prevent further injury or illness 3. Promote recovery
Key Components	• Dispatch/Communication Center • First-Responder Units (e.g., police, fire, community volunteers) • EMS Providers (EMTs, paramedics, advanced practice providers) • Transport Vehicles (ambulances, air-medical) • Receiving Facilities (EDs, trauma centers, specialty units)
Scope	Local, regional, and national; can be public (government-run) or private (hospital-based, fire-based, third-party).

2. EMS System Levels (U.S. Model)

Level	Personnel	Training Minimum	Typical Capabilities
First-Responder	Police, fire, community volunteers	Basic life support (BLS) training, CPR/AED	Scene safety, basic airway, bleeding control, AED use
EMT-B (Basic)	Emergency Medical Technicians	120–150 hrs (state-specific)	BLS, patient assessment, oxygen, basic airway, CPR, limited meds (e.g., epinephrine auto-injector)

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Level	Personnel	Training Minimum	Typical Capabilities
(EMS)			
EMT-B (Intermediate) – optional	EMT-B	150–200 hrs + clinical	All EMT-B + limited advanced airway, IV/IO access, limited drug administration
Paramedic	Paramedics	1,200–1,800 hrs (incl. clinical)	ALS, advanced airway, cardiac monitoring, full IV/IO, wide drug formulary, intubation, rapid sequence intubation, point-of-care testing
Critical Care/Flight Paramedic	Specialized paramedics	Additional certifications (e.g., CFRN, ATLS)	High-acuity transport, ventilator management, blood product administration, ECMO support

Note: Some jurisdictions use a “Tier 2” model (EMT-B + EMT-I) while others combine EMT-B and EMT-I into a single “EMT-Intermediate” level.

3. EMS Response Phases

1. Activation

- 911 call → dispatch center → resource allocation.

2. Dispatch & EnRoute

- Unit receives call details, selects appropriate level of response, proceeds to scene.

3. Scene Size-Up

- Safety assessment, scene control, identification of hazards, determination of needed resources.

4. Patient Assessment

- Primary survey (ABCs) → secondary survey (head-to-toe exam, history).

5. Intervention

- Treatment according to protocols, medication administration, procedures.

6. Transport Decision

- Destination selection based on patient needs, facility capabilities, and regional protocols.

7. Transfer of Care

- Handoff to receiving facility (verbal report, written run-sheet).

8. Post-Scene Activities

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- Equipment restock, documentation, debrief, quality improvement review.

(EMS)

4. Core Clinical Concepts

Concept	Key Points
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Airway Management • Head?tilt	
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