Myocardial Infarction — EMT Quick Reference

Time is muscle · 2025 ACC/AHA/ACEP/NAEMSP/SCAI ACS Guideline · 2025 AHA Guidelines for CPR & ECC, Part 7 (Adult BLS) · EMT/BLS scope

RECOGNITION — HOW IT PRESENTS

Most common: substernal pressure / squeezing / heaviness lasting > few minutes; radiation to arm, jaw, neck, back; diaphoresis, nausea, dyspnea, sense of dread.

Atypical (women, elderly, diabetics): fatigue, dyspnea, indigestion/epigastric pain, dizziness, syncope, vomiting alone, silent infarct. **A large MI can feel mild.**

Dangerous look-alikes: aortic dissection · pulmonary embolism · pneumothorax · pericarditis. The lethal ones look ordinary.

THE 2025 NUMBERS

Action	2025 guidance
12-lead ECG	Within **10 minutes** of first medical contact; serial ECGs if the first is not STEMI
Reperfusion target	**≤90 min** first-medical-contact-to-device at a PCI-capable hospital · **≤120 min** if transfer from a non-PCI hospital
Destination	Transport to a PCI-capable hospital when STEMI is suspected; alert the cath lab and transmit the ECG ahead
Oxygen	Give if SpO_2 **<90%** · Do **NOT** routinely give oxygen when SpO_2 ≥90%
Aspirin	**162–325 mg oral, chewed, ASAP** if no contraindication

ASPIRIN — WHAT IT DOES

- Irreversibly blocks platelet cyclooxygenase-1 → no thromboxane A_2 → that platelet is disabled for its lifespan (~7–10 days).
- **Chew** non-enteric-coated: faster absorption than a swallowed enteric tablet.
- It does **not** dissolve the clot or open the artery — it stops the clot from growing. Reperfusion still has to happen.
- Contraindications: true aspirin allergy, active GI bleeding (hospital decides the alternative antiplatelet).

PATIENT'S OWN NITROGLYCERIN — ASSIST PER PROTOCOL

- Nitric oxide → venous dilation first: preload, workload and O_2 demand down + coronary dilation → pain relief.
- It does **NOT** open the occluded artery and does **NOT** stop the infarction. **Pain relief ≠ emergency over.**

> **Do NOT give / assist if:** suspected right ventricular infarction · SBP < 90 mmHg · SBP > 30 mmHg below baseline · **avanafil within 12 h** · **sildenafil or vardenafil within 24 h** · **tadalafil within 48 h**.

Confirm it is the patient's own, unexpired, prescribed nitro. Reassess BP and heart rate after **every** dose; common protocol practice is up to **3 sublingual doses, 5 minutes apart**. Stop for hypotension, bradycardia, pallor, diaphoresis or dizziness and treat the hypotension.

EMT PRIORITIES ON SCENE

- Position of comfort — sitting/semi-recumbent if dyspneic, supine if not. Do not walk the patient to the stretcher.
- Continuous ECG, BP, SpO_2; reassess after every intervention. AED with pads on scene and ready — VF is the early killer.
- No opioids or non-aspirin NSAIDs in place of moving toward reperfusion.
- Early hospital notification with the ECG. **Never elevate the legs for shock** — supine and flat; leg elevation is not a valid treatment.

IF THEY SURVIVE — WHAT DAMAGE MEANS LATER

- **Electrical:** ventricular arrhythmias, conduction disease; ICD evaluation at LVEF ≤40% (≥40 days post-MI, ≥90 days post-revascularization); high-grade block may need permanent pacing.
- **Pump failure:** cardiogenic shock → emergency revascularization of the culprit vessel regardless of time from symptom onset; mechanical support for severe cases.
- **Mechanical:** septal rupture, papillary muscle rupture with acute MR, free wall rupture — surgical emergencies.
- **Other:** early pericarditis, Dressler syndrome weeks later, LV thrombus after large anterior MI (stroke risk).
- **Heart failure is the most common long-term consequence** — LVEF is measured before discharge to guide therapy and risk. **The speed of the original call sets the function they keep for life.**

Education, not medical direction. Follow your local protocols and your local scope of practice. Sources: 2025 ACC/AHA/ACEP/NAEMSP/SCAI Guideline for the Management of Patients With Acute Coronary Syndromes; 2025 AHA Guidelines for CPR and Emergency Cardiovascular Care, Part 7: Adult Basic Life Support. EMT Tutor · Munden Interactive · emttutor.com