Minnesota Mission: Lifeline EMS STEMI Transport Guideline

Obtain 12 L ECG with Initial Assessment & Vital Signs

Goal: First Medical contact to ECG ≤ 10 min, Scene time: ≤ 15 minutes
-to provide early identification and pre-hospital arrival notification for suspected myocardial infarction or STEMI.

- Chest pain, pressure, tightness or persistent discomfort above the waist in pts. ≥ 35 yrs. of age
- "Heartburn" or epigastric pain
- Complaints of “heart racing” (HR >150 or irregular and >120) or “heart too slow” (HR < 50 and symptomatic)
- A syncopal episode, severe weakness, or unexplained fatigue
- New onset stroke symptoms (< 24 hours old)
- Difficulty breathing or shortness of breath (with no obvious non-cardiac cause)
- ROSC (return of spontaneous circulation) post cardiac arrest
- Recent Cocaine, stimulant and/or other Illicit drug use (patients of any age)

If initial ECG is not diagnostic but suspicion remains high for ACS (acute coronary syndrome) and symptoms persist, obtain serial ECG’s at 5-10 minute intervals

Pre- Hospital STEMI ALERT Activation Criteria:

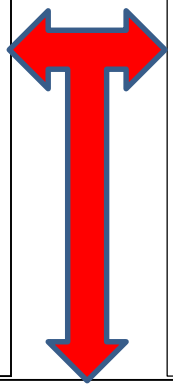
Goal: Identify potential ACS patents, Recognize STEMI, Alert Receiving Facility

Activate STEMI Alert when any **one** or more of the following criteria are met and patient demonstrates signs & symptoms suspect of (AMI) acute myocardial infarction as described above with a duration of ≥15 minutes ≤24 hours

1. EMS personnel trained in 12 L ECG interpretation recognize ST segment elevation of ≥ 1 mm in 2 contiguous leads
2. Interpretation of ECG transmitted and reviewed by a provider (Physician, NP, PA) confirmed to be diagnostic of STEMI
3. 12 Lead ECG Monitor Algorithm Interpretative statement reads: “Acute Myocardial Infarction”

Determine Transport Destination

- **Transport time estimated to be ≤ 60 minutes**
  Goal FMC to PCI ≤ 120 minutes
- Notify medical control of STEMI and consider transport via the most expedient method available to the nearest PCI Capable Receiving Hospital for Primary PCI.
- Activate STEMI Alert at receiving facility and transmit 12 L ECG as able
- Consider Air Transport



- **Transport time estimated to be ≥ 60 minutes**
  Goal Door to Thrombolysis administration ≤ 30 min
- Notify medical control and consider transport to the closest appropriate non-PCI capable referring hospital for possible thrombolytic therapy and subsequent urgent transfer to a PCI Capable Receiving Facility for reperfusion.
- Initiate thrombolytic contraindication checklist per protocol
- Activate STEMI Alert at receiving facility and transmit 12 L ECG as able for provider confirmation
- Consider Air Transport

Diversion Criteria

If patient demonstrates instability and/or has any one of the following criteria that may require ED evaluation and treatment by a practitioner proceed to **nearest appropriate hospital:**

- Symptoms suggestive of acute stroke or neurological evaluation
- Respiratory or Circulatory Instability
- Chest trauma or MVC victims
- DNR Status
- Consider Left Bundle Branch Block

(version revised 4/2015)

BLS & ALS

- Administer Oxygen to maintain SpO2 90% - 94% titrate as needed starting at 2 LPM per nasal cannula
- Obtain Systolic/Diastolic blood pressure (BP) in both arms
- Administer Chewable Aspirin 81 mg x 4 by mouth
- Evaluate if Erectile Dysfunction or Pulmonary hypertension medications taken in the past 24 hours including: Sildenafil (Viagra, Revatio), Vardenafil (Levitra, Staxyn), or Avanafil (Stendra), Tadalafil (Cialis, Adcirca). Hold nitrates for 48 hours following the last dose
- Administer Nitroglycerin Sublingual 0.4 mg every 5 minutes up to 3 doses if chest discomfort present and SBP > 100. Check BP prior to each administering dose. Hold if SBP $\leq$ 90.
- BLS only: Request ALS Intercept per local protocol (if transport time exceeds 15 min)
- Establish large bore IV Access (L) *upper extremity preferred*. Establish a 2nd IV line as time allows.

ALS

- If available consider:
  - Ticagrelor (Brilinta) 180 mg by mouth if transferring for PPCI with confirmation by PCI Receiving Facility and local medical control per protocol *** Do Not Administer Both Clopidogrel and Ticagrelor
    OR
  - *If Ticagrelor not available, then give Clopidogrel 600 mg* by mouth if transferring for PPCI with confirmation by PCI Receiving Facility and local medical control per protocol
- Heparin IV Bolus 60 Units/kg, max 4,000 Units (No IV Heparin Drip) if transferring for PPCI after confirmation by PCI Receiving Facility and local medical control per protocol
- Establish a Nitroglycerine IV Drip if chest discomfort is unrelieved. Initiate @ 5 mcg/min & titrate in increments of 5mcg/min every 5 minutes for chest discomfort per protocol. Maintain a systolic BP of $\geq$90 mm/Hg or greater. Hold nitrates as indicated for crtieria above.
- Administer Analgesia as needed per protocol

Documentation Reminders:

- ✓ Provide a printed copy of EMS Run Sheet, and 12 L ECG with Report to the receiving hospital ED staff
- ✓ Document Date and Time of:
  - EMS dispatch, First Medical Patient Contact, Scene departure, STEMI alert requested
- ✓ Document EMS agency number, and EMS run number

AHA Mission: Lifeline EMS Best Practice Goals

1. All patients with non-traumatic chest discomfort, ≥ 35 yrs. of age, treated and transported by EMS receive a pre-hospital 12-lead electrocardiogram
2. All STEMI patients transported directly to a STEMI receiving center, receive a first (pre-hospital) medical contact to PCI time $\leq$ 90 minutes directly or $\leq$120 minutes for Interfacility hospital transfers
3. All thrombolytic eligible STEMI patients treated and transported to a referring hospital for fibrinolytic therapy receive a door to needle time $\leq$ 30 minutes

AHA Mission: Lifeline EMS Recognition Achievement Measures:

1. Percentage of patients with non-traumatic chest pain ≥ 35 years, treated and transported by EMS who receive a pre-hospital 12-lead electrocardiogram
2. Percentage of STEMI patients treated and transported directly to a STEMI receiving center, with pre-hospital first medical contact to device time $\leq$ 90 minutes
3. Percentage of lytic eligible STEMI patients treated and transported to a STEMI referring hospital for thrombolytic therapy with a door to administration time $\leq$ 30 minutes

(version reviewed 4-2015)