

## Mission: Lifeline Nebraska EMS STEMI Guideline

### ALS and BLS - Obtain 12 L ECG with Initial Vital Signs

**Goal:** First Medical Contact (FMC) to ECG  $\leq 10$  min, Scene time:  $\leq 15$  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.  $\geq 35$  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 (pts. of any age)
- *If initial ECG is not diagnostic but suspicion is high for MI and symptoms persist, obtain serial ECG's at 5-10 minute intervals*

### PRE-HOSPITAL STEMI ALERT Activation Criteria:

**\*\*Goal:** Identify STEMI, Alert receiving facility- do not delay transport. Activate STEMI Alert when any one of the following criteria met & signs & symptoms suspect of (AMI) acute myocardial infarction including chest discomfort as described below are demonstrated with a duration of  $>15$  minutes  $<24$  hours

#### **BLS –**

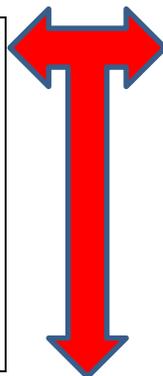
- Transmit 12 Lead ECG and obtain interpretation by hospital staff or other qualified ALS personnel
- Alert hospital staff or qualified ALS personnel if ECG Monitor interpretive statement infers: "Acute Myocardial Infarction" and patient has signs & symptoms suspect of acute myocardial infarction including chest discomfort and symptoms listed above

#### **ALS –**

- 12 L ECG trained ALS EMS recognize ST segment elevation of  $\geq 1$  mm in 2 contiguous leads
- Confirmed Interpretation of STEMI transmitted and reviewed by a Practitioner (Physician, NP, PA)
- ECG Monitor interpretive statement infers: "Acute Myocardial Infarction" with signs & symptoms suspect of acute myocardial infarction including chest discomfort and symptoms listed above
- ACI-TIPI score of 75 or greater

### **Determine Transport Destination**

- If FMC to PCI can be achieved in  $<90$  minutes, arrange for ALS (air or ground) intercept and transport directly to PCI Capable Receiving Hospital for Primary PCI
- **Activate STEMI Alert**, transmit 12 L ECG as able, provide report to receiving hospital



- If FMC to PCI is  $> 90$  minutes, transport to the closest appropriate non-PCI capable referring hospital for possible fibrinolytic therapy and urgent transfer to a PCI capable Receiving Facility for reperfusion
- **Activate STEMI Alert**, transmit 12 L ECG as able, provide report to receiving hospital

**Diversion Criteria:**

If patient demonstrates instability and/or has any one of the following Diversion Criteria requiring ED evaluation by a practitioner proceed to **closest appropriate hospital:**

- Possible need of head CT or neurological intervention / Confusion
- Emergent intubation Immediate circulatory stabilization
- Chest trauma or MVC victims
- Consider DNR Status
- Consider scoring with Sgarbossa Criteria

**BLS & ALS**

- Administer **O2 starting at 2 L/Min per nasal cannula**, titrate as needed to maintain SpO2 > 92%
- Obtain Systolic/Diastolic **blood pressure (BP)** in both arms
- Administer **Chewable Aspirin 324 mg** by mouth or rectally
- 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 < 100 mm HG (**Note: BLS providers are only able to assist patients with self-administration of their own prescribed sublingual nitroglycerin**)
- 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
- BLS only: Request ALS Intercept per local protocol
- Establish large bore **IV (L)** upper extremity preferred) **access per protocol – Normal Saline 500ml KVO**  
Establish a 2nd IV line as time allows

**ALS**

- **Clopidogrel (Plavix) 300 mg** by mouth if transferring for PPCI after confirmation by PCI Receiving Facility and local medical control per protocol
- Establish a **Nitroglycerine IV Drip (if appropriate)** if chest discomfort is unrelieved. Delivered via pump only, initiate @ 5 mcg/min & titrate in increments of 5mcg/min to maintain a systolic BP of 100 mm/Hg or greater. Hold nitrates as indicated
- Administer **Analgesia** as needed for discomfort per protocol

**Documentation Reminders:**

- ✓ Provide Copy of eNARSIS report with verbal report to RN or MD
- ✓ If STEMI/AMI alert is requested of the receiving hospital, document the time
- ✓ Provide a Printed or Electronic Copy of Pre-Hospital 12 L ECG with Report to RN or MD

**Patient Care Goals:**

- Provide early identification of patients and early notification of the hospital for suspected AMI or STEMI
- Utilize an assessment tool that may reduce the time from onset of symptoms to receiving definitive cardiac interventions at the receiving hospital
- Prepare patient for immediate transport with indicated medications administered en route to hospital. Attempt to limit the scene time to the shortest time possible

**AHA Mission: Lifeline EMS Best Practice Goals**

1. All patients with non-traumatic chest discomfort,  $\geq 35$  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 lytic 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 Reporting Measures:**

1. Time from symptom onset to EMS dispatch
2. Time from dispatch to EMS vehicle arrival at receiving or referring hospital door
3. Number of suspected AMI/STEMI patients treated and transported by EMS who receive a 12-lead ECG
4. Number of STEMI patients treated and transported to a referring hospital for potential reperfusion by fibrinolysis therapy who receive a Fibrinolytic Checklist Screening enroute to identify possible contraindications
5. Number of STEMI patients who received a pre-hospital ECG, recognized STEMI, and called for a STEMI Alert at the receiving or referring hospital prior to arrival