The following protocol is designed to manage the patient who presents with signs and symptoms of STEMI. Rapid assessment and care is essential. Rapid assessment and transport to a STEMI Center for definitive care is paramount.

**Adult Care**

### ALS

1. Perform a 12 lead ECG, if not already performed per Protocol 10. Rule out Right Ventricular Involvement prior to administering Nitroglycerin. *(Section A below)*

2. Administer Aspirin, 324 mg (4 chewable tablets) orally (PO). If the patient already received Aspirin per Protocol 10 do not administer additional Aspirin. Have the patient chew and swallow the baby aspirins. Prior to administration, assess the patient’s history for the presence of possible contraindications to aspirin administration, which include:
   a) Known allergy to aspirin.
   b) History of bleeding ulcers.

3. If patient has a true allergy to Aspirin administer Plavix 75 mg (1 tablet) orally (PO). Have the patient swallow the tablet whole. Plavix is not to be chewed Medication 28

4. Administer Nitroglycerin, 0.4 mg SL *(SEE NOTE)*.
   a) Repeat Nitroglycerin every 3-5 minutes if systolic BP remains above 90mmHg or until complete relief of signs or symptoms. Maximum of 3 doses.

5. Administer Fentanyl, 50 mcg SLOW IVP. Medication 16
   a) May repeat Fentanyl (50 mcg slow IVP) after 3-5 minutes if systolic BP remains above 90mmHg.

**NOTE:** Fentanyl may be given concurrently with Nitroglycerin as soon as an IV has been established.

6. Administer Zofran 4mg SL *(Medication 33)*. Zofran is contraindicated in pregnant females. Medication 33

A “STEMI Alert” will be declared and transmitted to the Fire Alarm Office immediately upon determining that a patient meets STEMI Alert Criteria. The FAO will notify the appropriate personnel and receiving hospital via telephone. This will not replace the need for the unit OIC to contact the receiving facility as soon as possible to relay pertinent patient information.

A STEMI patient, as defined below, will be transported to the closest appropriate STEMI facility using the most appropriate method of transport.
A. STEMI Patient

All patients with a 12 lead EKG displaying ST segment elevation in **2 or more contiguous leads**. ST segment elevation is defined as:

1. At least **1mm** (1 small box) of elevation in the limb leads
2. At least **2mm** (2 small boxes) of elevation in the V leads
3. The EKG must be free of artifact, and have obvious and conclusive ST segment elevation to declare a “STEMI Alert.”

Right Ventricular Infarction (RV Infarct)

Patients presenting with an inferior wall Myocardial Infarction or STEMI (elevation in leads II, III, AVF) shall have a right sided 12 lead EKG performed (V4R) to rule out right ventricular involvement.

1. Place the V4 electrode in the 5th **right intercostal space** in the midclavicular line.
2. Move and attach the lead (cable) from V4L to V4R.
3. Perform a second 12 lead EKG and only evaluate lead V4.
4. Label the second 12 lead EKG as “V4R”.
5. Right ventricular infarction is confirmed by the presence of ST elevation in the right-sided leads (V4R).

Patients with RV infarction are very **preload sensitive** (due to poor RV contractility) and can develop **severe hypotension in response to nitrates** or other preload-reducing agents.

**ALS**

A. Maintain oxygen saturation ≥ 94% so as to avoid potential oxygen toxicity.
B. Establish vascular access.
C. Fluid bolus of up to 1000mL of NS. Monitor patient’s B/P and lung sounds often.
D. If systolic B/P ≥ 110 mmHg administer NTG spray SL every 5 minutes, reassessing vitals prior to administration.
E. If systolic B/P drops below 110 mmHg withhold NTG and re-bolus patient until B/P increases then continue with the administration of nitrates.
Cardiac High Risk (Non-STEMI) Patient. A cardiac patient, who meets any of the criteria below will be transported to the closest appropriate STEMI facility using ground transport. A STEMI Alert will NOT be declared for these patients.

Non-Cardiac Alert / High Risk Non-STEMI Criteria

A. A patient with 12-Lead ECG with ST depression in two or more contiguous leads accompanied by clinical signs and symptoms.

OR

B. A patient who presents with clinical signs/symptoms accompanied by TWO of the following STEMI Risk Factors:

1. Hypertension
2. Diabetes
3. Elevated cholesterol
4. Smoker
5. Obese

C. A patient who presents with clinical signs/symptoms and a normal EKG accompanied by ONE of the following STEMI Risk Factors:

1. History of previous STEMI
2. History of bypass surgery/procedure
3. History of previous cardiac catheterization
4. History of stroke or TIA

PROTOCOL NOTES:

DO NOT administer Nitroglycerin if a patient is known or suspected to have taken Viagra (sildenafil), Revatio (sildenafil) or Levitra (vardenafil) within the last 24-hours OR Cialis (tadalafil), Adcirca (tadalafil) within the last 72 hours. There may be additional sexually enhancing drugs that apply. Revatio is prescribed for pulmonary hypertension.
CHEST PAIN / STEMI

Initial Assessment
Protocol 1

Administer chewable Aspirin 324mg ASAP after confirming no allergy
Place patient on Oxygen as needed

Assess Vital Signs
Ask about sexual enhancing drugs

12 Lead ECG

NO

BP > 90

Treat for shock

YES

NTG SL EVERY 3-5 MINUTES
Max. 3 doses
(rule out RV Infarct first)

Establish IV ASAP
Begin giving Nitroglycerin / Fentanyl
Concurrently every 3-5min as long as BP >90

Administer Zofran 4mg SL after the administration of Fentanyl

Transport to STEMI Facility as dictated by Protocol 11.
Nitro / Fentanyl concurrently until relief of pain or BP<90
Vital signs / Serial 12 lead every 5 minutes

STEMI ALERT CRITERIA
STEMI Patient –
All patients with a 12 lead EKG displaying
ST segment elevation in 2 or more contiguous leads. ST segment elevation
is defined as:
1. At least 1mm (1 small box) of elevation in the limb leads
2. At least 2mm (2 small boxes) of elevation in the V leads
3. The EKG must be free of artifact,
and have obvious and conclusive ST segment elevation in order to declare a “STEMI alert.”

Perform serial 12 lead ECG’s
Monitor patient and treat signs and symptoms
Treat for shock as needed
Provide rapid transport
Perform a V4R for an inferior wall STEMI and treat accordingly