

The following protocol is designed to manage the patient who presents with signs and symptoms of a ST-Elevation Myocardial Infarction (STEMI). Rapid assessment and care are essential. Rapid assessment and transport to a STEMI Center for definitive care is paramount.

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## **A. STEMI Management**

### *Adult Care*

#### **ALS**

1. Perform a 12-Lead ECG, if not already performed per [Protocol 10](#).
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. Administer **Nitroglycerin 0.4 mg SL** (SEE NOTE).
  - a) Repeat Nitroglycerin every 3-5 minutes if systolic BP remains above 90 mmHg or until complete relief of signs or symptoms. Maximum of 3 doses.
4. Administer **Fentanyl 50 mcg slow IVP**. [Medication 16](#).
  - a) May repeat once, **Fentanyl 50 mcg slow IVP** after 3-5 minutes if systolic BP remains above 90 mmHg.

**NOTE: Fentanyl may be given concurrently with Nitroglycerin as soon as an IV is established. If an inferior wall MI is suspected, rule out Right Ventricular Infarction prior to administering Nitroglycerin.**

5. Administer **Zofran 4 mg SL/SLOW IVP or IM** (Do not administer to pregnant females) [Medication 33](#).

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## B. 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 ECG performed (V4R) to rule out right ventricular involvement. 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.

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

### ALS

6. Maintain oxygen saturation  $\geq 94\%$  so as to avoid potential oxygen toxicity.
7. Establish vascular access.
8. Administer **fluid bolus up to 1000 mL of NS**. Monitor patient's B/P and lung sounds often.
9. If systolic B/P  $\geq 110$  mmHg administer **Nitroglycerin 0.4 mg SL** every 5 minutes (Max total 3 doses), reassessing vitals prior to administration.
10. If systolic B/P drops below 110 mmHg withhold NTG and re-bolus patient until B/P increases, then continue with the administration of NTG.

## C. STEMI Alert

All patients with a 12-Lead ECG displaying ST-segment elevation in **2 or more contiguous leads** shall be declared a "STEMI Alert." ST-segment elevation is defined as:

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

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 will be transported to the closest appropriate STEMI facility using the most appropriate method of transport.

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## **D. Cardiac High Risk (Non-STEMI)**

**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.

- 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

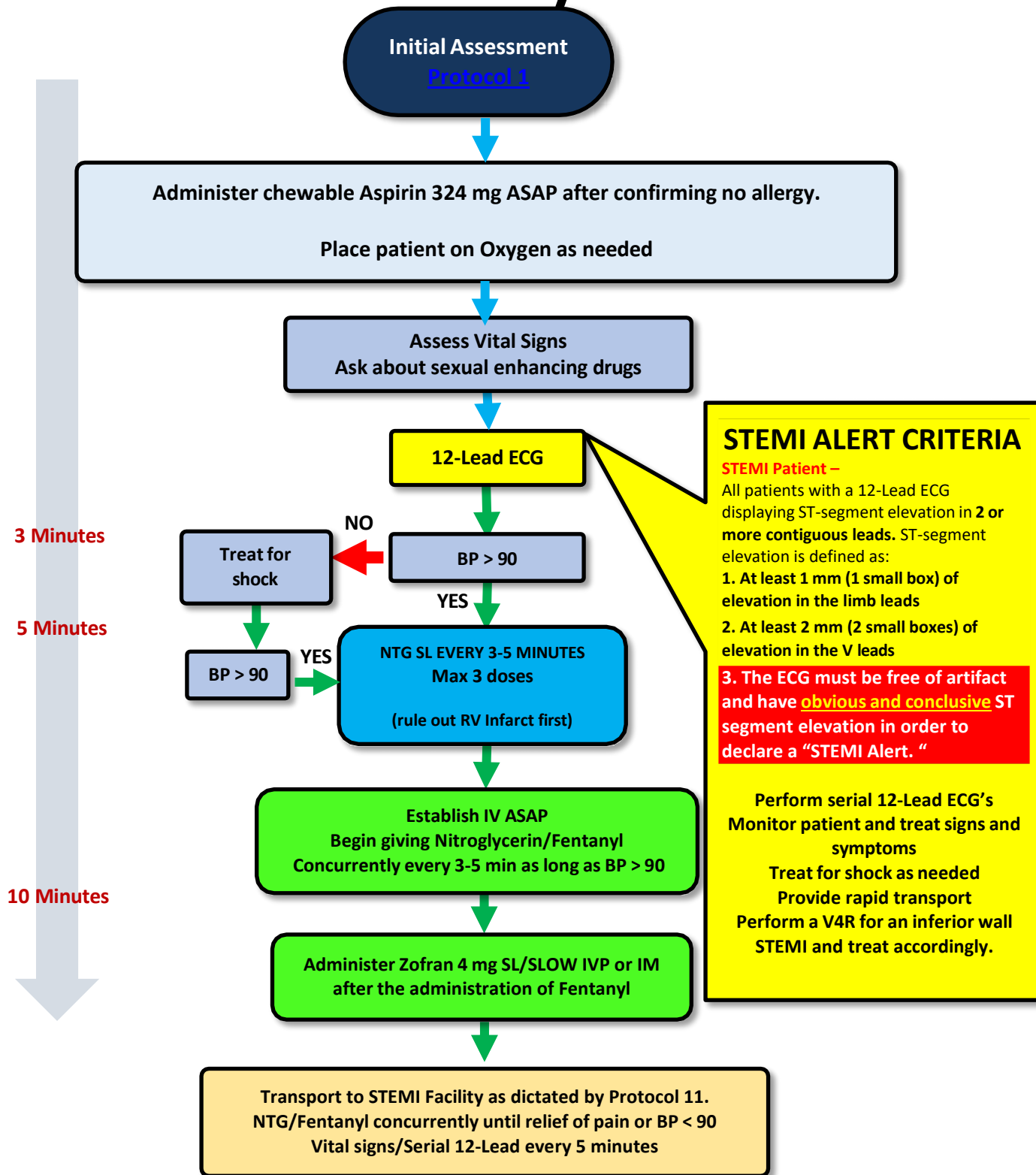
- C. A patient who presents with clinical signs/symptoms and a normal EKG accompanied by ONE of the following STEMI Risk Factors:

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

### **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



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