Des Moines STEMI Protocol
Interfacility Transfer

<table>
<thead>
<tr>
<th>Transferring Hospital: __________________________</th>
<th>Patient Name</th>
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<tbody>
<tr>
<td>City: _________________________________</td>
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<tr>
<td>ED phone #: ____________________________</td>
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<tr>
<td>ED Provider: __________________________</td>
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Date: __________

STEMI (ST Elevation Myocardial Infarction) Diagnosis CRITERIA

- ST elevation at the J point in:
  - MEN: at least 2 contiguous leads of ≥ 2mm
  - WOMEN: ≥ 1.5 mm in leads V2-V3 and/or of ≥ 1mm in other contiguous chest leads or the limb leads
- New, or presumably new, LBBB presentation occurs infrequently and may interfere with ST-elevation analysis, and should not be considered diagnostic of acute myocardial infarction (MI) in isolation; if in doubt, immediate consultation with PCI receiving center is recommended
- ECG demonstrates evidence of ST depression suspect of a Posterior MI; consult with PCI receiving center
- If initial EKG is not diagnostic but suspicion is high for STEMI, obtain serial 12 Lead ECGs at 5-10 minute intervals

Activate Transport
Consider availability and ETA of Air or Ground ALS EMS for transfer to PCI Center

<table>
<thead>
<tr>
<th>Estimated Air Transport: __________</th>
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<tr>
<td>Estimated Ground Transport: ________</td>
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Choose STEMI Pathway:
Primary PCI vs Fibrinolysis considerations

- Contraindications to Lytics (see back): Yes No
- Symptom Onset: __________
- First Medical Contact (FMC): __________
- ETA at PCI Hospital: __________
- Estimated FMC to potential PCI __________

Unity Point:
(800) 806-1787
FAX: 844-206-0062

Alert STEMI Receiving Hospital
DO NOT DELAY

Mercy Medical Center:
(877) 886-3729
FAX: (515) 643-5874

Standing Orders – Patient Care

Top Priorities
- Vital signs and assess Pain on scale of 1-10
- Apply Cardiac Monitor
- Establish Saline Lock (left arm preferred)
- Oxygen PRN to keep SpO2 >92%
- Assess Allergies (note IV contrast on back)

When time allows
- Establish 2nd IV with Normal Saline TKO
- Cardiac Lab Panel Fax when available
- Evaluate Erectile Dysfunction or Pulmonary Hypertension medications taken in the past 24 hours.
  - If yes, hold nitrates for 48 hours
    - Yes No
- TRANSPORT ASAP *Do not delay waiting on LABS*

Estimated FMC to PCI < 120 minutes or
FMC to PCI > 120 and one of the following: Fibrinolytic ineligible, Cardiogenic Shock or Acute Severe HF, or resuscitated out-of hospital cardiac arrest- initial ECG shows STEMI

PRIMARY PCI

- Aspirin 324 mg (81mg x4) chewed
- Antiplatelet:
  - Brilinta 180 mg or Plavix 600 mg PO
  - Heparin IV Bolus (60 units/kg, max 4000 units)
    - No IV heparin drip
  - Transport patient directly to Cath Lab for PCI

Estimated FMC to PCI > 120 minutes and
Fibrinolytic appropriate (see list on back)
Goal: Door to Needle < 30 minutes

FIBRINOLYSIS

- Aspirin 324 mg (81mg x4) chewed
- Tenecteplase IV (TNKase) per protocol(see back)
  - Age 75 or older GIVE ½ DOSE
- Plavix 300 mg PO
  - Age 75 or older GIVE 75 mg
- Heparin IV Bolus (60 units/kg, max 4000 units)
- Heparin IV Drip (12 Units/kg/hr, max 1,000 Units/hr)

Approved 4-1-2015
## Tenecteplase (TNKase) Dosing

<table>
<thead>
<tr>
<th>Weight</th>
<th><strong>FULL Dose</strong></th>
<th><strong>HALF-DOSE</strong></th>
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<tbody>
<tr>
<td>59 kg or less</td>
<td>30 mg = 6 mL</td>
<td>15 mg = 3 mL</td>
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<tr>
<td>60 - 69 kg</td>
<td>35 mg = 7 mL</td>
<td>18 = 3.5 mL</td>
</tr>
<tr>
<td>70 - 79 kg</td>
<td>40 mg = 8 mL</td>
<td>20 mg = 4 mL</td>
</tr>
<tr>
<td>80 - 90 kg</td>
<td>45 mg = 9 mL</td>
<td>23 mg = 4.5 mL</td>
</tr>
<tr>
<td>90 kg or more</td>
<td>50 mg = 10 mL</td>
<td>25 mg = 5 mL</td>
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**Age 75 or older**

### Absolute Contraindications for Fibrinolysis (TNK) in STEMI
1. Chest Pain / Symptom Onset > 12 hours
2. Any prior intracranial hemorrhage
3. Known structural cerebral vascular lesion
4. Known malignant intracranial neoplasm
5. Ischemic Stroke within 3 months except acute ischemic stroke within 3 hrs.
6. Suspected Aortic dissection
7. Active bleeding or bleeding diathesis (excluding menses)
8. Significant closed head or facial trauma within three months

### Relative contraindications for Fibrinolysis (TNK) in STEMI
1. Symptoms Onset > 6 hrs. prior to presentation (Consult Cardiology)
2. Current Use of oral anticoagulants (Coumadin, Pradaxa, Xarelto, Eliquis)
3. History of chronic, severe or poorly controlled HTN
4. Uncontrolled HTN on presentation (SBP>180, DBP>110)
5. History of prior ischemic stroke >3 months, dementia, or known intracranial pathology not covered in contraindications
6. Traumatic or prolonged CPR >10 minutes
7. Major Surgery (within last 3 weeks)
8. Recent Internal bleeding (within last 2-4 weeks)
9. Non compressible vascular punctures
10. Pregnancy
11. Active peptic ulcer

### PRN Medications
- Nitroglycerin 0.4 mg SL every 5 min (hold for BP < 90; or erectile dysfunction or pulmonary hypertension meds given within 48 hours)
- Morphine 1-5 mg IV or Fentanyl 50 mcg IV for pain
- Ondansetron 4mg oral or IV
- Metoprolol 25mg PO or 5 mg IV

### Notes:

- **Document Times**
  - Chest Pain - Symptom Onset
  - Pre-Hospital ECG
  - Hospital Arrival (Door)
  - Hospital 1st ECG
  - STEMI ECG (if 1st ECG is negative)
  - STEMI Protocol Activation
  - Transport Departure
  - Air  Ground

**AHA Mission Lifeline STEMI Recommendations:**
- FMC (First Medical Contact) - to - First ECG time < 10 minutes unless pre-hospital ECG obtained
- All eligible STEMI patients receive Reperfusion Therapy (Primary PCI vs Fibrinolysis)
- Fibrinolytic eligible STEMI patients receiving Door to Needle time ≤ 30 minutes
- Primary PCI eligible patients Door in - Door out (Length of Stay) time of ≤ 45 minutes
- Referring Center ED or First Medical Contact - to PCI time ≤ 120 minutes (includes transportation time)
- All STEMI patients without contraindications receive Aspirin prior to referring center ED discharge