STEMI patients presenting to this Emergency Dept without reasonable expectation of PCI within 90 minutes of presentation should undergo thrombolysis within 30 minutes unless contraindicated (this recommendation based on AHA/ACC Class I evidence).

In general, short symptom duration, age <75, large infarcts, anterior ST elevation, large reciprocal changes and clear ECG evidence of STEMI indicate patients who may derive the greatest benefit from early administration of thrombolytics if delay to PCI exceeds 1 hour.

I. Consider thrombolytics as the preferred therapy if all the following are true:

- Y □ N **Transportation time to DHMC is likely more than 1 hour**?
  (Sometimes the case if transport is not immediately available.)
- Y □ N Symptoms started less than 3 hours ago?
- Y □ N Clear ST elevation in 2 or more contiguous leads >1mm or new LBBB?
- Y □ N Patient has no absolute contraindications to thrombolytics? (listed below)
- Y □ N Patient is stable w/o signs of cardiogenic shock? (for shock, PCI is preferred)

II. Absolute contraindications: avoid thrombolytics if any answer is “yes”

- Y □ N Has the patient ever had an intracranial hemorrhage of any sort?
- Y □ N Does the patient have a known structural cerebral vascular lesion (i.e. AVM)?
- Y □ N Is the patient suffering from primary or metastatic brain cancer?
- Y □ N Has the patient had an ischemic stroke within 3 months but not within 3 hrs?
- Y □ N Do you think the patient is having an aortic dissection?
- Y □ N Is the patient currently having active bleeding? (excluding menses)
- Y □ N Has the patient had significant closed head or facial trauma within 3 months?

III. Relative contraindications: benefit of PCI may be > thrombolytics, particularly if multiple factors are present. Reasonably assess combined factors.

- Y □ N History of chronic severe, poorly controlled hypertension
- Y □ N Severe hypertension on presentation (SBP >180 or DBP >110)
- Y □ N History of stroke over three months ago or ? intracranial pathology (not ICH or CA)
- Y □ N Recent, vigorous CPR for > 10 minutes or major surgery within 3 weeks
- Y □ N Internal bleeding within 2-4 weeks but not currently
- Y □ N Noncompressible vascular punctures / Pregnancy
- Y □ N A questionable dx of STEMI (ECG findings not clear or not diagnostic)
- Y □ N Prior multiple cardiac stents or known hx of severe CAD
- Y □ N Age over 75 (age alone is NOT a contraindication to thrombolytics, only a consideration)

IV. If patient clearly fits criteria for thrombolytic therapy, proceed immediately! If you are not sure, prepare for thrombolysis (mix drug) while waiting to talk to DHMC Cardiology Fellow. Continue to work on transport options. Stable postlytic patients may not need air transport.

Please view other side for specific thrombolytic information
(Note: Thrombolytic choice is site dependent – instructions for your site placed here or on back of Physician checklist)

Remember, Time = Muscle! Door to needle goal <30 minutes!

**Reteplase (r-PA):**
10 units IV bolus over 2 minutes, then 10 units IV bolus over 2 minutes 30 minutes later (not on formulary at DHMC)
Note: incompatible with heparin, stop heparin during bolus or use alternative IV site

(OR)

**Tenecteplase (TNK):**
Weight based, administer by IV bolus over 5 seconds

<table>
<thead>
<tr>
<th>Weight</th>
<th>Dose</th>
<th>Volume*</th>
</tr>
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<tbody>
<tr>
<td>&lt; 60 kg</td>
<td>30 mg</td>
<td>6 ml</td>
</tr>
<tr>
<td>60-70 kg</td>
<td>35 mg</td>
<td>7 ml</td>
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<tr>
<td>71-80 kg</td>
<td>40 mg</td>
<td>8 ml</td>
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<tr>
<td>81-90 kg</td>
<td>45 mg</td>
<td>9 ml</td>
</tr>
<tr>
<td>&gt;90 kg</td>
<td>50 mg</td>
<td>10 ml</td>
</tr>
</tbody>
</table>

* Volume from one vial (50mg) tenecteplase reconstituted with 10ml sterile water for injection.
Note: incompatible with dextrose solutions

**PLUS**

**Clopidogrel:** According to patient age
- 300mg orally for patients < 75 years
- 75 mg orally for patients ≥ 75 years

**PLUS**

**Unfractionated heparin:**
bolus of 60 units/kg (maximum of 4000 units) followed by infusion of 12 units/kg/hr (max 1,000 units/hr)

(OR)

**Enoxaparin:** According to patient age and if no Hx of renal impairment
- < 75 years: 30 mg IV bolus and subcutaneous injection 1.0 mg/kg
- ≥75 years: No Bolus! subcutaneous injection 0.75 mg/kg

January 2009