STEMI Reperfusion Worksheet: PCI vs TNK

1. STEMI Patient: Is there criteria for reperfusion therapy?

A.	Symptoms lasting longer than 20 minutes and less than 12 hours?	Yes	No
B.	i) 2mm of ST elevation in two or more contiguous precordial (chest) leads; or ii) 1mm of ST elevation in two or more limb leads; or iii) A presumably new LBBB?	Yes	No

If both 'YES' refer to Reperfusion Options below

If ST elevation present in any one inferior lead (II, III, aVF) or ST depression present in V1 & V2, consider obtaining a 15 lead ECG

Septal MI (≥2mm ST↑ V1, V2)
Anterior MI (≥2mm ST↑ V3, V4)
Inferior MI (≥1mm ST↑ in at least 2 leads of II, III, aVF or V4R)
Lateral MI (≥1mm ST↑ in at least 2 leads of I, aVL, V5, V6)
Posterior MI (≥1mm ST↓ in V1-V2 and ≥1mm ST↑ in V8, V9)

2. STEMI Management

General care of STEMI patient

- Oxygen (to target SpO2 between 94-99%), ASA, Nitroglycerin, Morphine as per ischemic chest pain guidelines
- Obtain 2 IVs (if possible); preferably 18 gauge in LEFT arm (1 line and 1 lock)

3. Reperfusion Options

A. Direct-to-PCI:

STEMI patient and time from diagnostic ECG to QEII 60 minutes or less? Yes No

If yes, transmit 12 lead to QEII, contact charge MD and discuss the following with the emergency physician

- Identify yourself, registration level, call location, and reason for call (possible PCI candidate)
- Confirm receipt of ECG and ensure ECG matches the patient
- Agree on interpretation
- Discuss patient signs and symptoms and vitals
- Discuss if the patient has:
  - i) Serious systemic disease / terminal co-morbidity that will limit lifespan less than one year? Yes No
  - ii) Severe dementia? Yes No
  - iii) Prior CABG? Yes No
- Confirm appropriate destination choice
- Discuss back up plan in the event of complications
- Provide ETA to ED
- If going direct-to-PCI - Administer 300mg PO Plavix (Clopidogrel)
- If time allows, complete 'Exclusion criteria for fibrinolysis' section (below)

Please let QEII physician know if the patient has a latex allergy

Not Direct-to-PCI candidate? Consider fibrinolysis (go to Reperfusion Option B)

---------- **OR** ----------

B. Early Fibrinolysis:

STEMI patient and time to PCI lab more than 60 minutes or patient not candidate for PCI

Exclusion criteria for fibrinolysis:

i)	Active bleeding or known bleeding/clotting disorder or on blood thinners [e.g. warfarin (Coumadin), dabigatran (Pradax), rivaroxaban (Xarelto)]?	Yes	No
ii)	Recent (within 6 wks) major trauma, surgery (including eye surgery), GI / GU bleed?	Yes	No
iii)	History of stroke, TIA, severe dementia or structural CNS damage (tumor, AV malformation, aneurysm)?	Yes	No
iv)	Significant closed head / facial trauma within last three (3) months?	Yes	No
v)	Significant hypertension (SBP > 180 or DsBP > 110) at any time from presentation?	Yes	No
vi)	Right arm versus left arm SBP difference of 15 mmHg?	Yes	No
vii)	Prolonged (greater than 10 minutes) CPR?	Yes	No
viii)	Cardiogenic shock (relative contraindication – would do best with PCI; consult with MD)	Yes	No

If fibrinolysis candidate:

- Transmit 12 lead to regional hospital
- Consult MD with information as outlined here
- Obtain consent from patient
- Proceed with management

Discussion with Emergency Physician for fibrinolysis

- Identify yourself, registration level, call location, and reason for call (possible fibrinolysis candidate)
- Confirm receipt of ECG and ensure ECG matches the patient
- Agree on interpretation
- Discuss patient signs and symptoms and vitals
- Confirm no exclusion criteria
- Confirm appropriate destination choice
- Discuss back up plan in the event of complications
- Provide ETA to ED

Consent to Treat With Pre-Hospital Fibrinolysis

You are having a heart attack resulting from a blocked artery in your heart caused by a blood clot. It is important that the blocked artery is opened. The medications we can provide in an attempt to re-open your blocked artery include aspirin, blood thinners, and a clot dissolving drug.

Your ECG has been sent to the Emergency Department and has been reviewed by Dr. _____. I have also spoken to Dr. _____ on the phone and discussed your signs and symptoms. The Doctor confirmed that you are having a heart attack and has recommended that we begin treatment prior to you arriving in hospital. The reason for the treatment prior to arrival is to reduce the amount of damage occurring to your heart muscle.

Prior to receiving this medication, we need to inform you of the potential risks involved. Specifically the clot busting medication (TNK) may cause bruising and bleeding from needle sites and internal bleeding. Bleeding in the brain occurs rarely, in about 1 in 100 patients, and can lead to permanent disability or death. Severe bleeding may require a blood transfusion and may be life threatening. While very rare, you need to be aware of the risks. The benefits of receiving this medication now exceed the risks.

This is the same medication that will be offered to you by a physician within the Emergency Department. It is being offered to you now to reduce the time that the heart attack is causing damage. If you decline the treatment we will continue to treat your symptoms within our protocols without using the clot busting drug. Are you interested in receiving the treatment? Do you have any questions about the therapy?

After discussion with MD and consent is obtained, reconstitute TNK with 10mL sterile water.

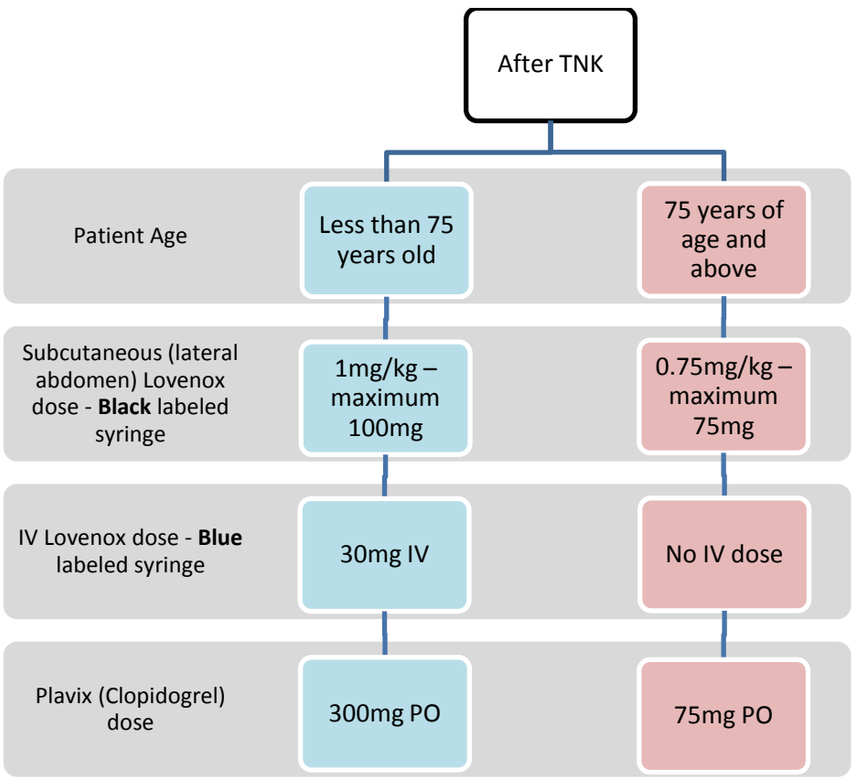
Fibrinolysis Medication Dosages

Administer TNK

Patient's weight: _____

TNK Dose (see table): _____

Weight kgs	Weight lbs	TNK (mg)	TNK (mL) administered
Less than 60	Less than 130	30	**6**
60 to 69	130 to 154	35	**7**
70 to 79	155 to 174	40	**8**
80 to 89	175 to 199	45	**9**
90 or greater	200 or greater	50	**10**



Subcutaneous Lovenox		
Weight kg (lbs)	**Less than75 years old**	**75 years and older**
50 (110)	50 mg	38 mg
60 (130)	60 mg	45 mg
70 (154)	70 mg	53 mg
80 (175)	80 mg	60 mg
90 (200)	90 mg	68 mg
≥ 100 (220)	100 mg	75 mg

Transfer of care to receiving staff

- Time of onset
- Medication list (most specifically if patient on any blood thinners)
- Medical history
- Vitals
- Did the patient go into cardiac arrest at any time during care?
- Does the patient currently have an arrhythmia or unstable rhythm?
- Interventions done