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Nepean Hospital Cardiac Service

ACUTE CORONARY SYNDROME THROMBOLYSIS WORKSHEET

ED Pres Date/Time / / : : To be completed for all patients presenting with STEMI

T H R O M B O L Y S I S P A T H W A Y 1

Meets all three criteria listed below for thrombolysis YES NO

- Chest pain less than 12 hours
- ST segment elevation >1mm in 2 or more contiguous leads or new LBBB
- Myocardial infarct likely from history

Thrombolysis Contraindicated from list below YES NO

- History of intracranial bleed/internal neoplasm / stroke <1 year
- Known haemorrhagic diathesis
- Concomitant therapy with anticoagulants (INR>2)
- Uncontrolled hypertension diastolic ie. BP >110mmHg or systolic <2-4weeksBP >180mmHg
- Prolonged cardiopulmonary resuscitation
- High risk of gastrointestinal or genitourinary bleed
- Severe hepatic or renal disease
- Acute pericarditis or subacute bacterial endocarditis
- Suspected Aortic dissection

Thrombolysis to be given with no contraindications

YES NO

Prior Streptokinase 6 days to 2 years

Yes → TnK Metalyse Commence IV heparin immediately

No → Contact Cardiologist on call and note decision below
Refer for Primary PTCA
No acute intervention

Age greater than 70 years

Yes → Streptokinase → Inferior MI?
Yes → Record right sided ECG

No

Inferior ST elevation

Yes → Evidence of large MI? Reciprocal change with ST depression V1-V4 or ST elevation V1-V4 leads
No → Streptokinase Record right-sided ECG Commence IV Heparin 6hrs post thrombolysis

No

Anterior ST elevation

Yes → TnK Metalyse Commence IV heparin immediately document next page

No → Review and revise diagnosis

Nursing documentation next page

IMPORTANT TIMES	Delay for thrombolysis	Reason for delayed thrombolysis
Time of pain onset <input type="text"/> : <input type="text"/>	0-30min <input type="checkbox"/>	<input type="checkbox"/> NIL
ED Arrival <input type="text"/> : <input type="text"/>	31-45min <input type="checkbox"/>	<input type="checkbox"/> ECG delayed recognition
1st ECG <input type="text"/> : <input type="text"/>	46-60min <input type="checkbox"/>	<input type="checkbox"/> Clinical assessment
Thrombolysis Commenced <input type="text"/> : <input type="text"/>	61-75min <input type="checkbox"/>	<input type="checkbox"/> Onset after admission
Thrombolysis finished <input type="text"/> : <input type="text"/>	76-90min <input type="checkbox"/>	
Transferred to CCU <input type="text"/> : <input type="text"/>	>90min <input type="checkbox"/>	

Please complete question 1 over leaf

M R / 1 6 3 A

Type of thrombolysis given

Estimated weight Kg

Streptokinase

Single infusion of 1.5mega U
in 100mls of normal saline over 60 minutes

Metalyse (TNK) Weight adjusted

with the maximum dose of 10,000IU.

Administered as a single intravenous bolus
over 10 seconds.

WEIGHT	Metalyse	IU	give
< 60kg	6,000u	= 6mls	<input type="checkbox"/>
60-69kg	7,000 u	=7mls	<input type="checkbox"/>
70-79kg	8,000 u	=8mls	<input type="checkbox"/>
80-89kg	9,000 u	=9mls	<input type="checkbox"/>
90kg	10,000 u	= 10mls	<input type="checkbox"/>

Weight adjusted Heparin

Heparin bolus of 5,000 units

Concentration is 25,000 units in 500mls of
Normal Saline
Infusion rate at

Important Times Attending
Nurse to Complete

Time Heparin commenced :

Heparin rate commenced

Time APPT due :

Weight	units/hr	mls/hr	given
<45kg	=750u/hr	15mls	<input type="checkbox"/>
46-60kg	=1,000u/hr	20mls	<input type="checkbox"/>
61-79kg	=1,250u/hr	25mls	<input type="checkbox"/>
80-96kg	=1,500u/hr	30mls	<input type="checkbox"/>
>97kg	=1,750u/hr	35mls	<input type="checkbox"/>

Nursing Staff Signature _____

Please Complete the following:

1 Pathway in accordance to presence of complications

Killips Class III or IV present? or Active Bleeding ?	YES Pathway 1 <input type="checkbox"/>
	NO Pathway 2 <input type="checkbox"/>

2 Chest pain assessment form

3 Treatment Sheet for regular and PRN drugs

4 Sign pathology forms

5 Complete initial management form for Pathway 1 or 2 as determined by the above

Sign and Print Name

Staff Specialist ED Reg ED RMO ED Intern MED Reg CARD Reg

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FEATURES OF THE CHEST PAIN

Description of pain:

Are there any associated symptoms:

Describe location and radiation:

Relieving factors:

How long has the pain been present:

Is the pain the same as previous ischaemic or infarct pain

 Yes No Unknown

Are there any precipitating/aggravating factors:

Exercise Chest Wall Tenderness?

 Yes Yes No NoAdmission to hospital for chest pain None or >6 month Within the last 48 hours Within the last 28 days 1 month and 6 months

If no admission previous ED presentation for chest pain?

 None or >6 months Within the last 48 hours Within the last 28 days 1 month and 6 monthsHas angina been diagnosed before? Yes NoHas the frequency of angina increased recently? No Yes <2 weeks Yes >2 weeks

Presenting symptoms suggestive of ischaemic pain

 Definitely ischaemic Possibly ischaemic Probably not ischaemic Definitely not ischaemic

Prior Stress test:

 Yes Positive result Yes Negative result Not done Unsure**PAST HISTORY OF VASCULAR DISEASE fill in all known**Prior Cardiac History Yes No Unsure If NO go to next sectionPrior Myocardial Infarct Yes No UnknownPrior Coronary Angiogram Yes No Unknown
(with stenosis >50%)Prior PTCA Yes No UnknownPrior CABG Yes No UnknownImplanted Cardiac Defibrillator Yes No UnknownPacemaker Yes No UnknownPrior admissions for CHF Yes No UnknownPrior Atrial Fibrillation Yes No UnknownHistory of PVD Yes No Unknown If NO go to next sectionPrior Peripheral Angiogram Yes No Unknown
(eg. AAA, Claudication, surgery)Prior PVD surgery Yes No UnknownPrior TIA Yes No UnknownPrior Stroke Yes No UnknownIf yes Haemorrhagic nonhaemorrhagic Unknown**RISK FACTORS FOR HEART DISEASE**Risk factors present Yes No Unknown If NO go to next sectionHypercholesterolaemia Yes No UnknownHypertension Yes No UnknownPrimary relative with IHD <55 Yes No Unsure
(Eg angina, MI, Sudden death)Obesity Yes No

Smoker ?

 Current Never Quit <1 year Quit >1 year

Diabetes ?

 NIL Insulin Diet Oral Meds

Past history - please list other medical problems and prior comorbidities

- Yes No Malignancy _____
- Yes No Chronic lung disease _____
- Yes No Major bleed _____
- Yes No Renal failure _____

1
2
3
4**Cardiac Medications**

- Aspirin _____
- B-Blocker _____
- ACEI _____
- Statin _____
- Calcium channel blocker _____
- Nitrate _____
- Hypoglycaemic agents _____

Other Current MedicationsAllergies Yes No1
2
3
4
5
6

Please note

PHYSICAL EXAMINATION AND INITIAL INVESTIGATIONS

Systolic BP Diastolic BP Heart rate Glucometer

/ .

Signs of Ischaemia

- Basal crepitations Yes No
- Hypotension SBP < 90 mmHg Yes No
- New or worsening mitral regurgitation Yes No
- Pulmonary oedema Yes No

Killip classification NB important for management

- I No CHF no creps in lung fields, no S3
- II Bibasilar creps in < 50% lung fields or 3 HS, or JVP distended
- III Pulmonary oedema on xray or creps > 50% of lung fields
- IV Cardiogenic shock (hypoperfusion or SBP < 90 mmHg)

CHEST X RAY

- Abnormal Aortic contour Yes No
(if yes, consider aortic pathology)
- Cardiomegaly (CTR > 0.5) Yes No
- Interstitial oedema Yes No
- Other findings document Yes No

Was ECG abnormal ? Yes complete this section No go to next section

If yes note new or presumed new abnormalities in 2 or more than below

Anterior changes

- Q wave in V1-V4
- ST elevation > 1mm
- ST depression > 0.5mm
- T wave inversion in 2 or more leads

Lateral changes

- Q wave in I, aVL, V5, V6
- ST elevation > 1mm
- ST depression > 0.5mm
- T wave inversion in 2 or more leads

Rhythm

- Sinus Rhythm SVT
- AF/flutter VT
- Paced

Inferior changes

- Q waves in 2 or more leads
- ST elevation > 1mm
- ST depression > 0.5mm
- T wave inversion in 2 or more leads

Other Types MI

- Posterior MI (Tall R wave V1, V2)
- Right Infarct on right sided ECG (ST elevation > 0.1mm in V4R)

Bundle Branch present?

- No
- LBBB
- RBBB



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NEPEAN HOSPITAL CARDIAC SERVICES

INITIAL MANAGEMENT PLAN FOR STEMI PATIENTS

STEP 1 Management plan completed by

Print name -----	Emergency MO signature [Signature Box]	Cardiology MO signature [Signature Box]
Staff seniority -----	Staff Specialist <input type="checkbox"/> ED Reg <input type="checkbox"/> RMO <input type="checkbox"/>	Med/Card REG <input type="checkbox"/> Card RMO <input type="checkbox"/>
Date completed -----	[] [] / [] [] / [] [] [] []	[] [] / [] [] / [] [] [] []
Time -----	[] [] : [] []	[] [] : [] []

STEP 2	Problem List	ED Plan	Med/Card Reg comments
1	ACS Risk <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> STEMI	TnT results TnT time [] [] . [] [] [] [] : [] []	Please document findings on page 7
2			
3			
4			
5			

6 Glucometer >7.8 mmol No Yes complete step 3
 Is the patient taking Metformin? NO YES Discontinue Metformin for 48 hours

STEP 3 Recommended management for Hyperglycaemia and Diabetic patients

- less than 7.8mmol/l Monitor Blood Glucose 1/2hr AC and 2hr PC for 48 hours for **Diabetic only**
(AC= before meals PC= after meals)
- 7.8 to 16mmol/l Monitor blood glucose 1/2hr AC and 2hr PC for 48 hours
- >16mmol/l **Insulin Infusion**

↓

- 1 50 units of Actrapid in 50 mls of N/saline for injectomat
- 2 Commence Insulin infusion at 5 units /hr.
- 3 Add dextrose infusion when BSL is <15mmol/l. and the patient is not eating
- 4 Monitor BSL hourly
- 5 For Type 1 diabetes, insulin infusion is never turned off before SC insulin is given.

NB For more detail refer to WAHS diabetes manual.

ACUTE CORONARY SYNDROME MANAGEMENT PLAN for STEMI patients

Step 4

Monitoring

Continuous Monitoring
admit to CCU for 24 to 48 hours monitoring

Fluid Balance

Record all in put and out put for 24 hours

Observation

15 min BP: HR: and SaO2
When Stable Hourly BP: HR: SaO2 for 6 hours
4 hourly B:; HR: for 48 hours

Step 5 Chart medication (use algorithm attached to treatment sheet)

Aspirin

Yes SelfAdministered GivenbyAmbulance Contraindicated No

Betablocker

Yes No Contraindicated

Antithrombotic

IV Heparin LMW Heparin Contraindicated Warfarin No

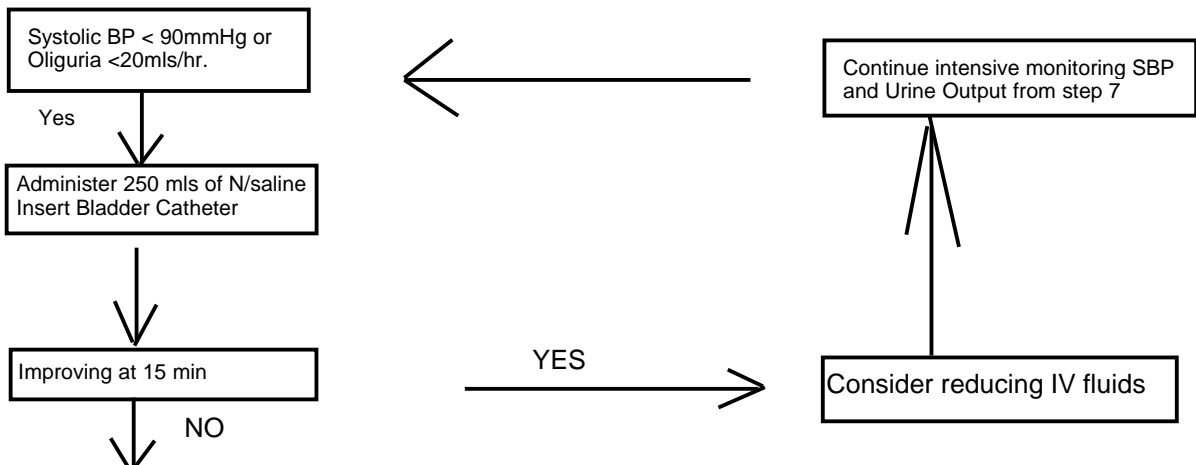
Step 6 Is there any evidence of Pulmonary Oedema (Killip Class \geq 2) or Incipient Shock?

NO YOU HAVE FINISHED

Yes Please go to next step

Signature of Medical Officer completing form

Step 7 Management of Haemodynamic Complications 7A Consider Incipient Shock



Call Team Met team notified :

Notify Cardiologist on CALL

STEP 7 B Pulmonary Oedema? Treat according to Killip Class

Killip Class II

Administer frusemide 40mg IV
Consider GTN infusion
CPAP If SaO2 <90%
with or without respiratory distress
Ensure intensive monitoring is instituted by
nursing staff
Notify Med Reg needs review within 1 hour
Medical Reg notified :

Killip Class III-IV

MOBILISE MET TEAM
Administer frusemide 40 mg IV
Met team notified :
Prepare GTN infusion
CPAP if SaO2<90%
with or without respiratory distress
Notify Cardiologist on call
Cardiologist notified :

Adverse Event that occurred during hospitalisation

Ischaemic complications

Recurrent Chest Pain

No

YES with ECG changes

YES with no ECG changes

Myocardial infarct post admission

No Yes

Thrombolysis post admission No Yes

Date / /

Other events:

Cardiogenic Shock post admission No Yes

Sustained VT /VF No Yes

Pulmonary oedema No Yes

Chronic Heart Failure No Yes

Renal Impairment NO Yes CR > 120 ummol

Transfer to ICU and Reason

No For Ventilator support

For Shock Other

CVA during admission and type

Unknown

NonHaemorrhage

With haemorrhage

TIA No Yes

Type of bleeding

Life Threatening requiring surgical intervention

Major (Hb fall > 5g/dl or intracranial bleed)

Minor bleed + Hb fall between 3-5g/dl

Femoral Haematoma

None of the above

Discharge medication

Reason for contraindication

Aspirin Yes No Contraindicated

Clopidogrel Yes No Contraindicated

Betablocker Yes No Contraindicated

ACEI Yes No Contraindicated

Statin Yes No Contraindicated

Discharge drugs	DOSE	route	frequency	Discharge drugs	DOSE	route	frequency

Other Comment about hospitalisation Phase 1 rehab during admission No Yes

Was the patient treated as part of a research protocol No Yes Not applicable

Signature of MO print name _____

Follow-up

GP _____

Cardiologist _____

General physician _____