

SESLHD PROCEDURE

Anticoagulation with Intravenous Heparin Sodium Infusion

SESLHDPR/ 402

APPENDIX 2 – STEMI (in conjunction with Thrombolysis) ⁴

IV Heparin Initiation Protocol: STEMI - ST Elevation Myocardial Infarction with Thrombolysis				STEMI
Initial Bolus Dosage: 60 units/kg. Maximum 4000 units. • Only use Heparin Sodium 5000 units in 5 mL ampoules				
Infusion: 25,000 units Heparin Sodium in 250 mL Sodium Chloride 0.9% (Use Premix Solution) (100 units per mL based on 12 units/kg/hr MAX:1,000 units/hr, rounded to nearest 1 mL per hour)				
WEIGHT (kg)	BOLUS (units)	Infusion rate (units per hour)	Infusion Pump Rate (mL per hour)	
40	2400	480	5	
45	2700	540	5	
50	3000	600	6	
55	3300	660	7	
60	3600	720	7	
65	3900	780	8	
70	4000	840	8	
75	4000	900	9	
80	4000	960	10	
Greater than 80	4000	1000	10	

IV Heparin Adjustment Nomogram: STEMI (in conjunction with Thrombolysis) - ST Elevation Myocardial Infarction					STEMI
APTT (seconds)	Bolus Dose	Stop Infusion	IV Rate Change (mL/hr)	Repeat APTT	
Less than 45	Nil	No	Increase rate by 1 mL/hr from current rate	6 hours	
45 to 70	Therapeutic Range No change from current rate			Repeat at 6 hours. After 2 consecutive therapeutic APTTs check at 24 hours. Daily APTT whilst results within therapeutic range.	
70.1 to 90	Nil	No	Decrease rate by 1 mL/hr from current rate	6 hours	
90.1 to 105	Nil	No	Decrease rate by 2 mL/hr from current rate	6 hours	
Greater than 105	Nil	Stop for 90 minutes; MO to assess pt for bleeding	Restart infusion after 90 minutes & reduce previous rate by 2 mL/hr	6 hours after recommencing infusion	

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APPENDIX 5: Overview of Procedure – Anticoagulation with Intravenous Heparin Sodium Infusion

Overview of Procedure – Anticoagulation with Intravenous Heparin Sodium Infusion	
Appendices	Approved Intravenous Heparin Administration Protocols in SESLHD are: <ul style="list-style-type: none"> • NSTEMI - Non ST Elevation Myocardial Infarction • STEMI - ST Elevation Myocardial Infarction (in conjunction with Thrombolysis) • VTE / ATE / AF - Venous Thromboembolism / Arterial Thromboembolism / Atrial Fibrillation and other indications for therapeutic anticoagulation where a specific protocol does not exist such as for prosthetic heart valve • Acute Stroke – use only in consultation with the Attending Medical Neurologist (No bolus unless requested by Attending Neurologist)
Procedure Section	
6.1	Verify Actual Body Weight (measured)
6.2	Order & take baseline tests
6.3	Use the SESLHD Intravenous Heparin Sodium Chart (SES130.030) to: prescribe the relevant protocol, Heparin bolus and infusion, record APTT results, titration changes, confirm MO 24 hour order check, and record administration of infusions (double person check required)
6.6	Prescribe & Administer IV Heparin Bolus (only if required) No bolus for stroke patients unless requested by admitting Neurologist. No bolus for neurosurgical patients unless requested by attending Neurosurgeon with guidance from a Haematologist. Bolus injection may cause bleeding in patients already therapeutically anticoagulated – seek Haematology advice when switching anticoagulant drugs - according to the prescribed protocol and patient’s weight - administer via a designated port, lumen or cannula - flush with 5 to 10 mL Sodium Chloride 0.9% pre and post injections
6.7	Prescribe & Administer IV Heparin Infusion - via a designated port, lumen or cannula - use premixed Heparin Sodium 25,000 units in 250 mL Sodium Chloride 0.9% - prescribe initial infusion rate in accordance to the relevant protocol and patient’s weight - use a volumetric infusion pump
6.8	Order APTT tests (to be collected 6 hours after the start of the IV heparin infusion)
6.8	Collect blood for APTT 6 hours after the start of the IV heparin infusion and then 6 hours after every rate adjustment. When therapeutic range reached check APTT every 6 hours until 2 consecutive results are within the therapeutic range. Then daily while results are within therapeutic range.
6.8	Check for APTT results within 2 hours of taking sample
6.8	Review APTT result in conjunction with the nomogram - determine if a rate change is required - titrate infusion as per the nomogram NB high risk medications require a two person check of the APTT result and to titrate the infusion pump
6.8	Continue to order blood for APTT, check APTT and titrate infusion as per the nomogram until patient reaches therapeutic range
6.9	Monitor for possible Heparin Induced Thrombocytopenia (HIT) - ongoing
6.9	Monitor patient for Bleeding - inspect cannulas, drains, surgical or wound sites - check for bruising, epistaxis, microscopic haematuria (urinalysis), gum bleeding- escalate concerns