

SESLHD PROCEDURE

Anticoagulation with Intravenous Heparin Sodium Infusion

SESLHDPR/ 402

APPENDIX 3 - VTE/ATE/ AF and other indications ¹

IV Heparin Initiation Protocol: VTE / ATE / AF and other indications			
<p>Initial Bolus Dosage: based on 80 units/kg rounded to nearest 500 units</p> <ul style="list-style-type: none"> • Only use Heparin Sodium 5000 units in 5 mL ampoules • No bolus for stroke patients unless requested by Attending Neurologist • No bolus for neurosurgical patients unless requested by attending Neurosurgeon with guidance from a Haematology consultant 			
<p>Infusion: 25,000 units Heparin Sodium in 250 mL Sodium Chloride 0.9% (use Premix Solution) (100 units per mL based on 18 units/kg/hr rounded to nearest 1 mL per hour)</p>			
WEIGHT (kg)	BOLUS (units)	Infusion rate (units per hour)	Infusion Pump Rate (mL per hour)
40	3000	720	7
45	3500	810	8
50	4000	900	9
55	4500	990	10
60	5000	1080	11
65	5000	1170	12
70	5500	1260	13
75	6000	1350	14
80	6500	1440	14
85	7000	1530	15
90	7000	1620	16
95	7500	1710	17
100	8000	1800	18
105	8500	1890	19
110	9000	1980	20
115	9000	2070	21
120	9500	2160	22
125	10000	2250	23
130	10500	2340	23
135	11000	2430	24
140	11000	2520	25
145	11500	2610	26
150	12000	2700	27
155	12500	2790	28
160	13000	2880	29
165	13000	2970	30
170	13500	3060	31

VTE/ATE/AF

SESLHD PROCEDURE

Anticoagulation with Intravenous Heparin Sodium Infusion

SESLHDPR/ 402

IV Heparin Adjustment Nomogram: VTE / ATE / AF and other indications				
APTT (seconds)	Bolus Dose	Stop Infusion	IV Rate Change (mL/hr)	Repeat APTT
Less than 40	5,000 units	No	Increase rate by 1 mL/hr from current rate	6 hours
40 to 44.9	Nil	No	Increase rate by 1 mL/hr from current rate	6 Hours
45 to 90	Therapeutic Range No change from current rate			Repeat at 6 Hours. After 2 consecutive therapeutic APTTs check at 24 hours. Daily APTT while results within therapeutic range.
90.1 to 95	Nil	No	Decrease rate by 1 mL/hr from current rate	6 hours
95.1 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 patient for bleeding	Restart infusion after <u>90 minutes</u> & reduce previous rate by 2 mL/hr	6 hours after recommencing infusion

VTE / ATE / AF

SESLHD PROCEDURE

Anticoagulation with Intravenous Heparin Sodium Infusion

SESLHDPR/ 402

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