NHS Lothian

INTRAVENOUS INFUSION PRESCRIBING INFORMATION

(For further information and references see individual drug monographs and guidelines on the critical care intranet site**)**

Drug	Additional information	Dose/Amount	Diluent/volume (refers to the final volume of the infusion)	Rate/duration (ml/hr)
Actrapid	Actrapid is a brand of soluble insulin used for glycaemic control and variable rate insulin infusions. Prescribe as Actrapid.	50 units	50ml sodium chloride 0.9%	According to Insulin therapy in Critical Care protocol. Please note there are two protocols.
Adrenaline	**Single strength**	8mg 20mg 40mg	100ml glucose 5% or 0.9% NS 250ml glucose 5% or 0.9% NS 500ml glucose 5% or 0.9% NS	0-20mls/hr
All strengths via CVC*	80micrograms/ml			0-20mls/hr
CVC*- Central Venous Catheter	**Double strength**	40mg 80mg	250ml glucose 5% or 0.9% NS 500ml glucose 5% or 0.9% NS	0-20mls/hr
	160micrograms/ml			0-20mls/hr
	Quadruple strength	80mg 160mg	250ml glucose 5% or 0.9% NS 500ml glucose 5% or 0.9% NS	0-20mls/hr
	320micrograms/ml			0-20mls/hr
Alfentanil	500micrograms/ml	15mg	30ml undiluted	1-4mls/hr
	Remember PRN bolus doses	25mg	50ml undiluted	1-4mls/hr
Aminophylline	Load centrally or peripherally in 100ml glucose 5% (or 0.9% NS), both over 20 minutes. Maximum loading dose is 500mg	500mg (maintenance Infusion)	500ml glucose 5% or 0.9% NS	500micrograms/kg/hr (prescribe in ml/hr) initially, then adjusted according to level ie. for 70kg patient 35mls/hr. **Based on ideal body weight.**
Amiodarone	Loading dose (large vein)	300mg	250ml glucose 5%	Over 1 hour
	Maintenance infusion via CVC*	900mg	500ml glucose 5%	21mls/hr over 23 or 24 hours (dependent upon whether loading dose was given).
Atracurium	10mg/ml	500mg	50ml undiluted	0.65-0.79mg/kg/hr. **Based on ideal body weight for obese patients**. Prescribe in ml/hr.
Clonidine	15micrograms/ml	750 micrograms	50ml sodium chloride 0.9% or glucose 5%	Up to 2 micrograms/kg/hr, prescribe in ml/hr i.e.9.5mls/hr for 70kg patient.
Dexmedetomodine	8microgram/ml	2000micograms	250ml glucose 5% or 0.9% NS	Initially 0.7micrograms/kg/hr, Range 0.2-1.4micrograms/kg/hr. See monograph.
Dobutamine	5mg/ml. CVC*	250mg	50ml undiluted	See monograph.
Epoprostenol	3000nanograms/ml	150,000nanograms	50ml sodium chloride 0.9%	As per CVVHD protocol and monograph.
Esomeprazole	Loading dose of 80mg in 100ml sodium chloride 0.9% over 30mins then continuous infusion	80mg	100ml sodium chloride 0.9%	10mls/hour for 72 hours.
Fentanyl IVI		1500micrograms 2500microgram	30ml undiluted 50ml undiluted	See monograph.
Fentanyl PCA		1000micrograms	50ml sodium chloride 0.9%	Usually, 10microgram bolus with 5 minute lock out.
Furosemide	10mg/ml	250mg	25ml undiluted	Usually 5-20mg/hr (0.5-2mls/hr)
Glyceryl trinitrate	1mg/ml via CVC*	50mg	50ml undiluted	0.6-12mls/hr
Heparin	For treatment of DVT, PE.1000units/ml undiluted.	40,000units	40ml undiluted	depends on target APTTr/ unfractionated heparin AntiXa level.
Heparin	For anticoagulation in CVVHD 250units/ml.	10,000units	40ml sodium chloride 0.9%	According to CVVHD protocol.
Hydralazine	1mg/ml	60mg	60ml sodium chloride 0.9%	Initially 12-18ml/hr. Maintenance 3-9mls/hr
Insulin- see Actrapid which is the brand of insulin used in the "iv insulin therapy in Critical Care" protocol.				
Isoprenaline	Using isoprenaline hydrochloride	2mg	500ml glucose 5% or 0.9% NS	As per protocol, contact cardiology.
Ketamine	For status epilepticus. This is **not** the preparation used for pain. **IV loading dose: 3mg/kg based on ideal body weight**.	2500mg	50ml undiluted	Maintenance infusion: 1-5mg/kg/hr (1.4-7ml/hr if 70kg) but discuss range to prescribe with consultant.
Labetalol	Centrally: 5mg/ml	200mg	40ml undiluted	0-24ml/hr can increase to 32ml/hr
	Peripherally: 1mg/ml	500mg	500ml glucose 5% or 0.9% NS	0-120ml/hr can increase to 160ml/hr
Mannitol 20%. Prescribe in as required therapy. Dose: 200ml:over 15mins, Route: IV, Indication: raised ICP				
Metaraminol	500microgram/ml	50mg	100ml glucose 5%	0-10ml/hr
Midazolam	Single strength. 1mg/ml	60mg 50mg PFS 50mg	60ml glucose 5% or 0.9% NS 50ml glucose 5% or 0.9% NS undiluted	0-6ml/hr
	Double strength. 2mg/ml. Use in status epilepticus.	120mg 100mg	60ml glucose 5% or 0.9% NS 50ml glucose 5% or 0.9% NS	0-5ml/hr. See monograph for doses in status epilepticus.
Morphine IVI	2mg/ml	100mg	50ml undiluted	0-5ml/hr

Naloxone	Info from NHS Lothian IV guide. 200micrograms/ml	10mg	50ml glucose 5%	Depends on response to previous IV boluses. See NHS Lothian IV guide.
Nicardipine	100microgram/ml Change IV infusion site every 12h if peripherally administered.	25mg	250ml glucose 5%	0-150ml/hr. See monograph for dose titration.
Nimodipine	200mcg/ml	10mg	50mls (undiluted)	5ml/hr for first two hours, increasing to 10mls/hr after 2 hours if BP stable.
Noradrenaline	**Single Strength**	8mg 20mg 40mg	100ml glucose 5% 250ml glucose 5% 500ml glucose 5%	0-20ml/hr
All strengths via CVC*	80micrograms/ml			0-20ml/hr
	Double strength	40mg 80mg	250ml glucose 5% 500ml glucose 5%	0-20ml/hr
	160micrograms/ml			0-20ml/hr
	Quadruple strength	80mg 160mg	250ml glucose 5% 500ml glucose 5%	0-20ml/hr
	320micrograms/ml			0-20ml/hr
Phenylephrine	100micrograms/ml	10mg	100ml sodium chloride 0.9% or glucose 5%	15-60ml/hr
Phenytoin	Loading dose is 20mg/kg. If patient haemodynamically unstable the loading dose may be divided into two doses. Maximum loading dose is 2000mg.	Up to 1000mg	100ml sodium chloride 0.9%	Up to 50mg/minute, but usually given over 60minutes to prevent hypotension.
		1001mg to 2500mg	250ml sodium chloride 0.9%	
Propofol	**Remember PRN bolus doses**	1gram	100ml undiluted	Up to 4mg/kg/hr. Prescribe in ml/hr.i.e. 28mls/hr if 70kg
Rocuronium	10mg/ml **(Use ideal body weight)**	500mg	50ml undiluted	0.6mg/kg iv bolus, then 0.3-0.6mg/kg/ /hr
Salbutamol	20microgram/ml	10mg	500ml glucose 5% or 0.9% NS	9-60mls/hr
Sodium bicarbonate 1.26% (500ml) or 1.4% *(500ml)* **and 8.4% (200ml) available.** 1.26% or 1.4% may be given peripherally. 8.4% MUST be given centrally and only used in severe acidosis, fluid restriction or emergency such as cardiac arrest. Prescribe on 24hour chart. Rate appropriate to correct acidosis, usually start at 50mls/hr of 1.26% or 1.4% solution.				
Sodium chloride 5% Prescribe in as required therapy. Dose: 125ml, rate/duration: over 15mins, Route: IV, Indication: raised ICP				
Sodium valproate	Any dose can be diluted in 50ml glucose 5% or sodium chloride 0.9%. * Note interacts with meropenem.	Status epilepticus: **Loading dose** 40mg/kg up to a maximum of 3000mg. **Intermittant:** Start 1000-1200mg IV BD	50ml glucose 5% or sodium chloride 0.9%	Status epilepticus: administer loading dose over 10 minutes Intermittent: max 20mg/min (prescribe in mls/hr) i.e.max 1200mg over 60minutes
Thiopental Sodium	Loading dose: 1st hour- 10mg/kg/hr, 2nd hour- 7mg/kg/hr, 3rd hour- 5mg/kg/hr. **Use ideal body weight.**	1500mg	60ml water for injections	Maintenance infusion: 4-7mg/kg/hr. See monograph for ml/hr dosing table. **Use ideal body weight**.
Vancomycin	Loading dose	750mg	250ml glucose 5% or 0.9% NS	over 1.5 hrs
	Loading dose	1000mg	250ml glucose 5% or 0.9% NS	over 2 hrs
	Loading dose	1500mg	500ml glucose 5% or 0.9% NS	over 3 hrs
	Loading dose	2000mg	500ml glucose 5% or 0.9% NS	over 4 hours
Vancomycin	continuous infusion	125mg	50ml glucose 5% or 0.9% NS	4.1ml/hr
		250mg	50ml glucose 5% or 0.9% NS	4.1ml/hr
		375mg	100ml glucose 5% or 0.9% NS	8.3ml/hr
		500mg	100ml glucose 5% or 0.9% NS	8.3ml/hr
		625mg	250ml glucose 5% or 0.9% NS	20.8ml/hr
		750mg	250ml glucose 5% or 0.9% NS	20.8ml/hr
		875mg	250ml glucose 5% or 0.9% NS	20.8ml/hr
		1000mg	250ml glucose 5% or 0.9% NS	20.8ml/hr
		1250mg	250ml glucose 5% or 0.9% NS	20.8ml/hr
		1500mg	500ml glucose 5% or 0.9% NS	41.6ml/r
		1750mg	500ml glucose 5% or 0.9% NS	41.6ml/hr
		2000mg	500ml glucose 5% or 0.9% NS	41.6ml/hr
Vasopressin	For vasodilatory shock.	20units	50ml glucose 5%	1.5-6ml/hr
	For organ donation.	20units	50ml glucose 5%	1.2-10ml/hr

Electrolytes are prescribed on the 24hour chart.

Calcium	4.5mmol or 4.46mmol (depending on preparation available) calcium gluconate 10% in 100ml glucose 5% or 0.9% NS over at least 30minutes peripherally or centrally. In cases of severe hyperkalaemia, 6.8mmol (30ml of calcium gluconate 10%) may be given undiluted over 10minutes.
Magnesium	Magnesium sulphate 50%: 20mmol (10ml) in 250ml glucose 5% (or 0.9% NS) peripherally or in 100ml glucose 5% (or 0.9% NS) centrally. Both over 4 hours.
Phosphate Peripherally	**Phosphate polyfusor:** 500ml over 12 hours, rate 41.6mls/hr. **Sodium glycerophosphate 21.6%** (1mmol/ml Phosphate)-20mmol (20ml) in 250ml glucose 5% or 40mmol (40ml) in 500ml glucose 5% over 5 hours.
Phosphate Centrally	**Phosphate polyfusor:**500ml over 12 hours. Rate 41.6mls/hr. Can be given over 6hrs if required, rate 83.3ml/hr. **Sodium glycerophosphate 21.6% (**1mmol/ml Phosphate**)**-20mmol (20ml) in 50ml glucose 5% over 5 hours, rate 10mls/hr or 40mmol (40ml) in 100ml glucose 5% over 5 hours, rate 20ml/hr. **Potassium acid phosphate 13.6%: (**1mmol/ml Phosphate)-20mmol (20ml) in 50ml glucose 5% over 5 hours, rate 10ml/hr or 40mmol (40ml) in 100ml glucose 5% over 5 hours, rate 20mls/hr.
Potassium Peripherally	20mmol in 500ml glucose 5% or 0.9% NS through a large vein. 40mmol in 500ml glucose 5% or 0.9% NS through a large vein. Maximum rate is 20mmol/hr with ECG monitoring. Maximum rate is 10mmol/hr with no ECG monitoring.
Potassium Centrally	20mmol or 40mmol in 100ml glucose 5% or 0.9% NS. If ECG monitoring, maximum rate is 20mmol/hr. No ECG monitoring, maximum rate is 10mmol/hr.

0.9% NS= sodium chloride 0.9%

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