



ICU STANDARD INTRAVENOUS INFUSIONS

Full title	WAHT Intensive Care Standard Intravenous Infusions Chart
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Speciality and Division	Critical Care, SCS
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Ratified by	ICU forum
Scope	To be used by medical, nursing and pharmacy staff working on ICU, WAHT
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Summary of evidence base used	See reference at end of document
This resource collates the current ICU drug monographs into one document. The standard infusion concentrations used correspond with national standardisation	

INTENSIVE CRITICAL CARE STANDARD INTRAVENOUS INFUSIONS CHART

This guide should only be used in combination with the current National Injectable Medicines Guide (Medusa) and the Injectable Medicines Policy available on the Intranet

Advice for gravity set administration: for rigid plastic/glass vials, ensure giving set with air inlet. If not available use a filter needle to allow pressure equalisation

Drug	Infusion concentration	Compatible Infusion fluid G= Glucose S= N/S 0.9%	Route C = central P = peripheral	Usual dosage range	Notes	Gravity administer Possible?	Bolus possible?
Adrenaline	4mg in 50ml 8mg in 50ml (DS)	G	C only	0-1 microgram/kg/min	Concentration may be doubled if required Discard infusion if it becomes discoloured	No	No
Alfentanyl	25mg in 50ml	S, G	C or P	0-1 microgram/kg/min		No	Consider morphine boluses
Aminophylline loading	5mg/kg in 250ml	S, G	C or P	5mg/kg loading dose	Infusion over 30 minutes. May be diluted in 100ml for central IV access only	Yes	No
Aminophylline maintenance dose	500mg to 500ml	S, G	C or P	0.5mg/kg/hour		Yes	No Consider PO/NG
Amiodarone loading	300mg to 50ml	G	C only	300mg over 1 hour	May be diluted in 50ml to 250ml	Yes in 100ml	Yes
Amiodarone maintenance dose	Day 1 900mg in 48ml Day 2 onwards consider 600mg in 48ml	G	C only	300mg to 900mg over 24 hours	900mg may be diluted in 500ml glucose 5% and given peripherally (NB irritant)	Yes in 250-500ml	No Consider PO/NG loading
Argatroban	250mg in 250ml	S, G	C or P	Initial infusion rate: 0.5micrograms/kg/min (critically ill patients)	Refer to guideline for argatroban use in Heparin Induced Thrombocytopenia (HIT) Monitor and adjust infusion rate	No	No

					according to APTT ratio		
Atracurium	500mg in 50ml	Neat	C or P	0-8ml/hour		No	Consider alternative e.g. pancuronium bolus dosing
Cisatracurium	300mg/60ml	Neat	C or P	300 to 600microgram/kg/hour		No	Consider alternative e.g. pancuronium bolus dosing
Clonidine	750micrograms in 50ml	S, G	C or P	0-2 microgram/kg/hour	Refer to Trust guideline WAHT-CRI-011. Monitor for hypotension and bradycardia. Avoid abrupt withdrawal.	Yes	Yes e.g. 150mcg TDS OR give PO/NG)
Dexmedetomidine	200micrograms to 50ml or 400micrograms to 100ml	S, G	C or P	Start at 0.7 micrograms/kg/hour and adjust according to response	Refer to Trust guideline	No (due to titration)	No. Consider clonidine alternative
Digoxin	62.5 to 500micrograms in 50 to 100ml	S, G	C or P	Variable, liaise with ICU pharmacist	Infuse over 60 minutes	Yes	Give PO/NG
Dobutamine	250mg in 50ml	Neat	C only	0 to 10 micrograms/kg/min		No	No
Epoprostenol	500micrograms in 50ml	Use diluent provided	Usually via Prisma machine	2.5 to 5 nanograms/kg/min	For use in suspected/confirmed HIT. Use 25ml of solution (12 hour expiry at room temperature) Store remainder in fridge and use within 24 hours. Filter solution before administration (0.22 micron)	No	No
Fluconazole	2mg/ml	Neat	C or P	200mg to 800mg OD	Max infusion rate 10ml/minute	Yes	No
Fomepizole	Loading dose: 15mg/kg in 100ml Maintenance dose: Initially 10mg/kg	S, G	C or P	Follow Toxbase guidance	Acidic therefore give centrally if access available. Infuse each dose over 30 minutes Maintenance dose during haemodialysis = 1mg/kg/hour infusion	Yes	No

Furosemide	Variable but infusion doses usually 1mg/ml to to max 10mg/ml	S	C or P	Variable	Maximum administration rate 4mg/minute	Yes Care with rate	Yes For low doses e.g. ≤40mg. Consider PO/NG use
Heparin	1000 units/ml	S, G	C or P	Follow dedicated prescription chart		No	No
Insulin (actrapid)	50units in 50ml	S	C or P	Follow dedicated prescription chart		No	Consider SC alternative (see separate guidance)
Labetalol	1mg/ml	G	C or P	Max rate 2mg/minute	Refer to trust guidelines for use in stroke and pregnancy	Yes	Yes
Magnesium sulphate	20mmol (5g) in 100ml	S, G	C or P	20mmol	Refer to Trust guideline Maximum infusion rate is 150mg/minute	Yes	No
Metaraminol	20mg in 40ml	S, G	C or P	1-10ml/hour	For use until central line access available	Yes	Yes
Methylthionium (methylene blue)	Dilute to 50ml	G	C	0.25-2mg/kg/hour but commence at 0.5mg/kg/hour	Consider only in resistant septic shock	No	No
Midazolam	50mg in 50ml	Neat	C or P	0.5-3.33micrograms/kg/minute		Yes	Yes
Milrinone	20mg in 50ml	S, G	C or P	Loading dose: 50micrograms/kg over 10 minutes Maintenance dose = 0.375micrograms/kg/min to 0.75 micrograms /kg/min	Short-term treatment of severe congestive heart failure (up to 5 days) Reduce the dose in renal impairment	No	No
Morphine	50mg in 50ml	Neat	C or P	0 to 10ml/hour		Yes	Yes
Noradrenaline	4mg in 50ml 8mg in 50ml (DS) 16mg in 50ml	G (4mg & 8mg = PFS)	C only	0-1.0micrograms/kg/minute	Do not flush Discard if any discolouration occurs	No	No
Omeprazole	80mg in 100ml	G	C or P	8mg (10ml) per hour	For treatment of recurrent upper GI bleed	Yes	No
Phenytoin	10mg/ml e.g. 1g in 100ml	S	C or P	Loading dose: 20mg/kg	Maximum infusion rate = 50mg/minute Give via in line filter (0.22 to 0.5 micron)	Yes Care with rate	Loading –No Maintenance - Yes
Potassium chloride	60mmol in 60ml	S, G	C only	0 to 10mol/hour	Mix thoroughly before use	No	No

	40ml in 100ml	S, G	C only	0 to 25mg/hour	Pre-made	No	No
Propofol	1% or 2%	neat	C or P	0.3 to 4mg/kg/hour	Discard any unused solution after 12 hours	Yes	Yes but infusion required for continued sedation
Remifentanyl	2mg in 40ml	S, G	C or P	0.05 to 0.1micrograms/kg/minute	Doses up to 0.2micrograms/kg/minute have been used. Dose on ideal body weight	No	No
Vancomycin	500mg in 100ml 750mg in 250ml 1000mg in 250ml	S, G	C or P	Refer to Trust guideline	Maximum infusion rate: 10mg/minute	Yes Care with rate	No
Vasopressin	20units in 50ml	G	C only	0.01-0.04units/minute (= 1.5 to 6 ml/hour)		No	No. Consider terlipressin alternative e.g. 0.5mg q6h

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