

PICU Drug Infusions



Drug (<i>inf = infusion</i>)	Dose range	1ml/hr =	Add to 50ml	Notes
Adrenaline (inf)	0.1-2.0 mcg/kg/min	0.1 mcg/kg/min	0.3 mg	x wt Intravenous, intraosseous. Always via CENTRAL line. In 5%dex or 0.9% N/S
Aminophylline (inf)	1 mg/kg/hr	1 mg/hr		x wt Load 5mg/kg unless previous aminophylline. FIXED concentration mg/ml. Dose reduced infusion with age. Therapeutic range 10-20mg/l. Toxic tachycardia, jittery, seizures. Dilute in 5% dex
Amiodarone (inf)	5-15 mcg/kg/min	5 mcg/kg/min	15 mg	x wt Load 25mcg/kg/min for 4 hrs if no previous amiodarone . Baseline thyroid and liver functions. Only dilute in 5% dex. Not <600mcg/ml. Max 1.2g/24hrs. Baseline eye exam /TFT
Dobutamine (inf)	5-20 mcg/kg/min	10 mcg/kg/min	30 mg	x wt Vasodilatation and tachycardia. Central administration preferred if >5mg/ml.
Dopamine (inf)	5- 20 mcg/kg/min	10 mcg/kg/min	30 mg	x wt Central administration recommended. For peripheral administration 3x wt in mg (maximum 1.6mg/ml). Dilute in 5% dex or 0.9% N/S.
Esmolol (inf)	25-200 mcg/kg/min			x wt Loading dose 500mcg/kg over 1 minute. Dilute to 10mg/ml through large bore vein. Dilute in 5% dex or 0.9% N/S. Recommended max concentration 20mg/ml (central administartion). Extravasation risk.
Fentanyl (inf)	1-5 mcg/kg/hr	1 mcg/kg/hr	50 mcg	x wt Usual dose 1 - 3 mcg/kg/hr. Cumulative effect. Risk of rigid chest in neonates. Discuss with consultant. Dilute in 5% dex or 0.9% N/S.
Furosemide (inf)	0.1- 1 mg/kg/hr	0.2 mg/kg/hr	10 mg	x wt Dilute in 0.9% N/S only. For concentrated infusions 50 x wt in mg = 1mg/kg/hr= 1 ml/hr. Incompatible with most common infusions
GTN (Glycerine trinitrate) (inf)	1- 5 mcg/kg/min	1 mcg/kg/min	3 mg	x wt Tachyphylaxis may occur after 24 hrs. Recommended maximum concentration 400mcg/ml. In fluid restricted patients 1mg/ml centrally
Heparin (inf)	10-30 units/kg/hr	20 units/kg/hr	1000 units	x wt Use APTT to direct therapy.Load 75units/kg. Start infusion at 20 units/kg/hr
Insulin (inf)	0.01- 0.2 u/kg/hr	0.05 u/kg/hr	2.5 units	x wt Dilute in 0.9% N/S only. Monitor glucose every 30 - 60 minutes at commencement.
Isoprenaline (inf)	0.02- 1 mcg/kg/min	0.2 mcg/kg/min	0.6 mg	x wt Neonates max 0.2 mcg/kg/min. Maximum for bradycardia 0.5mcg/kg/min. Up to 1mcg/kg/min for heart block. S/E Hypotension. Dilute in 5% dex or 0.9% N/S.
Ketamine (inf)	10-45 mcg/kg/min	10 mcg/kg/min	30 mg	x wt Anaesthetic, sialogogue. Hallucinations & emergence reactions worse in older children
Labetalol (inf)	0.5-3 mg/kg/hr	1 mg/kg/hr	50 mg	x wt Neonates start at 500mcg/kg/hr. Hypertensive crisis. Start slowly. Avoid rapid reduction BP. Dilute in 5% dex or 0.9% N/S.
Midazolam (inf)	0.5-20 mcg/kg/min	1 mcg/kg/min	3 mg	x wt Sedation at lower end of range. Seizure control higher doses. Cardiovascular depression. Dilute in 5% dex or 0.9% N/S.

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Milrinone (inf)	0.3-0.75 mcg/kg/min	0.5 mcg/kg/min	1.5 mg	x wt	Phosphodiesterase inhibitor. Vasodilator & inotrope. Dose reduction in renal/ liver dysfunction. Dilute in 5% dex or 0.9% N/S. May be administered centrally undiluted in fluid restriction.
Morphine (inf)	5-100 mcg/kg/hr	20 mcg/kg/hr	1 mg	x wt	Bigger children may need higher doses for a few hours. Dilute in 5% dex or 0.9% N/S.
Noradrenaline (inf)	0.1-1 mcg/kg/min	0.1 mcg/kg/min	0.3 mg	x wt	Dilute in 5% dex or 0.9% N/S. Potent vasopressor. Administer centrally
Propofol 1% (inf)	1-4 mg/kg/hr	10 mg/hr	0 mg	x wt	1% = 1 kcal/ml in lipid. Use undiluted. Prolonged or high dose infusion associated with propofol syndrome (lactic acidosis and tachycardia)
Prostin (inf)	5- 100 ng/kg/min	10 ng/kg/min	30 mcg	x wt	Dinoprostone. NANOGRAMS. Dosing up to 100ng/kg/min for 30-60 mins. Apnoea common in first 24hrs. S/E hypotension, flushing, diarrhoea, low grade temperature. Dilute in 5% dex or 0.9% N/S
Salbutamol (inf)	1-5 mcg/kg/min	0.5 mcg/kg/min	1.5 mg	x wt	Dilute in 5% dex or 0.9% N/S. Preferable dilution is 25mg/50ml. Central administration if possible.
Sodium bicarbonate 8.4%(inf)	1-2 mmol/kg/hr	1 mmol/hr	0 mmol	x wt	Renal alkalisation . Very alkaline. High extravasation risk. Central administration preferable, Dilute 1:10 peripherally.
Sodium nitroprusside (inf)	1-5 mcg/kg/min	1 mcg/kg/min	3 mg	x wt	Protect from light. Tachyphylaxis after 24 hrs. Toxicity with rising lactate and mixed venous saturations.
Thiopental (inf)	1-8 mg/kg/hr	1 mg/kg/hr	0 mg	x wt	Reconstitute with 20ml WFI to give 25mg/ml. Further dilute with 0.9% N/S if required. Status epilepticus. Accumulates in fat. Cardiovascular suppression. Extravasation risk
Vasopressin (inf)	0.0001-0.002 unit/kg/min	0.0005 unit/kg/min	1.5 units	x wt	Dosing range: low=0.0001u/kg/min; standard= 0.00025u/kg/min; high=0.0005u/kg/min; maz= 0.002u/kg/min. Dilute in 5% dex or 0.9% N/S.