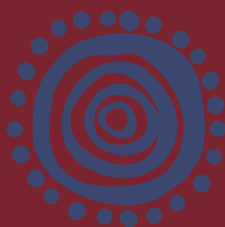


22 kg



# 22 kg

Intubation – prepare ONE size tube above and below recommended size			
ETT size – mm – CUFFED	5 mm	NG tube	10 - 12 Fr
ETT size – mm – UNCUFFED	5.5 mm	ICC tube	16 - 24 Fr
ETT at lips – cm	15 cm	LMA	2.5
ETT at nose – cm	18 cm	IDC	10 - 12 Fr

ANAPHYLAXIS		
IM Adrenaline (Epinephrine) 1:1000 (1 mg/mL)		
Dose	Volume	Autoinjector
220 microg	0.22 mL	300 microg

\*Use autoinjector only if adrenaline 1:1000 not available

Resuscitation	Vial concentration	Recommended dose/kg	Preparation		Dose	Final volume to administer	Administration
			Dilution – Sodium Chloride 0.9%	Final concentration			
Adrenaline (Epinephrine) 1:10 000 (1 mg/10 mL)	100 microg/mL	10 microg/kg	Undiluted	100 microg/mL	<b>220 microg</b>	2.2 mL	Push
DC shock – VF/ pulseless VT		4 Joule/kg	Round up energy level to next highest setting on defibrillator		<b>88 Joule</b>		Use paediatric or adult pads
AmiODAROne (150 mg/3 mL)	50 mg/mL	5 mg/kg	<i>Dilute 3 mL (150 mg) to 15 mL in glucose 5%</i>	10 mg/mL	<b>110 mg</b>	11 mL	Push over 5 mins
Fluid Bolus		10 mL/kg	Sodium Chloride 0.9%			220 mL	Push
Fluid Bolus		20 mL/kg	Sodium Chloride 0.9%			440 mL	Push
Glucose 10%	100 mg/mL	2 mL/kg	Glucose 10%		100 mg/mL	44 mL	Push
Adenosine (6 mg/2 mL) – 1st dose	3 mg/mL	0.1 mg/kg	Undiluted		<b>2.2 mg</b>	0.73 mL	Push via proximal vein or CVL – Follow immediately by a 10 - 20 mL fast flush
Adenosine (6 mg/2 mL) – 2nd dose	3 mg/mL	0.2 mg/kg			<b>4.4 mg</b>	1.5 mL	
Adenosine (6 mg/2 mL) – 3rd dose	3 mg/mL	0.3 mg/kg			<b>6.6 mg</b>	2.2 mL	
Synchronised Cardioversion		1 Joule/kg	Round up energy level to next highest setting on defibrillator		<b>22 Joule</b>		Use paediatric or adult pads
		2 Joule/kg			<b>44 Joule</b>		
Atropine (600 microg/mL)	600 microg/mL	20 microg/kg	Dilute 1 mL (600 microg) to 6 mL	100 microg/mL	<b>440 microg</b>	4.4 mL	Push
<b>Push dose pressors – Doses may be repeated if required</b>							
Adrenaline (Epinephrine) 1:10 000 (1 mg/10 mL)	100 microg/mL	1 microg/kg	Dilute 1 mL (100 microg) to 10 mL	10 microg/mL	<b>22 microg</b>	2.2 mL	Push
Metaraminol (Syringe 5 mg/10 mL)	500 microg/mL	10 microg/kg	Consider Adrenaline (Epinephrine) Push Dose Pressor	Consult	<b>Consult</b>	Consult	Push

Induction agents	Vial concentration	Recommended dose/kg	Dilution – Sodium Chloride 0.9%	Final concentration	Dose	Final volume	Administration
Fentanyl (100 microg/2 mL)	50 microg/mL	2 - 5 microg/kg	Dilute 2 mL (100 microg) to 10 mL	10 microg/mL	<b>44 microg</b>	4.4 mL	Push over 1 - 3 mins
Ketamine (200 mg/2 mL)	100 mg/mL	1 - 2 mg/kg	Dilute 2 mL (200 mg) to 20 mL	10 mg/mL	<b>22 mg</b>	2.2 mL	Push over 60 secs
PropOFol (200 mg/20 mL)	10 mg/mL	2 - 3 mg/kg	Undiluted	10 mg/mL	<b>44 mg</b>	4.4 mL	Push over 30 secs
Midazolam	Various strengths	0.1 - 0.2 mg/kg	Dilute to 1 mg/mL regardless of ampoule strength	1 mg/mL	<b>2.2 mg</b>	2.2 mL	Push over 30 secs

Paralytic agents	Vial concentration	Recommended dose/kg	Dilution – Sodium Chloride 0.9%	Final concentration	Dose	Final volume	Administration
Rocuronium (50 mg/5 mL)	10 mg/mL	1.2 mg/kg	Undiluted	10 mg/mL	<b>26.4 mg</b>	2.6 mL	Push
Suxamethonium (100 mg/2 mL)	50 mg/mL	2 mg/kg	Dilute 2 mL (100 mg) to 10 mL	10 mg/mL	<b>44 mg</b>	4.4 mL	Push
Vecuronium (10 mg)	10 mg	0.1 mg/kg	<i>Reconstitute vial with 10 mL WFI</i>	1 mg/mL	<b>2.2 mg</b>	2.2 mL	Push

Reversal agents	Vial concentration	Recommended dose/kg	Preparation		Dose	Final volume to administer	Administration
			Dilution – Sodium Chloride 0.9%	Final concentration			
Sugammadex (200 mg/2 mL) Rocuronium reversal	100 mg/mL	16 mg/kg	Undiluted	100 mg/mL	<b>352 mg</b>	3.5 mL	Push
Flumazenil (500 microg/5 mL) Benzodiazepine reversal	100 microg/mL	5 microg/kg	Undiluted	100 microg/mL	<b>110 microg</b>	1.1 mL	Push – Every 60 secs Max single dose 200 microg Max total dose 2000 microg
Naloxone (400 microg/mL) Opioid reversal	400 microg/mL	10 microg/kg	Undiluted	400 microg/mL	<b>220 microg</b>	0.55 mL	Push – Every 2 - 3 mins May be given IM

Respiratory	Vial concentration	Recommended dose/kg	Dilution – Sodium Chloride 0.9%	Final concentration	Dose	Final volume	Administration
Nebulised Adrenaline (Epinephrine) 1:1000	1 mg/mL		Undiluted	1 mg/mL	<b>5 mg</b>	5 mL	Via nebuliser
Dexamethasone (4 mg/mL)	4 mg/mL	0.3 mg/kg	Undiluted	4 mg/mL	<b>6.6 mg</b>	1.7 mL	IV or IM
Magnesium Sulfate (10 mmol/5 mL)	2 mmol/mL	0.2 mmol/kg	Dilute 5 mL (10 mmol) to 50 mL	0.2 mmol/mL	<b>4.4 mmol</b>	22 mL	Infuse over 20 mins
Hydrocortisone (100 mg + 2 mL diluent)	50 mg/ mL	4 mg/kg	<i>Reconstitute vial with 2 mL WFI</i>	50 mg/mL	<b>88 mg</b>	1.8 mL	Push over 30 secs or IM
Methylprednisolone (40 mg/mL) sodium succinate	40 mg/mL	1 mg/kg	Dilute 1 mL (40 mg) to 4 mL	10 mg/mL	<b>22 mg</b>	2.2 mL	Push over 5 mins Sodium succinate ONLY
Salbutamol (5 mg/5 mL)	1 mg/mL	0.1 mg/kg	Dilute 5 mL (5 mg) to 50 mL	0.1 mg/mL	<b>2.2 mg</b>	22 mL	Load – Infuse over 20 mins
AmiNOPHYLLine (250 mg/10 mL)	25 mg/mL	5 mg/kg	Dilute 10 mL (250 mg) to 50 mL	5 mg/mL	<b>110 mg</b>	22 mL	Load – Infuse over 30 mins

Neurology/seizures	Vial concentration	Recommended dose/kg	Dilution – Sodium Chloride 0.9%	Final concentration	Dose	Final volume	Administration
Midazolam – <b>IV</b>	Various strengths	0.15 mg/kg	Dilute to 1 mg/mL regardless of ampoule strength	1 mg/mL	<b>3.3 mg</b>	3.3 mL	Push
Midazolam – <b>IM</b>	5 mg/mL	0.2 mg/kg	Undiluted	5 mg/mL	<b>4.4 mg</b>	0.88 mL	IM
Midazolam – <b>Buccal/Nasal</b>	5 mg/mL	0.3 mg/kg	Undiluted	5 mg/mL	<b>6.6 mg</b>	1.3 mL	Drip dose into alternate nostrils or inside cheek
Phenytoin (100 mg/2 mL) (250 mg/5 mL)	50 mg/mL	20 mg/kg	Dilute 10 mL (500 mg) to 50 mL	10 mg/mL	<b>440 mg</b>	44 mL	Infuse over 20 mins *use 0.22 micron filter*
Phenobarbitone (Phenobarbital) (200 mg/mL)	200 mg/mL	20 mg/kg	Dilute 3 mL (600 mg) to 30 mL	20 mg/mL	<b>440 mg</b>	22 mL	Infuse over 20 mins
Levetiracetam (500 mg/5 mL)	100 mg/mL	60 mg/kg	Dilute 15 mL (1500 mg) to 30 mL	50 mg/mL	<b>1320 mg</b>	26 mL	Push over 5 mins
Sodium Valproate (400 mg/4 mL)	100 mg/mL	40 mg/kg	Dilute 12 mL (1200 mg) to 30 mL	40 mg/mL	<b>880 mg</b>	22 mL	Infuse over 10 mins
Mannitol 20%	0.2 g/mL	0.5 g (2.5 mL)/kg	Pre-mixed bag	0.2 g/mL	<b>11 g</b>	55 mL	Infuse over 10 mins *use 5 micron filter*
Sodium Chloride 3% – Hypertonic *For raised ICP or hyponatremic seizures*	0.5 mmol/mL	3 mL/kg	Pre-mixed bag	0.5 mmol/mL	<b>66 mL</b>	66 mL	Infuse over 10 mins via central/large vein

Electrolytes	Vial concentration	Recommended dose/kg	Preparation		Dose	Final volume to administer	Administration
			Dilution – Sodium Chloride 0.9%	Final concentration			
<b>Hypokalaemia (↓ Potassium)</b> Potassium Chloride 10 mmol in 0.29% sodium chloride (100 mL)	0.1 mmol/mL	0.3 mmol/kg	Pre-mixed bag	0.1 mmol/mL	<b>6.6 mmol</b>	66 mL	Infuse over 1 hour
<b>Hyperkalaemia (↑ Potassium)</b> Calcium gluconate (2.2 mmol/10 mL)	0.22 mmol/mL	0.11 mmol/kg	Undiluted	0.22 mmol/mL	<b>2.42 mmol</b>	11 mL	Large vein push over 3 - 5 mins DO NOT give with sodium bicarbonate
Salbutamol Nebules	5 mg/2.5 mL	Age based	Dilute to 4 mL	–	<b>5 mg</b>	–	Inhale via nebuliser
Frusemide (Furosemide) (20 mg/2 mL)	10 mg/mL	1 mg/kg	Dilute 4 mL (40 mg) to 40 mL	1 mg/mL	<b>22 mg</b>	22 mL	Infuse over 10 mins
Glucose 10% (with insulin below)	See Infusion guide for doses and administration directions						
Insulin – Actrapid (300 units/3 mL)							
Sodium Bicarbonate 8.4%	1 mmol/mL	1 mmol/kg	Undiluted	1 mmol/mL	<b>22 mmol</b>	22 mL	Large vein push over 5 mins DO NOT mix with other drugs
Resonium A	–	0.25 g/kg	Mix 1 scoop (15 g) with 60 mL water	0.25 g/mL	<b>5.5 g</b>	22 mL	Oral, nasogastric or rectal
<b>Hypocalcaemia – Critical (↓ calcium)</b> Calcium gluconate (2.2 mmol/10 mL)	0.22 mmol/mL	0.11 mmol/kg	Undiluted	0.22 mmol/mL	<b>2.42 mmol</b>	11 mL	Large vein push over 3 - 5 mins DO NOT give with sodium bicarbonate
<b>Hypomagnesaemia or Arrhythmia</b> Magnesium Sulfate (10 mmol/5 mL)	2 mmol/mL	0.2 mmol/kg	Dilute 5 mL (10 mmol) to 50 mL	0.2 mmol/mL	<b>4.4 mmol</b>	22 mL	<b>Pulse absent</b> – Push over 3 - 5 mins <b>Pulse present</b> – Infuse over 20 mins

Trauma	Vial concentration	Recommended dose/kg	Dilution – Sodium Chloride 0.9%	Final concentration	Dose	Final volume	Administration
Blood – Initial		10 mL/kg			<b>220 mL</b>	220 mL	As clinically indicated
Tranexamic Acid – 1000 mg/10 mL	100 mg/mL	15 mg/kg	Dilute 10 mL (1000 mg) to 100 mL	10 mg/mL	<b>330 mg</b>	33 mL	Infuse over 10 mins

For ongoing bleeding refer to local Massive Haemorrhage Protocol for blood and product replacement

Analgesia	Vial concentration	Recommended dose/kg	Dilution – Sodium Chloride 0.9%	Final concentration	Dose	Final volume	Administration
Fentanyl – <b>Nasal</b> (100 microg/2 mL) Use Mucosal Atomiser Device (MAD)	50 microg/mL	1.5 microg /kg	Undiluted	50 microg/mL	<b>33 microg</b>	0.66 mL	Add 0.1 mL to initial dose to accommodate (MAD) dead space May repeat after 5 - 10 mins
Fentanyl – <b>IV</b> (100 microg/2 mL)	50 microg/mL	0.5 - 1 microg/kg	Dilute 2 mL (100 microg) to 10 mL	10 microg/mL	<b>11 microg</b>	1.1 mL	Dose may be repeated after 5 mins if required
Morphine – <b>IV</b> (10 mg/mL)	10 mg/mL	0.05 - 0.1 mg/kg	Dilute 1 mL (10 mg) to 10 mL	1 mg/mL	<b>1.1 mg</b>	1.1 mL	Dose may be repeated after 5 mins if required

Analgesia if intraosseous IO drug or fluid administration causes pain	Vial concentration	Recommended dose/kg	Preparation	Final concentration	Dose	Final volume to administer	Administration
Lignocaine (Lidocaine) 1% <b>IO</b>	10 mg/mL (1%)	0.5 mg/kg	Undiluted	10 mg/mL	<b>11 mg</b>	1.1 mL	Instil dose - Follow with 1 mL slow push of sodium chloride 0.9% over 1-2 minutes. Allow to dwell for 1 minute. Rapid flush with 5 mL. Half original dose can be repeated as above

Antiarrhythmics - only in consultation with a Paediatric Cardiologist	Vial concentration	Recommended dose/kg	Preparation	Final concentration	Dose	Final volume	Administration
AmiODAROne (Load) 150 mg/3 mL	See Infusion guide for doses and administration directions						
Esmolol 100 mg/10 mL	10 mg/mL	0.25 - 0.5 mg/kg	Undiluted	10 mg/mL	<b>5.5 mg</b>	0.55 mL	LOAD – Push over 1 - 2 mins. Continuous infusion may be considered after loading dose
Verapamil 5 mg/2 mL	2.5 mg/mL	0.1 mg/kg	Dilute 2 mL (5 mg) up to 10 mL	0.5 mg/mL	<b>2.2 mg</b>	4.4 mL	Infuse over 5 - 10 mins

Acute behavioural disturbance <b>Oral</b>	Medication preparation	Recommended dose	Preparation	Final concentration	Dose	Final volume	Administration
Diazepam	Liquid 1 mg/mL 5 mg tablet	0.2 mg/kg	If liquid unavailable dissolve 5 mg tablet in 5 mL of water	1 mg/mL	<b>4.4 mg</b>	4.4 mL	If tablet preferred round dose to nearest half or full tablet
Lorazepam	1 mg tablet	0.5 - 1 mg	Tablet may be dissolved in small volume of water		<b>0.5 - 1 mg</b>		
Olanzapine	2.5 - 5 mg wafer	2.5 - 5 mg	Place wafer on top of tongue		<b>2.5 - 5 mg</b>		Max daily dose not to exceed 20 mg
Risperidone	1 mg/mL liquid or tablets	0.02 - 0.04 mg/kg	If liquid unavailable tablets may be dissolved to make 1 mg/mL solution	1 mg/mL	<b>0.5 mg</b>	0.5 mL	Dose has been rounded

Acute behavioural disturbance <b>IM</b>	Vial concentration	Recommended dose	Preparation	Final concentration	Dose	Final volume	Administration
Droperidol	2.5 mg/mL	0.1 - 0.2 mg/kg	Undiluted	2.5 mg/mL	<b>2.2 mg</b>	0.9 mL	Max single dose not to exceed 10 mg. Total daily dose 0.4 mg/kg not to exceed 20 mg
Olanzapine	10 mg/mL	2.5 - 5 mg	Reconstitute vial with 2.1 mL WFI	5 mg/mL	<b>2.5 - 5 mg</b>	0.5 - 1 mL	Max single dose not to exceed 10 mg. Total daily dose 0.4 mg/kg not to exceed 20 mg

Reversal dystonia	Vial concentration	Recommended dose/kg	Preparation	Final concentration	Dose	Final volume	Administration
Benzotropine (Benzatropine) <b>IV or IM</b> 2 mg/2 mL	1 mg/mL	0.02 mg/kg	Undiluted	1 mg/mL	<b>0.44 mg</b>	0.44 mL	IV or IM

Drug	Vial concentration	Recommended dose/kg range	Preparation		Final rate range	Administration/ route
			Glucose 5% or Sodium Chloride 0.9%	Final concentration		
<b>Inotropes</b>						
Adrenaline (Epinephrine)	1:1000; 1 mg/mL	<b>0.05 to 0.9 microg/kg/min</b>	Dilute <b>1 mL (1 mg)</b> to 50 mL	20 microg/mL	<b>3.3 to 60 mL/hr</b>	IV
Dobutamine	250 mg/20 mL	<b>2 to 20 microg/kg/min</b>	Dilute <b>6 mL (75 mg)</b> to 50 mL	1.5 mg/mL	<b>1.8 to 17.6 mL/hr</b>	IV
Noradrenaline (Norepinephrine)	4 mg/4 mL	<b>0.05 to 0.9 microg/kg/min</b>	Dilute <b>1 mL (1 mg)</b> to 50 mL	20 microg/mL	<b>3.3 to 60 mL/hr</b>	IV
<b>Antiarrhythmics - only in consultation with a Paediatric Cardiologist</b>						
AmiODAROne <u>LOAD</u>	50 mg/mL	<b>25 microg/kg/min</b> (for 4 hrs)	Dilute <b>2 mL (100 mg)</b> to 50 mL in Glucose 5%	2 mg/mL	Dose <b>132 mg (66 mL)</b> infuse at <b>16.5 mL/hr</b>	IV
AmiODAROne [after loading dose]	50 mg/mL	<b>5 to 15 microg/kg/min</b>	Dilute <b>2 mL (100 mg)</b> to 50 mL in Glucose 5%	2 mg/mL	<b>3.3 to 9.9 mL/hr</b>	IV
Esmolol	100 mg/10 mL	<b>50 to 200 microg/kg/min</b>	Undiluted – draw up 50 mL (500 mg)	10 mg/mL	<b>6.6 to 26.4 mL/hr</b>	IV
<b>Sedation</b>						
Fentanyl	100 microg/2 mL	<b>1 to 7 microg/kg/hr</b>	Dilute <b>10 mL (500 microg)</b> to 50 mL	10 microg/mL	<b>2.2 to 15 mL/hr</b>	IV
Ketamine	200 mg/2 mL	<b>5 to 20 microg/kg/min</b>	Dilute <b>2 mL (200 mg)</b> to 50 mL	4 mg/mL	<b>1.7 to 6.6 mL/hr</b>	IV
Midazolam	Various strengths	<b>30 to 120 microg/kg/hr</b>	Dilute <b>10 mg</b> to 50 mL	0.2 mg/mL	<b>3.3 to 13.2 mL/hr</b>	IV
Morphine	Various strengths	<b>5 to 80 microg/kg/hr</b>	Dilute <b>5 mg</b> to 50 mL	0.1 mg/mL	<b>1.1 to 17.6 mL/hr</b>	IV
PropOFol	200 mg/20 mL	<b>0.3 to 4 mg/kg/hr</b>	Undiluted – Draw up <b>50 mL (500 mg)</b>	10 mg/mL	<b>0.7 to 8.8 mL/hr</b>	IV
<b>Diabetic Ketoacidosis</b>						
Insulin (neutral) ACTRAPID	300 units/3 mL	<b>0.05 to 0.1 units/kg/hr</b>	Dilute <b>0.5 mL (50 units)</b> to 50 mL with Sodium Chloride 0.9%	1 unit/mL	<b>1.1 to 2.2 mL/hr</b>	IV
<b>Asthma</b>						
Aminophylline [after loading dose]	250 mg/10 mL	<b>1 mg/kg/hr</b>	Dilute <b>10 mL (250 mg)</b> to 50 mL	5 mg/mL	<b>4.4 mL/hr</b>	IV
Salbutamol	5 mg/5 mL	<b>1 to 2 microg/kg/min</b>	Undiluted – draw up <b>50 mL (50 mg)</b>	1 mg/mL	<b>1.3 to 2.6 mL/hr</b>	IV
<b>Paralytic Agents – only on discussion with Paediatric Intensivist</b>						
Vecuronium	10 mg vial	<b>1 to 3 microg/kg/min</b>	Dilute <b>25 mL (50 mg)</b> to 50 mL	1 mg/mL	<b>1.3 to 4 mL/hr</b>	IV
<b>Electrolytes</b>						
<b>Hyperkalaemia</b> Glucose 10%	–	<b>5 mL/kg/hr</b>	Use a glucose 10% bag – Undiluted <i>Administer with Actrapid infusion</i>	10%	<b>110 mL/hr</b>	IV. Run insulin and glucose infusions (concurrently) until K <sup>+</sup> within range monitor BSLs
<b>AND</b> ACTRAPID (Insulin neutral)	300 units/3 mL	<b>0.1 units/kg/hr</b>	Dilute <b>0.5 mL (50 units)</b> to 50 mL <i>with Sodium Chloride 0.9%</i> <i>Administer with Glucose infusion</i>	1 unit/mL	<b>2.2 mL/hr</b>	