

18 kg

Anaphylaxis



Resuscitation / Arrhythmia

Adrenaline IV (cardiac arrest)	10 micrograms/kg	180 micrograms	of 1:10,000 (large ampoule)	1.8 mL ETT dose 1.8 mL of 1:1000 (small ampoules), diluted to 10mL
DC shock	4 J/kg		Use adult/child pads	70 Joules
ATROpine	20 micrograms/kg	360 micrograms	Diluted (600 micrograms in 6 mL)	3.6 mL
AmlIODAROne	5 mg/kg	90 mg	Dilute 1 ampoule (150 mg in 3mL) to 25 mL in Glucose 5% Over 3 mins in emergency, otherwise over 20-120 mins	15 mL
Adenosine (1st dose)	0.1 mg/kg	1.8 mg		0.6 mL
Adenosine (2nd dose)	0.2 mg/kg	3.6 mg	<u>Undiluted</u> (6 mg in 2 mL); use 1 mL or 3 mL syringe	1.2 mL
Adenosine (3rd dose)	0.3 mg/kg	5.4 mg		1.8 mL
Nebulised Adrenaline for upper airway obstruction / croup: 5 mL of 1:1000 (small ampoule) OR 0.5 mL of 1% solution diluted to 4 mL				

Management of shock

FLUID BOLUS (Isotonic crystalloid)		5 mL/kg = 90 mL	10 mL/kg = 180 mL	20 mL/kg = 360 mL	
PUSH DOSE PRESSORS	Metaraminol	10 micrograms/kg	180 micrograms	10 mg (1 ampoule) in 100 mL bag. Draw up 10 mL. <i>(OR use undiluted 3mg/6mL vial and give 0.36 mL)</i>	1.8 mL
	Adrenaline	1 micrograms/kg	18 micrograms	Dilute 1.8 mL of 1:10,000 Adrenaline (<u>large ampoule</u>) to total volume of 10 mL	1 mL
INFUSIONS <i>Can use either glucose 5% or sodium chloride 0.9%, except peripheral noradrenaline use glucose 5% + sodium chloride 0.9%</i>	Medication	Dilution		1 mL/h =	Starting Dose
	Adrenaline (Central / IO)	2.7 mg made up to 50 mL		0.05 micrograms/kg/min	0.2 – 5 mL/h
	Noradrenaline (Central / IO)	2.7 mg made up to 50 mL		0.05 micrograms/kg/min	0.2 – 10 mL/h
	Adrenaline (Peripheral)	6 mg made up to 1000 mL		<i>mL/h = microgram/kg/min: 9=0.05; 18=0.1;</i>	9 mL/h
	Noradrenaline (Peripheral)	6 mg made up to 1000 mL		<i>27=0.15; 36=0.2; 45=0.25; 54=0.3; 72=0.4;</i> <i>90=0.5; 180=1</i>	9 mL/h
	Dobutamine	270 mg made up to 50 mL		5 micrograms/kg/min	1 - 3 mL/h

Intubation

EQUIPMENT <i>(prepare one size above/below)</i>	ET tube size (<u>uncuffed</u>) (Age/4) + 4	5	Depth: 14 cm to lip	Laryngoscope: 2	
	ET tube size (<u>Microcuff™</u>)	4.5	17 cm to nose	Suction: 10 Fr	
	ET tube size (<u>cuffed</u>) (Age/4)+3.5	4.5	LMA size: 2		
INDUCTION AGENTS	Ketamine	1 - 2 mg/kg	18 - 36 mg	Dilute 200mg in 20 mL OR dilute 100mg in 10mL	1.8 – 3.6 mL
	Propofol	2.5 – 3.5 mg/kg	45 - 63 mg	<i>Risk CVS ↓</i> Undiluted	4.5 – 6.3 mL
	Fentanyl	2-4 micrograms/kg	36 - 72 micrograms	Dilute 100 micrograms to 10 mL	3.6 – 7.2 mL
	Midazolam	0.1 mg/kg	1.8 mg	Dilute 5 mg to 5 mL	1.8 mL
PARALYTIC AGENTS	Suxamethonium	2 mg/kg	36 mg	Dilute 100 mg to 10 mL	3.6 mL
	Rocuronium	1.2 mg/kg	21.6 mg	Undiluted	2.2 mL
	Vecuronium	0.1 mg/kg	1.8 mg	Reconstitute 10 mg in 10 mL water for injection	1.8 mL
	Pancuronium	0.1 mg/kg	1.8 mg	Dilute 4mg to 4mL	1.8 mL
	Atracurium	0.5 mg/kg	9 mg	Dilute 25mg to 10 mL	3.6 mL
	Cisatracurium	0.1 mg/kg	1.8 mg	Undiluted	0.9 mL
INFUSIONS <i>Can use either glucose 5% or sodium chloride 0.9%</i>	Morphine	18 mg made up to 50 mL	1 mL / h = 20 micrograms/kg/hour	Starting dose: 1 - 4 mL/h	
	Midazolam	54 mg made up to 50 mL	1 mL / h = 1 microgram/kg/min	Starting dose: 1 - 4 mL/h	
	Fentanyl	1,800 micrograms made up to 50 mL	1 mL / h = 2 microgram/kg/hour	Starting dose: 0.5 – 2.5 mL/h	

Blood products – use WARMED fluids

Packed red cells: (10 mL/kg) 180 mL	Fresh frozen plasma (FFP): (10-20 mL/kg) 1 – 2 units 180 – 360 mL	Platelets: 10 mL/kg of pooled plts 180 mL	Cryoprecipitate: Whole blood (10 mL/kg): 5 units Apheresis (5 mL/kg): 90 mL	Tranexamic acid Loading dose: 270 mg (15 mg/kg) <i>(Dilute to 10 mg/mL, give 27 mL over 10 minutes)</i> Infusion: 36 mg/hour for 8 hrs (2 mg/kg/hr) <i>(Dilute to 10 mg/ml, give 3.6 mL/hour)</i>
Massive transfusion: 1:1 ratio of packed red cells and FFP (e.g. alternate units of red cells / FFP)				

Acute respiratory illness (NB –all need to be given as separate infusions)

ASTHMA INFUSIONS	Magnesium 50 mg/kg (0.2 mmol/kg)	Dilute 5 mL (10 mmol) of 50% MgSO ₄ to 50 mL. Give 18 mL (3.6 mmol = 900 mg) over 20 minutes	Corticosteroids Methylprednisolone: 18 mg IV, 6 hourly Prednisolone: 18 mg daily Hydrocortisone: 72 mg IV, 6 hourly Dexamethasone: <i>Mild/moderate croup (oral): 2.7 mg</i> <i>Mild/moderate asthma (oral) : 5.4 mg</i> <i>Severe asthma / croup (IV/IM): 10.8 mg</i>
	Aminophylline 10 mg/kg	180 mg diluted to at least 180 mL Give over 30 minutes	
	Salbutamol 5 micrograms/kg	90 – 270 micrograms , diluted to at least 10 mL. Give over 10 minutes	
Life-threatening asthma: Adrenaline IM or “push dose” or infusion		Life-threatening croup: Nebulised Adrenaline	

Seizures / Neurology (see seizure flowchart)

MIDazolam (5 mg/ 1 mL – small ampoule) Intramuscular: (0.15 mg/kg) = 2.7 mg = 0.54 mL IM Buccal / nasal: (0.3 mg/kg) = 5.4 mg = 1.08 mL intranasal/buccal	IV MIDazolam (5 mg/ 5 mL – large ampoule) IV: (0.15 mg/kg) = 2.7 mg = 2.7 mL IV	IV Clonazepam Child dose 0.5 mg	IV Diazepam (0.3 mg/kg) 5.4 mg
PhenyTOIN 20 mg/kg	360 mg	Undiluted (preferred). May dilute up 72 mL (max); give over 20 min	
Sodium Valproate 40 mg/kg	720 mg	Dilute 1 x 400 mg vial to 10 mL (will need 2 vials). Give 18 mL over 5 min	
Levetiracetam 40 mg/kg	720 mg	Dilute 1 x 500 mg vial to 10 mL (will need 2 vials). Give 14.4 mL over 5 min	
PHENobarbitone 20 mg/kg	360 mg	Dilute to at least 1:10; give over 20 min	
Mannitol 20%	0.5 g/kg (2.5 mL/kg)	45 mL	Over 20-30 minutes for raised ICP
Sodium chloride 3% (“Hypertonic Saline”)	3 mL/kg	54 mL	Over 10-20 minutes for raised ICP

Electrolyte abnormalities

HYPOglycaemia: 36 mL of Glucose 10% (2 mL/kg) – consider need for critical blood tests	
HYPERkalaemia - Calcium gluconate 10% 9 mL slow IV (peripheral / central) OR Calcium chloride 10% 1.8 – 3.6 mL (central) - Salbutamol 2.5 mg nebulised - Glucose 10% 90 mL bolus with Actrapid 1.8 units bolus followed by Actrapid 1.8 units/hour + Glucose 10% + NaCl 0.9% maintenance (56 mL/h) - Sodium bicarbonate 8.4% 18 - 54 mL (if acidosis) over 5 minutes <i>Calcium and bicarbonate should be given using different lines</i> Critical HYPONatraemia with seizures (Do NOT correct >8 mmol/L/day) 54 mL of Sodium Chloride 3% over 20 minutes	Critical HYPOcalcaemia Calcium gluconate 10% 9 mL slow IV (peripheral / central) HYPOmagnesaemia Dilute 5 mL (10 mmol) of 50% MgSO ₄ to 50 mL. Give 18 mL (3.6 mmol = 900 mg) up to 36 mL (7.2 mmol = 1800 mg) over 2-4 hours Severe HYPOkalaemia needing urgent treatment Use pre-mixed 100mL bag [isotonic]: 5.4 mmol (54 mL) (Potassium Chloride 10 mmol in Sodium Chloride 0.29%) Give over 1 hour using syringe driver

SEVERE Infection NB – 1st dose only

Aciclovir	360 mg if > 12 years 270 mg if 5-12 years
Ampicillin, Amoxicillin, Cefotaxime, Ceftriaxone*, Flucloxacillin	900 mg
Gentamicin	135 mg
Clindamycin or Lincomycin	270 mg
Metronidazole	270 mg
Vancomycin	270 mg
Piperacillin / Tazobactam	1800 mg

Antidotes

Sugammadex 16 mg/kg	288 mg	Undiluted (100 mg/mL)	2.9 mL
Naloxone (low dose) 2 micrograms/kg	36 micrograms	Dilute 400 micrograms (1 mL ampoule) to 20 mL	1.8 mL <i>repeat PRN</i>
Naloxone (emergency) 10 micrograms/kg	180 micrograms	Dilute 400 micrograms (1 mL ampoule) to 20 mL	9 mL <i>repeat PRN</i>
N-Acetylcysteine (1st bag)	3600 mg in 250 mL of glucose 5%	Over 4 hours	
N-Acetylcysteine (2nd bag)	1800 mg in 250 mL of glucose 5%.	Over 16 hours	

* If serious bacterial infection, can give ceftriaxone 50 mg/kg (900 mg) OR 100 mg/kg (1800 mg)
If treating meningitis, also give **dexamethasone 2.7 mg IV** (0.15 mg/kg)

18 kg

Gastrointestinal bleeding	
Pantoprazole <i>Dilute 40 mg in 10 mL</i>	Intermittent dose: 18 mg (4.5 mL) Bolus (pre-infusion): 32.4 mg (8.1 mL)
Pantoprazole infusion <i>Dilute 80 mg in 100 mL</i>	3.24 mg/hour (4.05 mL/hour)
Octreotide <i>Dilute 250 micrograms in 50 mL</i>	Loading: 18 micrograms (3.6 mL) Infusion: start at 3.6 mL/hour ↑ by 3.6 mL/hour every 8 hours PRN

Dantrolene for malignant hyperthermia	Dilute 3 x 20 mg ampoule in 180 mL sterile H ₂ O Give 135 mL (45 mg) every 5 minutes Maximum of 180 mg (4 doses)
--	---

Sedation for procedures / treatment
Midazolam (5 mg/mL – small ampoule - undiluted) - *Oral: 9 mg (1.8 mL) - Intranasal: 5.4 mg (1.08 mL)
Ketamine (Undiluted – 200 mg in 2 mL) - Intramuscular: 54-72 mg (0.54-0.72 mL) - *Oral: 90-180 mg (0.9-1.8 mL)
Ketamine (IV) Dilute 200 mg in 20 mL Usual dose: 18 - 27 mg (1.8-2.7 mL) Consider 1 mL (10 mg) initial, then 0.5-1 mL (5-10 mg) increments

Other infusions	Dilution	Usual rate
Vasopressin	18 units in 50 mL Glucose 5%	1 – 3 mL/hour
Ketamine	200 mg in 50 mL	1.8 – 10.8 mL/hour
Propofol	Undiluted	1.8 – 7.2 mL/hour
Milrinone	10 mg in 50 mL	0.7 – 4 mL/hour
Glyceryl Trinitrate	54 mg in 100 mL Glucose 5%	1 - 10 mL/hour
Sodium nitroprusside	30 mg in 50 mL Glucose 5%	1 – 18 mL/hour
Heparin (arterial line transducer)	250 units in 50 mL	1 – 2 mL/hour
Heparin (central line transducer)	50 units in 50 mL	1 – 2 mL/hour

Dexmedetomidine 200 micrograms / 2 mL (Undiluted) Intranasal: 36 – 72 micrograms 0.36 – 0.72 mL
Clonidine 150 micrograms/mL (Undiluted) - *Oral: 72 micrograms (0.48 mL) - Intranasal: 36 micrograms (0.24 mL)

*Unpleasant taste! Consider mixing with 2-3 mL of sucrose, a dose of paracetamol and/or a few mL of juice.