

# Royal Hospital for Sick Children

A guide to some paediatric sizes and doses used in anaesthesia and resuscitation

Age	Typical weights (kg)	ETT Bore (mm)	Length ORAL (cm)	NASAL (cm)	Basal fluid (ml/kg/hr)	Ventilation settings	Laryngeal mask	Max size suction catheter
Prem	2	2.5	8	9.5	3			5
Newborn	3	3	9	11	3	Rate 30/min		6
2/12	4.5	3.5	10	11.5	4		1 rarely used	7
6/12	7	3.5	11	12.5	4	Rate 25/min	1.5	7
1 year	10	4	12	14	4	Rate 20/min	1.5	8
18/12	12	4.5	13	15	3		2	8
2	13	4.5 - 5	14	16	3		2	8
4	17	5 - 5.5	15	17	3		2	10
6	21	5.5 - 6	16	19	3	Rate 16/min	2	10
8	25	6 - 6.5	17	20	2.5	V <sub>T</sub> 10 - 15mls/kg	2.5	12
10	31	6.5 - 7	18	21	2.5	Paw 15 - 25	2.5	12
12	40	7 - 7.5	20	23	2	cm H <sub>2</sub> O	3	14

### Top up Blood Transfusion:

RCC @4mls/kg/1g rise in Hb reqd  
Total blood volume 80mls/kg

### Resuscitation in BURNS:

#### 1st 24hrs Parkland Formula

Hartmann's @ 4mls x kg x % area burn

- 1/2 over first 8hrs

- 1/2 over next 16hrs

In addition to **maintenance fluids**

0.45% NaCl + 5% Glucose 4ml/kg 1<sup>st</sup> 10kg + 2ml/kg

10-20kg +1ml/kg each kg after 20kg

### Resuscitation Drugs

• Adrenaline (1/10,000)	0.1ml/kg	• Aminophylline	5mg/kg
• Atropine	0.02mg/kg	• Chlorphenamine	0.1-0.25mg/kg
• Ca Chloride (10%)	0.2ml/kg	• Hydrocortisone	4mg/kg
• Na Bicarb (8.4%)	1ml/kg	• Furosemide	1mg/kg
{1/2 correct[Base XS x kg x 0.3] x 0.5}		• Mannitol (10%)	5ml/kg (0.5g/kg)
• Glucose (10%)	3-5ml/kg	• Cyclizine	1mg/kg
{Hyperkalaemia + Insulin 0.1 unit/kg}		• Dexamethasone	0.15mg/kg
		• Metoclopramide	0.15mg/kg
		• Ondansetron	0.1mg/kg
		• Prochlorperazine 1-4yrs	2.5mg PR
		5-12yrs	5mg PR

### HYPOVOLAEMIC SHOCK:

• Initial Fluid Infusion

**N.Saline 20mls/kg**  
then consider PPS or more saline  
**4 joules / kg**

### DC Defibrillation

### Sedation (oral)

• Alimemazine	2-3mg/kg [max 90mg]
• Diazepam	0.25-0.5mg/kg [max 10mg]
• Midazolam	0.5mg/kg [max 20mg]
• Chloral / Triclofos	30-50mg/kg [max 2g]
• Clonidine	2-4 mcg/kg [premed]
[Weaning sedation]	1-5mcg/kg, 8hrly

### Analgesics

• Paracetamol	15mg/kg 4-6hrly [max 90mg/24] <3months [max 60mg/24]
• Ibuprofen	5-10mg/kg, 6-8hrly
• Diclofenac (O/PR)	1-2mg/kg [max1mg/kg/8hrly]
• Codeine (O/PR)	1mg/kg 4hrly [max 240mg/24]
• Dihydrocodeine	0.5-1mg/kg 6hrly [max 30mg]
• Morphine >1yr	0.2-0.3mg/kg (oral [max10mg])
• Morphine (IM/IV)	<1yr 0.1mg/kg
(reduce IV dose with GA)	>1yr 0.2mg/kg

IV: Dilute dose in 10mls NaCl give slowly

• Naloxone	10mcg/kg
• Flumazemil	10mcg/kg

### A&E [over 1yr only]

• Intranasal Diamorphine	0.1mg/kg
In vol of 0.2ml when no IV access	

### Anaesthetic Drugs

• Thiopentone	4-6mg/kg
• Propofol	2-5mg/kg
• Ketamine 2mg/kg	(5-10mg/kgIM)
• Suxamethonium	1-2mg/kg
• Atracurium	0.5mg/kg
• Vecuronium	0.1mg/kg
• Mivacurium	0.1-0.2mg/kg
• Rocuronium	0.5mg/kg
• Glycopyrrolate	0.01mg/kg
• Neostigmine	0.04-0.05mg/kg
• Glycopyrrolate-Neostigmine dilute to 10mls then 1ml/5kg	0.5/2.5mg
• Fentanyl	2-5mcg/kg
• Remifentanyl	0.1-1mcg/kg/min
• Codeine (IM)	1-1.5mg/kg (not IV)
• Morphine	40-100mcg/kg
• Alfentanil	20-50mcg/kg
• IV Paracetamol	15mg/kg [max 60mg/kg/24]

### Infusions - Morphine

Body wt in kg = mg in 50mls NaCl (up to 50mg in 50mls). Run at **10-40mcg/kg/hr = 0.5-2mls/hr**  
If + Cyclizine 1mg/kg then make up in 5% Glucose

### Relaxant/Fentanyl

• Vecuronium 10mg + Fentanyl 500mcg in 10mls at 0.1ml/kg/hr  
(gives Vec 0.1mg/kg/hr + Fent 5mcg/kg/hr)

• Atracurium 50mg + Fentanyl 200mcg in 10mls at 0.1ml/kg/hr (gives Atrac 0.5mg/kg/hr + Fent 2mcg/kg/hr)

**Sedation** Midazolam 0.1-0.2mg/kg/hr  
Clonidine 0.1-0.5mcg/kg/hr (0.3mg/kg in 50mls)

**Epidural** 0.1% Bupivacaine + Fentanyl 2mcg/ml 0.2-0.4ml/kg/hr

Magnesium Sulphate 50mg/kg (0.2mmol/kg) dilute to 10% (100mg in 1ml) with 5% glucose give IV over 10-15min : 25mg/kg/hr mcg = micrograms

### Antibiotics (Loading Dose)

• Amoxicillin	25mg/kg
• Ampicillin	50mg/kg
• Augmentin	30mg/kg
• Benzylpenicillin	30mg/kg
• Cefotaxime	50mg/kg
• Ceftriaxone	50-80mg/kg
• Cefuroxime	30mg/kg
• Clarithromycin (Pen allergy)	7.5mg/kg (infusion)
• Clindamycin	5mg/kg (over 1/2hr)
• Flucloxacillin	25mg/kg
• Gentamicin	2-5mg/kg (3mg/kg)
• Metronidazole	7.5mg/kg
• Vancomycin	
* Penicillin allergy or if amoxicillin in prev month	15mg/kg (over 1hr)

### Seizures

• Lorazepam	0.1mg/kg [max4mg]
• Midazolam (buccal/nasal)	0.2mg/kg [max10mg]
• Diazepam	0.2-0.3mg/kg [max10-20mg]

### Local Anaesthetics (max dose)

• Bupivacaine	2.5mg/kg/6hrs (1ml/kg of 0.25% or 0.5ml/kg of 0.5%)
• Lignocaine	3mg/kg (0.3ml/kg 1%) + Adrenaline 7mg/kg (0.7ml/kg 1%)
<b>Caudal:</b>	0.25% Levobupivacaine 0.5-1ml/kg + Ketamine 0.5mg/kg (10mg/ml) preservative free or + Clonidine 1-2 mcg/kg
<b>Spinal:</b>	Heavy Bupivacaine 0.5% 0.13ml/kg
<b>Cardiac</b>	
• Dopamine	(3mg/kg in 50mls)
• Dobutamine	1ml/hr = 1mcg/kg/min (dose 5-20mcg/kg/min)
• Adrenaline	(0.3mg/kg in 50mls)
• Noradrenaline	1ml/hr = 0.1mcg/kg/min (dose 0.01-2mcg/kg/min)
• Prostin	(75 mcg/kg in 50mls) 0.4ml/hr=10nanograms/kg/min (dose10-50 nanograms/kg/min) Prostaglandin E2
<b>VF (shock resistant)</b>	Amiodarone: 5mg/kg rapid IVbolus{use 5% glucose if dilution reqd} then 5-15mcg/kg/min
<b>SVT</b>	Adenosine: 50-300 mcg/kg [max 3mg]