Emergencies in Paediatric Anaesthesia
Additional tool for non-paediatric specialist anaesthetists

**Weight in Kilograms**
- Term birth: estimated @ 3 - 4.0 kg
- 0-12 months = (months / 2) + 4
- 1-5 yrs = (yrs x 2) + 8
- 6-12 yrs = (yrs x 3) + 7

**Neonates:**
- Target Mean BP
- Approximates to post-conceptional age in weeks

**Systolic BP** = (age in years x 2) + 80
(from age 1 year onwards)
**ETT Length:** Oral = (age/2)+12  Nasal = (age/2)+15  
**Cuffed tube:** decrease size by 0.5 & monitor cuff pressure.  
*For experienced users only.*

### Tidal volume
7-10 mls/kg (usually achieved with Inspiratory pressure of 15-20 cmH\_2O)

### Higher closing volume
Beware small airway collapse. Consider PEEP, especially in neonates.

### Adequacy of ventilation
CLINICAL. Assess chest movement, colour, pulse-oximetry and end-tidal CO\_2

### Spontaneous ventilation
Rate dependent. Predominantly diaphragmatic. Beware diaphragmatic splinting.

### Once airway secure and any hypoxia is treated
Avoid prolonged 100% O\_2 administration.

### Blood Volume
- Term neonate: 90 ml/kg  
- Infant: 85 ml/kg  
- Child: 80 ml/kg  

### No indication for hypotonic fluids in resuscitation
(for use by specialist, experienced users only).

### Resuscitation
Crystalloid (+/- colloid) 20 mls/kg boluses, 10 mls/kg in head injury & trauma.

### Beyond 60 mls/kg
Consider (intubation and) ventilation.

### Maintenance
Crystallloid 4-2-1 regimen. Regular assessment of BLOOD SUGAR (especially in neonates).

### Adequacy of circulation
Conscious level, peripheral temperature, capillary refill, HR, BP, urine output.

### DC Shock
- VF: 4J/kg  
- SVT: Synchronous DC cardioversion, initially 1 J/kg, then 2 J/kg.

### All doses are I.V. unless stated
*It is the doctor's responsibility to ensure drugs are used appropriately for each clinical situation*

### Adrenaline
- Cardiac Arrest: 10 microg/kg I.V.  
- Anaphylaxis: 10 microg/kg I.M.

### Suxamethonium
2 mg/kg I.V.  
3-4 mg/kg I.M.  
Premedicate neonates with atropine. Avoid in burns, muscle necrosis, myopathies, hyperkalaemia.

### Atropine
20 microg/kg  
(minimum dose 100 microg, maximum 1.2 mg)

### Rocuronium
1 mg/kg (RSI intubating dose)

### Atracurium
0.3-0.5 mg/kg

### Glucose 10%
2 mls/kg

### IV Ketamine
1-2 mg/kg

### Neonates
2.5mls/kg or IV infusion

### IM Ketamine
5-10 mg/kg

### Propofol
2-5 mg/kg

### Thiopentone
3-4 mg/kg

### Intralipid 20%
Initial bolus 1.5 ml/kg over 1min

### Fentanyl
1-2 microg/kg

### Dantrolene
Initial bolus 2-3 mg/kg

### Morphine
0.1 mg/kg

### Lorazepam / Midazolam
0.05-0.1 mg/kg

### References:
- strs.nhs.uk (an excellent resource for drug calculation)
- Paediatric Advanced Life Support. Resuscitation Council (UK) October 2010 and the October 2011 update

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