



# Paediatrics: Introduction



# Early Child Development



## General

Children are different

Basics are the same

Vary with age of child

Constant change





# Contents

Airway

Breathing

Circulation

Disability

Musculoskeletal

Normal Values

Approach

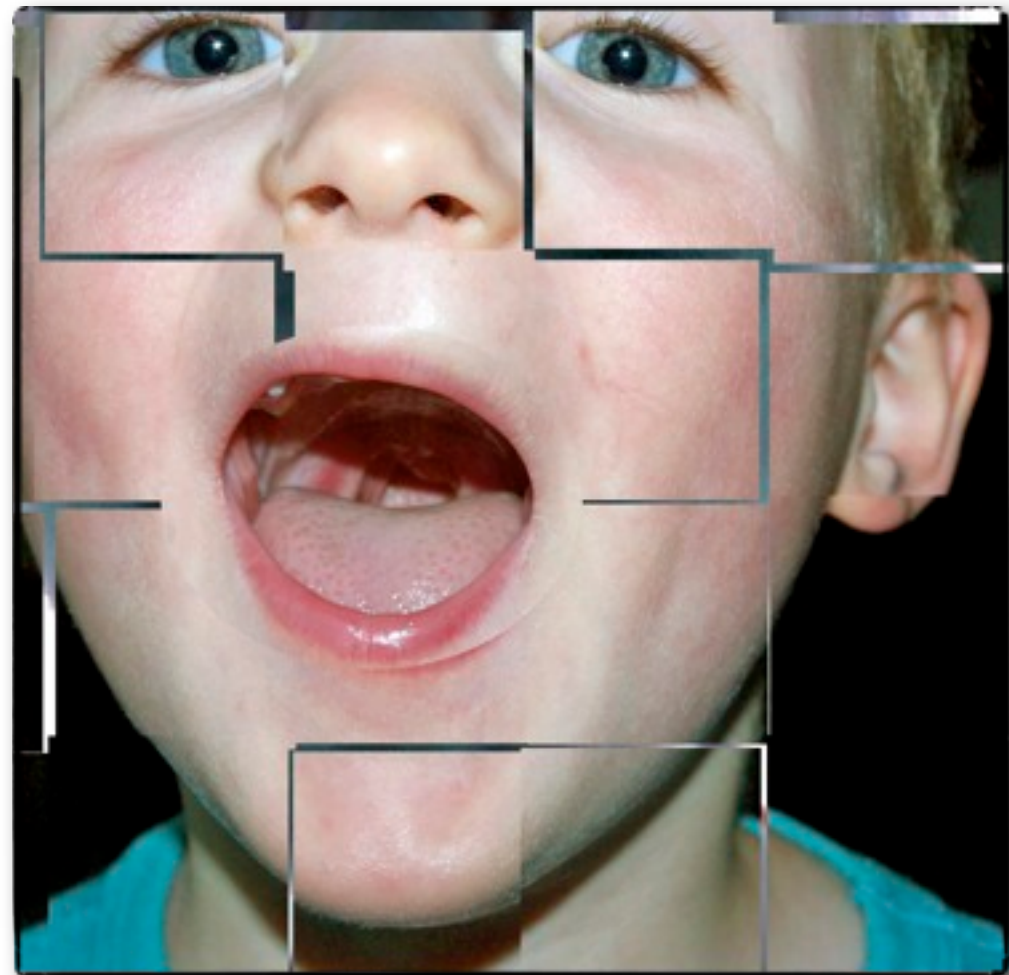
Drug dosages





# Airway

- Delicate mucosa
- Loose teeth
- Bigger tongue
- Higher/anterior larynx
- Floppy large epiglottis
- Narrower
- Neutral position- infants
- Putting stuff in mouth





# Breathing

- Small reserve (FRC)
- Reduced total surface area
- Soft chest wall
- Relatively more energy
- Increased rate
- Less Type 1 muscle
- More diaphragm infants





# Circulation

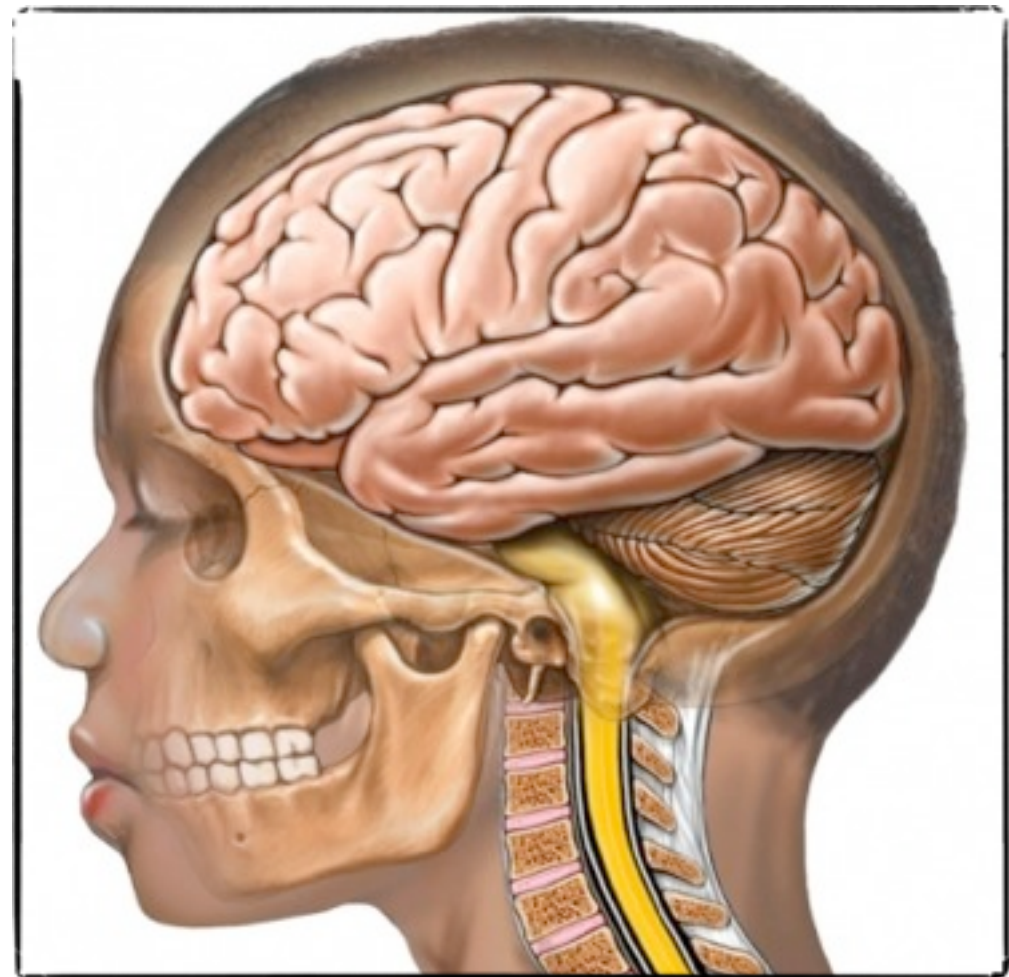
- Small volume, 70-80ml/kg higher proportionally
- Higher heart rate
- Compensate, then crash
- BP difficult in younger
- Veins in toddlers (not)
- Congenital heart disease





# Disability/Neuro

- No speech when younger
- Don't communicate like adults
- Emotional component
- Developmentally changing





# Musculo-skeletal

Softer bones

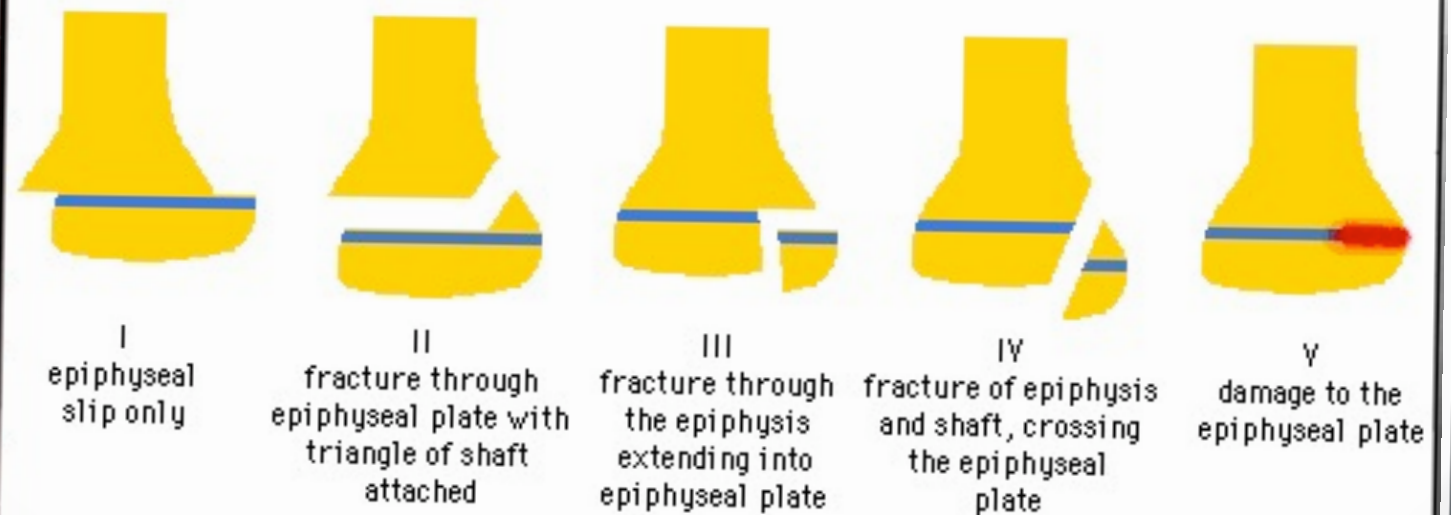
Prone to accidents

Watch for NAI

Epiphyseal plates



## The Harris and Salter classification of epiphyseal injuries





# Normal Values

Age	Resp	Pulse
<1	30-40	110-160
1-2	25-35	100-150
2-5	25-30	90-140
5-12	20-25	80-120
>12	15-20	60-100

$$sBP = 80 + (2 \times \text{age})$$





# Emergency Formulae

1-12 years

- **Wt:**  $(\text{Age}+4)\times 2$
- **Energy:** 4J/kg
- **Tube (ETT):**  $(\text{Age}/4)+4$
- **Fluids:** 20ml/kg (10ml/kg trauma)
- **Adrenaline:** 0.1mg/kg
- **Glucose:** 5ml/kg of 10%





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# General Points of Approach

- Talk to the child
- Take your time
- Play and put child at ease
- Remember birth and neonatal history
- Growth and development
- Siblings and family circumstances
- Vaccination
- Specifics of presentation
- Weigh child for dosages

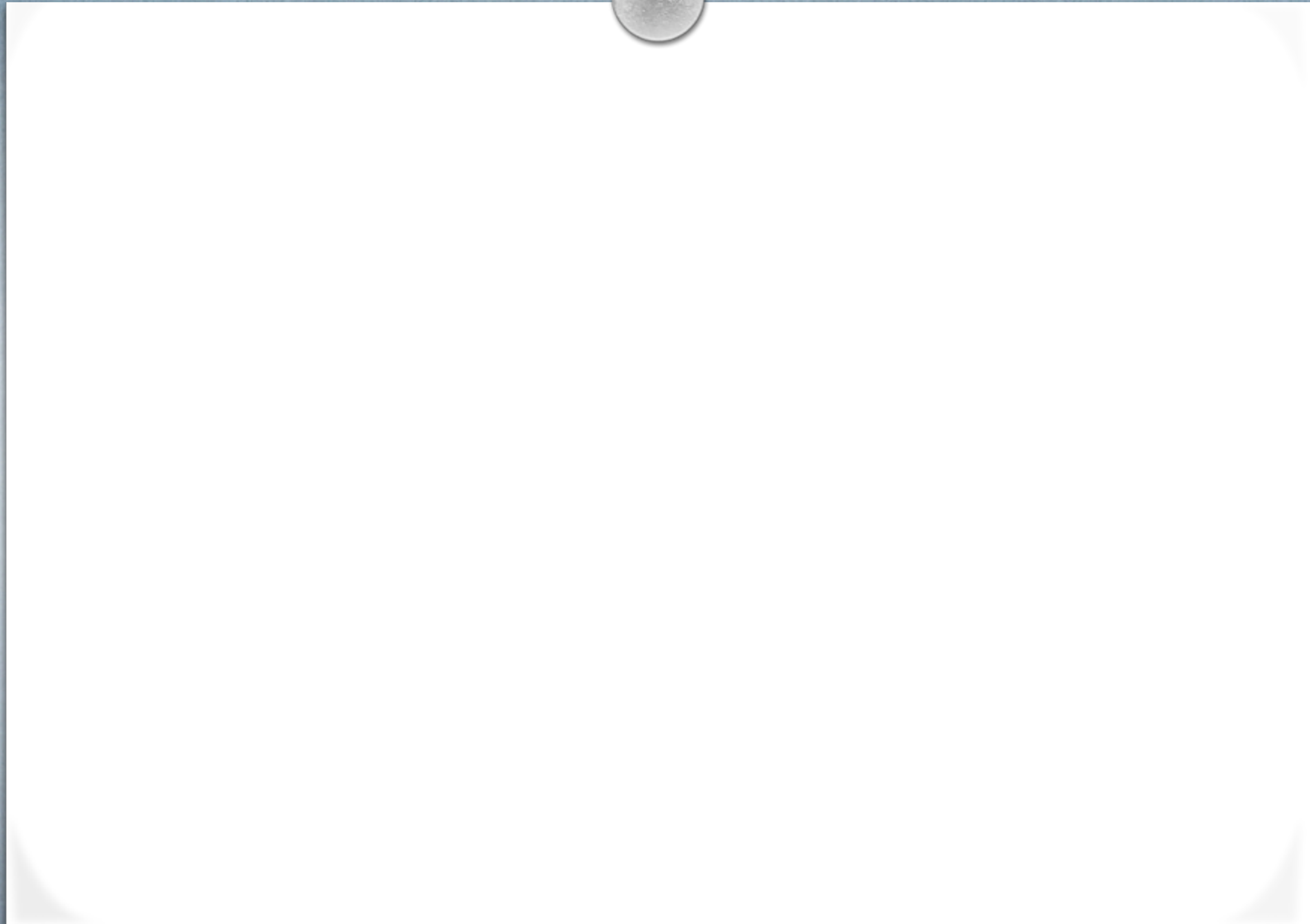




# Drug dosages

- Adenosine 100-200-300-400 mcg/kg
- Adrenaline 0.1ml/kg 1:10000
- Alprostadil 0.05 mcg/kg/min
- Aminophylline 5mg/kg IV 20 mins
- Amiodarone 5mg/kg over 30mins
- Atropine 20mcg/kg
- Budesonide 1-2mg nebs
- Calcium 0.2ml/kg of 10%
- Cefotaxime 80mg/kg IV
- Dexamethasone 0.15 or 0.4mg/kg IV
- Dextrose 5ml/kg 10%
- Diazepam 0.5mg/kg PR
- Dop(but-)amine: 10-20mcg/kg/min (3xwt=mg in 50ml 50 % dex at 10-20ml/hr)
- Etomidate 0.1-0.3mg/kg iv
- Frusemide 1mg/kg iv
- Flecainide 2mg/kg iv over 20mins
- Hydrocortisone 4mg/kg iv
- Insulin, sol 0.05-0.1U/kg/hr
- Ketamine 1-2mg/kg iv RSI
- Lorazepam 0.1mg/kg IV
- Magnesium 25-50mg/kg (+lt;2g)
- Mannitol 0.25-0.5g/kg over 15m
- Methyl prednisolone 30mg/kg over 1 hr then 5.2mg/kg/hr
- Midazolam 0.5mg/kg SL
- Morphine 0.1-0.2mg/kg iv
- Naloxone 10mcg/kg up to 0.8mg
- Paraldehyde 0.4mg/kg + = olive oil PR
- Phenytoin 18mg/kg over 30mins
- Prednisolone 1-2mg/kg
- Propofol 2-5mg/kg iv
- Quinine 20mg/kg over 4hrs in 5% dextrose q8hrly
- Salbutamol 15 mcg/kg IV 10mins
- Sodium bic 1-2ml/kg of 8.4%
- Suxamethonium 1-2mg/kg iv
- Thiopental 2-5mg/kg iv









Questions?