THE BASICS OF PAEDIATRIC ANAESTHESIA

Pre-operative visit

Use this time to develop rapport and trust with the child and parent. Address the child first and then include the parents in discussion. Address the queries and fears of the child as well as those of the parent. Explain the planned approach to induction so both parent and child know what to expect. It is important to take a medical and anesthetic history.

- Any previous problems with anesthetics including family history
- Allergies
- Previous medical problems including congenital anomalies
- Recent respiratory illness
- Current medications
- Recent immunizations
- Fasting times
- Presence of loose teeth. Conduct a physical examination as appropriate concentrating on the airway and cardiorespiratory systems. Children must be weighed.
- Hemoglobin – large expected blood loss, premature infants, systemic disease, congenital heart disease
- Electrolytes – renal or metabolic disease, intravenous fluids, dehydration
- CXR – active respiratory disease, scoliosis, congenital heart disease Discuss postoperative pain management.

Pre-operative Fasting

- 6 hours for solids and milk if greater than 12 months of age
- 4 hours for breast milk and formula feeds if less than 12 months of age
- 2 hours for unlimited clear fluids (as this decreases gastric acidity and volume)
- There is an increased incidence of nausea and vomiting with long fasting periods.

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Premedication

• Midazolam 0.5 mg/kg with a maximum of 15 mg given orally 15-30 minutes preoperatively. It has a variable result and can produce a very unpleasant excitatory phase. Timing is important for best effect. A sweetener may be necessary.

• Chloral hydrate 50 mg/kg orally to a maximum of 1g. This also can produce an unpleasant excitatory phase and has a bitter taste. It is also used for sedation.

• Ketamine 3-8 mg/kg orally 30-60 minutes pre-operatively.

• Temazepam 0.5-1 mg/kg orally for older children 1 hour pre-operatively.

• Clonidine 2-4mcg/kg orally. It may cause hypotension. Beware narcotics in infancy because of apnea. Sedation should be used cautiously in those children with airway problems and should be avoided altogether in neurosurgical patients especially if they have raised intracranial pressure.

Preparation for Anesthesia

• Oropharyngeal airway.

• Face masks

• Laryngeal mask

• Endotracheal tube

• Laryngoscope and blades

• Breathing circuit (T piece)

• Monitoring

Intubation

Straight Magill blades are useful in neonates and infants. A size 0 blade is best in babies

less than 4 kg. A curved blade is usually easier once the child is 6-10 kg.

• Uncuffed tubes are used until 8-10 years of age.

• A small leak should be present. The leak is too large if it compromises ventilation.

• Tube size = age/4 + 4.5 is generally a better fit than age/4 + 4 up to 10 years

• Tube length in cm = age/2 +12 (or ID x 3 for an oral ETT and add 2cm for a nasal tube is

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easier to remember). This is only a guide and the tube length will always need to be checked clinically.

• 1 LMA up to 5 kg; 1.5 LMA 5-10 kg; 2 LMA 10-20 kg; LMA 2.5 20 – 30 kg; LMA 3 for over 30 kg

• Preformed RAE tubes may be too long.

• Secure the endotracheal tube with 1cm wide Elastoplast, ensuring that the tape wraps about the tube and at least one tape is fixed to the less mobile maxilla. Re-check tube length at the time of taping.

Maintenance

• Add regional analgesia where necessary

• Beware intravenous narcotics in infancy especially ex-premature infants and neonates.

• Use intravenous fluids for cases with expected blood loss, intra-abdominal, or those taking longer than 30 minutes.

• Extubation laryngospasm tends to occur less frequently if the child is fully awake at the time of extubation.

• You may need to be with a child in recovery until fully awake if the recovery staff are inexperienced with children.

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Good luck