Preoperative Evaluation of Pediatric Patients

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Objectives

- Define NPO guidelines
- Review history assessment
- Review system assessment
- Review preoperative medications
- Review preoperative labwork
Allergies

- Drugs
- Latex
- Sensitivities
- Food
- Environmental
NPO Guidelines

- Clear liquids – 2 hours
- Breast milk – 4 hours
- Formula or milk – 6 hours
- Light meal – 6-7 hours
- Full meal – 8 hours
NPO Guidelines

- Some will allow solids up to 4 hours prior to surgery
- Clears up to 30 minutes before surgery
- No report aspiration events
- Do guidelines need to change?
- Is it better to give specific times to stop eating and drinking rather than number of hours before surgery?
Medication List

- Common Meds
- Do they need to take it the morning surgery?
- Interactions?
- Last dose
Previous Anesthetics

- Distinguish between GA and sedation
- Complications?
  - PONV
  - Respiratory issues
  - Adverse drug reactions
  - Malignant Hyperthermia
Family Anesthesia History

- Any complications?
- Malignant hyperthermia
- Pseudocholinesterase deficiency
Family History

- Muscle diseases
  - Muscular dystrophy
  - Duchenne’s most common
- Bleeding disorders
- Sickle cell disease or trait
Birth and Neonatal History

- Full term vs. Premature vs. Micropremature
- Apgar scores and birth weight
- Length of hospital stay
- Supplemental oxygen requirements
- Apnea monitor
<table>
<thead>
<tr>
<th>Respiratory</th>
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<tbody>
<tr>
<td>Asthma</td>
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<tr>
<td>Recent upper respiratory infection</td>
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<tr>
<td>Bronchopulmonary dysplasia</td>
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<tr>
<td>Obstructive sleep apnea</td>
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<tr>
<td>Apnea and bradycardia</td>
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<tr>
<td>Intubation history</td>
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<tr>
<td>Environmental tobacco exposure</td>
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Respiratory Infection

- To sleep or not to sleep???
- Upper vs. lower
- Current vs. recent
- Symptoms

- Anesthetic Management
  - Ett vs. LMA
  - Hydration
  - Anticholinergics
  - Premed bronchodilator
  - Extubation
Asthma

- Presentation
  - Atopic
  - Nonatopic
  - Transient
- Severity?
- Meds and frequency
- Steroid use
- Airway choice?
- Awake vs deep extubation
- Breathing treatment preop
Asthma

- **Step 1**
  - Occasional short acting B2 agonist
- **Step 2**
  - B2A + inhaled corticosteroid (IC)
- **Step 3**
  - B2A + IC + either long acting B2A or increase IC
- **Step 4**
  - B2A + high dose IC + LABA + Leukotriene Antagonist (LTRA), theophylline, or B2A tablet
- **Step 5**
  - B2A + high dose IC + LABA or LTRA + oral steroids
Asthma Test

- Measures factional nitric oxide in exhaled breath
- Recommended by ATS for detection of eosinophilic inflammation
- Can detect likelihood of corticosteroid responsiveness
Cardiovascular

- Murmurs
- Cardiology reports, echo results
- Exercise intolerance or syncopal episodes
- Hypertension
Endocarditis Prophylaxis

- American Heart Associations 2008
- “Infective endocarditis is more likely to result from frequent exposure to random bacteremias associated with daily activity than from bacteremia caused by a dental, GI tract, or GU tract procedure.”
Endocarditis Prophylaxis

- Prosthetic valves
- History of infective endocarditis
- Unrepaired cyanotic congenital heart disease, including palliative shunts and conduits
- Completely repaired defects repaired with prosthetic material for 6 months after procedure
- Cardiac transplant patients with valve regurgitation
<table>
<thead>
<tr>
<th>Endocarditis Prophylaxis</th>
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<tbody>
<tr>
<td><strong>Amoxicillin</strong> – 2 g oral (50 mg/kg)</td>
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<tr>
<td><strong>Ampicillin</strong> – 2 g intramuscular or intravenous (50 mg/kg)</td>
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<tr>
<td><strong>Cefazolin</strong> or <strong>Ceftriaxone</strong> – 1 g intramuscular or intravenous (50 mg/kg)</td>
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<tr>
<td><strong>Cephalexin</strong> – 2 g oral (50 mg/kg)</td>
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<tr>
<td><strong>Clindamycin</strong> – 600 mg oral; intramuscular or intravenous (20 mg/kg)</td>
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<tr>
<td><strong>Azithromycin or Clarithromycin</strong> – 500 mg oral (15 mg/kg)</td>
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<tr>
<td><strong>Gentamicin</strong> – 2 mg/kg IV</td>
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<td>GI/Liver</td>
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Musculoskeletal

- Fractures
- Weakness/deficits
- Scoliosis
- Hypotonia
Renal/Endocrine

- Urinary tract infection history
- Renal disease
- Dialysis
- Diabetes history
- Thyroid problems
Diabetic patients

- Schedule first case of the day
- Consult endocrinologist
- IV fluids with dextrose – may need to start on preop unit
- Monitor glucose pre, peri, and postoperatively
| Other | Fever | Dental | Anemia | Transfusion history | Immunosuppressive history | Chemotherapy history | Bruising/bleeding tendencies |
Physical Assessment

- General appearance
  - Color: pale, jaundiced

- Breathing pattern
- Abdominal distension
- Pain
- Anxiety level
Physical Assessment

- Heart
  - murmurs, rate, rhythm

- Lungs
  - Abnormal sounds

- Preoperative nebulizer

- Airway
  - Mallampati
  - Visual exam

- Dental
Preoperative Anxiety

- Pain
- Fear of needles
- “white coat”
- Separation from parents
- Parental anxiety
Preoperative Medications

- Anxiolysis/sedation
  - Midazolam
    - 0.3-0.5 mg/kg up to 15 mg po
    - 0.05-0.1 mg/kg IV
    - Can be given intranasal
  - Clonidine
    - 4-10 mcg/kg PO
  - Ketamine
    - 3-5 mg/kg PO
    - 4-5 mg/kg IV
  - Diazepam
    - 0.18-0.5 mg/kg po
    - 0.04-0.2 mg/kg IV
Preoperative Medications

- **Albuterol**
  - 1.25 mg <10 kg pt
  - 2.5 mg >10 kg pt

- **Atropine – 0.1 mg IM**

- **Ranitidine**
  - 2 mg/kg po (max 150 mg)
  - 1 mg/kg IV (max 50 mg)

- **Metoclopramide**
  - 0.15 mg/kg po
  - 0.1 mg/kg IV (max 5-10)
Preoperative Labwork

- Hematocrit/hemoglobin
- Fluid balance panel
- Coagulation studies
- Glucose level
- Packed red blood cells, platelets, fresh frozen plasma
Goals of Prescreen Patients

- Decrease cancellations
- Labwork and meds known in advance
- Decrease time of preop preparation DOS
- Consult recommendations known in advance
Questions