Obesity and Obstructive Sleep Apnea

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Findings associated with OSAS include:
1. History
   * habitual snoring with labored breathing
   * observed apnea
   * restless sleep
   * daytime neurobehavioral abnormalities or sleepiness
2. Physical Examination
   * growth abnormalities
   * signs of nasal obstruction, adenoidal facies, enlarged tonsils
   * increased pulmonic component of second heart sound
   * patient may have no abnormalities on examination

Are symptoms or examination suggestive of OSAS present?

Complex high-risk patients include:
* infants
* patients with:
  - craniofacial disorders
  - Down syndrome
  - Cerebral palsy
  - Neuromuscular disorders
  - Chronic lung disease
  - Sickle cell disease
  - Central hypoventilation syndromes
  - Genetic/metabolic/kidney diseases

Is this a complex high-risk patient?

Is there evidence of cardiac respiratory failure?

Implement appropriate and expeditious evaluation and treatment with consultation of a specialist

Evaluate for OSAS

Refer to specialist

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Consequences of OSA

- Cardiovascular
  - Pulmonary hypertension
  - Systemic hypertension
- Neurobehavior
  - Attention
  - Emotional regulation
  - Cognition
- Endocrine/Metabolic
  - IGF-1
  - Failure to Thrive


Treatments for OSA

- Oral devices
- Assisted ventilation
- Adenotonsillectomy
- Uvulopalatopharyngoplasty
- Tracheotomy
Risk Factors for Postoperative T&A Complications in Children with OSAS

- Age < 3 years
- Severe OSAS
- FTT/cor pulmonale
- Obesity
- Prematurity
- Craniofacial
- Neuromuscular
- Recent respiratory infection

Postoperative Complications

- Hemorrhage 3%
- Respiratory complications 16-27%
  - Postobstructive pulmonary edema
  - Blunted hypoxic ventilatory drive
  - Hypoventilation
- Death 1 in 4000 to 1 in 27000

Longterm T&A Complications

- Nasopharyngeal stenosis
- Velopharyngeal incompetence
T&A Outcomes in the Obese

- 25% AHI<1/hr
- 46% 1<AHI<5/hr
- 29% AHI>5/hr

Risk Factors for T&A Failure

- Race
- OSAS severity
- Obesity
- Family history of OSAS

Recommendations for Obese Children Suspected of OSAS

- Preoperative PSG for BMI > 30
- Avoid preop sedation
- Overnight postop hospitalization with monitoring
- Postoperative outpatient screening
- Consider postoperative PSG