

#135 Alfonso Caetta

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Postoperative Respiratory Complications after Adenotonsillectomy in Children with Obstructive Sleep Apnea

Children with obstructive sleep apnea (OSA) are considered high risk for post-operative respiratory complications and require overnight inpatient monitoring in a setting where signs of respiratory distress and airway obstruction can be promptly recognized and treated. Guidelines from the American Academy of Otolaryngology-Head and Neck Surgery recommend overnight admission for children with an apnea-hypopnea index (AHI) of 10 or greater or an oxygen saturation nadir $\leq 80\%$ on overnight PSG. This contrasts with guidelines from the American Academy of Pediatrics published in 2012 that recommend overnight admission for children with an AHI of 24 or greater, an oxygen saturation nadir $\leq 80\%$ or peak end tidal CO₂ of 60 mm Hg or greater on PSG.

We reviewed children with OSA who underwent T&A at our institution over a 6 ½- year period to evaluate the incidence of post-operative respiratory complications to help determine the PSG criteria for inpatient admission. Of the 560 children, mean (SD) age was 6.4 (3.7) years, 318 (56.8%) were male, 438 (78.2%) were African American, 243 (43.4%) were obese, 16 (2.9%) had Down Syndrome and 12 (2.1%) had sickle cell disease. Median (range) AHI was 12.3 (2-145). Fifteen children (2.7% [95% CI 1.3, 4.0]) had an intraoperative or postoperative respiratory complication. Minor complications including mild desaturation, stridor, croupy cough, and laryngospasm occurred in 9 patients and did not prolong the planned ambulatory or hospital stay. Of the 6 children with more severe complications including prolonged desaturation, tachypnea, atelectasis, intercostal retraction and OSA requiring continuous positive airway pressure, all were planned admissions based on age, severe sleep study indices (AHI ≥ 24 or oxygen saturation nadir $\leq 80\%$) or underlying medical condition. Of the 166 otherwise healthy children age ≥ 3 with AHI ≥ 10 but ≤ 24 , 113 (68.1%) were discharged home on the same day of surgery without additional respiratory sequelae.

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