AT-RISK, PEDIATRIC OSAS

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INTRODUCTION

- Post-operative PSG is recommended in certain pediatric populations at increased risk for residual sleep disordered breathing: moderate to severe obstructive sleep apnea syndrome (OSAS), obesity, craniofacial abnormalities, and neurologic disorders.[1-4]
- Variability in completion of a post-operative PSG exists due to multiple disciplines involved in care.
- We characterized the postoperative care of an at-risk pediatric OSAS cohort within 12 months of a surgical intervention.
- We hypothesized that patients with isolated severe OSAS or severe plus a co-morbidity will have greater incidence of a post-operative PSG.

METHODS

- Retrospective review of pediatric patients diagnosed with moderate to severe OSAS who completed a surgical intervention.
- Data obtained from chart review included:
  - Presence of a concerning co-morbidity
  - Presence of an ENT, Primary Care, or Sleep Medicine follow-up encounter
  - Time to follow-up encounter
  - Presence of a post-operative PSG
  - Time to post-operative PSG
  - Presence of an annual follow-up
- Cohort was divided into the following categories:
  - Isolated Moderate OSA
  - Moderate OSAS + Co-Morbidity
  - Isolated Severe OSAS
  - Severe OSAS + Co-Morbidity
- Statistical analyses for significant differences across at-risk categories included a X^2 test for categorical variables and continuous variables with a one-sided *t*-test.

RESULTS

	Total Cohort (N=67)	Moderate OSA (n=31)	Severe OSA (n=36)
Mean Age			
(year ± SE)	5 ± 0.5	5.6 ± 0.7	4.5 ± 0.6
Age group, y			
0 < 4 (n,%)	29,43%	10	19
4 < 12 (n,%)	32,48%	18	14
12 - 15 (n,%)	6,9%	3	3
Sex			
M (n,%)	44,66%	18	26
F (n,%)	23,34%	13	10
BMI Percentile			
(Mean + SE)	64% ± 4.3%	68% ± 6.2%	61.3% ± 6%
Comorbidity			
(n,%)	26, 39%	9, 29%	18, 50%

- **88% of our cohort had clinical follow up**
  - Patients consistently followed-up with ENT 6-8 weeks postoperatively (76%) and haphazardly followed-up with primary care & sleep medicine.
- **31% completed a post-operative PSG.**
  - Variables associated with follow-up PSG incidence include:
    - Recurrent/persistent symptoms ($p<0.01$)
    - Severe OSAS ($p=0.04$)
    - Severe OSAS + co-morbidity had f/u PSG significantly more than isolated moderate OSAS ($p=0.01$).
- Significant difference was seen across at-risk categories for the presence of a Sleep Medicine follow-up ($p<0.01$)

Co-morbid conditions	n = 26
Obesity	11*
Trisomy 21	8
Cerebal Palsy	2
Pfeiffer Syndrome	2
Dandy-Walker Malformation	1
Chiari Malformation	1
Holoprosencephaly	1
Tracheomalacia	1
Achondroplasia	1
Rubenstein-Taybi	1
Beckwith-Wiedemann	1

Table 2. Demographics of co-morbid conditions. *-Four patients with multiple co-morbidities (3 with Trisomy 21 & 1 with achondroplasia)

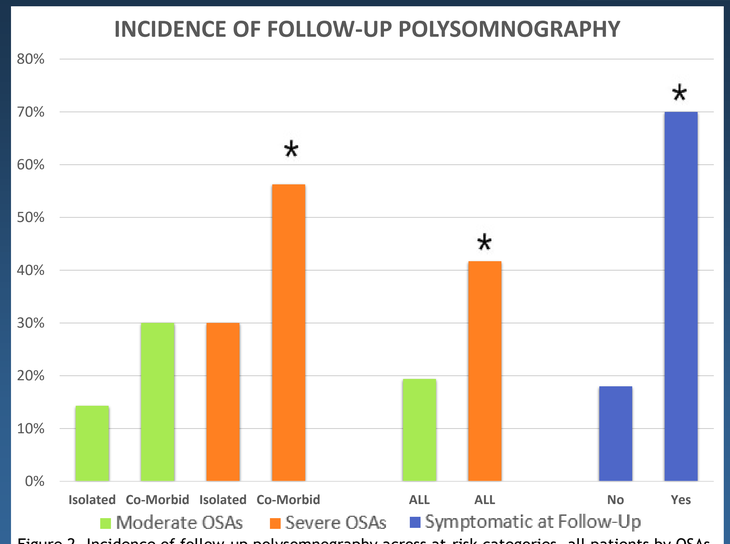

Figure 2. Incidence of follow-up polysomnography across at-risk categories, all patients by OSAs severity, and symptomatic at any follow-up encounter. * - statistical significance $p < 0.05$.

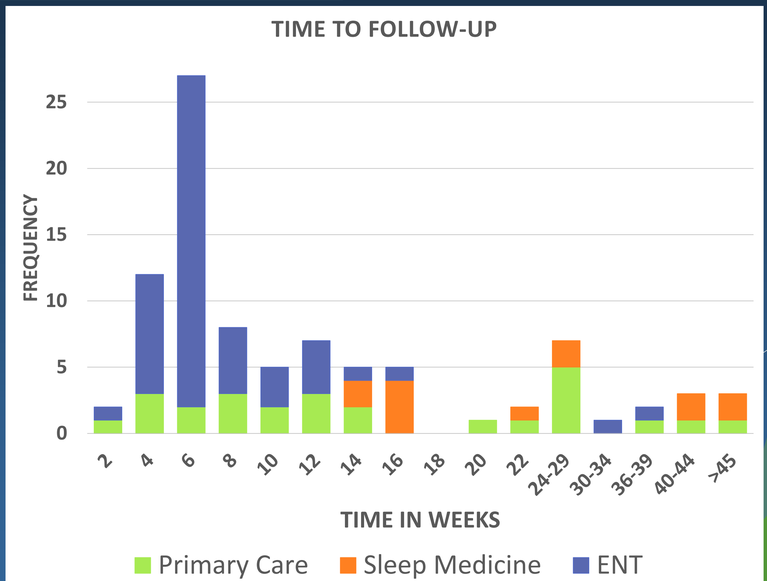

Figure 1. Histogram of time to follow-up across specialties.

DISCUSSION

- Recurrent symptoms and increasing complexity likely contribute towar obtaining a postoperative PSG.
- Variability exists for which patient to complete a post-operative PSG.
- We speculate 3 factors contributin discrepancies in follow up:
  1. an inconsistent standard across disciplines
  2. Inadequate post-operative OSA management education
  3. uncoordinated systemic proces
- We recommend a standardized, mu disciplinary care pathway for pedia patients who are at risk for residua post-surgical intervention.
- These findings will inform future q improvement discussions with vari disciplines involved in pediatric OS

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