

Background

- AAO-HNS guidelines recommend PSG before adenotonsillectomy (T&A) for all children with obesity¹
- Obese children face higher perioperative respiratory risk²
- Only 20–38% of children receive PSG before T&A^{3,4}, limited by access, insurance, and inconsistent guideline use
- The clinical risk of omitting PSG in obese children is poorly understood

OBJECTIVE: To compare perioperative and post-discharge outcomes in BMI-matched obese children undergoing T&A with vs. without preoperative PSG

Methods and Materials

Retrospective cohort at a tertiary children’s hospital Pediatric T&A for OSA (7/2024–7/2025) extracted from electronic health record:

- Demographics and comorbidities
- OSA symptoms and ASA class
- Perioperative course and analgesia
- ED visits, readmissions, and persistent OSA

Inclusion: BMI ≥ 99th percentile for age and sex

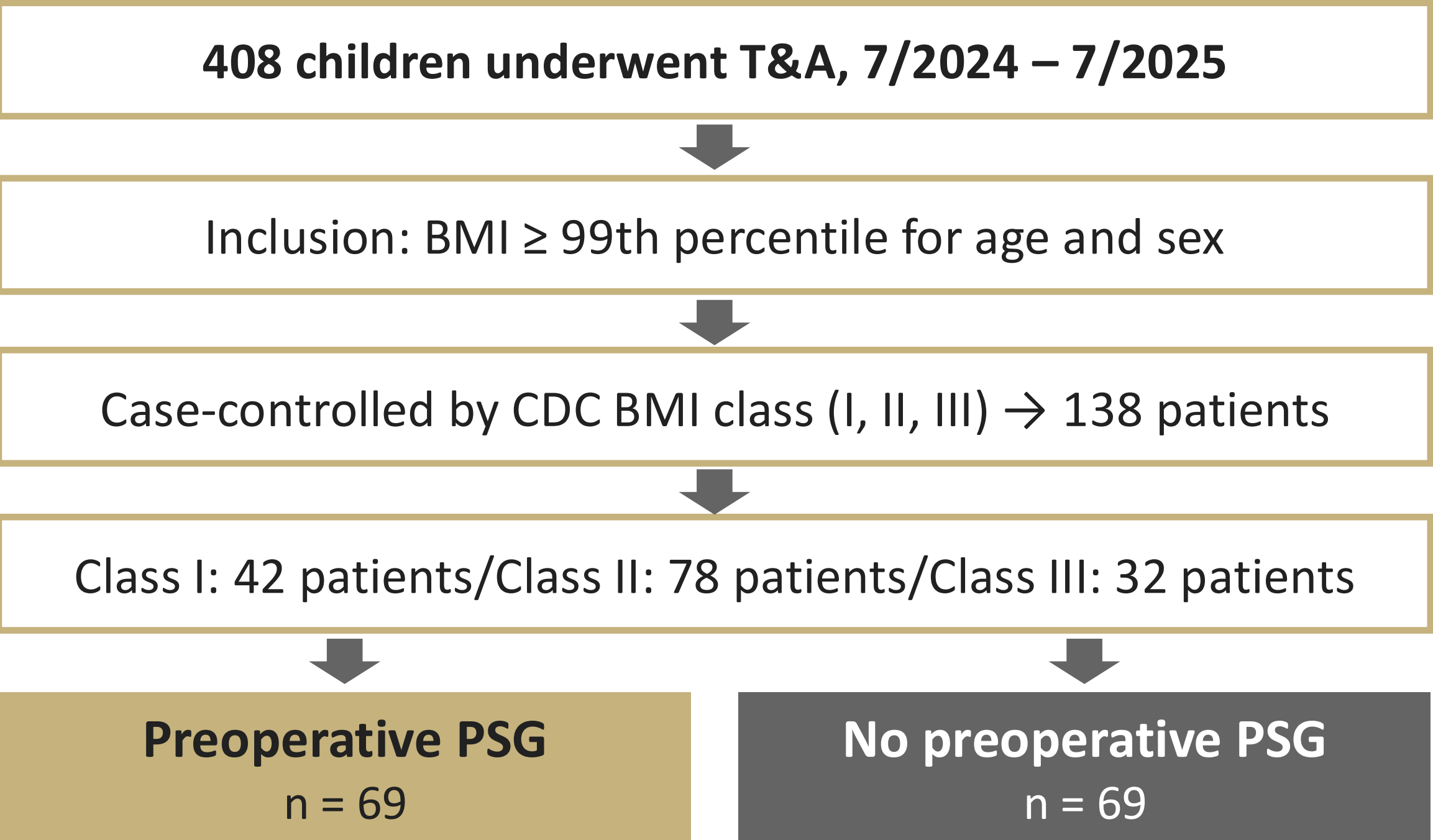
Matching:

- Case-controlled by CDC BMI class (I, II, III)
- Random sampling within each class for balanced groups

Statistics:

- Fisher’s exact test (categorical)
- Wilcoxon rank-sum or Welch’s t-test (continuous)
- Sensitivity analyses stratified by BMI class; p < 0.05

Figure 1. Study cohort



Results

Table 1. Patient characteristics

Characteristic	PSG (n=79)	No PSG (n=79)	p-value
Age, years (mean ± SD)	6.6 ± 3.8	8.3 ± 3.3	0.004
Public insurance	74%	64%	0.2
Passive smoke exposure	22%	34%	0.4
Comorbidities			
Asthma	44%	20%	0.002
Prematurity	12%	18%	0.9
Autism	7.6%	8.9%	0.4
Clinical Presentation			
Snoring	91.1%	96.2%	0.3
Witnessed apnea	60.8%	39.2%	0.011
Daytime sleepiness	51.9%	44.3%	0.4
Mouth breathing	45.6%	39.2%	0.5
ASA class 3	40.5%	24.1%	0.041

Figure 2. Postoperative Respiratory Outcomes

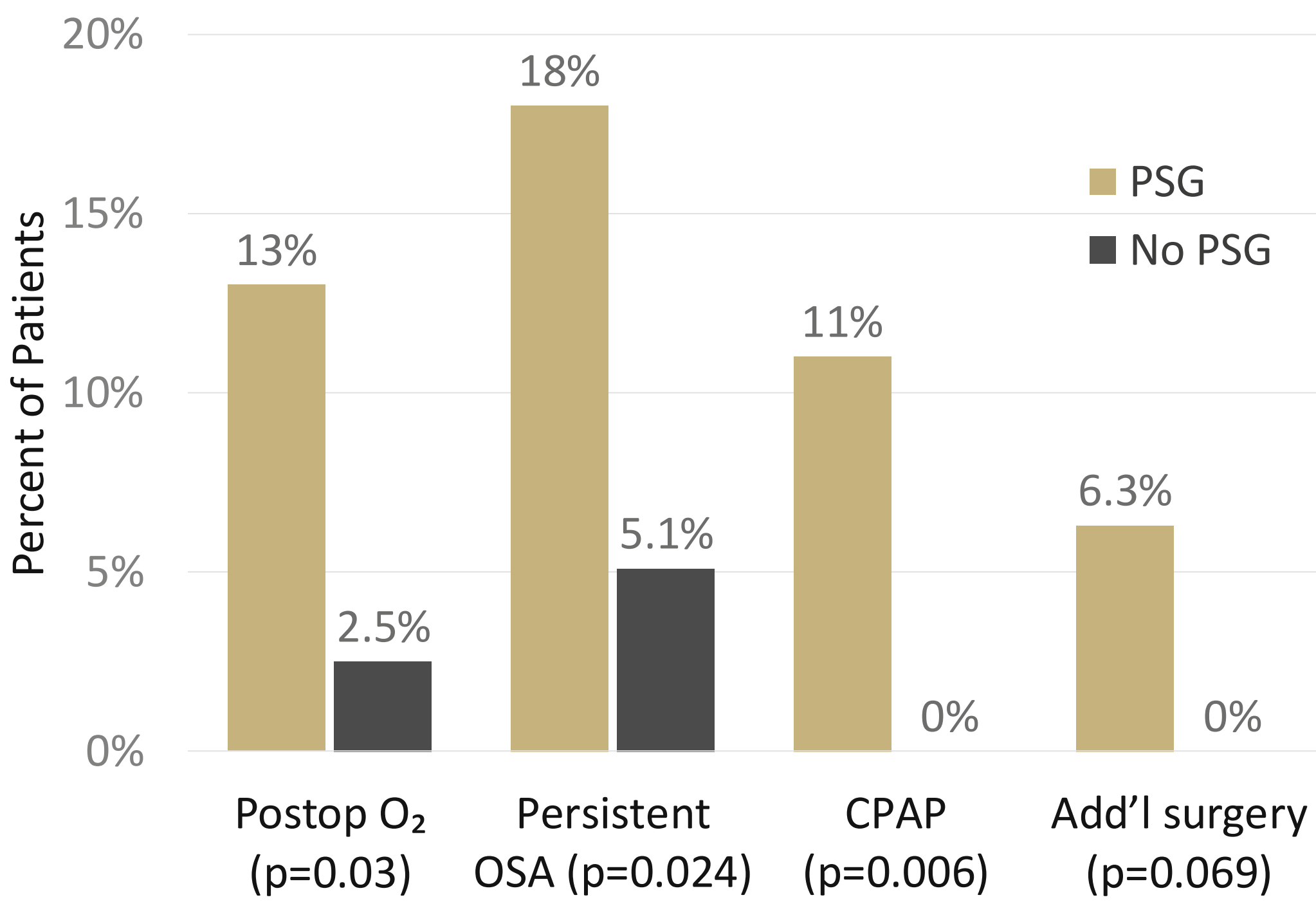


Table 2. Postoperative Analgesia Rates

Analgesic	PSG	No PSG	p-value
IV opioid	70.9%	65.8%	0.6
Acetaminophen	55.7%	6.3%	<0.001
NSAID	27.8%	13.9%	0.049

Table 3. Perioperative and post-discharge outcomes

Outcome	PSG	No PSG	p-value
Admitted for observation	45.6%	17.7%	<0.001
PACU time, min (mean ± SD)	122 ± 72	98 ± 50	0.028
Post-discharge	PSG	No PSG	p-value
ED visit	8.9%	7.6%	>0.9
30-day readmission	8%	3%	0.3

Discussion

Summary:

- PSG group had longer PACU stays, more overnight admissions (mostly for observation), and more postoperative O₂ need
- ED visits and readmissions did not differ between groups
- Higher persistent OSA and CPAP use after PSG likely reflects greater baseline disease burden (asthma, ASA 3, witnessed apnea)

Clinical Implications:

- Omitting PSG was not linked to increased downstream healthcare utilization
- Clinicians appear to already select higher-risk children for PSG
- Supports a selective, risk-stratified approach over universal PSG in obese children

Study Limitations:

- Retrospective, single-institution design with residual confounding
- Post-discharge events captured only at our institution
- Limited statistical power after matching

Conclusion

Key Findings:

- Selective omission of preoperative PSG in obese children was not associated with more complications, ED visits, or readmissions
- PSG was associated with more resource-intensive perioperative care
- Multicenter prospective studies are needed to define which obese children may safely forgo PSG

Contact

Nomongo Dorjsuren
Vanderbilt University School of Medicine
Nomo.Dorjsuren@vumc.org

References

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