

A Year in Review: A Retrospective Analysis of Tracheotomies and Adenotonsillectomies

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A Year in Review: A Retrospective Analysis of Tracheotomies and Adenotonsillectomies

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BACKGROUND / INTRODUCTION

- Each year, over 100,000 tracheotomy procedures are performed and 38.8 percent of cases involving children under the age of 18 experience some sort of complication resulting from the procedure^{1,2}
- In children under the age of fifteen, 530,000 tonsillectomies with or without adenoidectomies are performed each year³
- With a success rate of 79 percent, tonsillectomies are used for the treatment of sleep apnea due to obstructive breathing patterns during sleep⁴

Purpose: Our goal is to determine the complications and outcomes associated with adenotonsillectomy and tracheotomy procedures to provide safer clinical outcomes as well as transparency for the expectations of patients and their families

METHODS

Created protocol and code book for both adenotonsillectomies and tracheotomies

Submitted for electronic Institutional Review Board approval for a quality improvement project

Retrospective chart review of 103 adenotonsillectomy patients using EPIC database

Review of tracheotomy patient reports tracked by the National Surgical Quality Improvement Program (NSQIP)

Analysis of 30 day outcomes including complication rates, efficacy, and risk factors associated with higher complication rates

RESULTS

Table 1. Risk Factors Rates for Tracheotomy Complications

Risk Factors	LVHN Data N (%)	National Data ⁵ N (%)
Prematurity (birth < 37 weeks gestation)	5 (71.4)	112 (54.4)
Pulmonary risk factors	7 (100.0)	203 (98.5)
Gastrointestinal disease	5 (71.4)	109 (52.9)
Cardiac		
Major	2 (28.6)	52 (25.2)
Minor	1 (14.3)	76 (36.9)

Figure 2. Postoperative Adenotonsillectomy Complications

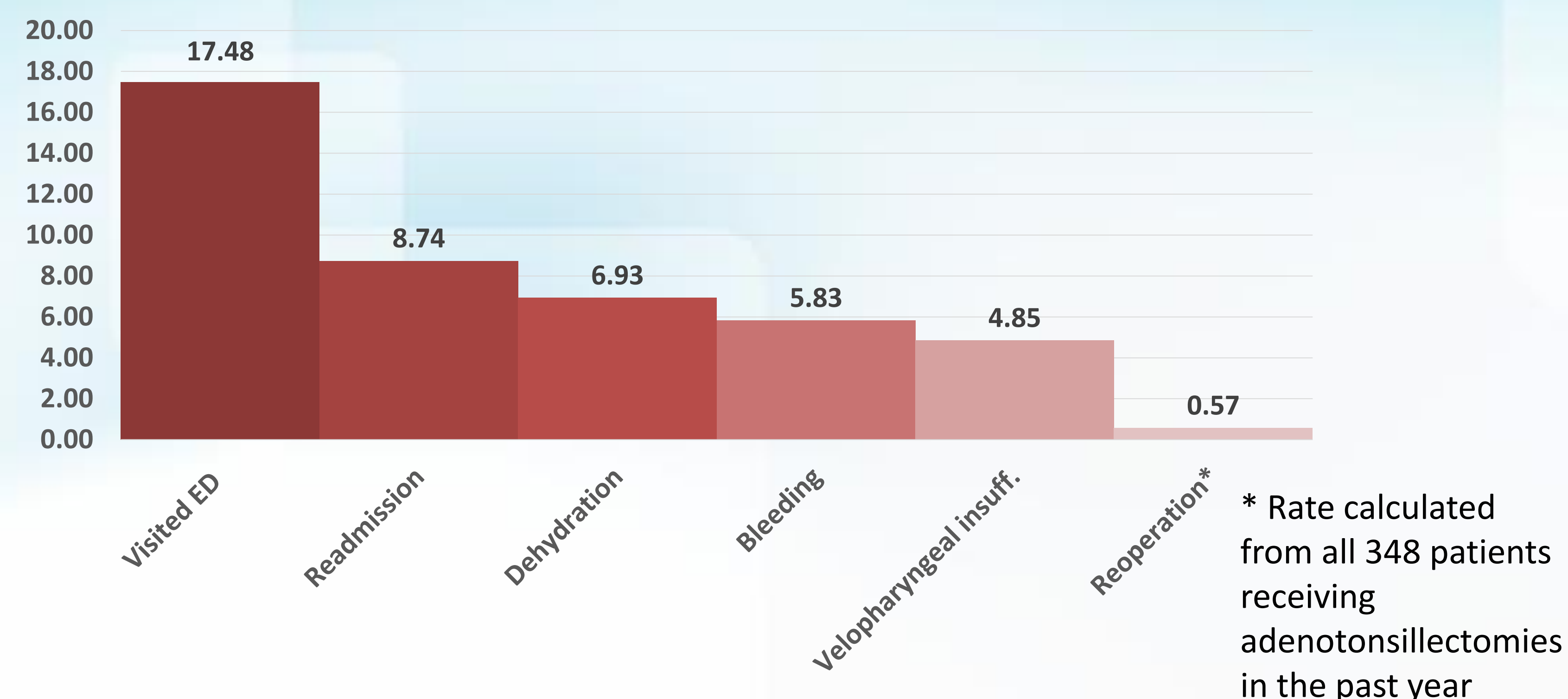


Figure 1. Comparison of Tracheotomy Complications at LVHN to National Standard

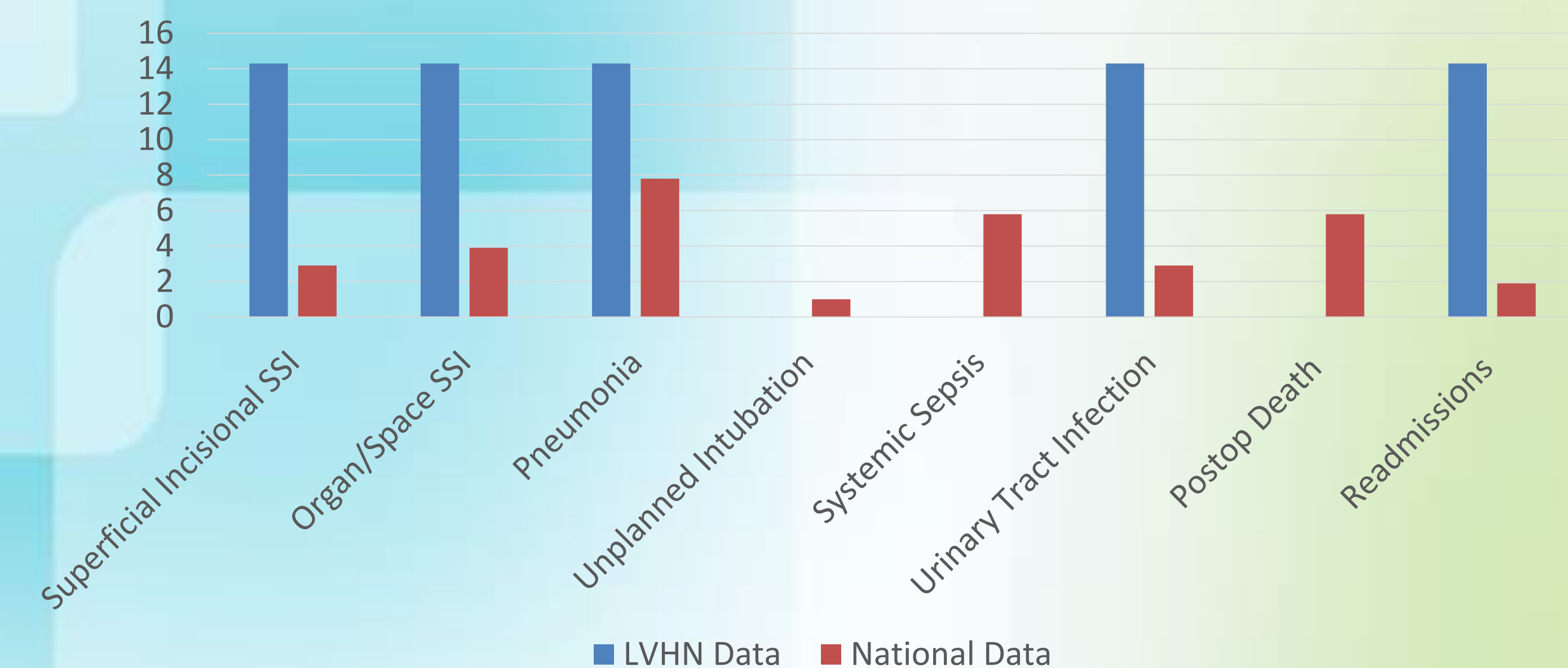
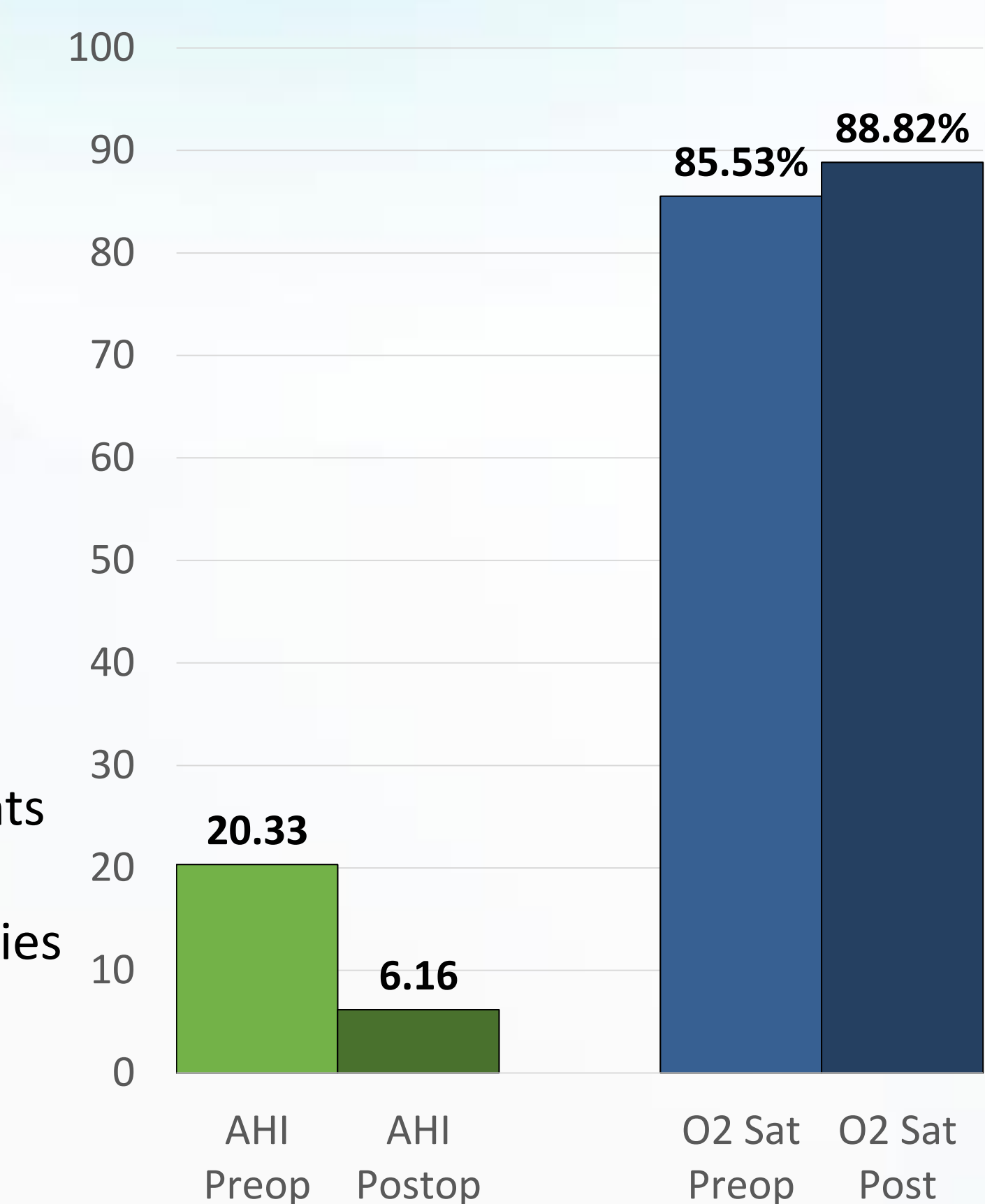


Figure 3. Sleep Study Improvements



- Patients diagnosed with obstructive sleep apnea had an average decrease of Apnea-Hypopnea events of 58.7% and an average increase of oxygen-saturation of 3.3%

CONCLUSIONS/FUTURE STUDIES

- Although the complications from tracheotomies appear much higher at LVHN compared to the national standard, our study is limited by the small amount of tracheotomies performed at LVHN
- Pulmonary risk factors, prematurity, and cardiac risk factors were indicative of higher complication rates and longer hospital stays among patients with tracheotomies
- Despite high rates of readmission and ED visits, patients receiving adenotonsillectomies only required reoperation in less than 1% of cases compared to the national average of 4%⁶
- Further review will provide a better statistical representation surgical outcomes
- To decrease the amount of postoperative complications, future studies regarding the implementation of different or additional medication may be conducted

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