

## Developing & Implementing a Foundational Pathway for Airway Reconstruction Surgery

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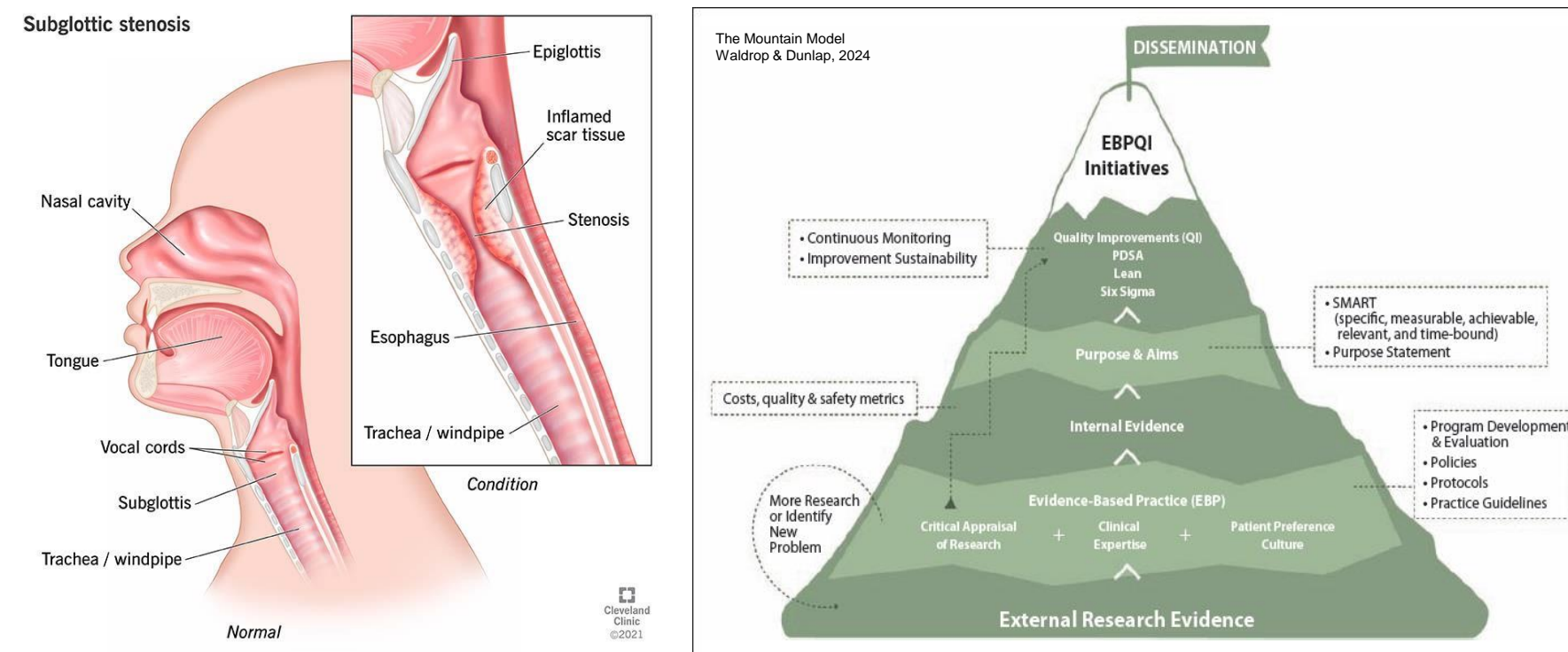


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# Background

Laryngotracheal stenosis (LTS) is a rare and complex airway condition primarily managed surgically. Patient outcomes following airway reconstruction surgery are variable, partly due to practice inconsistencies and the absence of perioperative standardized protocol. An evidence-based practice quality improvement (EBPQI) project developed and implemented a foundational multidisciplinary clinical care pathway (CCP). Specific aims included improved patient outcomes in length of hospital stay (LOS) and time spent nothing per oral (NPO). Process outcomes included staff adherence to the CCP and participation in a behavior change staff survey.



## Local Problem

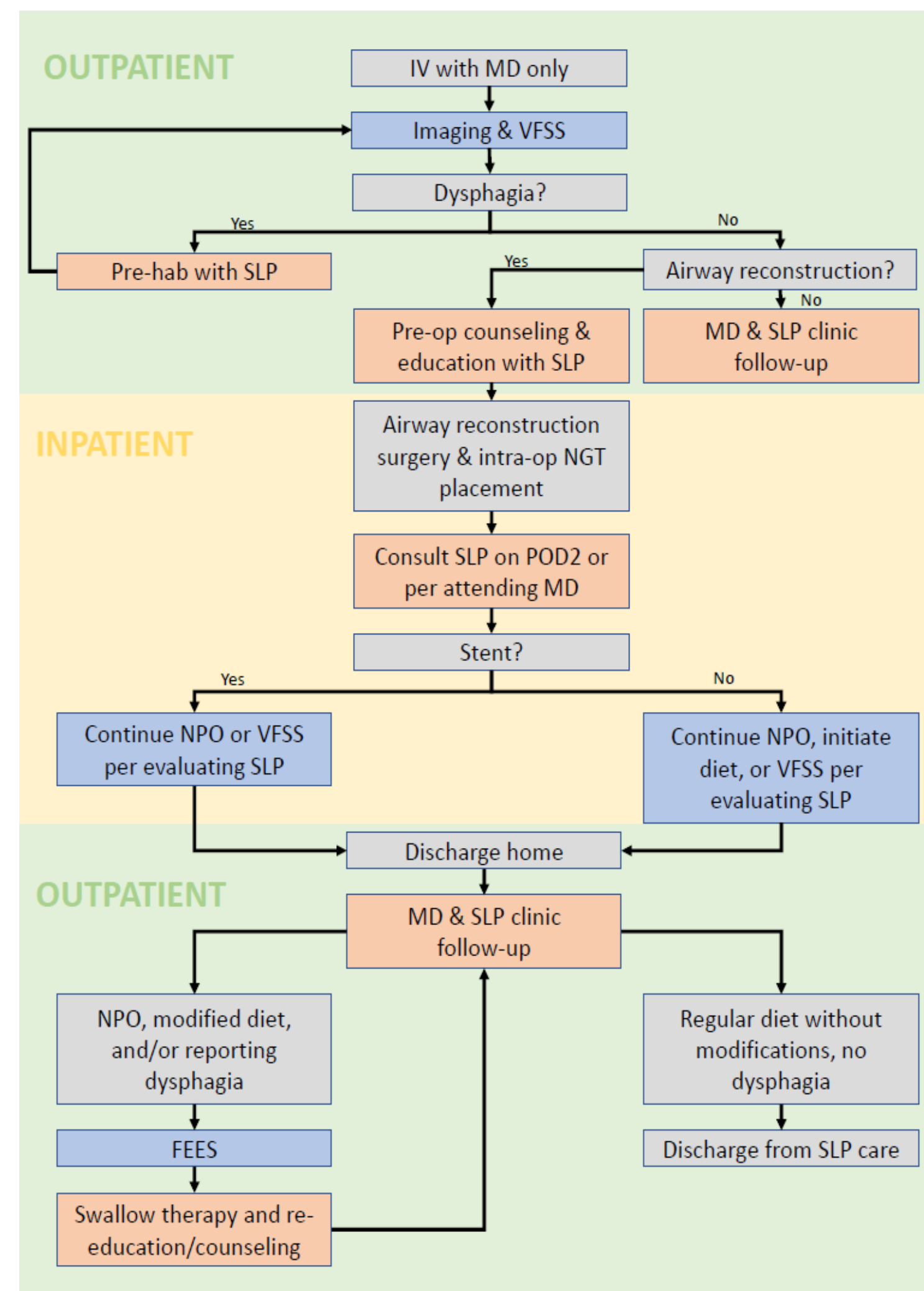
A single institutional review identified inconsistent patient outcomes following airway reconstruction surgery with prolonged LOS and variable NPO periods. Observations revealed the need for more consistent inclusion of a speech language pathologist (SLP), and structured pre- and post-operative imaging and health care interventions.

## Methods

The project utilized the Mountain Model, an EBPQI framework. The project implementation utilized three phases of Plan-Do-Study-Act (PDSA) cycles to guide continuous improvement. Two patient groups were compared: pre-pathway and post-pathway implementation. Data was collected over a three-month period.

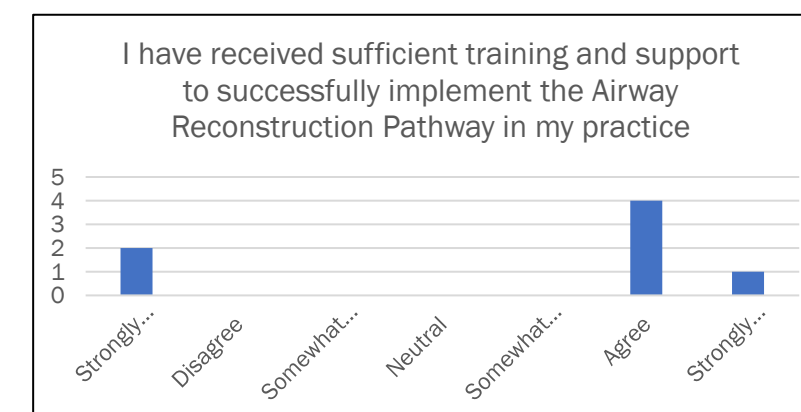
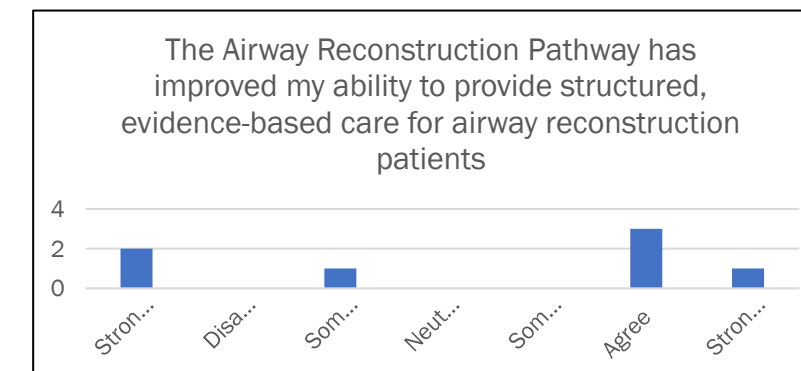
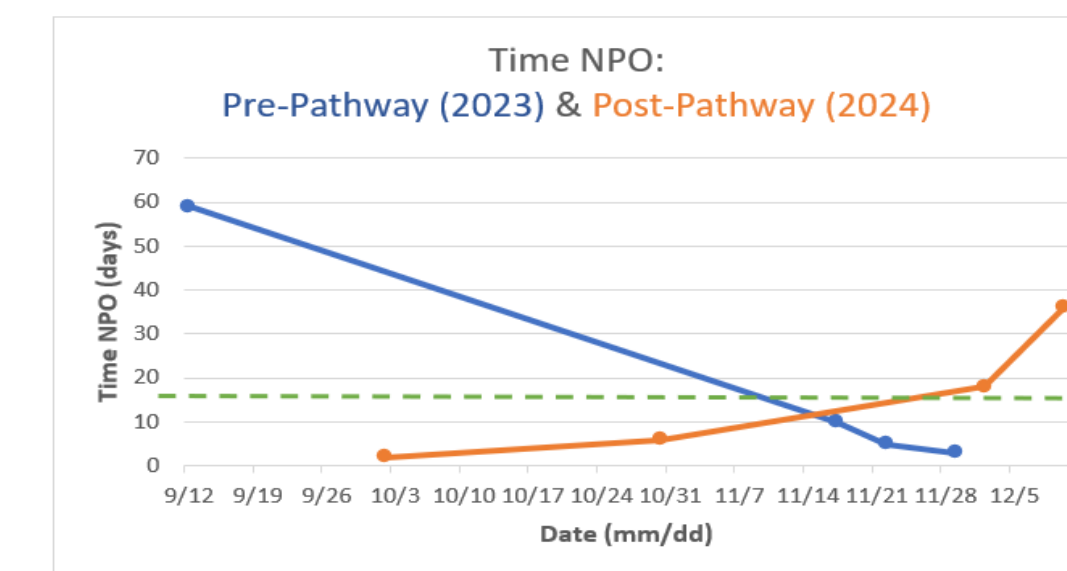
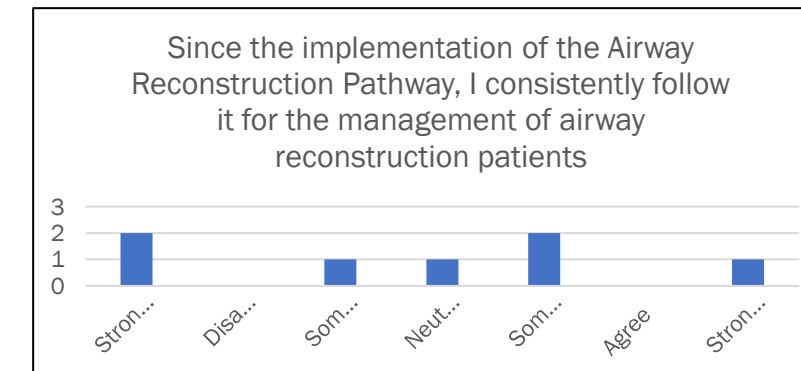
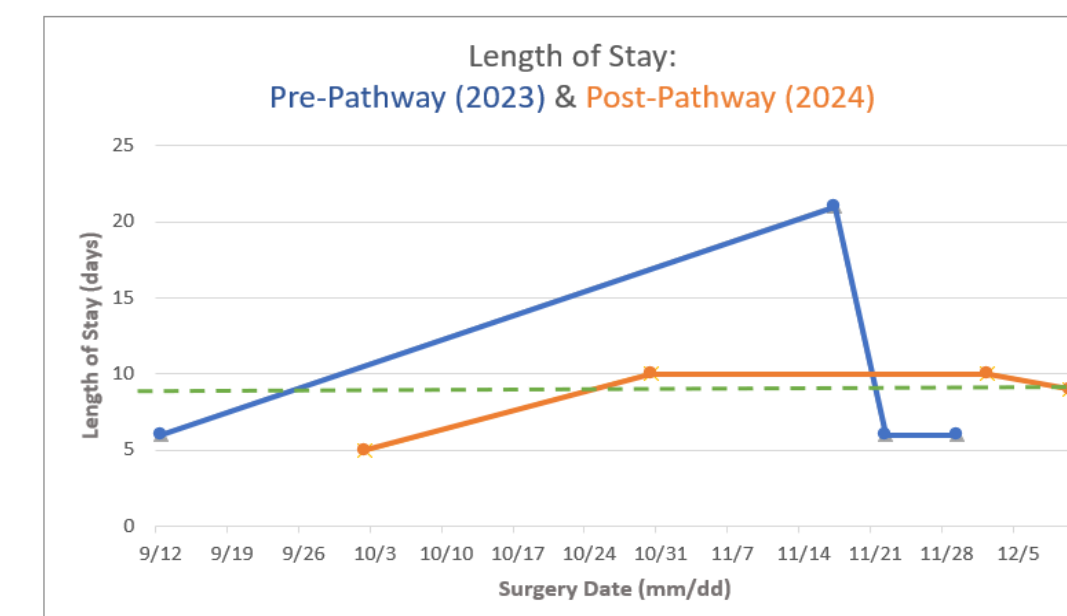
# Intervention

A multidisciplinary team developed a CCP designed to standardize airway reconstruction pre- and post-operative care with a particular emphasis on SLP involvement. The CCP identifies instrumental swallow evaluation, patient counseling, and coordinated inpatient and outpatient care. The CCP was piloted in a small group of patients and outcome data was collected and analyzed.



## Results

The post-pathway group demonstrated a decrease in LOS and improved stability in comparison to the pre-pathway group. NPO time in the post-pathway group also demonstrated improvement initially, however, an increase in NPO time was noted near the end of the data collection period. This may suggest inconsistent CCP adherence and/or operational challenges. Staff survey results indicated incongruent perceptions of the CCP and indicated insufficient staff education and change management. Despite this, most staff members agreed that the CCP improved EBP in patient care.



## Conclusion

The implementation of a CCP improved patient throughput by reducing LOS and improving NPO time. Improved outcomes were likely impacted by better integration of SLP and evaluation of swallow functional outcomes. Inconsistent CCP adherence and staff education gaps were success-limiting challenges of the project. Future efforts should focus on staff education, change management, improving interdisciplinary communication, and providing consistent patient pre-operative education.