

## Clinical Factors Impacting Pediatric Tracheostomy Decannulation at a Quaternary Care Children's Hospital

Karolina Lungova BS, Emily St. Denis BS, Da'Jhnae Gambrell-Sanders BS, Cecilia Lang APNP, Jennifer Henningfeld MD, Michael McCormick MD  
Medical College of Wisconsin, Milwaukee, WI, USA



**Karolina Lungova**



**Emily St. Denis**

### Abstract

Tracheostomy decannulation is a critical step in pediatric patients from ventilation or airway obstruction. Decannulation readiness involves multiple steps, which can be challenging for families to navigate among illnesses, hospitalizations, and activities like school. Although AAO HNS guidelines recommend endoscopic evaluation before decannulation, significant variation exists among centers, providers, and in the timing of assessments. This study evaluates decannulation practices at Children's Wisconsin, identifies factors influencing timing, and explores opportunities to improve efficiency.

We conducted a retrospective chart review of patients who underwent tracheostomy decannulations at Children's Wisconsin, collecting data on demographics, comorbidities, indications, decannulation assessments, and timing between key steps.

Sixty-eight children met inclusion criteria (median age of tracheostomy placement 148 days, range 1-6502), 57.4% were male. The most common indication for tracheostomy was facilitation of ventilation (48, 65%) followed by upper airway obstruction (23, 32%). Subglottic stenosis was the most frequent anatomical cause of obstruction (11, 16.2%), and bronchopulmonary dysplasia was the most frequent comorbidity among ventilated patients (36/68, 52.8%). The average time to decannulation (TTD) was 513 days. TTD was significantly shorter for airway obstruction (533d, SD 454) than for ventilation (1019d, SD 467,  $p=0.0000137$ ). Capping trials were performed in 85% of children, with an average of 354 days (SD 343) from capping to decannulation. Sleep studies preceded decannulation in 56.7% of children.

At Children's Wisconsin, patients undergo a range of decannulation pathways shaped by their underlying disease and comorbidities. Identifying key factors influencing decisions

and timing is essential to streamline care, reduce delays, and improve outcomes.

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yes

## **Pediatric Caregivers' Perceptions of Pre-Discharge Simulation Training and Post-Discharge Management of Tracheostomy-Related Emergencies**

Rebecca Brooks PhD, APRN, PCNS-BC

University of Texas Southwestern Medical Center, Dallas, Texas, USA. Children's Health, Dallas, Texas, USA. William Carey University, Hattiesburg, MS, USA



**Rebecca Brooks**

### **Abstract**

**Background:** The American College of Surgeons National Surgical Quality Improvement Program (NSQIP) reports that the highest morbidity in otolaryngology occurs in children with a tracheostomy under 2 years of age (Esianor et al., 2019). Children on home mechanical ventilation (HMV) have mortality rates ranging from “20.6% to 27.5%” and those preparing for initial discharge have more significant events. (Kun et al., 2019, p. 1461). The researchers concluded that strategies need to be developed to train caregivers in emergencies. A high-fidelity tracheostomy emergency simulation program for caregivers was implemented in an urban pediatric center, but its effectiveness was not determined.

**Methods:** A qualitative study was designed to examine pediatric caregivers' perceptions of pre-discharge simulation training and post-discharge management of tracheostomy-related emergencies. Data were gathered through phone interviews with five participants.

**Results:** Themes identified included the impact of tracheostomy education, additional requested education, tracheostomy emergency experience in the home, simulation experience, and daily life experiences. Findings showed that most participants experienced a tracheostomy-related emergency post-discharge but were able to respond appropriately and keep the child at home. Furthermore, each participant shared their unique experience post discharge.

**Conclusions:** Simulation has been shown to improve the comfort levels of caregivers, but the long-term effects of simulation have not been investigated. The results of this study

have implications for developing tracheostomy emergency simulation programs in the healthcare system and community to support caregivers and their children.

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## "Staying Tied In, Breathing Easy: Predicting and Preventing Tracheostomy Risks in Pediatrics"

Rebecca Brooks PhD, APRN, PCNS-BC<sup>1</sup>, Danielle Walker PhD, RN<sup>2</sup>, Pauline Chen MPH, CPH, BS<sup>3</sup>, Romaine Johnson MD, MPH<sup>1</sup>, Ashley Sewell MSN, RN, CPN<sup>3</sup>, Christina Smith DNP, APRN<sup>3</sup>, Cindy Whitney RRT<sup>3</sup>, Candice Hogan BSN, RN, NPD-BC<sup>3</sup>, Eric Gantwerker MD, MMSc(MedEd), FACS, AFAMEE<sup>4</sup>, Yann-Fuu Kou MD<sup>1</sup>, Cynthia Wang MD<sup>1</sup>, Lariba Abu RRT<sup>3</sup>, Stephen Chorney MD, MPH<sup>1</sup>

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**Rebecca Brooks**

### Abstract

**Background:** Children with tracheostomies are at heightened risk for significant morbidity due to accidental decannulations. The primary objective of this study was to develop and implement a risk assessment tool to proactively identify pediatric patients at increased risk.

**Methods:** The Children's Health Decannulation Risk Assessment Tool (CH-DRAT) was created using input from a panel of content experts to establish content reliability and validity. The tool includes five assessment categories: tracheostomy ties, respiratory equipment, activity/behavior, and patient history. The instrument was integrated into the electronic health record, and implementation was initiated to evaluate its utility and validate scoring.

**Results:** RTs or RNs completed CH-DRAT assessments once per shift yielding 12,372 scores from 199 patients over a 9-month period in 2024. Receiver Operating Characteristic (ROC) curve analysis was conducted to evaluate the predictive performance of the CH-DRAT score in identifying patients at risk for accidental decannulation. Using the highest CH-DRAT score recorded before the event, the area under the curve (AUC) was 0.723 (95% CI: 0.607, 0.838,  $p = 0.000$ ), indicating that the CH-DRAT score is moderately effective at distinguishing between patients who experienced accidental decannulation and those who did not.

**Conclusion:** Following implementation, the number of accidental tracheostomy decannulations decreased from 60 cases in 2023 to 43 in 2024, with a corresponding

reduction in event rate from 0.53 to 0.34 per 100 tracheostomy days. Future research may explore broader implementation across institutions and in home care settings to enhance early identification and prevention strategies.

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5. ENT

## Identification of airway pathology following one-way valve failure in pediatric tracheostomy patients

Kristina Keppel DNP, Dr Sophie Shay MD, Dr. Jennifer Henningfeld MD  
Medical College of Wisconsin, Milwaukee, Wisconsin, USA

### Abstract

**Background:** One-way valves (OWV) are commonly used in pediatric tracheostomy care to redirect exhaled air through the vocal folds, aiding phonation, swallowing, and sensory functions. OWVs also restore subglottic pressure, measurable as transtracheal pressure (TTP). Elevated TTP ( $>10$  cm H<sub>2</sub>O) may indicate OWV intolerance or upper airway obstruction.

**Methods:** This retrospective study evaluates the incidence of newly identified airway pathology following failed OWV trials in pediatric patients. CPT codes were utilized to identify patients (0–22 years) who underwent OWV trial from January 2015 to present, with airway evaluation within six months of a failed trial. Data collected includes trial duration, TTPs, clinic and operative documentation, and airway assessments.

**Results:** The primary outcome includes the incidence of newly diagnosed airway pathology, post-failed trial. Secondary outcomes include timing between failed trials and airway evaluations, the proportion of new versus previously known airway pathology, outcomes for patients who initially tolerated the OWV, but later developed clinical intolerance, and surgical intervention rates. We will also report on patients who passed trials despite known airway pathology.

**Conclusion/impact:** These findings help to clarify the potential role of OWV trials in detecting clinically significant, sometimes unanticipated, airway pathology. Beyond established clinical benefits, OWV trials may also serve a diagnostic function, screening for new or evolving airway obstruction. Routine OWV use in pediatric tracheostomy management may improve earlier detection of airway changes, help guide clinicians on when airway evaluation may be warranted with unexpected failure, and improve timing of surgical interventions or planning.

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## **Categories**

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## Tracheitis Within 30 Days of Pediatric Tracheostomy: Incidence, Predictors, and Outcomes

Jeffrey Larson MD<sup>1</sup>, Matthew Rowland MD<sup>2,1</sup>, Jennifer Lavin MD<sup>2,1</sup>, Inbal Hazkani MD<sup>2,1</sup>

<sup>1</sup>Northwestern University Feinberg School of Medicine, Chicago, IL, USA. <sup>2</sup>Ann and Robert Lurie Children's Hospital of Chicago, Chicago, IL, USA

### Abstract

**Objective:** To determine predictive factors and associated outcomes of tracheitis following tracheostomy placement in children.

**Methods:** The NSQIP-P database (2019–2023) was queried for patients who underwent tracheostomy and developed tracheitis within 30 days, defined as new positive tracheal cultures and receipt of antibiotic treatment. Demographic and clinical variables were analyzed using Wilcoxon rank-sum, chi-squared, or Fisher's exact tests. Poisson regression with robust variance estimated infection risk ratios.

**Results:** There were 5,786 tracheostomies performed, of which 652 (11.3%) developed tracheitis within  $11.4 \pm 7.9$  days from surgery. Preoperative steroid use (IRR 1.39, 95%CI 1.2-1.6,  $p < 0.001$ ), need for preoperative nutritional support (IRR 1.74, 95%CI 1.4-2.2,  $p < 0.001$ ), cardiac risk factors (IRR 1.30, 95%CI 1.2-1.4,  $p < 0.001$ ), and postoperative unplanned intubation (IRR 2.2, 95%CI 1.5-3.3,  $p < 0.001$ ) were associated with increased risk of developing tracheitis in the adjusted model. Age, gestational age, ASA score, chronic lung disease, and neurodevelopmental risk factors were not associated with increased risk of infection. Patients who developed tracheitis had higher odds of developing pneumonia (11.5% vs. 4.6%, OR 2.7 95% CI 2.0-3.6,  $p < 0.001$ ), and sepsis (20.7% vs. 4.3%, OR 5.8, 95%CI 4.6-7.4,  $p < 0.001$ ).

**Conclusions:** Tracheitis occurred in over 11% of children within 30 days of tracheostomy and was associated with increased odds of pneumonia and sepsis. Risk factors included preoperative steroid use, nutritional support, cardiac comorbidities, and unplanned postoperative intubation. These findings may support early identification of high-risk patients and highlight potential targets for quality improvement.

### Categories

5. ENT

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## Safety and Efficacy of Lingual Tonsillectomy Surgical Techniques

Peter Eckard MD<sup>1</sup>, Blakely Norris BS<sup>1</sup>, Gresham Richter MD<sup>1,2</sup>, Adrian Williamson IV MD<sup>1,2</sup>

<sup>1</sup>University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA. <sup>2</sup>Arkansas Children's Hospital, Little Rock, Arkansas, USA

### Abstract

**Background:** Lingual tonsillar hypertrophy can contribute to obstructive sleep apnea (OSA) and can be managed with lingual tonsillectomy (LT). Different surgical techniques have been utilized, but no consensus has been established. This study aims to compare the safety and efficacy of microdebrider assisted lingual tonsillectomy (MALT) to coblation or electrocautery surgical techniques.

**Methods:** Retrospective cohort study of all patients with lingual tonsillectomy from 2018-2025 at a tertiary care institution. MALT was performed with local vasoconstrictor injection. Patient demographics, comorbidities, sleep history, treatment, and sleep apnea outcomes were analyzed using Fischer's exact test or ANOVA where appropriate.

**Results:** There were 74 patients identified who underwent LT at a mean of 10.8 (SD 4.5) years old for OSA. 39 patients underwent MALT and 33 underwent LT with a different technique, including 31 with coblation and 2 with electrocautery. There was no difference in operative time (111.5 vs 108.3 min,  $p=0.88$ ). MALT was similarly effective at reducing the apnea hypopnea index (AHI) compared to LT with coblation or electrocautery with a mean AHI reduction of 9.3 and 5.7 ( $p=0.10$ ), respectively. No patients had post-operative hemorrhage, new dysphagia, or hypoglossal nerve injury. There was no difference in the 30-day readmission rate (10.2% vs 9.1%,  $p=0.63$ ), and only one patient who underwent LT with coblation had a readmission due to airway concerns.

**Conclusions:** MALT technique has a similar safety profile and efficacy to coblation or electrocautery LT techniques.

### Categories

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## **Intracapsular vs Extracapsular Tonsillectomy in a Tertiary Saudi Pediatric Population: A Retrospective Comparative Cohort Study**

Dr. Latifah AlMakoshi Assistant Professor at King Saud University Pediatric Otolaryngology Consultant<sup>1</sup>, Dr. Abdullah AlDughaiter MBBS<sup>2</sup>, Dr. Ibrahim AlAbdulkarim MBBS<sup>2</sup>

<sup>1</sup>Department of Otolaryngology-Head and Neck Surgery, King Saud University Medical City, Riyadh, Riyadh, Saudi Arabia. <sup>2</sup>College of Medicine, King Saud University, Riyadh, Riyadh, Saudi Arabia

### **Abstract**

#### **Background:**

Intracapsular tonsillectomy has gained popularity for its favorable recovery profile, yet concerns remain regarding regrowth and revision rates, particularly in pediatric patients with recurrent infections. This study compares outcomes of intracapsular and extracapsular tonsillectomy techniques in a large cohort.

#### **Methods:**

We conducted a retrospective analysis of 1197 pediatric patients who underwent tonsillectomy at King Abdulaziz University Hospital from 2015 to 2024. Patients were categorized by surgical technique—intracapsular or extracapsular—and assessed for rates of primary and secondary hemorrhage, infection, tonsillar regrowth, revision surgery, pain, and recovery time. Statistical comparisons were made using chi-squared and Mann-Whitney U tests.

#### **Results:**

Intracapsular tonsillectomy had significantly lower rates of primary hemorrhage (0% vs. 4.7%,  $p = 0.027$ ) and secondary hemorrhage (0.8% vs. 5.6%,  $p = 0.039$ ) than extracapsular tonsillectomy. Pain scores and recovery markers also favored the intracapsular technique. Only three patients in the intracapsular group had revision surgery for recurrent symptoms, all of whom initially underwent surgery for obstructive sleep apnea (OSA). No revisions were required among patients who had intracapsular tonsillectomy for recurrent infections. These findings suggest that while regrowth is more common with the intracapsular technique, it is often clinically insignificant, and true recurrence requiring revision is rare and confined to OSA cases.

#### **Conclusion:**

Intracapsular tonsillectomy offers a superior safety and recovery profile, with significantly lower rates of postoperative hemorrhage. Although associated with more frequent

regrowth, revision surgery is rare and limited to OSA cases. Recurrent infections should not be considered a contraindication to the intracapsular approach.

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yes

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## Post-Tonsillectomy Hemorrhage Following Ketorolac Administration in Pediatric Patients: A National Database Analysis

Dr Osama Hamdi MD<sup>1</sup>, Dr Nicole Wershoven MD<sup>1</sup>, Dr Matthew Hill MD<sup>1</sup>, Dr Norah Janosy MD<sup>2</sup>, Dr Norman Friedman MD<sup>2</sup>, Dr Sarah Gitomer MD<sup>2</sup>

<sup>1</sup>Department of Otolaryngology, Head and Neck Surgery, University of Colorado, Anschutz Medical Campus, Aurora, CO, USA. <sup>2</sup>Department of Otolaryngology, University of Colorado School of Medicine, Children's Hospital Colorado, University of Colorado, Aurora, CO, USA

### Abstract

#### Objective:

To determine whether postoperative Ketorolac use is associated with increased post-tonsillectomy hemorrhage (PTH) rates and operative intervention in pediatric patients.

#### Methods:

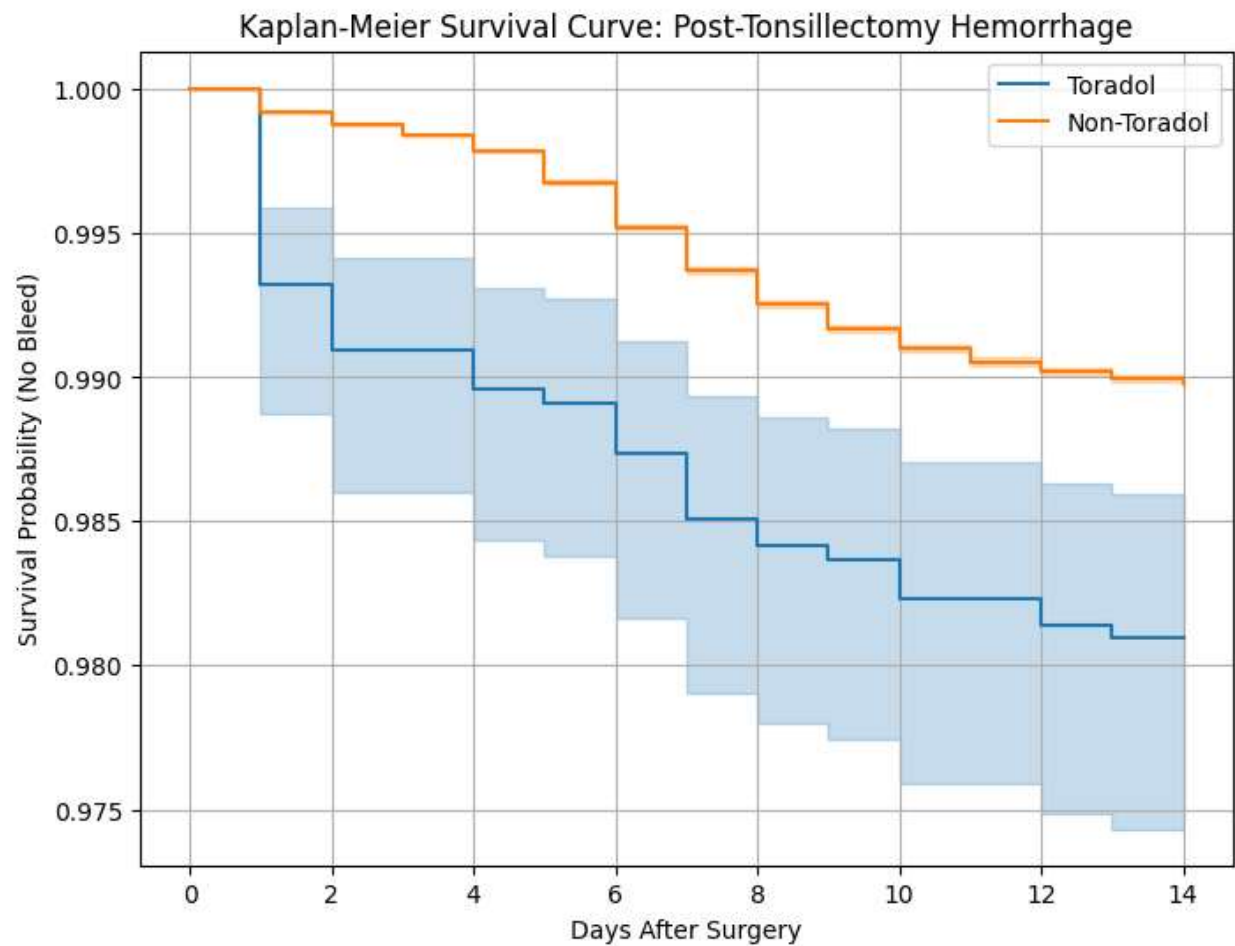
We conducted a retrospective cohort study using the PearlDiver national claims database (2010–2024), identifying 1,958,742 pediatric patients who underwent tonsillectomy, excluding those with bleeding disorders. Patients were categorized based on Ketorolac administration within 24 hours postoperatively. Primary outcomes included PTH within 14 days, need for operative intervention, and cost of care. Analyses included Kaplan-Meier survival estimates, Cox proportional hazards modeling, logistic regression, and propensity score matching (PSM).

#### Results:

PTH occurred in 1.22% of all patients. Among 2,208 Ketorolac recipients, 46 (2.08%) experienced bleeding compared to 1.22% without Ketorolac. Operative control within 48 hours was required in 0.72% of Ketorolac patients versus 0.12% without ( $p < 0.0001$ ). Kaplan-Meier analysis demonstrated earlier time to bleed among Ketorolac recipients (log-rank  $p = 0.00003$ ), and Cox modeling showed increased bleeding risk (HR 1.88; 95% CI 1.39–2.55;  $p < 0.001$ ). Mean 14-day costs were higher with Ketorolac (\$1,743 vs. \$1,350). In multivariate regression, Ketorolac remained an independent predictor of bleeding ( $\beta = 0.01295$ ,  $p < 0.001$ ). Additional predictors included increasing age ( $\beta = 0.00135$ ,  $p < 0.001$ ), male sex ( $\beta = 0.00196$ ,  $p < 0.001$ ), lower mean family income ( $\beta = -1.66 \times 10^{-7}$ ,  $p < 0.001$ ), and recurrent tonsillitis ( $\beta = 0.00178$ ,  $p < 0.001$ ).

#### Conclusion:

Postoperative Ketorolac use is independently associated with increased risk and earlier onset of hemorrhage after pediatric tonsillectomy. These findings support cautious analgesic selection in this population.



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## Creation and Evaluation of 3D Printed Compostable Myringotomy Sets: A Sustainable Proof of Concept

Maggie Zhang n/a<sup>1</sup>, Lauren Lalakea MD<sup>2</sup>, Patrick Kiessling MD<sup>2</sup>, Kara Meister MD<sup>1</sup>

<sup>1</sup>Division of Pediatric Otolaryngology, Department of Otolaryngology–Head & Neck Surgery, Stanford University School of Medicine, Palo Alto, California, USA. <sup>2</sup>Department of Otolaryngology–Head & Neck Surgery, Stanford University School of Medicine, Palo Alto, California, USA

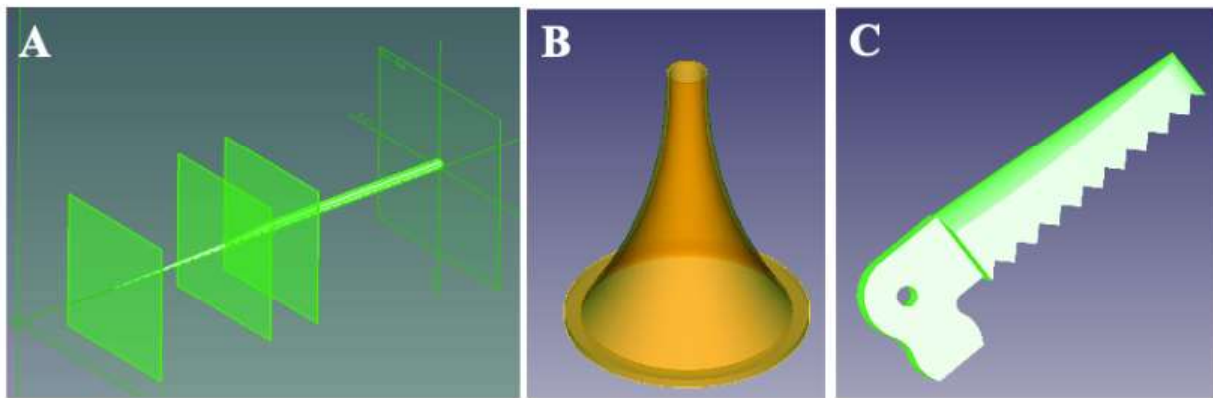
### Abstract

**Background:** Single-use medical supplies contribute significantly to the healthcare sector's carbon footprint. While most myringotomy sets are reusable, there has been a trend towards single-use disposable kits. No published research investigates the creation of surgical supplies using compostable biopolymers, a possible mitigation strategy. Polyhydroxyalkanoates (PHAs), biopolymers synthesized through bacterial fermentation, are compostable at a non-industrial level. This study presents a novel, fully-compostable 3D printed myringotomy set as a proof-of-concept for sustainable alternatives within otolaryngology.

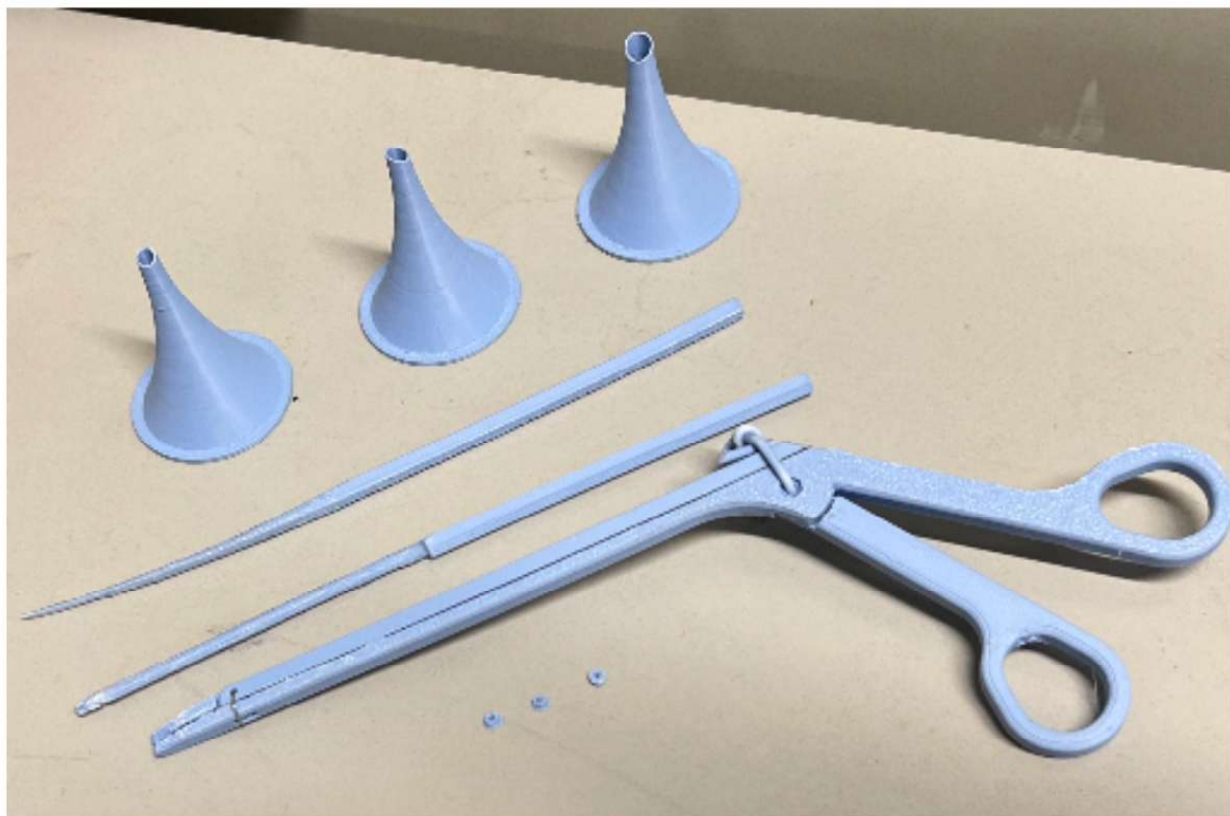
**Methods:** Speculums, cures, disectors, and forceps were modeled with Computer-Aided Design (Figure 1) and printed using a Fused Deposition Modeling printer and PHA filament. The tools were evaluated for print accuracy and functionality with a simulated myringotomy and tympanostomy tube placement.

**Results:** The myringotomy sets were printed successfully (Figure 2), and all instruments performed comparably to traditional tools in simulation. The sizing of alligator forceps was limited by printer constraints, and due to material properties, the disector and curette differed from typical metal instruments in flexibility and tactical characteristics. Post-use analysis showed partial composting within three months, with promising continuation.

**Conclusions:** This proof-of-concept study demonstrates the potential for 3D printing compostable surgical tools using PHA filament. While refinements in print resolution and mechanical properties are needed, this approach offers a viable pathway for reducing medical waste and promoting sustainable practices in otolaryngologic surgery and beyond. Future research may investigate annealing methods, test composting conditions, and conduct cost analyses and life cycle assessments to assess the impact of replacing disposable, if not reusable myringotomy kits.



**Figure 1.** (A) dissector (B) 5 mm speculum (C) forceps clamp



**Figure 2.** Printed speculums (3.5, 4, and 5 mm), curette, dissector, and alligator forceps

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## Does Surgical Technique Impact Post-Tonsillectomy Patient Phone Calls?

Dr. Kavya Pai MD, Dr. Ellen Penn MD, Dr. Demi Zapata-Gerken DO, Dr. Alyssa Damon DO,  
Dr. Jeremy Mock MD  
Geisinger Medical Center, Danville, PA, USA



**Dr. Kavya Pai**

### Abstract

**Background:** Our objective was to assess how surgical techniques employed during tonsillectomy impact postoperative patient correspondence with the Otolaryngology department.

**Methods:** Pediatric patients undergoing outpatient tonsillectomy between July 2023- May 2025 were included in this retrospective cohort study. The cohorts included patients who underwent tonsillectomy using the following techniques: 1) powered intracapsular tonsillectomy and adenoidectomy (PITA) 2) extracapsular monopolar cautery tonsillectomy (EMCT) 3) extracapsular coblator tonsillectomy (ECT). Outcome measures included receipt of a patient phone call and/or message, reason for correspondence (pain vs. non-pain related), and the postoperative day (POD) on which the message was received.

**Results:** Preliminary data include 1009 patients, with a mean age of 7 years (range: 2-18 years). 646 patients underwent PITA, 337 patients underwent EMCT, and 24 patients underwent ECT. 235 patients (23.2%) called the Otolaryngology department after surgery. Patients who underwent intracapsular tonsillectomy called less after surgery, though this did not reach statistical significance ( $p= 0.27$ ). When categorized into distinct postoperative periods (POD 0-7, 8-14, and 14+), the timing of the calls did not differ based upon the surgical technique ( $p= 0.33$ ). Surgical technique did not impact the number of pain-related calls ( $p= 0.22$ ).

**Conclusion:** The type of tonsillectomy performed did not have a statistically significant impact on the number of patient phone calls received in the postoperative period, nor did it impact the number of calls regarding postoperative pain. This data suggests that postoperative recovery and basic resource utilization is comparable regardless of the tonsillectomy technique employed.

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## **Follow-up adherence and no-show rates among bone conduction implant (BCI) recipients**

Jennifer Drob Au.D, Yi-Chun Liu MD, Kristan Alfonso MD  
Texas Children's Hospital, Houston, Texas, USA

### **Abstract**

#### Background:

To evaluate follow-up adherence and no-show rates among bone conduction implant (BCI) recipients and investigate the influence of previous hearing device use on postoperative care.

#### Methods:

A retrospective chart review was conducted on patients who underwent BCI implantation at a pediatric academic medical center over a one-year period. Follow-up attendance and no-show rates were analyzed at standard postoperative intervals (30-day, 3-month, 6-month and 12-month visits). Patients were stratified by prior hearing device use, and categorized as no-show (missed appointment but returned later) or lost to follow-up (no return after a missed appointment). Reasons for loss to follow-up were documented when available.

#### Results:

A total of 103 patients were included. The results were obtained using a chi-square test with a P-value of  $<.0001$ . The highest no-show rate occurred at the 3-month appointment with a rate of 69%. The highest lost to follow-up rate occurred at the 12 month appointment with a rate of 42.7%, with 42.6% of all patients lost to follow-up. Of the patients lost to follow-up, 59% discontinued for unknown reasons, and 32% due to aging out of the hospital system

## Conclusion:

This study revealed a trend of patient attrition during follow-up appointments, with the highest rates of no-shows occurring early and the greatest loss to follow-up observed at later intervals. A significant proportion of patients discontinued follow-up for unknown reasons, while others were lost to follow-up due to transitions out of the hospital system. These findings underscore the need for targeted interventions to reduce follow-up attrition.

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## Categories

2. Audio

## **Social Determinants of Health and Access to Hearing Aids: A Retrospective Review of Pediatric Patients with Hearing Loss in New Mexico**

Allison Price MD, Rhudovic Ramos BSc, Danielle Vigil BSc, Kris Merrill MD, Karen Hawley MD  
University of New Mexico, Albuquerque, NM, USA

### **Abstract**

**Background:** Early detection of hearing loss is critical, yet delays remain common. Native American and Hispanic children have been shown to have higher rates of loss to follow-up. This study examines how social determinants of health impact access to hearing aids in a predominantly minority pediatric population.

**Methods:** We conducted a retrospective chart review of pediatric patients (ages 0–18) seen for hearing loss at the University of New Mexico from 2006 to 2025. Included were patients fitted with hearing aids; those with incomplete records or who received surgical implants were excluded.

**Results:** Of 342 patients, gender distribution was equal. Among the cohort, 19.9% identified as American Indian/Alaska Native and 46.2% as Hispanic. English was the preferred language for 86%. Among those who received hearing aids, 78.1% had Medicaid and 18.1% private insurance. Geographically, 12.6% lived on reservation land and 19% in rural areas. The mean age at diagnosis was 4.8 years (SD 5.13). Average time to medical clearance was 1.4 months (SD 7.2), and to hearing aid fitting was 4.6 months (SD 7.2). No significant differences in time to intervention were found across demographic groups.

**Conclusions:** No statistically significant impact of social determinants of health on hearing aid acquisition was identified; however, the potential underrepresentation of the most at-risk patients—those lost before formal evaluation—remains a concern. Although Native American and Hispanic children show higher loss to follow-up rates nationally, our findings suggest that, once engaged in care, these patients receive hearing intervention comparable to other groups.



<b>Characteristics</b>	<b>N</b>	<b>%</b>
<b>Sex</b>		
Male	171	50.0
Female	171	50.0
<b>Race/Ethnicity</b>		
American Indian/Alaska Native	68	19.9
Asian	10	2.9
Black/African American	6	1.8
Hispanic/Latino	158	46.2
White/Anglo	62	18.1
Decline to Answer	6	1.8
Unavailable	32	9.4
<b>Primary/Preferred Language</b>		
English	294	86.0
Spanish	36	10.5
ASL	7	2.0
Kinyarwanda	2	0.6
Navajo	1	0.3
Vietnamese	1	0.3
Unavailable	1	0.3
<b>Insurance Category</b>		
Medicaid	267	78.1
Private	62	18.1
Military	8	2.3
Uninsured/Self-pay	4	1.2
IHS	1	0.3
<b>Residence</b>		
Non-Reservation	299	87.4
Reservation	43	12.6
<b>Urban vs. Rural</b>		
Urban	277	81.0
Rural	65	19.0
<b>Audiology Group</b>		
UNM	337	98.5
Advanced Hearing Care/UNM	1	0.3
Albuquerque Hearing and Balance	1	0.3
Christus	1	0.3
Harrison Group of NM	1	0.3

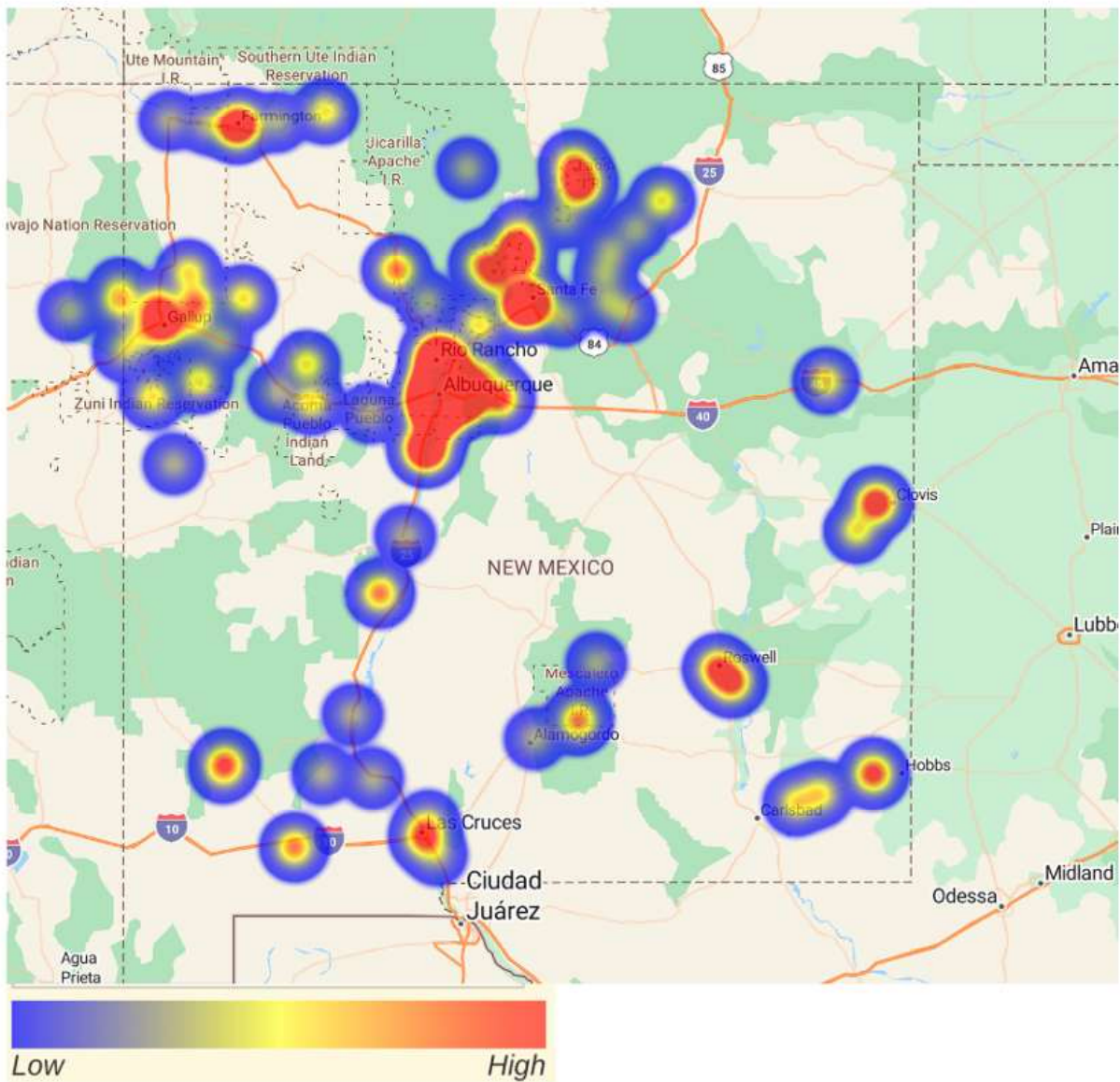


Figure 1. Geographic distribution of patients by zip code

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8. DEI/Health Equity

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## Cost-Utility Analysis of a Patient Navigator Program for Pediatric Deaf and Hard of Hearing Patients

James Lawrence MPH, Neema Rashidi MS, Michael Lindeborg MD, Dylan Chan MD, PhD  
University of California San Francisco, San Francisco, California, USA



**James Lawrence**

### Abstract

**Background:** Deaf or hard of hearing (DHH) children are at significant risk of language delays due to challenges navigating health systems. We found that Patient Navigators improve both time to intervention and the proportion of DHH infants that meet early intervention milestones, which is associated with lifelong language benefits. Consequently, we sought to quantitatively assess the cost-utility of Patient Navigators for DHH children.

**Methods:** Our team conducted a cost-utility analysis of a pediatric DHH Patient Navigator program (N=123 children). The Health Utilities Index Mark III (HUI) was used to calculate the direct costs of the program. The projected effect on quality-adjusted life years was compared to a willingness to pay threshold (WTP) of \$100,000 discounting costs and benefits at 3% annually.

**Results:** All cost-utility analyses yielded results far below the WTP threshold. Discounted direct costs over a five-year time horizon were \$2,513, and the incremental cost-effectiveness ratio (ICER) for the isolated speech utility function yielded a value of \$3,148 per QALY using the HUI. Overall, the Patient Navigator program provides a favorable benefit to DHH patients with lifetime benefits that extend far beyond the cost-utility of the intervention.

**Conclusions:** Our cost-utility analysis characterized the economic benefits of providing tailored health services navigations to patients at high risk of language delay. We conclude that Patient Navigators not only aid access to language services more quickly but provide lifetime, quantifiable benefits by facilitating timely intervention.

## Speaker Bio

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yes

## **Navigating the Transition from Pediatric to Adult Hearing Care: How Audiologists Can Support Young Adults and their Families**

Dr. Yell Inverso AuD, PhD, MBA<sup>1</sup>, Dr. Michael Hoffman Ph.D<sup>2</sup>, Melissa Stone-Mengistu , M.SED.,<sup>1</sup>, Dr. Julie Verhoff Au.D., Ph.D<sup>1</sup>, Dr. Dave Gordey Ph.D.<sup>3</sup>

<sup>1</sup>Nemours Children's Health, Wilmington, DE, USA. <sup>2</sup>Children's Hospital of Philadelphia, Philadelphia, PA, USA. <sup>3</sup>Oticon A/S, Toronto, Ontario, Canada

### **Abstract**

**Background:** Many children with hearing differences in the US receive services from pediatric audiologists until age 21, including support for insurance, school, community services, and hearing technology repair. Transitioning to adult care is challenging, leading to lower quality of care and continuity. Evidence on audiology transition programs is limited, and successful transition requirements are unclear. Our multidisciplinary study aimed to understand the related needs and perspectives of pediatric audiologists, young adults, and their caregivers.

**Methods:** Surveys were given to 82 audiologists in North America to learn how they support young adults with hearing differences as they transition care. Qualitative interviews with 8 audiologists provided additional details on current transition programs and the barriers they face. In the second phase, surveys targeted young adults with hearing differences and their caregivers. A subset of survey respondents participated in qualitative interviews, which were transcribed for analysis.

**Results:** Across subgroups in this study, the challenges faced by patients and their families indicate the need for more purposeful transition programs with appropriate supports in place. Data indicate that barriers including limitations in resources, time, knowledge and communication are consistent. Additional insights from qualitative data phase of the study will be shared.

**Conclusions:** Despite many audiologists offering some transition planning, most participants expressed concerns about the transition services currently provided. Data indicate that Audiologists and the patients and families included in this study agree that direct support and structure during the transition from pediatric to adult hearing care is necessary and require additional institutional support.

## Categories

7. Multidisciplinary

## Long-term Quality of Life Outcomes in Pediatric Otitis Media Surgery for Recurrent Acute Otitis Media vs. Other Indications

Mimi Kim BS<sup>1</sup>, Priya Sharma PhD<sup>2</sup>, Kavita Dedhia MD, MSHP, FAAP<sup>2</sup>

<sup>1</sup>University of Pennsylvania, Philadelphia, PA, USA. <sup>2</sup>Children's Hospital of Philadelphia, Philadelphia, PA, USA

### Abstract

#### Background:

While studies have shown that disease-specific quality of life (QOL) improves following otitis media (OM) surgery, limited studies compared QOL outcomes based on surgical indication. This study uses the OM-6 questionnaire to compare QOL after OM surgery based on surgical indication.

#### Methods:

This was a retrospective cohort study at a tertiary care pediatric center. Subjects were children undergoing OM surgery between 2020-2024 with at least one pre-operative and post-operative OM-6 survey. OM-6 changes were categorized as clinically small (0.5-0.9), moderate (1.0-1.4), or large ( $\geq 1.5$ ). Participants were followed for 2 years and censored at the time of subsequent OM surgery. The rAOM group included children with rAOM and a mixed diagnosis of rAOM with other indication.

#### Results:

Among 19,979 patients who underwent OM surgery, 7,394 (37%) completed both pre-operative and post-operative OM-6 questionnaires. Of these, 6,583 (89.0%) had rAOM, and 782 (10.6%) had other indications. Both groups showed improvements in post-operative total scores compared to baseline at all follow-up periods ( $p < 0.001$ ), with moderate to large changes for rAOM and small changes for other indications. The caregiver concern domain had the greatest mean score change in both groups (2.4 for rAOM, 1.33 for other indication). When comparing groups, the rAOM group had higher pre-operative OM-6 total scores (indicating worse QOL) ( $p < 0.001$ ) and lower post-operative scores ( $p < 0.05$ ), except at 18-24 months.

**Conclusions:**

This is the largest study reporting long-term QOL outcomes in pediatric OM surgery. The rAOM group showed larger QOL improvements, suggesting greater QOL benefits from surgery for this group.

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yes

## Evaluation of Audiologic Outcomes Following a Targeted Screening Protocol for Congenital Cytomegalovirus

Caroline Smith MD<sup>1</sup>, Lilliam Samour PA-C<sup>2</sup>, Trudy Frederics Au.D CCC-A<sup>2</sup>, Tammy Wang MD<sup>3,2</sup>

<sup>1</sup>University of Colorado School of Medicine, Aurora, CO, USA. <sup>2</sup>Denver Health Medical Center, Denver, CO, USA. <sup>3</sup>Department of Otolaryngology Head and Neck Surgery, University of Colorado Anschutz Medical Campus, Aurora, CO, USA

### Abstract

#### Background:

Congenital cytomegalovirus (cCMV) is the most common non-genetic cause of sensorineural hearing loss (SNHL) in infants. However, accurate diagnosis and timely audiologic follow-up is difficult with a narrow testing window of 21 days of life. In the present study, we describe changes in CMV testing and audiologic follow-up before and after a targeted cCMV screening protocol.

#### Methods:

A targeted screening protocol for cCMV was implemented in June 2021 at a single institution academic hospital for infants referring their newborn hearing screen (NBHS) or unable to complete NBHS. A retrospective chart review was performed in infants diagnosed with cCMV between 2017 and 2024 to identify timing and results of NBHS and a diagnostic auditory brainstem response (ABR).

#### Results:

After implementation of a targeted screening protocol, cCMV testing increased significantly ( $p = 0.0036$ ), as did positive cCMV results (0.02% to 0.15%,  $p = 0.0132$ ). Within a cohort of 24 patients with cCMV, 6 passed NBHS and 18 referred NBHS. Twenty-two patients underwent diagnostic ABR; the time to ABR testing from diagnosis decreased significantly from 78.5 to 15.4 days after targeted screening ( $p < 0.0001$ ). Of infants undergoing ABR, 4 (18.2%) were diagnosed with hearing loss, one of whom passed their NBHS.



## Conclusions:

A cCMV targeted screening protocol led to increased cCMV testing and positivity rates. Audiologic follow-up improved significantly with decreased time to diagnostic ABR and identification of hearing loss. As cCMV is associated with progressive hearing loss, early diagnosis and audiologic testing is critical in facilitating appropriate audiologic rehabilitation and developmental intervention.

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## Sensitivity of Dried Blood Spot Testing and Outcomes for Detection of Congenital Cytomegalovirus Infection in a Statewide Cohort Diagnosed from Targeted Testing

Peter Kfoury MD<sup>1</sup>, Megna Reddy BS<sup>1</sup>, Mark Blackstad BS<sup>2</sup>, Stephanie McVicar AuD<sup>3</sup>, Max Sidesinger MPH<sup>3</sup>, Jacinda Merrill MPH<sup>3</sup>, Mark Schleiss MD<sup>2</sup>, Albert Park MD<sup>1</sup>

<sup>1</sup>University of Utah, Salt Lake City, Utah, USA. <sup>2</sup>University of Minnesota, Minneapolis, Minnesota, USA. <sup>3</sup>Utah Department of Health and Human Services, Salt Lake City, Utah, USA



**Peter Kfoury**

### Abstract

**Background:** The sensitivity of dried blood spots (DBS) to identify newborns with congenital cytomegalovirus (cCMV) infection or disease has not been evaluated in a cohort of patients already diagnosed using targeted testing. This study assesses the sensitivity of DBS polymerase chain reaction (PCR) for cCMV infection or disease.

**Methods:** This population-based cohort included all newborns diagnosed with cCMV through urine PCR using expanded targeted early CMV testing protocol in Utah from 2019-2024. Neonatal DBS were retrospectively tested for CMV DNA using PCR targeting the UL83 gene encoding pp65, a structural protein and the IE (Immediate Early) gene critical for replication. Analysis occurred in December 2024.

**Results:** From January 2019 to March 2024, 80 out of 12,815 (0.6%) tested newborns were diagnosed with cCMV. Combined results from either UL83 or IE had a sensitivity of 86.3% (69 of 80; 95% CI, 77.0-92.1%) and a specificity of 100% (95% CI, 97.9-100.0%). Combined results for sensitivity were higher for CMV disease 90.1% (39 of 43; 95% CI, 78.4-96.3%), for congenital sensorineural hearing loss (SNHL) 92.3 % (24 of 26; 95% CI, 75.9-97.9%) or for central nervous system (CNS) abnormalities 96.0% (24 of 25; 95% CI, 80.5-99.3%). None of those with cCMV infection or cCMV disease without CNS abnormalities or congenital SNHL developed progressive or late onset hearing loss.

**Conclusions:** This study demonstrates high sensitivity for cCMV infection and disease for DBS. The risk for progressive or late onset SNHL differs by cCMV severity. These results have implications for early CMV screening or testing.

## Categories

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## A sponsored genetic testing and counseling program for sensorineural hearing loss reduces genetic testing barriers

Aaron Tward MD, PhD<sup>1,2</sup>, Jennifer Pappadakis PhD<sup>1</sup>, Kathleen Lennon RN<sup>1</sup>, Kathleen Reape MD<sup>1</sup>

<sup>1</sup>Eli Lilly and Company, Indianapolis, IN, USA. <sup>2</sup>UCSF, San Francisco, CA, USA

### Abstract

#### Background

Despite >60% of congenital sensorineural hearing loss (SNHL) being due to an underlying genetic cause, only a minority of patients obtain genetic testing. A genetic diagnosis may provide useful information about inheritance risk, prognosis of progression, likelihood of a syndromic condition, and potential eligibility for gene therapy clinical trials. Our objective is to remove key barriers, increase utilization of genetic testing, and facilitate earlier and more accurate diagnosis.

#### Methods

A no-charge genetic testing and counseling program for SNHL was initiated in individuals <40 years of age in the U.S. with at least one of the following: 1) bilateral SNHL of moderate or worse degree, 2) auditory neuropathy. Testing was performed by targeted panel sequencing of 274 hearing loss genes. Demographic and genetic findings are reported.

#### Results

From June 2024 to February 2025, 607 patients received genetic testing. Approximately 40% of referrals came from otolaryngologists/audiologists. The overall genetic diagnostic rate was 33% while children <2 years of age had a 47% diagnostic rate. The most common non-syndromic diagnoses were associated with *GJB2*, *STRC*, and *SLC26A4*. A syndrome was not suspected in 65% of patients with potentially syndromic diagnoses. Updated data will be presented.

#### Conclusion

Implementation of a sponsored genetic testing and counseling program for SNHL resulted in rapid uptake by otolaryngologists/audiologists and yielded a meaningful diagnostic rate. Accurate genetic diagnosis informs patient care through the identification of syndromic conditions prior to symptom onset, prognostication for hearing loss progression, and identification of potential gene therapy trial participants.

## **Speaker Bio**

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## Post-Meningitic Cochlear Damage: Identifying Molecular Agents and Pathways of Injury in Sensorineural Hearing Loss

Dr. Yasaman Baghshomali PhD, Dr. Nam Lee MD, Dr. Brian Herrmann MD, Dr. Sarah Gitomer MD  
University of Colorado, Aurora, Colorado, USA

### Abstract

#### Background:

Bacterial meningitis is a major cause of acquired sensorineural hearing loss (SNHL) in children, though the underlying immune mechanisms remain unclear. This study investigates immunologic factors associated with post-meningitic SNHL (pmSNHL) in pediatric patients.

#### Methods:

Cerebrospinal fluid (CSF) samples were collected from pediatric patients ( $\leq 18$  years) with bacterial meningitis at a tertiary academic center (2020–2023) and compared to age- and gender-matched controls. Clinical data were retrospectively reviewed. CSF was analyzed for cytokines, reactive oxygen/nitrogen species, myeloperoxidase, bacterial load, and microbiomic profiles.

#### Results:

Twenty patients met inclusion criteria: 14 without pmSNHL and 6 with pmSNHL. SNHL occurred in 11% of patients, with 5% developing profound hearing loss. *Streptococcus pneumoniae* was the most common pathogen (40%), followed by *E. coli*, *N. meningitidis*, *S. agalactiae*, and *H. influenzae*. No significant differences were observed in time to presentation, vaccination status, pre-lumbar puncture antibiotics, or dexamethasone use. Compared to controls, CSF from meningitis patients showed elevated levels of CXCL2 (a neutrophil chemoattractant), IL-6 (a pro-inflammatory and immune-activating cytokine), and MPO (an enzyme that generates reactive oxidants contributing to tissue damage). Although these markers did not statistically correlate with pure-tone average, they were higher in patients with profound hearing loss and *S. pneumoniae* infection.

## **Conclusions:**

These findings suggest a cytokine-driven inflammatory response may contribute to cochlear damage in pediatric bacterial meningitis, particularly in *S. pneumoniae* infections. Targeting these pathways may offer future therapeutic strategies to prevent pmSNHL.

## **Categories**

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## Speech Outcomes in Congenital Cytomegalovirus - A Multicenter Review

Dr. Alexander Cherches MD<sup>1</sup>, Avani Vasireddy BS<sup>2</sup>, Dr. Celia Mizelle MD<sup>3</sup>, Dr. Monica Ogunsusi MD<sup>4</sup>, Dr. Kristal Riska AuD, PhD<sup>4</sup>, Dr. Eileen Raynor MD<sup>4</sup>

<sup>1</sup>University of Colorado Anschutz Department of Otolaryngology - Head and Neck Surgery, Aurora, CO, USA. <sup>2</sup>Duke University School of Medicine, Durham, NC, USA. <sup>3</sup>Childrens Hospital of Colorado, Aurora, CO, USA. <sup>4</sup>Duke University Department of Head and Neck Surgery and Communication Sciences, Durham, NC, USA



**Dr. Alexander Cherches**

### Abstract

#### Speech Outcomes in Congenital Cytomegalovirus - A Multicenter Review

##### Background

Despite the known impact of congenital cytomegalovirus (cCMV) on hearing, implications on speech have been understudied. In the absence of hearing loss, 2% of cCMV patients may still develop speech and language impairment. This study will describe demographics of cCMV patients, rates of speech therapy referral, and speech outcomes within two of North Carolina's largest health systems.

##### Methods

A multisite retrospective chart review of patients was performed to identify cCMV patients. 69 patients were identified, 20 from Duke University Medical Center and 49 from University of North Carolina Health Systems. Data obtained included patient demographics, referrals, and speech outcomes.

##### Results



Of 69 patients, 34 (49.3%) had evidence of speech dysfunction. These included constitutional speech delay (44.9%), articulation (2.9%), dysarthria (1.4%), apraxia (1.4%), and dysphasia (1.4%). Out of all cCMV patients, 9 (13%) showed evidence of speech dysfunction in the presence of normal hearing. 88.2% of all patients with speech dysfunction were offered an SLP referral, with 79.4% attending a session. Mean age at speech therapy initiation was 5.5 months. Out of those who attended therapy, 77.8% had a recorded improvement in speech.

## **Conclusions**

This is the largest US-based study on cCMV speech outcomes, with findings suggesting a higher rate of speech dysfunction than previously reported. Speech therapy initiation averaged within the 1–3-year early intervention American Academy of Pediatrics recommendation. Recommendations to receive early speech evaluation referrals, regardless of hearing loss, may enhance outcomes in this population.

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## **MBCDI Vocabulary Underestimates Expressive Language Skills in Non-English Preferring Children who are Deaf/Hard of Hearing**

Neema Rashidi MS<sup>1</sup>, Joy Kearns CCC-SLP/MS<sup>2</sup>, Amy Simon CCC-SLP<sup>2</sup>, Dylan Chan MD/PhD<sup>1</sup>

<sup>1</sup>Department of Otolaryngology-Head & Neck Surgery, University of California, San Francisco, San Francisco, California, USA. <sup>2</sup>Department of Audiology, UCSF Benioff Children's Hospital-Oakland, Oakland, California, USA



**Neema Rashidi**

### **Abstract**

#### **Background:**

Language assessment tools like the MacArthur–Bates Communicative Development Inventories (MBCDI) and the Preschool Language Scales (PLS) were originally developed to assess language in typically hearing children but are often used to assess the language abilities of children who are Deaf/Hard of Hearing (DHH) to compare their development to their typically hearing peers. We sought to evaluate how MBCDI compares to PLS in assessing language to evaluate for inequities in measurements in DHH children.

#### **Methods:**

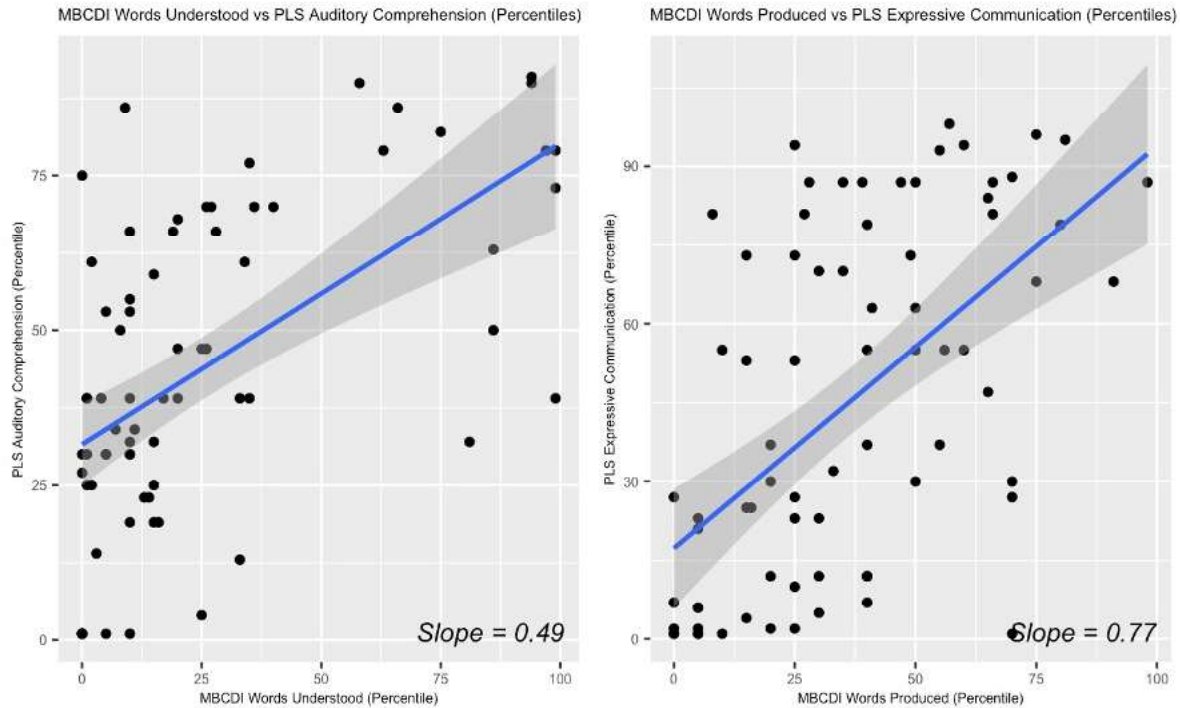
We conducted a secondary analysis of our ongoing, prospective randomized clinical trial (ClinicalTrials.gov: NCT04928209). Subjects completed validated MBCDI and PLS in their preferred language (Spanish vs English). MBCDI-Words Understood and PLS-Auditory Comprehension were compared for receptive language, and MBCDI-Words Produced and PLS Expressive Communication were compared for expressive language. We used multivariable linear regression to examine our primary outcome—the within-subject difference in percentile scores—while adjusting for hearing laterality, the presence of access challenges, and caregiver-reported language preference.

#### **Results:**

Among 75 children, Spanish language preference was significantly associated with greater negative differences between MBCDI and PLS expressive scores ( $-12.8$ ,  $p = 0.049$ ,  $CI: [-25.5, -0.03]$ ), controlling for laterality and ACL. No significant associations were found between language preference and receptive score differences.

## Conclusion:

The MBCDI may underrepresent expressive language skills in Spanish-prefering DHH children compared to PLS. These findings raise concerns about potential measurement inequities in language tests, particularly for children from non-English language backgrounds. Reliance on tools that perform differently across populations may contribute to disparities in early identification and intervention.



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## Conjunctive Consolidation Analysis to Risk-Stratify Language Outcomes in Deaf and Hard-of-Hearing Infants

Neema Rashidi MS, Dr Nikhil Arora MD, Jihyun Stephans BS, Dr Dylan Chan MD/PhD  
University of California - San Francisco, San Francisco, California, USA



**Neema Rashidi**

### Abstract

#### Background:

Hearing loss is the most common neonatal sensory disorder and is associated with delayed language development. Disparities persist, especially among families facing socioeconomic and access-related challenges. This study applied conjunctive consolidation to identify and risk-stratify deaf or hard-of-hearing (DHH) infants based on combined social and clinical risk factors.

#### Methods:

We analyzed 186 DHH infants from an ongoing randomized trial on four binary risk indicators: income, access-to-care, primary language, and best-ear pure-tone average (PTA). Risk groups were created based on combinations of these variables, excluding groups with fewer than ten subjects, with Preschool Language Scale (PLS) Total-Language as the primary outcome. Group differences were tested using the Kruskal-Wallis test and pairwise Wilcoxon tests with Bonferroni correction, with Compact Letter Display (CLD) to summarize statistically distinct groupings based on the pairwise comparisons.

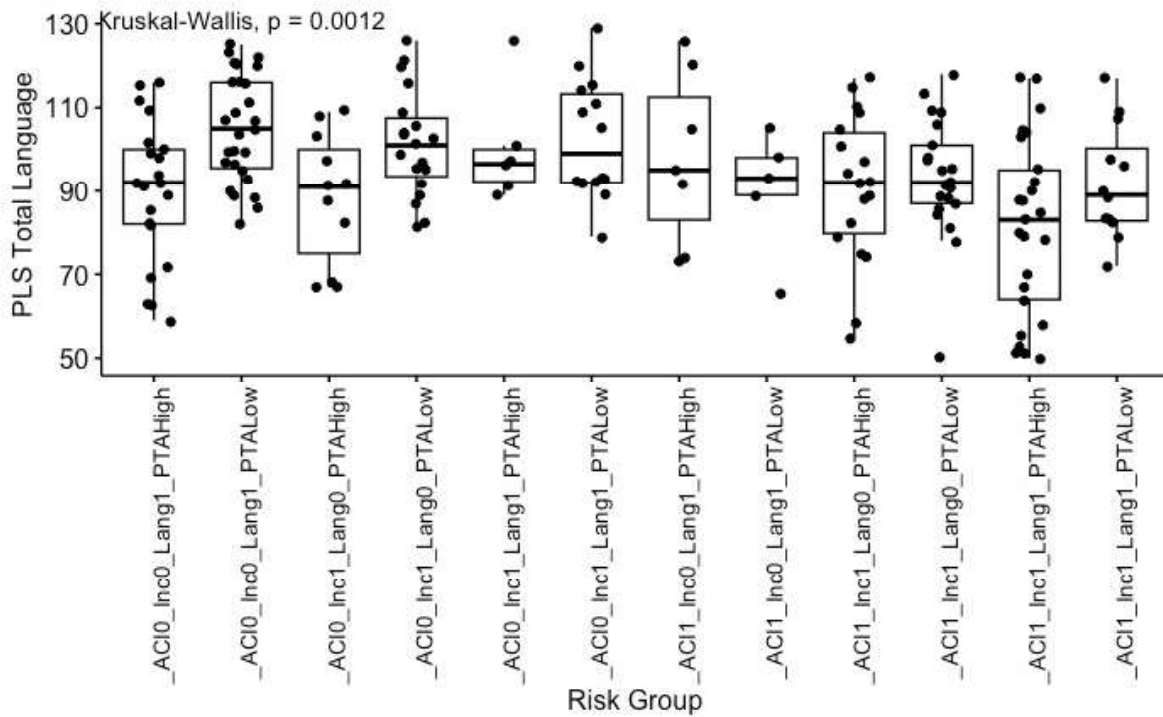
#### Results:

The Kruskal-Wallis test revealed a significant difference in language scores across risk groups ( $p = 0.0012$ ). One pairwise comparison was significant: ACI0\_Inc0\_Lang1\_PTALow vs. ACI1\_Inc1\_Lang1\_PTAAHigh ( $p = 0.0046$ ), which were consequently assigned different CLD letters. All other groups showed overlapping distributions and thus shared CLD letters.

#### Conclusion:

Conjunctive consolidation analysis revealed that cumulative social and clinical risk factors may influence language outcomes in DHH infants, though overlapping distributions limit the utility of this method for fine-grained stratification. While the overall effect was

statistically significant, the lack of strong pairwise separations may be due to limited sample size. Future work will focus on refining cutoffs for predictors and validating them in a larger cohort.



Risk Group	Median PLS	CLD
ACI1_Inc1_Lang1_PTALow	83	b
ACI1_Inc1_Lang1_PTALow	89	ab
ACI0_Inc1_Lang0_PTALow	91	a
ACI0_Inc0_Lang1_PTALow	92	ab
ACI1_Inc1_Lang0_PTALow	92	ab
ACI1_Inc1_Lang0_PTALow	92	ab
ACI1_Inc0_Lang1_PTALow	93	ab
ACI1_Inc0_Lang1_PTALow	95	ab
ACI0_Inc1_Lang1_PTALow	96.5	ab
ACI0_Inc1_Lang1_PTALow	99	ab
ACI0_Inc1_Lang0_PTALow	101	ab
ACI0_Inc0_Lang1_PTALow	105	ab

ACI: 0 = no access challenges, 1 = any

Inc: 0 = high income, 1 = low income

Lang: 0 = Spanish, 1 = English

PTA: Low = best-ear PTA below median of dataset, High = best-ear PTA above median

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yes

## Impact of Prior Adenoidectomy on Speech Outcomes Following VPD Surgery

Zialesi Adissem BS<sup>1,2</sup>, Richard Kirschner MD<sup>3</sup>, Gregory Pearson MD<sup>3</sup>, Gabriel Shimmin BS<sup>3,4</sup>, Jonathan Grischkan MD, MS, FACS, FAAP<sup>1,5</sup>, Adriane Baylis PhD, CCC-SLP<sup>3</sup>

<sup>1</sup>Department of Pediatric Otolaryngology, Nationwide Children's Hospital, Columbus, OH, USA. <sup>2</sup>University of Toledo College of Medicine and Life Sciences University of Toledo

College of Medicine and Life Sciences, Toledo, OH, USA. <sup>3</sup>Department of Plastic and

Reconstructive Surgery, Nationwide Children's Hospital, Columbus, OH, USA. <sup>4</sup>College of

Medicine, The Ohio State University, Columbus, OH, USA. <sup>5</sup>Department of Otolaryngology—Head and Neck Surgery, The Ohio State University Wexner Medical Center, Columbus, OH, USA



**Zialesi Adissem**

### Abstract

**Background:** Adenoidectomy in children with repaired cleft palate or non-cleft VPD may cause increased hypernasality prior to surgery for velopharyngeal dysfunction (VPD). Adenoidectomy is sometimes performed prior to VPD surgery either to reduce the risk of post-operative obstructive sleep apnea, and/or to improve the technical execution of VPD surgery (e.g., pharyngeal flap or sphincter pharyngoplasty), allowing the surgeon to properly inset flaps at a higher level along the posterior pharyngeal wall. This study aims to determine if adenoidectomy, as a component of the VPD care plan, affects the severity of hypernasality following VPD surgery.

**Methods:** A retrospective review of patients who underwent VPD surgery at a quaternary care institution over a 10-year span was performed. Clinical ratings of hypernasality were made by trained speech/language pathologists utilizing validated perceptual speech rating scales at pre- and post-operative speech evaluations.

**Results:** In total 217 patients underwent VPD surgery. Prior to VPD surgery, 132 had no history of adenoidectomy, 76 underwent total adenoidectomy, and 9 underwent partial.

Patients with adenoidectomy prior to VPD surgery had better odds of having a lower hypernasality score at 12 months post-op (OR 0.61; 95% CI 0.33, 1.12) than those without adenoidectomy.



Patients with adenoidectomy prior to VPD surgery had lower bilabial plosive nasalance scores at 12 months post-op (Difference -4.1; 95% CI -11, 2.8) than those without adenoidectomy.

Conclusion: Children who received adenoidectomy prior to VPD surgery displayed better post-operative speech outcomes after VPD surgery. Future research should examine adenoidectomy's affect on OSA following VPD surgery.

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yes

## Understanding Language Development Disparities in Children with Cochlear Implants

Meltem Tutar MS<sup>1</sup>, Treasure Ray BS<sup>2</sup>, Sanika Parchure MS<sup>2</sup>, Fidan Sideifzada MS<sup>1</sup>, Pascal Escobar BS<sup>1</sup>, Ariana Johnson BS<sup>1</sup>, Megan Nelson MA, CCC-SLP, LSLS Cert. AVT<sup>2</sup>, Chelsea Clancy AuD<sup>2</sup>, Cedric Pritchett MD, MPH, FAAP, FACS<sup>2,1</sup>

<sup>1</sup>University of Central Florida College of Medicine, Orlando, FL, USA. <sup>2</sup>Nemours Children's Health, Orlando, FL, USA



**Meltem Tutar**

### Abstract

**Title:** Understanding Language Development Disparities in Children with Cochlear Implants

### Background:

Children with sensorineural hearing loss (SNHL) often experience language delays. Cochlear implants (CIs) restore auditory input, but outcomes vary. Socioeconomic factors (SE)—i.e. family structure and therapy access—may influence language development. This study explores these factors in a diverse Florida cohort.

### Methods:

A retrospective review was conducted for children with bilateral SNHL who received cochlear implants between January 2015 and June 2024 at a children's hospital in Central Florida. Language development was assessed using Receptive-Expressive Emergent Language Test-Third Edition (REEL-3) and Preschool Language Scales-5th Edition (PLS-5). Average development rate (ADR) was analyzed using multivariate regression. Receptive (RLAE) and expressive language age equivalent (ELAE) scores were analyzed using one-way ANOVA in SPSS. Covariates included SE factors and therapy adherence.

### Results:

Fifty CI recipients were included (median age at first CI: 30 mo; range: 9–176 mo). In regression modeling, significant associations were identified between both therapy frequency ( $p=0.028$ ) and appointment cancellation rates ( $p=0.023$ ) and PLS-5 ADR RLAE performance. ANOVA revealed statistically significant differences in PLS-5 RLAE ( $p=0.0046$ ) and ELAE ( $p=0.0343$ ) scores across therapy frequency groups (low, medium, high) at the 22–27 month post-CI period, where no difference existed pre-implant ( $p=0.11$ ;  $p=0.15$ ).

### **Conclusions:**

Therapy adherence was associated with language development while age at CI was not. These findings suggest early implantation alone is an insufficient explanation for language development in pediatric CI recipients and other social factors should be explored.

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yes

## Predicting Oral Feeding Outcomes in Children with Congenital Esophageal Atresia and/or Tracheoesophageal Fistulas (EA/TEF)

Cynthia Sun BS<sup>1</sup>, Nina Ham BA<sup>1</sup>, Jessica Newman MS, CCC-SLP<sup>1</sup>, Robyn Lao DNP, CPNP-AC<sup>2</sup>, Minna Wieck MD<sup>2</sup>, Rory Kamerman-Kretzer MD<sup>3</sup>, Maheen Hassan MD<sup>4</sup>, Aditi Bhuskute MD<sup>1</sup>, Jamie Funamura MD MPH<sup>1</sup>

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Cynthia Sun

### Abstract

**Background:** Children born with esophageal atresia and/or tracheoesophageal fistulas (EA/TEF) struggle with poor oral feeding outcomes, such as significant dysphagia and G-tube dependence. Given the paucity of long-term data in this population, we aimed to identify possible predictive factors of feeding outcomes.

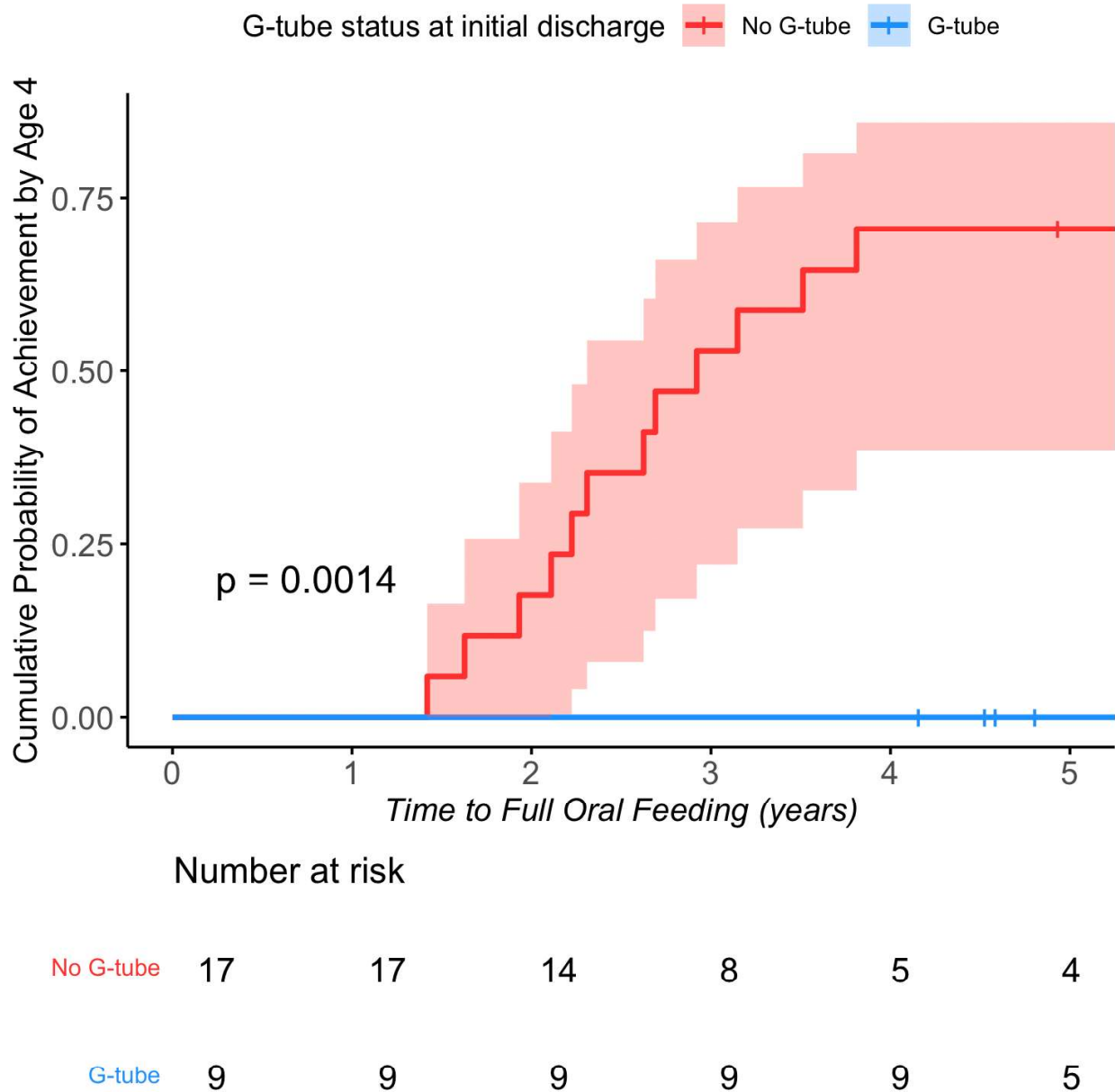
**Methods:** A retrospective case series was conducted on 50 patients with EA/TEF at a single Aerodigestive Clinic from 2011 to 2025. Firth's logistic regression was used to evaluate variable effects on feeding outcomes, including gestational age, birth weight, associated medical conditions, fistula type, length of index hospitalization, therapeutic interventions, and G-tube status. A successful feeding outcome was defined as a Functional Oral Intake Scale (FOIS) score of 6 or 7 (i.e. total oral diet without special preparations) by age 4.

**Results:** 46% of patients achieved successful feeding outcomes. Mean time to goal was  $3.91 \pm 2.40$  years. Patients discharged without a G-tube following their index hospitalization were 2.27 times more likely to achieve full oral feeding compared to those discharged with a G-tube (OR=0.023, p=0.0004). Discharge with a G-tube was associated with a time delay to full oral feeding (p=0.0014). Other variables with significant associations included length of index hospitalization (OR=0.97, p=0.04), need for surgical esophageal dilations (OR=0.16, p=0.02), and medical center-based feeding therapy (OR=0.06, p=0.02).

Variable	Odds Ratio	95% Confidence Interval	p-value
Gestational age (weeks)	1.27	0.94 - 2.08	0.12
Birth weight (grams)	1.001	0.99 - 1.003	0.09
Associated diagnoses	-	-	-
VACTERL syndrome	1	0.21 - 4.84	1
CHARGE syndrome	0.33	0.002 - 7.78	0.50
Length of index hospitalization (days)	0.97	0.91 - 0.99	0.04*
Discharged with G-tube after index hospitalization	0.023	0.0002 - 0.239	0.0004*
Severity of tracheomalacia	-	-	-
Mild	0.71	0.09 - 5.35	0.74
Moderate	2.83	0.38 - 25.36	0.31
Severe	2.2	0.27 - 20.53	0.46
Tracheo- or aortopexy surgery	2.14	0.25 - 26.05	0.49
Fistula type (C vs. H)	0.38	0.04 - 3.10	0.41
Need for esophageal dilation	0.16	0.03 - 0.79	0.02*
Steroid injection treatment	0.22	0.02 - 1.42	0.12
Feeding therapy	-	-	-
Medical center-based therapy	0.06	0.0004 - 0.65	0.02*
Community-based therapy	0.39	0.03 - 3.54	0.40

*Table 1: Univariate analysis of variables on achieving successful feeding outcomes in patients by 4 years of age (n=26)*

## Time to Achieve Non-modified Oral Feeds in Children with TEF by G-tube Status



**Conclusions:** For patients with EA/TEF, variables that significantly affect feeding outcomes are multifactorial and highlight the importance of multidisciplinary care, and further research is needed to understand the mechanisms preventing a subset of patients from achieving satisfactory oral diets.

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## The Impact of Neighborhood Opportunity on The Timing of Cleft Palate Surgery

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### Abstract

#### Background

Racial and ethnic disparities have been linked to delayed cleft palate repair, increasing the risk of speech disorders. Neighborhood opportunity—a composite measure of place-based social determinants—may further influence access to timely care. This study examined the association between neighborhood opportunity and the timing of cleft palate repair.

#### Methods

We conducted a retrospective cohort study using PHIS data (2014–2024) of children under 24 months undergoing primary palatoplasty for cleft palate, with or without cleft lip. The main exposure was neighborhood opportunity, measured by the Child Opportunity Index 3.0 (COI). Age at surgery was compared across COI levels using non-parametric tests, followed by multivariable regression to adjust for confounders.

#### Results

Among the 4,173 children included, 29% lived in very low-opportunity neighborhoods and 16% in very high-opportunity neighborhoods. The median age at surgery was 11 months across all COI levels. Insurance type, race and ethnicity, and cleft type were significant predictors of surgical timing. Timing differed by COI in bivariate analysis ( $P = .03$ ), but this association was not statistically significant in the adjusted model (very high vs very low opportunity: mean difference, 0.17 months; 95% CI, -0.22 to 0.55;  $P = .39$ ).



Table 1: Characteristics of Study Population by Neighborhood Opportunity Level<sup>a</sup>

Characteristic	Population, No. (%) <sup>b</sup>				
	Very High	High	Moderate	Low	Very Low
Age, months	672 (16.1%)	670 (16.1%)	739 (17.7%)	904 (21.7%)	1188 (28.5%)
11 (9.0, 13.0)	11 (9.0, 13.0)	11 (10.0, 13.0)	11 (9.0, 13.0)	11 (9.0, 13.0)	11 (10.0, 13.0)
Sex					
Male	387 (16.6)	367 (15.7)	408 (17.5)	508 (21.8)	665 (28.5)
Female	285 (15.5)	303 (16.5)	331 (18.0)	396 (21.5)	523 (28.5)
Race and ethnicity					
Non-Hispanic White	401 (17.7)	415 (18.3)	467 (20.6)	545 (24.1)	435 (19.2)
Non-Hispanic Black	18 (5.6)	32 (9.9)	40 (12.4)	61 (18.9)	172 (53.3)
Non-Hispanic Asian	53 (34.6)	38 (24.8)	28 (18.3)	17 (11.1)	17 (11.1)
Hispanic	70 (7.4)	94 (9.9)	125 (13.2)	201 (21.2)	460 (48.4)
Other	130 (26.9)	91 (18.8)	79 (16.3)	80 (16.5)	104 (21.5)
Insurance					
Commercial	522 (29.3)	395 (22.2)	339 (19.1)	299 (16.8)	224 (12.6)
Government: Medicaid, Other	125 (5.4)	266 (11.5)	389 (16.8)	590 (25.5)	945 (40.8)
Other payor	25 (31.6)	9 (11.4)	11 (13.9)	15 (19.0)	19 (24.1)
Hospital census region					
Midwest	178 (13.9)	178 (13.9)	178 (13.9)	178 (13.9)	178 (13.9)
Northeast	206 (41.5)	107 (21.6)	60 (12.1)	61 (12.3)	62 (12.5)
South	140 (9.2)	205 (13.5)	238 (15.7)	369 (24.4)	562 (37.1)
West	148 (16.9)	141 (16.1)	149 (17.0)	149 (17.0)	291 (33.1)
Cleft type					
Cleft palate with lip	350 (15.5)	348 (15.4)	398 (17.7)	472 (20.9)	685 (30.4)
Cleft palate without lip	322 (16.8)	322 (16.8)	341 (17.8)	432 (22.5)	503 (26.2)
Preoperative complex chronic conditions <sup>c</sup>					
Cardiovascular	16 (16.8)	13 (13.7)	16 (16.8)	25 (26.3)	25 (26.3)
Gastrointestinal	31 (12.5)	35 (14.1)	35 (14.1)	66 (26.6)	81 (32.7)
Hematologic and immunologic	5 (17.2)	3 (10.3)	5 (17.2)	4 (13.8)	12 (41.4)
Metabolic	1 (4.3)	2 (8.7)	8 (34.8)	2 (8.7)	10 (43.5)
Neurologic and neuromuscular	9 (12.3)	11 (15.1)	12 (16.4)	16 (21.9)	25 (34.2)
Renal and urologic	6 (15.4)	7 (17.9)	6 (15.4)	11 (28.2)	9 (23.1)
Respiratory	59 (19.1)	43 (13.9)	44 (14.2)	68 (22.0)	95 (30.7)
Other congenital or genetic defect	74 (15.0)	75 (15.2)	84 (17.0)	131 (26.5)	130 (26.3)
<sup>a</sup> Children who underwent index palatoplasty at a Children's Hospital Association participating hospital from January 1, 2014, to December 31, 2024. The data is presented as both numbers and percentages of encounters, unless otherwise specified.					
<sup>b</sup> Percentages correspond to the row.					
<sup>c</sup> Binary variable indicating the presence of the condition.					

Table 2: Association of Neighborhood Opportunity and Other Factors with Surgical Timing				
Variable	Estimate	SE	95% CI	P-value
Intercept	10.191	0.234	(9.733, 10.649)	<0.001
Neighborhood Opportunity				
Very High	Reference	--	--	--
High	0.186	0.198	(-0.202, 0.574)	0.349
Moderate	-0.136	0.200	(-0.527, 0.255)	0.495
Low	-0.010	0.195	(-0.393, 0.373)	0.959
Very Low	0.168	0.197	(-0.218, 0.554)	0.394
Race and ethnicity				
Non-Hispanic White	Reference	--	--	--
Non-Hispanic Black	0.441	0.227	(-0.005, 0.886)	0.053
Non-Hispanic Asian	2.357	0.440	(1.495, 3.219)	<0.001
Hispanic	0.501	0.157	(0.194, 0.807)	0.001
Other	0.208	0.186	(-0.157, 0.572)	0.264
Insurance Type				
Commercial	Reference	--	--	--
Government	0.386	0.126	(0.139, 0.632)	0.002
Other Payor	0.884	0.448	(0.006, 1.762)	0.048
Cleft Type				
Cleft palate with lip	Reference	--	--	--
Cleft palate without lip	1.175	0.115	(0.946, 1.403)	<0.001

Model also controlled for gender, hospital census region, complex chronic conditions, and year of surgery.

## Conclusions

Our study highlights the complexity of social determinants in surgical access for cleft palate repair and suggests that neighborhood opportunity alone does not fully explain timing

disparities.

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## Cold Milk, Safe Swallows: Instrumental Insights for NICU Feeding Challenges

Dr. Louisa Ferrara-Gonzalez PhD

NYU Langone Hospital, Mineola, NY, USA. Infant Feeding Specialists, Inc., Garden City, NY, USA



**Dr. Louisa Ferrara-Gonzalez**

### Abstract

#### Background:

Recent studies support the use of feeding infants with dysphagia cold liquids to improve their swallow safety. One study showed initial evidence that a short duration of Cold barium reduces aspiration/penetration events in preterm infants when compared to Room Temperature Barium under videofluoroscopy. A second study showed safety in this practice at bedside with no detriment to the infant's body temperature, development of cold stress, or mesenteric blood flow distribution. For this study we aimed to investigate if the reduction of aspiration/penetration events when fed cold feedings are sustained over a typical feeding time (15-minutes) using instrumental assessments.

**Methods:** Participants serve as their own control with an A-B design. Participants found to have aspiration/penetration during their clinically required instrumental swallowing study (VFSS/FEES) were enrolled to have an additional 10-15 swallows captured over 15-minutes while drinking the same liquid, but at a cold temperature. The presence of aspiration/penetration in both conditions were compared.

**Results:** A total of 22 participants were enrolled; 2 were inconclusive; 10 had no aspiration/penetration. 10 participants were found to have aspiration/penetration during their clinical instrumental swallow study, 2 were assessed using FEES, 7 using VFSS, and 2 had both. Preliminary data reveal that 7 of the 10 infants had

**improvements in their swallow safety in the cold liquid condition compared to the room temperature condition and 3 of the 10 demonstrated no difference.**

**Conclusions:** This study supports the use of cold milk feedings in preterm neonates presenting with dysphagia.

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## Human milk exposure and otologic, hearing, speech, and language outcomes in children with and without cleft palate

Hannah E. Piston BS<sup>1</sup>, Matthew D. Ford MS, CCC-SLP<sup>2</sup>, Allison B.J. Tobey MD<sup>3</sup>, Katherine E. White MA, CCC-SLP<sup>2</sup>, Alexander J. Davit MD<sup>4</sup>, Jesse A. Goldstein MD<sup>4</sup>, Joseph E. Losee MD<sup>4</sup>, Noel Jabbour MD, MS<sup>3</sup>, Amber D. Shaffer PhD<sup>3</sup>

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**Hannah E. Piston**

### Abstract

#### Background:

The impact of human milk on otologic and developmental outcomes in children with cleft palate (CP) is not well established. This study aimed to determine if the benefits of human milk for middle ear, hearing, speech, and language outcomes differed in children with and without CP.

#### Methods:

Caregivers completed a survey on human milk use, linked to clinical outcomes via chart review in a tertiary otolaryngology clinic. Analyses included Fisher's exact, Wilcoxon rank-sum, and logistic and Poisson regression.

#### Results:

Among 204 children followed until age 6 (50.5% with cleft palate), median age at survey was 1.42 years [0.08–3.93] for children with CP and 1.53 years [0.02–3.97] for those without. CP was associated with increased odds of chronic otitis media with effusion (OR=35,  $p<0.001$ ) and more tympanostomy tube placements (IRR=1.68,  $p=0.019$ ). In both groups, longer human milk duration was linked to lower rates of any effusion ( $p<0.001$ ), bilateral effusion ( $p=0.002$ ), and mucoid, serous, and purulent effusions (all  $p<0.001$ ). It was also associated with fewer tympanostomy tubes ( $p=0.001$ ), fewer abnormal tympanograms ( $p<0.001$ ), and reduced likelihood of ever receiving tubes ( $p<0.001$ ). In children with CP, longer human milk duration was associated with later age at first tube placement ( $p=0.036$ ). There were no

significant associations between human milk duration and speech or language outcomes at 18–24 months or 5–6 years.

**Conclusion:**

Longer human milk provision is associated with improved middle ear outcomes in both children with or without CP. These findings support promoting human milk in early cleft care.

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## Impact of multi-drug resistant organisms: Complication and clinical outcomes associated with pediatric bacterial rhinosinusitis

Dr. Stefan Vidovich MD<sup>1</sup>, Oliwia Mlodawska BS<sup>1</sup>, Dr. Jake Luo MS, PhD<sup>2</sup>, Dr. Jazzmyne Adams MPH, DrPH<sup>1</sup>, Dr. Sophie Shay MD<sup>1</sup>

<sup>1</sup>Medical College of Wisconsin, Milwaukee, WI, USA. <sup>2</sup>University of Wisconsin-Milwaukee, Milwaukee, WI, USA

### Abstract

**Introduction:** Acute bacterial rhinosinusitis (ABRS) is a ubiquitous problem amongst children. These infections can progress to orbital and intracranial complications which may involve multi-drug resistance organisms (MDROs). This study seeks to characterize the management of ABRS and assess the impact of MDROs in complicated cases.

**Methods:** Retrospective observational cohort study of children (aged 0-18 years) diagnosed with ABRS from January 1, 2015 to December 31, 2024. Demographic, clinical, and surgical data was extracted. Culture results and antimicrobial selection was reviewed. Descriptive statistics and univariate statistics were calculated.

**Results:** Of the 1632 documented episodes of ABRS, the average age at diagnosis was 6.63 years old with 51.6% of patients being male and 48.4% of patients being female. Severity of ABRS complication was correlated with male gender ( $\chi^2$  31.652,  $P < 0.001$ ) as well as with MDRO bacteria ( $\chi^2$  43.425,  $P < 0.001$ ). Further data analysis is being performed.

**Conclusion:** Preliminary data analysis demonstrated an overall equal prevalence of ABRS among our pediatric population, though a correlation can be seen between more severe presentations and the male gender. In addition to this, there was a correlation between MDROs and ABRS severity of presentation. Further data analysis is being performed.

**Keywords:** Acute bacterial rhinosinusitis; Multi-drug resistant organisms; Chandler classification

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## Use of Novel Volumetric Analysis Techniques in the Management of Pediatric Subperiosteal Abscess

Dr. Carlos Khalil M.D.<sup>1,2</sup>, Dr. Jennifer Siu M.D.<sup>1,2</sup>, Mr. Namra Desai BSc.<sup>3</sup>, Dr. Jenny Xiao M.D.<sup>1</sup>, Dr. Pradeep Krishnan M.D.<sup>3,2</sup>, Dr. Nikolaus Wolter M.D.<sup>1,2</sup>

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<sup>2</sup>Hospital for Sick Children, Toronto, ON, Canada. <sup>3</sup>University of Toronto, Toronto, ON, Canada

### Abstract

#### Background:

Subperiosteal abscess (SPA) is a potentially serious complication of acute rhinosinusitis in children, with management strategies ranging from antibiotic therapy to surgical intervention. Clinical decision-making is often influenced by abscess size; however current volume assessments are often over simplified, assuming regular shapes and a universal size threshold. The relationship between SPA volume and overall orbital volume may help account for developmental changes but remains under-explored. With modern imaging software enabling precise volumetric analysis of complex structures, this study aims to evaluate whether the SPA-to-orbit volume ratio correlates with the need for surgical intervention.

#### Methods:

A retrospective review was conducted of children diagnosed with SPA (2000-2024.) SPA and normal orbital volumes were calculated using CT or MRI analyzed with advanced imaging software. SPA-to-orbit ratios were compared between patients who underwent surgery versus those treated medically.

#### Results:

Thirty-eight children, aged 15 months to 16 years with a mean age of 8.23 years were included. The mean orbital volume was 22.08 cm<sup>3</sup>, and mean SPA volume was 3.04 cm<sup>3</sup>, resulting in a mean SPA-to-orbit ratio of 0.14. Patients requiring FESS, had a significantly higher mean ratio 0.28, compared to 0.12 in non-surgical cases.

#### Conclusion:

An elevated SPA-to-orbit volume ratio may predict the need for surgery in pediatric SPA, accounting for the growing orbital volume in children. A threshold of 0.28 may represent a potential cutoff for early surgical intervention; however, further prospective studies are needed to validate this finding.

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## Sialendoscopy in the treatment of Juvenile Recurrent Parotitis

Mohini Bindal MD<sup>1</sup>, Nicole Wire BS<sup>1</sup>, Elton Lambert MD<sup>1,2</sup>

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### Abstract

#### Background

Juvenile recurrent parotitis (JRP) is a common salivary gland disorder of childhood that significantly impacts quality of life. However, the etiology of JRP is unknown, and there is limited research to support available treatment options. This study aimed to determine the effectiveness of sialendoscopy in reducing JRP symptoms and to discover factors that influence the recurrence rate.

#### Methods

68 children treated for JRP with sialendoscopy between January 2012 and September 2022 were retrospectively reviewed. The number of parotitis episodes before and after sialendoscopy was compared. Factors such as age, gender, ethnicity, race, baseline number of parotitis episodes per year, findings on sialendoscopy, and successful introduction of the endoscope were analyzed for correlation with recurrence rate and need for repeat sialendoscopy.

#### Results

Children in the study ranged in age from 2.2 to 17.3 years and underwent sialendoscopy for at least one duct for treatment of JRP. The mean number of parotitis episodes per year before sialendoscopy was 3.6 versus 1.6 after initial sialendoscopy. This study found a significant decrease in the number of parotitis episodes after sialendoscopy ( $W = 298$ ,  $p < 0.05$ ). However, there was no significant correlation between the recorded demographic and intervention-related measures and JRP recurrence.

#### Conclusions

Overall, sialendoscopy was effective in reducing the number of parotitis episodes in children with JRP. However, there is no association between sialendoscopy and the recorded demographic and intervention-related measures. Further research is needed to better understand the factors that contribute to the severity and recurrence of JRP, thereby optimizing future treatments.

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## Contemporary Management of Acute Mastoiditis in Children: Insights from a U.S. National Database

Laylaa Ramos Arriaza MD<sup>1</sup>, Osama Hamdi MD<sup>1</sup>, Taylor Jamil MD<sup>1</sup>, Matthew Hill MD<sup>1</sup>, Nicole Wershoven MD<sup>1</sup>, Sarah Gitomer MD<sup>2</sup>, Brian Herrmann MD<sup>2</sup>, Owen Darr MD<sup>2</sup>  
<sup>1</sup>University of Colorado, Aurora, CO, USA. <sup>2</sup>Children's Hospital of Colorado, Aurora, CO, USA

### Abstract

#### Background:

Acute mastoiditis (AM) is a serious complication of acute otitis media. While historically managed with mastoidectomy, recent trends support conservative treatment, including intravenous (IV) antibiotics and pressure equalization tube (PET) placement. International studies show high success with this approach, but U.S. data are limited.

#### Methods:

7,219 pediatric patients diagnosed and admitted with AM identified via Current Procedural Terminology (CPT®) coding and International Classification of Diseases (ICD-10) between January 2010 and October 2021 were reviewed using PearlDiver, a private analytics database. Patient demographics, treatments, intervention timing, complication rates, and predictors of surgery were assessed using multivariate logistic regression.

#### Results:

The mean patient age was 6.46 years, with 57.5% male. Surgical intervention occurred in 36.8%, including 1,784 PETs, 347 subperiosteal abscess drainages, and 530 mastoidectomies. Median time to surgery was 1 day. Complications (e.g., intracranial abscess, meningitis) occurred in 13.7%. Older age was linked to lower odds of surgery ( $p < 0.001$ ), while under-immunization and complications of AM increased surgical likelihood (both  $p < 0.001$ ). Intracranial complications were the strongest predictor of mastoidectomy ( $p < 0.0001$ ). Higher family income correlated with fewer complications and lower mastoidectomy rates.

#### Conclusion:

In this national pediatric cohort, conservative treatment of AM predominated, with fewer than 40% of patients undergoing surgery. Complications of AM most strongly predicted surgical need for mastoidectomy. These findings support the growing trend toward conservative AM management in children, consistent with international outcomes.

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## Is It Just Stuck? Assessing the Relationship Between Food Impaction and Eosinophilic Esophagitis

Monica Lewis BA<sup>1</sup>, Jazzmyne Adams MPH<sup>1</sup>, David Friedland MD PhD<sup>2</sup>, Sophie Shay MD<sup>1</sup>

<sup>1</sup>Medical College of Wisconsin, Milwaukee, WI, USA. <sup>2</sup>University of Southern California, Los Angeles, CA, USA

### Abstract

#### Background:

Eosinophilic esophagitis (EoE) is a Th2-mediated, antigen-driven condition characterized by inflammation due to eosinophilia, leading to esophageal dysfunction. Food impaction may represent an early sign of esophageal dysfunction. In addition, EoE is commonly associated with other eosinophil-related disorders. This study investigates whether pre-existing atopic conditions, or current respiratory symptoms, can predict a diagnosis of eosinophilic esophagitis (EoE) in patients presenting with food impaction.

#### Methods:

A retrospective cohort study evaluating children (age < 18 years) diagnosed with a food impaction at a tertiary care pediatric hospital. Presence of co-morbid atopic conditions were reviewed, and respiratory symptoms at the time of food impaction were noted. Descriptive and univariate analyses were conducted.

#### Results:

A total of 200 pediatric patients presenting with food impaction were reviewed. Patients who were only seen in an outpatient setting, were diagnosed with EoE before their first impaction, or who had esophageal anomalies were excluded. Overall, 126 patients were included (70% male, mean age = 11.10 +/- 4.64). EoE was diagnosed in 72 patients (57.1%). Pre-existing asthma, allergic rhinitis, and eczema were predictive of EoE ( $c^2 = 7.878$ ,  $p = 0.005$ ;  $c^2 = 12.282$ ,  $p = 0.005$ ;  $c^2 = 3.956$ ,  $p = 0.047$ , respectively). Respiratory symptoms at the time of presentation were also predictive of EoE ( $c^2 = 9.333$ ,  $p = 0.002$ ).

Conclusions:

Managing physicians should have a high index of suspicion for EoE as the underlying cause of food impaction for patients with an atopic history or with active respiratory symptoms. These patients should be referred for further evaluation.

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## Immune Pathways in Chronic Otitis Media: A Novel Mice Model

Dr. Taylor Jamil MD MPH, Dr. Sarah Clark PhD

University of Colorado - Otolaryngology Head and Neck Surgery, Aurora, Colorado, USA



**Dr. Taylor Jamil**



**Dr. Sarah Clark**

### Abstract

**Background:** Chronic otitis media (COM) is a persistent middle ear (ME) infection, leading to hearing loss in children, frequent surgeries, and high antibiotic use. Viruses have also been shown to mediate COM, but their role is poorly defined. We aim to use a COM mouse model to understand the immunological mechanisms in the ME that allow COM persistence and understand the effects of coinfection on immune-mediated bacterial defense.

**Methods:** Mice were infected with 7F *Streptococcus pneumoniae* (7F) and Influenza virus (IAV) x31 at timepoints: 1-day, 7-day, 14-day, and 30-day. Pre-infection and post-infection ME, blood, and nasopharyngeal (NP) samples were tested for bacterial colony counts and in ME and blood, flow cytometry was performed.

**Results:** We observed bacterial persistence in mice infected with both 7F and IAV, regardless of reinfection, while all mice cleared the infection with 7F alone. Neutrophils dominate acute infection with macrophages increasing chronically. Compared to mice infected with 7F only, in mice infected with 7F and IAV, there are 2 groups of CD8 T cells, two groups of neutrophils, and three groups of macrophages present in the ME. Compared to blood, there are low levels of reactive oxygen species (ROS) produced by neutrophils at all time points.

**Conclusion:** COM significantly differs from prior pathways found via coinfections in the lungs or in acute otitis media. Clinically, viruses may have a large role in COM persistence. There may be more regulator or immunosuppressive cells alternative clearance strategies to balance bacterial clearance with inflammation leading to vestibulocochlear damage.

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## Functional Airway and Feeding Outcomes Following Mandibular Distraction Osteogenesis in Pediatric Pierre Robin Sequence Patients

Sofia Finestone BA<sup>1</sup>, Hengameh Behzadpour MS<sup>1</sup>, Liara Ortiz-Ocasio BS<sup>2</sup>, Brandon Boyarsky BS<sup>1</sup>, Caroline Cox BS<sup>1</sup>, Md Sohel Rana MPH, MBBS<sup>3</sup>, James Leonard MD<sup>1</sup>, Albert Oh MD<sup>2</sup>, Brian Reilly MD<sup>1</sup>

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<sup>2</sup>Division of Plastic and Reconstructive Surgery, Washington, DC, USA. <sup>3</sup>Joseph E. Roberts Jr., Center for Surgical Care, Children's National Hospital, Washington, DC, USA



**Sofia Finestone**



**Liara Ortiz-Ocasio**



**Brandon Boyarsky**



**Caroline Cox**



**James Leonard**



**Albert Oh**



**Brian Reilly**

### Abstract

**Background:** Pierre Robin Sequence (PRS) presents with micrognathia, glossoptosis, and airway obstruction, causing feeding and respiratory challenges. Mandibular distraction osteogenesis (MDO) is a key intervention, yet the relationship between direct laryngoscopy

(DL) anatomic improvement and functional outcomes remains underexplored. This study evaluates MDO's impact on airway patency, feeding, and respiratory support.

**Methods:** A retrospective review was conducted on 31 pediatric PRS patients who underwent MDO between 2021–2024 at a tertiary hospital. Inclusion required pre- and postoperative DL and polysomnography (PSG). Feeding modality, oxygen needs, and distraction length data were collected. Wilcoxon signed-rank and Pearson correlation analyses were performed.

**Results:** The median age at MDO was 3.5 months, with an average of 26.3 months follow-up. Pulmonary (67.7%), CNS (64.5%), and cardiac (38.7%) comorbidities were common; 45.2% were syndromic. Postoperative PSG at an average of 2.18 months demonstrated significant improvements: median apnea-hypopnea index (AHI) decreased from 33.1% to 5.8% ( $p < 0.001$ ), and oxygen saturation nadir improved from 82.5% to 89.5% ( $p = 0.02$ ). Combined oral and enteral feeding increased from 35.5% to 64.5%; enteral feeds alone reduced from 25.8% to 19.4% ( $p = 0.025$ ). Grade 4 laryngoscopic findings decreased from 40.7% to 3.8%, while Grade 1 findings rose from 7.4% to 53.8%. Greater distraction length moderately correlated with improved DL grade ( $r = -0.43$ ), though outliers influenced results. DISE scores could not be meaningfully analyzed due to sample size ( $N=8$ ).

**Conclusion:** MDO improves airway and feeding outcomes in PRS; however, DL's predictive value for functional benefit remains limited, supporting multimodal evaluation.

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## Cleft Palate Repair and Eustachian Tube Outcomes: A Comparison of Furlow Palatoplasty and Intravelar Veloplasty

Tiffany Husman BS<sup>1</sup>, Patrick Barba MD<sup>2</sup>, Dylan Chan MD, PhD<sup>2</sup>, Jordan Virbalas MD<sup>2</sup>

<sup>1</sup>School of Medicine - University of California, San Francisco, San Francisco, CA, USA.

<sup>2</sup>Department of Otolaryngology Head and Neck Surgery - University of California, San Francisco, San Francisco, CA, USA



**Tiffany Husman**

### Abstract

#### Background:

Eustachian tube dysfunction (ETD) occurs in children with cleft palate due to abnormal insertion of the levator veli palatini muscles. Furlow palatoplasty (FP) reorients the levators into a natural sling position and lengthens the palate, while intravelar veloplasty (IVVP) reapproximates the muscles without reorientation. This study compares the effect of FP vs. IVVP on the timing of ETD resolution in pediatric patients undergoing cleft palate repair.

#### Methods:

Retrospective cohort study at a single tertiary care institution, including pediatric patients who underwent cleft palate repair from 2012 to 2024. Demographics, repair type, age at initial repair, Veau classification, and earliest documented age of normal middle ear function were collected. Normal middle ear function was defined as type A tympanometry or a documented normal middle ear exam.

#### Results:

A total of 178 patients were analyzed, with a median age at surgery of 10 months (IQR 9–11) and a median age at earliest documented normal middle ear function of 40 months (IQR 27–67). Those who underwent FP achieved normal middle ear function at a significantly earlier age (34.5 months [IQR 23.8–49.3]) than those who underwent IVVP (48 months [IQR 32–77],  $p < 0.001$ ). On multivariate analysis, surgical technique remained a

significant predictor, with IVVP associated with a later age of middle ear normalization compared to FP ( $\beta = 11.5$  months,  $p = 0.018$ ).

**Conclusions:** FP is associated with earlier middle ear normalization, suggesting its potential benefit in improving ETD.

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## Evaluating Airway Abnormalities in Patients with Trisomy 18 Using a National Database

Peter Luong MD<sup>1</sup>, Jonathan Brewer BS<sup>2</sup>, Meghan Grojean MD<sup>1</sup>, Matthew Simpson MPH<sup>2</sup>, Adrienne Childers MD<sup>1</sup>

<sup>1</sup>Department of Otolaryngology - Head and Neck Surgery, Saint Louis University School of Medicine, Saint Louis, MO, USA. <sup>2</sup>Saint Louis University School of Medicine, Saint Louis, MO, USA

### Abstract

#### Background

Trisomy 18 (T18) patients have a variety of airway abnormalities of which the incidence is largely unknown given the syndrome's relative rarity and historically poor survival rates. By using a national database, a larger population was used to identify frequency of clinically relevant inpatient upper airway abnormalities and related procedures.

#### Methods

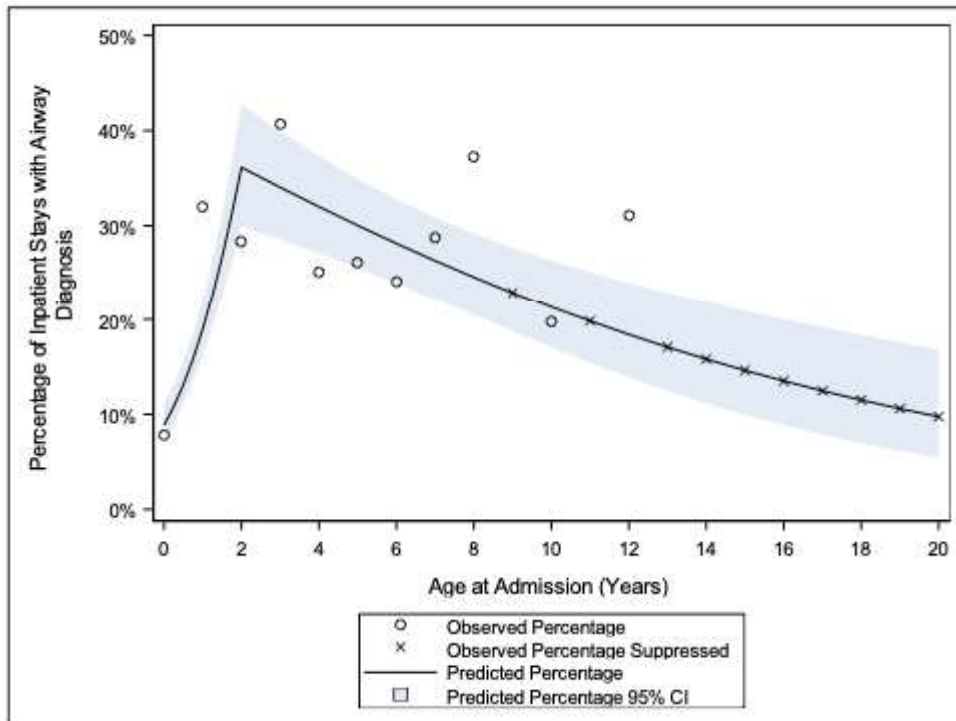
A retrospective review was performed using the Kids' Inpatient Database which contains information on pediatric hospital discharges. Data files from the years 2016 and 2019 were used to identify T18 patients using ICD-10 codes. Primary outcomes included frequency of various upper airway-related diagnoses and procedures. Secondary outcomes included age at diagnosis and procedure were evaluated to estimate an age where symptomatic phenotypes are most frequently identified. Related demographic and clinical covariates were evaluated for the patient sample.

#### Results

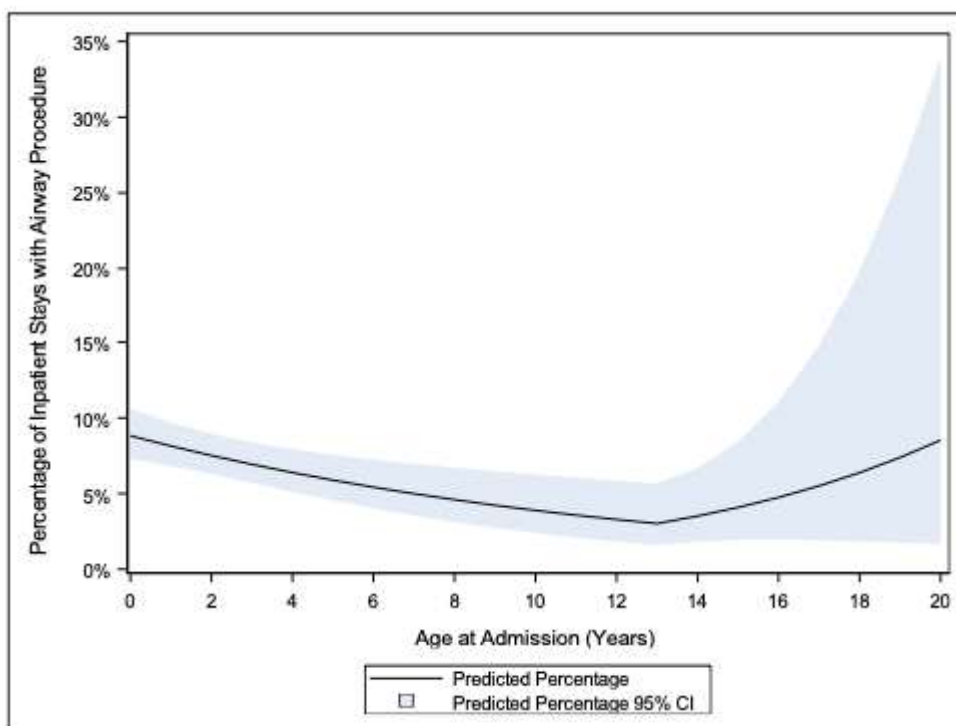
3678 discharge cases with T18 were identified. 15.9% of admissions for T18 patients had an associated airway diagnosis of interest; 7.1% of admissions had a procedure of interest performed. The most common diagnosis was "tracheostomy status" (9.1%) followed by "congenital malformations of the larynx" (3.1%). The most common procedures were grouped as "airway evaluation procedures" (5.5), followed by "tracheostomy" (1.9%). The most common age for an airway-related diagnosis was during age 2. The most common age for airway-related procedures is within the first year of life; subsequently frequency decreases until age 10 where it increases steadily until age 20.

## Conclusions

T18 patients often require inpatient management of upper airway abnormalities. Symptomatic phenotypes are most often identified at age 2.







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## Challenges in CHARGE Syndrome Airway Management

Victor De Oliveira.<sup>1</sup>, Daniela Carvalho MD<sup>1,2</sup>, Ethan Frank MD<sup>1,2</sup>, Matthew Brigger MD, MPH<sup>1,2</sup>, Tzyynong Friesen MD<sup>1,2</sup>

<sup>1</sup>Rady Children's Hospital, San Diego, CA, USA. <sup>2</sup>University of California San Diego, San Diego, CA, USA

### Abstract

**Background:** CHARGE syndrome is associated with multi-level airway anomalies such as choanal atresia, tracheoesophageal fistula, cleft lip and palate, and micrognathia. These anomalies contribute to intubation difficulty, and individuals with CHARGE syndrome frequently undergo many anesthetics for various surgical repairs. This study helps define the challenges in CHARGE airway management and identify adjunct support to ensure success.

**Methods:** This is a retrospective review of pediatric CHARGE patients treated at a single tertiary children's hospital from 2014-2024. Airway management during surgical encounters from anesthesiologists and otolaryngologists were characterized.

**Results:** 51 patients were included, and among them 41.2% were labeled as difficult airway at least once during their hospital care. Adjunct intubation supports including video laryngoscope, fiberoptic scope, telescope, intubating laryngeal mask airway, or tracheostomy were utilized in 59.6% of patients at least once during anesthetic events. Among the adjuncts, video laryngoscope was needed in 36.2%, rigid telescope in 12.8%, flexible bronchoscope in 8.5%, and flexible intubation through a laryngeal mask airway in 2.1%. Tracheostomy was present in 17 (33.3%) patients, and 3 (17.6%) progressed to decannulation. Notably, the difficulty in laryngeal exposure based on Cormack-Lehane grading worsened in 15/47 (31.9%) individuals for whom long-term airway follow-up was available.

**Conclusion:** This is the first study to report that intubation adjuncts are needed in the majority of CHARGE patients undergoing endotracheal intubation, and the difficulty in airway management progressed in a significant subset. As such, trained pediatric anesthesiologist or otolaryngologist should be present for all surgical procedures.

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## Prenatal Imaging Predictors of Ex Utero Intrapartum Treatment (EXIT)-to-airway: A Systematic Review

Michael Howard BSN<sup>1,2</sup>, Aman Tahir BSE<sup>1</sup>, Siam Rezwan BA<sup>1</sup>, Christine Mavilian MS<sup>1</sup>, Soroush Shahamatdar BS<sup>1</sup>, Dr Sohit Kanotra MD<sup>1</sup>

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**Michael Howard**



**Aman Tahir**



**Siam Rezwan**



**Christine Mavilian**



**Soroush Shahamatdar**



**Dr Sohit Kanotra**

### Abstract

#### Background:

In rare cases, neonates can be found prenatally to have pathology that would cause respiratory compromise at delivery. For these patients, Ex utero intrapartum treatment (EXIT)-to-airway is a life-saving intervention. Although numerous case reports and smaller case series studies exist, there are currently no validated tools to guide clinical decision-making. Currently, decisions are based purely on the physicians' interpretation of literature and personal experience. This systematic review aims to synthesize the available literature on prenatal radiographic and sonographic imaging associated with EXIT-to-airway procedures.

## **Methods:**

Following PRISMA guidelines, PubMed, Embase, Web of Science, and Cochrane databases were searched for primary studies reporting prenatal imaging findings and outcomes of fetuses considered for EXIT due to neck masses or micrognathia. Eligible studies reported prenatal imaging, airway management, and patient outcomes. Articles were screened, data were extracted, and risk of bias assessments were conducted independently by two reviewers.

## **Results:**

Of 1,750 articles screened, 45 studies met preliminary inclusion criteria, accounting for 253 neonates with prenatal imaging concerning airway compromise. EXIT was performed in 162 (64%) cases, with three (1.9%) unsuccessful EXIT procedures. Standard features associated with EXIT included a jaw index below the 5th percentile, significant tracheoesophageal displacement, polyhydramnios, absent gastric bubble, and neck masses located anteriorly. A meta-analysis is pending complete data extraction.

## **Conclusion:**

Preliminary findings suggest consistency in imaging features associated with an increased need for EXIT; still, standardized criteria are needed. This highlights the opportunity to develop a validated imaging-based tool to aid in clinical decision-making for these patients.

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## Predictive trends in admissions after triple endoscopy at a pediatric aerodigestive program

Mrs. Morgan Wharton MHA<sup>1</sup>, Dr. Taylor Jamil MD MPH<sup>2</sup>, Ms. Iyana Malik BSN<sup>1</sup>, Dr. Rebecca Paquin DMD MD<sup>3</sup>, Dr. Marta Kulich MD<sup>3</sup>, Dr. Christian Francom MD<sup>3</sup>, Dr. Jeremy Prager MD MBA<sup>3</sup>

<sup>1</sup>University of Colorado School of Medicine, Fort Collins, Colorado, USA. <sup>2</sup>University of Colorado- Department of Otolaryngology Head and Neck Surgery, Aurora, Colorado, USA.

<sup>3</sup>Children's Hospital Colorado Department of Pediatric Otolaryngology, Aurora, Colorado, USA



**Mrs. Morgan Wharton**



**Dr. Taylor Jamil**



**Ms. Iyana Malik**



**Dr. Rebecca Paquin**



**Dr. Marta Kulich**



**Dr. Christian Francom**



**Dr. Jeremy Prager**

### Abstract

**Background:** Triple endoscopy is a multidisciplinary assessment of the airway and upper gastrointestinal tract. Most of these procedures are outpatient. Our aim was to examine the unanticipated admission rate after triple endoscopy, evaluating risk factors such as indication and medical history to better assess the risk of admission.

**Methods:** A retrospective chart review was performed for pediatric patients who underwent triple endoscopy between January 2020 and March 2025 at Children's Hospital Colorado. Basic demographics were collected as well as indication for triple endoscopy, medical history, clinical findings, and admission status. Non-parametric data was analyzed using the Fisher's exact test and Kruskal-Wallis test.

**Results:** Triple endoscopy was performed on 878 unique patients (175.6 cases/year). Of these, 128 (14.6%) patients were planned admissions, while 47 (5.4%) patients were inpatient at the time of procedure. Unanticipated admissions occurred in 43 patients (4.9%). Overall, patients commonly had GERD (39.7%) and asthma (26.5%). Further, 301 (34.3%) patients had active viral illnesses, with a higher incidence in the inpatient population (48.9%). Patients with unanticipated admissions were more likely to be virus positive ( $p=0.001$ , 58.1%), younger ( $p=0.021$ , 1-year IQR 0.5, 2 vs 1-year IQR 1,4), of higher ASA class ( $p=0.027$ ), and born prematurely ( $p=0.015$ ).

**Conclusions:** Risk factors for unplanned admission after triple endoscopy were younger age, higher ASA scores, history of prematurity, and current viral illness. These findings may inform preoperative planning and perioperative monitoring as well as improve counseling. Further analyses will explore predictive factors of outcomes.

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## Validating the Pediatric Eustachian Tube Dysfunction Questionnaire (pETDQ-7)

Dr. Raihanah Alsayegh MD, Seokhwan Tommy Kim MSc, Raisa Chowdhury MSc, Ninell Sygal MSc, Frederic Lamonde MSc, Dr. Joshua Gurberg MDCM, FRCSC  
McGill University, Montreal, Quebec, Canada

### Abstract

**Background:** Eustachian Tube Dysfunction (ETD) affects up to 20% of children and carries a significant impact on their development and quality of life. The Eustachian Tube Dysfunction Questionnaire-7 (ETDQ-7) was created to assess the impact of ETD on the quality of life of adults; however, it has not been validated in children. Our study aims to validate a modified version of the ETDQ-7 in the pediatric population (pETDQ-7).

**Methods:** 38 guardians of patients 4 years and older, who have ETD and 38 controls, presenting to a tertiary care pediatric Otolaryngology clinic, completed the pETDQ-7 questionnaire. Otoscopy, tympanometry, as well as reported symptoms of aural fullness were used to distinguish the two groups. The pETDQ-7 questionnaire was then repeated by the responders 6 weeks later.

**Results:** A total of 76 participants were included, with 38 in each arm. The mean age in the ETD group was 8.78 SD( $\pm 4.02$ ) and 9.00 SD( $\pm 3.56$ ) in the control group. A statistically significant difference between the scores of the pETDQ-7 was noted in the ETD group compared to the control ( $p < 0.0001$ ), and the optimal cutoff point score for patients with ETD was a score of 10 points and above ( $p < 0.0001$ ). Reliability testing demonstrated internal consistency for the entire questionnaire (Cronbach  $\alpha = 0.8622$ ).

**Conclusions:** The pETDQ-7 appears to be a reliable and valid symptom assessment tool for pediatric patients with ETD that effectively quantifies the quality of life impact of this disease and could help monitor treatment outcomes in this population in the future.

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## Early Screening Intervention for Rural Kentucky Youth: Implementation Evaluation of the Appalachian STAR Trial

Stefani Deschner B.S.<sup>1</sup>, Monica McGrath B.A.<sup>1</sup>, Jacqueline Leon B.S.<sup>1</sup>, Marissa Schuh-Gebert MPH<sup>1</sup>, Melissa Reedy-Johnson M.A.<sup>1</sup>, Dr. Hannah Lane Ph.D., MPH<sup>2</sup>, Jasmine Stewart M.S.<sup>3</sup>, Ana Miller Au.D., CCC-A<sup>3</sup>, Christina Reaves MPH<sup>3</sup>, Dr. Shayu Deshpande Ph.D.<sup>3</sup>, Dr. Samantha Kleindienst-Robler Au.D., Ph.D.<sup>3</sup>, Dr. Susan Emmett M.D., MPH<sup>3</sup>, Dr. Matthew Bush M.D., Ph.D., MBA, FACS<sup>1</sup>

<sup>1</sup>University of Kentucky College of Medicine, Lexington, Kentucky, USA. <sup>2</sup>Duke University School of Medicine, Durham, North Carolina, USA. <sup>3</sup>University of Arkansas for Medical Sciences, Little Rock, Arkansas, USA

### Abstract

Childhood hearing loss is prevalent among rural, medically underserved youth and can significantly impair development. Early detection and follow-up care is critical, as up to 60% of childhood hearing loss is preventable, but this is challenging in rural areas. The Appalachian Specialty Telemedicine Access for Referrals (AppSTAR) trial is a hybrid type 1 effectiveness-implementation trial that aims to implement a school-based, telehealth preventative care model for hearing healthcare. Fourteen counties received new, enhanced hearing screening equipment and training to screen kindergarten students. One of the aims of the trial is to assess the implementation of the STAR protocol each year using the Consolidated Framework of Implementation Research (CFIR). This analysis included qualitative interviews with 56 trained staff who completed the enhanced hearing screening in the prior school year to get feedback on challenges with the screening process and assess support needs for subsequent years. Screeners identified challenges with understanding the equipment, balancing the extra screenings with their normal workload, and Wi-fi connectivity, all of which contributed to non-adherence to the protocol. To resolve these needs, screeners noted the need for more hands-on refresher training and in-person support from the STAR staff during the next year of this trial. Nevertheless, participants felt that the enhanced equipment and protocol allowed personnel to screen more children, receive more objective hearing results, and identify more hearing impairments. As the trial moves into telemedicine implementation, the schools feel that this model will be beneficial to families who have limited access to specialty care.

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## Factors Related to Failure to Perform Hearing Screening in Preschoolers

Lourdes Kaufman BA, Ahmed Shurbaji BS, Jihyun Stephans BS, Dylan Chan MD, PhD  
University of California, San Francisco, San Francisco, CA, USA



**Lourdes Kaufman**

### Abstract

#### Background:

Preschool hearing screening represents a promising method of postnatal hearing loss detection. However, preschoolers are challenging to screen due to difficulties with compliance and conditioning. Both Pure Tone Audiometry (PTA) and Otoacoustic Emissions (OAE) can screen for hearing loss. Identifying the modality with higher compliance can inform screening recommendations.

#### Methods:

This study is a secondary analysis of an ongoing clinical trial comparing single-stage OAE versus two-stage PTA plus OAE testing for preschool hearing screening (Clinicaltrials.gov: NCT06058767). Variables measured included gender, home language, age, and parent-reported concerns about language, speech, and hearing. PTA and OAE were attempted on participants and whether screening was successfully completed was recorded. Logistic regressions were used to analyze factors influencing test completion.

#### Results:

A total of 5536 children ages 2-6 participated. Completion rates were significantly higher for OAE (96.4%) compared to PTA (68.3%) ( $p < 0.001$ ). Children with speech concerns were less likely to complete PTA compared to OAE ( $OR = 0.63$ ,  $p = 0.036$ ). Moreover, children under 3 years old had a much lower likelihood of completing PTA versus OAE ( $OR = 0.027$ ,  $p < 0.001$ ). Language concerns, hearing concerns, and male sex did not confer an increased risk of failure to complete PTA versus OAE. Home language was not associated with failure to complete either test.

#### Conclusions:

OAE demonstrates much higher compliance than PTA testing among preschoolers, especially in children <3 years old and with parent-reported speech concerns. Due to higher compliance in this population, OAE may represent the preferable option for a large scale, single modality preschool hearing screening program.

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## Stakeholder-informed development of a hearing-related outcomes instrument for deaf and hard-of-hearing (DHH) preschoolers.

Lourdes Kaufman BA<sup>1</sup>, Maura Berndsen MA, CED, LSLS Cert. AVT<sup>2</sup>, Meg Farquhar MSW<sup>3</sup>, Shari Garrett MS, CCC-SLP, CHTP<sup>4</sup>, Joy Kearns CCC-SLP, MS<sup>5</sup>, Ann Lazar PhD, MS<sup>6</sup>, Arielle Spellun MD<sup>7</sup>, Kathleen Tebb PhD<sup>8</sup>, Dylan Chan MD, PhD<sup>1</sup>

<sup>1</sup>University of California, San Francisco, San Francisco, CA, USA. <sup>2</sup>Listen and Talk, Kirkland, WA, USA. <sup>3</sup>Weingarten Children's Center, Redwood City, CA, USA. <sup>4</sup>Rady Children's Hospital-San Diego, San Diego, CA, USA. <sup>5</sup>Department of Audiology, UCSF Benioff Children's Hospital, Oakland, CA, USA. <sup>6</sup>Department of Epidemiology and Biostatistics, University of California San Francisco, San Francisco, CA, USA. <sup>7</sup>Division of Developmental and Behavioral Pediatrics, Boston Medical Center, BU Chobanian & Avedisian School of Medicine, Boston, MA, USA. <sup>8</sup>Department of Pediatrics, Division of Adolescent and Young Adult Medicine, UCSF Benioff Children's Hospital, San Francisco, CA, USA



**Lourdes Kaufman**

### Abstract

#### Background:

It is well known that early identification and intervention of hearing loss in babies—ideally before 6 months—can prevent developmental delays. However, hearing-specific developmental, behavioral, and quality-of-life outcomes have not been comprehensively evaluated, partly due to the lack of targeted assessments.

#### Methods:

A diverse group of stakeholders representing English and Spanish-speaking parents of DHH children and an interdisciplinary group of clinicians was convened as part of a randomized-control trial studying the effectiveness of teletherapy to address income-based language outcomes in 210 DHH children aged 0-27 months on enrollment. Stakeholders were asked what outcomes they were interested in evaluating among this cohort, now 3-5 years old. Stakeholder feedback was refined and iteratively modified by the study team to generate an assessment battery.

#### Results:

10 providers (representing Audiology, Speech-language Pathology, Otolaryngology, Education, Social Work, Psychology, and Health Policy) and 6 parents (English and Spanish-speaking) participated in the stakeholder meetings. We identified 4 categories of relevant outcomes: (1) Community and individual supports, (2) Hearing-related feelings in older toddlers and preschoolers, (3) Development and behavior, and (4) Social needs. Validated measures reviewed included SEEK, ABAS-3, BASC-3, and POSI. A parent-proxy questionnaire was developed to address each domain while being feasible for vulnerable families to complete within 30 minutes.

Conclusions:

With diverse parent and provider stakeholder input, we developed an assessment to measure hearing-related psychosocial and developmental outcomes in the DHH/parent dyad. This instrument will be a valuable research tool to assess relevant hearing outcomes of multidisciplinary interventions in DHH children.

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## Predicting Normal Auditory Brainstem Response (ABR) Outcomes Using Specific Predictive Factors

Maria Leno AuD<sup>1</sup>, Sima Sharghi PhD<sup>1</sup>, Director, Division of Otolaryngology; Dr. Alfred J. Magoline Endowed Chair in Otolaryngology; Pediatric Otolaryngologist, Ear Nose and Throat Center Julie Wei MD, MMM, FAAP<sup>2,1,3</sup>

<sup>1</sup>Akron Children's Hospital, Akron, OH, USA. <sup>2</sup>Cincinnati Children's Hospital Medical Center, Cincinnati, OH, USA. <sup>3</sup>Northeast Ohio Medical University, Rootstown, OH, USA



**Maria Leno**

### Abstract

**Background:** This study aims to predict normal ABR results using key parameters and statistical methods to optimize scheduling, reduce OR time, and improve patient access.

**Methods:** The study will utilize the following predictive factors to determine the likelihood of a normal ABR result:

- Hearing concerns from parent/caregiver
- Speech/language development concerns from parent/caregiver
- Universal Newborn Hearing Screening (UNHS) results
- Gestational age
- Other developmental concerns/diagnoses
- NICU duration
- Presence of necrotizing enterocolitis (NEC)
- Administration of ototoxic IV antibiotics
- Gender
- Age at time of evaluation

- Encounter payor financial class
- Treatment for hyperbilirubinemia
- Family history of children with hearing loss
- Prior evaluation by ENT or audiology
- Behavioral testing results
- Diagnosis of SNHL

**Statistical Methodologies:** Given the binary nature of the response variable, we will employ several statistical methodologies to develop our predictive model:

Logistic Regression: Baseline model to understand the relationship between the predictors and the likelihood of a normal ABR.

Decision Tree: Identify most significant predictors and hierarchical importance.

Random Forest: Improve prediction accuracy and control for overfitting.

Generalized Additive Models (GAMs): If nonlinearity is detected in the relationships between predictors and the response, GAMs will be used to model these complex relationships more flexibly.

**Results:** The anticipated outcome is that by using predictive factors and methods, we can identify likely normal ABR cases, reducing OR time from 60 to 24 minutes.

**Conclusion:** Implementing this predictive model will improve patient access, reduce unnecessary OR time, and enhance efficiency and care, and the model will be trained periodically to maintain accuracy.

## Speaker Bio

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## Categories

2. Audio

## Healthy People Initiative 1990-2030: Otolaryngology Highlights

MILLICENT COLLINS MD<sup>1</sup>, Earl Harley MD<sup>2</sup>

<sup>1</sup>Howard University, Washington, DC, USA. <sup>2</sup>Georgetown University, Washington, DC, USA



**MILLICENT COLLINS**



**Earl Harley**

### Abstract

**Background:** Every 10 years since 1980, the department of Health and Human Services sets national goals for disease prevention and health promotion with the objective of elimination of disparities and advancing health equity. Identification of otolaryngology-specific targets enables collaboration in achievement of better health of the nation.

**Methods:** Review of goals and achievements for Healthy People Initiatives for each 10 year interval during the past five decades from 1990-2030 with emphasis on otolaryngology-specific issues.

**Results:** Otolaryngology issues addressed during 5 decades included (1) Hearing and Ear Health, (2) Speech and Language Disorders, (3) Tobacco and Respiratory Health, (4) Head and neck cancers, (5) Injury prevention, and (6) Immunization. Success of goals for each decade were reviewed. Successes included improvement in early identification of congenital hearing loss, improvement in immunization against Hemophilus influenza, some improvement in public recognition of association of alcohol and tobacco with head and neck cancer.

Challenges remain in Head and neck cancer, immunization with human papilloma virus vaccine, detection of hearing loss in children and adults, access to speech and language rehabilitation, and occupational injury to hearing.

**Conclusions:** The goals of Healthy People 2030 are addressing major challenges with some improvement being noted in the first five years of the current decade.

## **Speaker Bio**

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## **Categories**

5. ENT

## Practicing to Full Scope: A Quality Improvement Project Utilizing Registered Nurses for Postoperative Ear Tube Patient Education

Laurie Newton DNP, RN, CPNP-AC, PC<sup>1</sup>, Cecille Sulman MD<sup>1</sup>, Taylor Smith RN, BSN<sup>2</sup>, Brit Gniedziejko Aud.D., CCC-A<sup>2</sup>

<sup>1</sup>Medical College of Wisconsin, Milwaukee, WI, USA. <sup>2</sup>Children's Wisconsin, Milwaukee, WI, USA

### Abstract

#### Background:

Patient access is a challenge in our academic ENT practice with long lag times for all appointments. Our team noted that postoperative ear tube patients were often scheduled up to 3 months after their surgery due to no available appointments. Additionally, registered nurses (RNs) noted a desire for more face-to-face patient interaction. As the postoperative ear tube visit is primarily educational, the goal of our quality improvement project was to schedule patients with the RN for education and audiology for their postoperative visit, allowing the RNs to practice to full scope and enhance engagement through increased direct patient care.

**Methods:** A multidisciplinary team was established with representation from ENT physician lead, advanced practice providers, RNs, audiology, department administration, with a designated quality improvement team resource. The team established parameters for appropriate patients, workflow, clinic template, and provided education to the RNs to ensure confidence and competence for performing these visits.

**Results:** A survey (in progress) will assess RNs perception of these visits as it relates to their engagement, joy in work, and confidence to perform the visits. Additionally, we will look at time to postoperative visit from pre-and-post intervention.

**Conclusions:** The RN postoperative visits have been a positive addition our busy ENT clinic, promoting RN engagement, joy in work, and allowing them to practice to full scope, as well as improving patient access. A culture of trust between all health care team members is imperative for the success of the program.

### Categories

6. Nursing

## The Increasing Incidence and Features of Grill Brush Wire Bristle Injuries in the United States: 2015-2023

Mateo Coppola BS<sup>1</sup>, Amber Shaffer PhD<sup>2</sup>, David Chi MD<sup>2</sup>

<sup>1</sup>University of Pittsburgh School of Medicine, Pittsburgh, PA, USA. <sup>2</sup>Division of Pediatric Otolaryngology, UPMC Children's Hospital of Pittsburgh, Pittsburgh, PA, USA

### Abstract

#### Background

Brushes with metal bristles are a common tool used to clean grills of food remnants during the cooking process. When scrubbing the grill, these metal brush bristles can detach from the brush. As they are difficult to see, they sometimes adhere to the cooked food and cause aerodigestive tract injury when consumed. The epidemiology of these injuries has not been reported since 2016.

#### Methods

The National Electronic Injury Surveillance System (NEISS) and The Consumer Product Safety Commission's database of consumer-reported harm (saferproducts.gov) were searched from 1/1/2015-12/31/2023 using relevant codes and terms to identify relevant injury cases. The estimated incidence of these cases within the United States was calculated.

#### Results

From January 1st, 2015, until December 31st, 2023, there was a total of 85 raw cases in the NEISS database contributing to an estimated 3739 cases 95% CI [2440.43, 5038.09] in the United States over that period. In the saferproducts.gov database, there was a total of 9 raw cases between 2015-2023. As established in medical literature and reverified, there was 40 raw cases and an estimated 1632 cases [95% CI [871.2448, 2393.692] from 2006-2014. This is a 229% increase in the incidence from 2015-2023. The estimated difference in cases between 2006-2014 and 2015-2023 is 2107, 95% CI [602, 3612] When comparing raw annual cases, there was a significant increase between the time periods ( $p=0.0021$ ).

#### Conclusion

Despite previous reports of grill wire brush injuries, the incidence has increased calling for increased awareness and intervention.

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## Categories

5. ENT

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yes

## The Impact of Social Determinants on Pediatric Surgery Completion Rates: A Social Vulnerability Index Study

Isa Butz MD Candidate, Dr. Robert Chun MD, Dr Matthew Maksimoski MD, Dr. Steven Butz MD  
Medical College of Wisconsin, Wauwatosa, Wisconsin, USA



**Isa Butz**

### Abstract

**Background:** The social determinants of health play a vital role in identifying who has easier access to healthcare. Thus, developing an understanding of the distribution where the social determinants are lacking is crucial to further support vulnerable populations. Milwaukee, as one of the most segregated cities in the United States, has deeply entwined location with poorer social determinants. The Social Vulnerability Index (SVI) allows direct comparison of locations to one another through the comparison of 4 factors: socioeconomic status, household characteristics, racial and ethnic minority status, and housing type and transportation. The higher the value, the more vulnerable the population within that area.

**Methods:** Using the SVI data organized by zip code, we examined Same-Day Cancellations (SDCs) and Completed procedures at a pediatric outpatient surgery center in Milwaukee since 2019 via retrospective chart review.

**Results:** Our findings demonstrated that a lower SVI (62.0%) was associated with successful completion of outpatient surgery, while a higher SVI (43.4%) was associated with an increased frequency of same day cancellations ( $p < 0.01$ ). Furthermore, cancellation reasons specific to accessing health care were more likely to be ascribed to high risk individuals and families. This includes NPO violations (69.3%), missed preoperative appointments (99.1%), and general no-shows (77.9%).

**Conclusions:** It is likely that the more vulnerable populations will have increased rates of SDC compared to completed cases. Thus, providing additional support in these areas can improve the case completion rate and overall health outcomes.

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yes

## **Epidemiological Profile, Indications, and Comorbidities Among Pediatric Patients Undergoing Adenotonsillectomy in a Saudi Tertiary Center**

Dr. Latifah AlMakoshi Assistant Professor at King Saud University Pediatric Otolaryngology Consultant<sup>1</sup>, Dr. Abdullah AlDughaiter MBBS<sup>2</sup>, Dr. Ibrahim AlAbdulkarim MBBS<sup>2</sup>

<sup>1</sup>Department of Otolaryngology-Head and Neck Surgery, King Saud University Medical City, Riyadh, Riyadh, Saudi Arabia. <sup>2</sup>College of Medicine, King Saud University, Riyadh, Riyadh, Saudi Arabia

### **Abstract**

#### **Background:**

Adenotonsillectomy is one of the most common pediatric surgeries, often performed for obstructive sleep apnea (OSA) or recurrent infections. However, the interplay between surgical indications and patient comorbidities remains underexplored.

#### **Methods:**

We conducted a retrospective review of 1197 pediatric patients who underwent adenotonsillectomy at King Abdulaziz University Hospital between 2015 and 2024. Patients were stratified based on their primary surgical indication—OSA or infection—and compared across demographic factors, clinical comorbidities, and anatomical features. Variables analyzed included age at surgery, snoring, daytime somnolence, tonsil and adenoid size, and season of operation. Associations were evaluated using appropriate statistical tests.

#### **Results:**

Of the 1197 patients, 51.2% (n=613) underwent surgery for obstructive sleep apnea (OSA), and 48.8% (n=584) underwent surgery for recurrent infections. There was no statistically significant difference in age between groups ( $p = 0.52$ ). Among all comorbidities assessed, only OSA showed a significant association with the surgical indication ( $p < 0.001$ ). Other conditions, including asthma, allergic rhinitis, diabetes, and speech delay, showed no significant relationship. No significant differences were found in anatomical or symptomatic features, such as tonsil size, adenoid size, snoring, or daytime somnolence, and the seasonality of surgery between the two groups.

#### **Conclusion:**

In this large Saudi pediatric cohort, OSA as a comorbid diagnosis was the only factor significantly associated with the primary indication for adenotonsillectomy. Other clinical, anatomical, and seasonal variables did not distinguish between OSA and infection groups.

These findings suggest that diagnostic labeling, rather than objective clinical differences, may play a key role in surgical decision-making.

## **Categories**

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## Training Global Leaders in Surgical Equity: An Evaluation of the CHESA Fellowship

Hudson Lin BA<sup>1</sup>, Jacob Serrano BA<sup>2</sup>, Dr. Rachel Schwartz PhD<sup>1</sup>, Patti Orozco BA, MPA<sup>1</sup>, Dr. Doruk Ozgediz MD, MSc<sup>1</sup>, Dr. Michael Lipnick MD<sup>1</sup>, Aleena Jacob BS, MPH<sup>1</sup>, Dr. Cathy Kilyewala MBChB, MMed<sup>3</sup>, Dr. Sriranjani Padmanabhan MD<sup>1</sup>, Dr. Lia Jacobson MD, MS<sup>1</sup>

<sup>1</sup>University of California, San Francisco, San Francisco, CA, USA. <sup>2</sup>University of California, Berkeley, Berkeley, CA, USA. <sup>3</sup>Makerere University, Kampala, Central, Uganda



**Hudson Lin**

### Abstract

#### Background

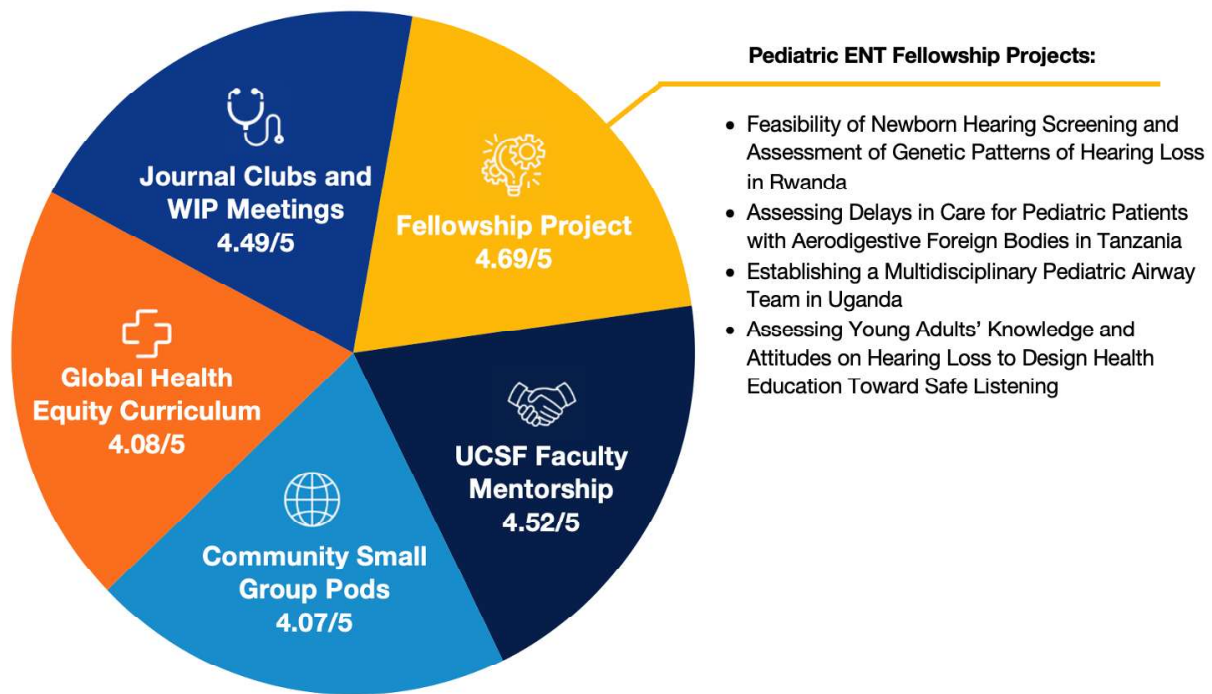
Five billion people lack access to safe surgical care, especially in low- and middle-income countries (LMICs), where otolaryngologic conditions represent a significant yet under-prioritized need. In response, the CHESA Fellowship was launched to train emerging leaders in advancing perioperative health equity. This study aims to evaluate the fellowship's impact, specifically highlighting contributions from pediatric ENT fellows.

#### Methods

We used a mixed-methods approach comprising quantitative survey data and qualitative insights from focus groups. Surveys assessed scientific productivity and satisfaction with curriculum elements. Semi-structured interviews were conducted with five focus groups of fellows and faculty mentors. Transcripts were open-coded and analyzed to assess emerging themes.

#### Results

Of 80 CHESA fellows and alumni, 71% are from LMICs, and 49% are women. Eight are ENT surgeons who have published 28 manuscripts during or after their fellowship. The graphic below shows major fellowship elements and participants' satisfaction on a five-point scale (n=37).



From focus group analysis, fellows cited academic resources and career mentorship as essential for driving scholarly projects and developing competency in health equity work. Many praised the peer support from community pods, which led to collaborations beyond the fellowship. For future goals, they expressed a commitment to advancing local surgical training, advocating for surgical equity, and stepping beyond the operating room to effect systems-level change.

## Conclusion

The CHESA Fellowship represents an innovative model for supporting LMIC otolaryngologists to become leaders in perioperative health equity. Since completing the fellowship, alumni have translated training into meaningful work that contributes to global surgical equity.

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yes

## Early surgical intervention reduces the risk of neuropsychiatric and learning disorders in children with sleep-disordered breathing

Daniel Campbell MD<sup>1,2</sup>, William Palmer MD<sup>1,2</sup>, Leonard Estephan MD<sup>1,2</sup>, Hani Samarah BS<sup>1</sup>, Elliott Sina BA<sup>1</sup>, Nicole Aaronson MD, MBA<sup>2</sup>, William Parkes MD<sup>2</sup>

<sup>1</sup>Thomas Jefferson University, Philadelphia, PA, USA. <sup>2</sup>Nemour's Children's Health, Wilmington, DE, USA



**Daniel Campbell**

### Abstract

#### Background:

Pediatric sleep-disordered breathing (SDB) is a common condition associated with various adverse health outcomes, including neuropsychiatric and learning disorders. While adenotonsillectomy is considered first-line management, there is limited large-scale data examining the risk of developing these disorders based on management strategy and timing of intervention. This study investigates the impact of management modality and timing on the risk of neuropsychiatric and learning disorders in pediatric SDB patients.

#### Methods:

A retrospective cohort analysis was performed using the TriNetX database. Patients <18 years old diagnosed with SDB were stratified by intervention strategy: untreated, surgically managed, or non-surgically managed. Using 1:1 propensity score matching, the incidence of anxiety, depressive, eating, behavioral, and learning disorders were compared at one-year, five-year, and anytime post-intervention. Among surgically managed patients, the risk of disorder development was compared based on whether surgery occurred within or beyond 3 months, 6 months, and 1 year of diagnosis.

#### Results:

In a cohort of over 480,000 patients, surgical management significantly reduced risk of all assessed disorders versus untreated and non-surgically managed patients across all time points. Non-surgical management did not consistently reduce risk and was associated with

increased rates of anxiety and learning disorders versus untreated patients. Earlier surgical intervention, particularly within six months of diagnosis, was associated with reduced risk of all assessed disorders except depression.

#### Conclusions:

Early surgical intervention is associated with a lower risk of neuropsychiatric and learning disorders in children with SDB. These findings support timely surgery as an important strategy to improve long-term outcomes.

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#### Categories

5. ENT

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yes



## Academic Preparedness and Clinical Training in Pediatric Health Care Settings: Perspectives from Speech-Language Pathologists

Stefanie LaManna MS, CCC-SLP, CNT

American Speech-Language Hearing Association, Rockville, Maryland, USA



**Stefanie LaManna**

### Abstract

**Background:** Speech-language pathologists (SLPs) play a critical role on interprofessional teams in pediatric health care, working across inpatient and outpatient settings to address communication and swallowing disorders. Many of these settings, like neonatal intensive care units, aerodigestive and craniofacial clinics, and other specialized areas, require advanced training beyond standard graduate education due to the complexities of the patient and their disease course and the functioning of the interprofessional team. The purpose of this study was to assess academic preparedness and clinical training of SLPs in pediatric health care settings.

**Methods:** This study utilized a mixed-methods approach, analyzing academic and clinical preparedness data from ASHA's 2023 Pediatric Health Care Survey.

**Results:** Only 26.8% of SLPs had a dedicated pediatric medical course in graduate school, and 85% felt their dysphagia coursework did not adequately prepare them for pediatric populations. Limited clinical experiences further compounded these challenges, with 57.4% of respondents reporting no graduate clinical experience in pediatric medical settings. Barriers to placement included institutional limitations, geographic constraints, and prioritization of adult-focused training. While 56.6% of respondents received employer-provided mentorship, others sought informal mentorship opportunities to bridge competency gaps. Only 11.3% of Clinical Fellows reported feeling "very prepared" to work in pediatric healthcare settings, which improved modestly post-clinical fellowship.

**Conclusion:** Expanded pediatric-focused coursework is needed in graduate programs in addition to standardized competencies and structured mentorship programs. Academic institutions, employers, and professional organizations should collaborate to enhance training pathways and ensure SLPs enter the workforce equipped to meet the needs of pediatric patients.

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## **Categories**

1. Speech

## A Geospatial Analysis of the Pediatric Otolaryngology Workforce in the United States

Milan Fehrenbach BS<sup>1</sup>, Asher Park BS<sup>2</sup>, Payton Abney BS<sup>1</sup>, Mackenzie Sweatt BS<sup>1</sup>, Alyssa Smith MD<sup>3</sup>

<sup>1</sup>University of Kentucky School of Medicine, Lexington, Kentucky, USA. <sup>2</sup>Northwestern University, Feinberg School of Medicine, Chicago, Illinois, USA. <sup>3</sup>Department of Otolaryngology–Head and Neck Surgery, Stanford School of Medicine, Palo Alto, California, USA

### Abstract

**Background:** There is a paucity of literature examining the distribution of pediatric otolaryngology surgeons (PDOs) as it relates to socioeconomic factors. This study aims to assess the current geographic distribution PDOs and its association with county- and hospital referral region (HRR)-level socioeconomic factors.

**Methods:** PDOs were identified using the American Academy of Otolaryngology-Head and Neck Surgery directory, American Society of Pediatric Otolaryngology membership directory, and PDO fellowship alumni rosters. PDO density was calculated by region, state, county, and metropolitan statistical area using US Census Data. Multivariable linear regression analysis was performed to evaluate PDO density per 1 million populations and socioeconomic factors across counties and HRRs.

**Results:** Among 811 identified PDOs, the mean length of practice was 17.8 years (STD=11.2) with male surgeons comprising 61.4% of the cohort. Most PDOs were based in academic settings (n=602, 74.2%). The proportion of female PDOs with <10 years of practice (53.1%) was significantly higher than those with >30 years of practice (20.5%,  $p<0.001$ ). National PDO density was estimated at 2.42 per 1 million population. PDO density was significantly greater in counties and HRRs in the highest quartile of non-Caucasian race ( $\beta=1.77$ ,  $p<0.001$ ) and college education attainment ( $\beta=1.43$ ,  $p=0.009$ ). PDO density was decreased in counties with the highest income ( $\beta=-2.01$ ,  $p<0.001$ ) and proportion of individuals under 18 ( $\beta=-1.52$ ,  $p<0.001$ ), respectively.

**Conclusion:** Geospatial analysis revealed disparate PDO distribution across geographic areas based on socioeconomic factors. These findings identify underserved regions and inform future workforce research aimed at improving equitable access to PDO care.

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yes

## Alternative Obesity Metrics and Postoperative Complications in Obese and Severely obese Children- A NSQIP Analysis

Alexander Szymczak BA<sup>1</sup>, Inbal Hazkani MD<sup>1,2</sup>

<sup>1</sup>Northwestern University - The Feinberg School of Medicine, Chicago, IL, USA. <sup>2</sup>Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, IL, USA

### Abstract

#### Background:

Pediatric obesity is a known risk factor for adverse surgical outcomes; however, the optimal metric for defining and stratifying obesity-related risk remains unclear, particularly in children with severe obesity. This study evaluates traditional and alternative obesity metrics as predictors of postoperative cardiopulmonary and wound-related complications.

#### Methods:

NSQIP pediatric (2019–2023) was queried for children aged 2–17 years who underwent elective surgery under general anesthesia. The NSQIP database was linked to the Centers for Disease Control and Prevention (CDC) growth charts to obtain BMI percentiles. Traditional obesity metrics (BMI  $\geq$ 95th and BMI  $\geq$ 99th percentiles) were compared to alternative obesity metrics as suggested by the 2022 CDC Extended BMI-for-age growth charts. Multivariable negative binomial and Poisson regression models were used to estimate associations between obesity metrics and 30-day cardiopulmonary and wound complications, adjusting for demographic, clinical, and procedural variables.

#### Results:

Among 307,714 children, 46,890 (15.2%) were obese and 22,156 (7.2%) severely obese. Cardiopulmonary complications occurred in 1.1% of the cohort, with no increased risk associated with obesity (IRR: 1.05;  $p = 0.324$ ). Pulmonary, cardiac, and neurodevelopmental comorbidities, ASA class, and race were independently associated with increased complication risk. Obesity, but not severe obesity, was associated with wound complications. Traditional BMI percentiles demonstrated better model fit than alternative metrics.

#### Conclusions:

Obesity, as defined by BMI percentiles, was not a consistent predictor of postoperative cardiopulmonary complications. Alternative metrics did not outperform traditional definitions, highlighting the need for improved risk stratification tools in pediatric surgical populations.

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## Clinical Pathways and Outcomes of Head and Neck Lymphatic Malformations: A Decade-Long Review at a Multidisciplinary Vascular Anomalies Clinic

Sohil Singh BS<sup>1</sup>, Robert Chun MD<sup>1</sup>, Valerie Carlberg MD<sup>1</sup>, Jazzmyne Adams MPH DrPH<sup>1</sup>, David Friedland MD PhD<sup>1,2</sup>, Ryan Puccia MD<sup>1</sup>

<sup>1</sup>Medical College of Wisconsin, Milwaukee, WI, USA. <sup>2</sup>University of Southern California, Los Angeles, CA, USA



**Sohil Singh**



**Robert Chun**



**Valerie Carlberg**



**Jazzmyne Adams**



**David Friedland**



**Ryan Puccia**

### Abstract

**Background:** Lymphatic malformations (LMs) of the head and neck are rare vascular anomalies with variable morphology and complex anatomy. This study evaluates the clinical course, treatment patterns, and outcomes of pediatric patients treated at a multidisciplinary vascular anomalies clinic, including emerging therapies such as sirolimus, apfelisib, and glue embolization surgery (GES).

**Methods:** We conducted a retrospective cohort study of 59 pediatric patients with head and neck LMs treated from 2014–2024. Data was extracted from electronic health records

via the CTSI Clinical Research Data Warehouse and verified through structured chart review using a standardized abstraction form and dual-investigator validation.

**Results:** The most common cyst type was microcystic (42.4%). 39% of patients had multiregional disease, and 13.6% had PIK3CA mutations. MRI was the predominant imaging modality (93.2%). Nearly half (45.8%) of patients required two or more treatment modalities. Sclerotherapy (67.8%) and resection (45.8%) were most common, followed by sirolimus (25.4%) and GES (5.1%). Several patients transitioned from sirolimus to alpelisib, with improved outcomes in those with confirmed PIK3CA mutations, supporting the role of genotype-guided therapy. Procedural complications occurred in 10 patients (16.9%), including 11.3% of resections without embolization and 5.9% of sclerotherapy procedures. Notably, GES was not associated with any complications.

**Conclusions:** Multidisciplinary management remains essential in treating head and neck LMs due to high variability in lesion complexity and therapeutic response. GES shows promise as a safer surgical adjunct, warranting further investigation. These findings emphasize the need for continued innovation in LM treatment and earlier referral to specialized care centers.

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## Peripheral Vascular Malformations and Thromboembolic Risk

Alaina Baggett BS, Peter Eckard MD, Hayden Hairston MD, Gresham Richter MD  
University of Arkansas for Medical Sciences, Little Rock, AR, USA

### Abstract

**Background:** Cerebrovascular events in young patients are rare and typically idiopathic. In this case, the patient had two independent risk factors for a thromboembolic event, a mixed lymphatic venous malformation (LVM) and a patent foramen ovale (PFO). LVMs can increase risk for thrombus formation due to areas of low flow. This study aims to compare the thromboembolic risk in patients with and without peripheral vascular malformations.

**Methods:** Retrospective cohort database study using TriNetX and associated case report. Patients under the age of 25 were separated into two cohorts based on the presence of a peripheral vascular malformation. Propensity score matching was conducted for age, gender, race, intracranial vascular anomalies, and coagulation disorders. Odds-ratios with 95% confidence intervals (OR, 95%CI) were calculated for the risk of a thromboembolic event.

**Results:** There were 132,799 patients under age 25 identified with a peripheral vascular anomaly. Patients were 50.2% female, 59.4% White, and had a mean age of 7.62 (SD 7.44) at time of diagnosis. Patients were 18.7 (95%CI 16.0-21.8) times more likely to develop a thromboembolic event if they had a peripheral vascular malformation, with a 2.4% vs 0.13% absolute risk in each cohort.

**Conclusion:** Patients with peripheral congenital vascular anomalies have a clinically significant increased risk for developing a thromboembolic event. This unique case of a cryptogenic stroke from an LVM with PFO highlights the importance of stroke consideration in young patients with peripheral vascular anomalies, including those in the upper extremities due to the high incidence of undiagnosed PFO.

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yes

## Incidence of Complications Following In-Office Laser vs. Scissor Frenotomy in Infants with Ankyloglossia: A Systematic Review and Meta-Analysis

John Anderson BS<sup>1</sup>, Emily Clementi BA<sup>1</sup>, Christina Zhu BS<sup>1</sup>, Shreya Chalasani BS<sup>1</sup>, Lovedeep Singh MS<sup>1</sup>, Nidhi Mereddy BS<sup>1</sup>, Oluebubechukwu Eze BS<sup>2</sup>, Dr Earl Harley MD<sup>3</sup>

<sup>1</sup>Georgetown University School of Medicine, Washington, DC, USA. <sup>2</sup>Howard University College of Medicine, Washington, DC, USA. <sup>3</sup>Medstar University Medical Center, Washington, DC, USA

### Abstract

*Background:* Ankyloglossia, or tongue-tie, is a congenital condition that may interfere with breastfeeding and is commonly treated with in-office frenotomy. Although laser-assisted frenotomy is increasingly used, particularly in dental and outpatient settings, it is more costly and lacks clear evidence of superiority over conventional scissor techniques in terms of safety outcomes.

*Methods:* A systematic review and meta-analysis were conducted according to PRISMA guidelines. Comprehensive searches of MEDLINE, Embase, Web of Science, CINAHL, and CENTRAL were performed from January 2004 through 2024. Eligible studies included infants aged  $\leq 90$  days undergoing in-office frenotomy using either scissor or laser techniques. Included study designs were randomized controlled trials, cohort studies, case-control studies, and case series. Two independent reviewers performed study selection, data extraction, and quality assessment. Outcomes analyzed included incidence of total adverse events, bleeding, and revision.

*Results:* Forty-one studies met inclusion criteria, encompassing 5,268 infants (mean age 26.2 days) who underwent scissor ( $n=4,766$ ) or laser ( $n=502$ ) frenotomy. The incidence of any adverse event was similar between groups (scissors: 2.4%, laser: 2.3%;  $p=0.969$ ). Bleeding was less common with scissors (1.3%) than laser (2.3%;  $p=0.735$ ). Revision rates were lower in the laser group (0.8%) versus scissors (1.3%;  $p=0.450$ ), though none of these differences reached statistical significance.

*Conclusions:* Laser frenotomy, while more costly and resource-intensive, does not demonstrate a statistically significant reduction in complication rates compared to conventional scissor techniques. These findings suggest that routine laser use may not be warranted solely on the basis of safety.

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yes

## **Pediatric Tonsillar Lymphomas Exhibit Distinct Patterns and Superior Outcomes Compared to Adults: Insights from a National Database**

Alexander Bjorling MD, Kevin Murgas BA, Laura Hogan MD, Rekha Reddy DMD, Kristen Calabro MD, Christopher Vanison MD, Jaime Doody MD, Kenneth Gow MD  
Stony Brook University Hospital, Stony Brook, NY, USA

### **Abstract**

#### Background

Tonsillar cancer is rare in the pediatric population and is primarily composed of lymphomas. Currently, there are no evidence-based treatment guidelines specific to this group. This study evaluates prognostic factors, treatment patterns, and outcomes across pediatric, young adult, and older adult age groups.

#### Methods

A retrospective analysis was conducted using the National Cancer Database (NCDB, version 7/2024). Malignant tonsillar cancers were identified using ICD-O-3 topography and histology codes. Lymphoma subtypes with fewer than 20 cases were excluded. Patients were grouped as Pediatric (PED; 0–21 years), Young Adult (YA; 22–50), and Older Adult (OA; 50+). Cohort demographics, tumor characteristics, treatments, and outcomes were assessed using Chi-squared tests, Kaplan-Meier survival analysis, and Cox regression.

#### Results

A total of 7,721 cases were identified: 351 PED (4.5%), 1,606 YA (20.8%), and 5,764 OA (74.6%). B-cell lymphomas predominated across all groups. Diffuse large B-cell lymphoma (DLBCL) was most common overall (57.7%), while Burkitt lymphoma (38.7%) and post-transplant lymphoproliferative disorder (PTLD) were more prevalent in PED. Pediatric patients presented more often with Stage 1 disease and were more likely to undergo surgery, particularly tonsillectomy. All groups primarily received systemic therapy, typically multi-agent chemotherapy. Five-year overall survival (OS) was highest in PED (95.9%), followed by YA (94.3%) and OA (82.3%). Advanced stage and T-cell lymphoma were associated with worse outcomes.

## Conclusions

Pediatric tonsillar cancers exhibit distinct lymphoma subtypes and present at earlier stages than adults, with better survival outcomes. Combined surgical and systemic therapy appeared most effective.

## Speaker Bio

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## Categories

7. Multidisciplinary

## Comparing duration of in-office vs operating room-placed tympanostomy tubes for children

Yu-Tzu (Lucia) Chang BS<sup>1</sup>, Priyanka Sai BS<sup>2</sup>, Dr. Nathan Page MD<sup>3,4,5</sup>

<sup>1</sup>Creighton University School of Medicine, Phoenix, Arizona, USA. <sup>2</sup>Creighton University School of Medicine, Phoenix, AZ, USA. <sup>3</sup>Phoenix Children's Hospital, Phoenix, Arizona, USA.

<sup>4</sup>Mayo Clinic-, Scottsdale, Arizona, USA. <sup>5</sup>University of Arizona College of Medicine-Phoenix, Phoenix, Arizona, USA

### Abstract

**Background:** An interest in avoiding general anesthesia for children has led to the development of single pass devices that facilitate tympanostomy tube placement in the clinic setting. The Hummingbird device (Preceptis Medical) has been used to place tubes in our clinic for the past 3 years. The purpose of this study is to evaluate the duration of tubes placed with this device in our office compared to standard tympanostomy tubes placed in the operating room under general anesthesia.

**Methods:** Retrospective review of 200 patients under 6 years of age who underwent office-based tube placement using the Hummingbird device. Comparison groups consist of 400 patients who underwent standard myringotomy and tube placement in the operating room using Pope or Armstrong tubes during the same time frame. Functional tube duration was assessed by reviewing ENT and audiology notes until tube extrusion was confirmed or the tube remained patent at study conclusion.

**Result:** Tube duration and demographics were analyzed for each group. Preliminary data analysis shows a first tube extrusion time of 553 days for the Armstrong group, 385 days for the Pope group, and 387 days in the Hummingbird group. Additional statistical analysis is ongoing and will be completed prior to presentation of the study.

**Conclusions:** Preliminary data analysis shows that tube duration for Hummingbird tubes is similar to Pope tubes placed in the operating room, and shorter than Armstrong tubes.

These data suggest that the beneficial duration of in-office tubes is similar to operative tube placement, with more detailed information forthcoming.

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## Effectiveness of Endoscopic Interventions for Pediatric Subglottic Stenosis: A Systematic Review and Meta-Analysis

Dr. Lamis Halawani Bachelor

King Fahd Armed Forces Hospital, Jeddah, Saudi Arabia, Jeddah, Makkah, Saudi Arabia



**Dr. Lamis Halawani**

### Abstract

**Background:** Subglottic stenosis (SGS) is a complex clinical condition. This meta-analysis assesses the effectiveness and safety of different endoscopic interventions for managing SGS in pediatric patients.

**Methods:** Following the PRISMA guidelines, we conducted a thorough literature review across

several databases, including PubMed, Scopus, and the Cochrane Library from their inception until August 2024. Studies including endoscopic interventions for SGS in children were included. The primary outcome was the success rate of the endoscopic procedure. Other outcomes included the rate of recurrence, the rate of decannulation, and any complications after the procedure.

**Results:** Forty-three studies with 1088 patients, predominantly diagnosed with grade II and III SGS were analyzed. Endoscopic treatments had a pooled success rate of 79.2%. CO<sub>2</sub> laser and balloon dilatation each showed a success rate of 79.9%. Rigid dilatation and cold knife incision had success rates of 82.4% and 47.2%, respectively. Combining cold knife incision with balloon dilatation increased the success rate to 83.3%, while CO<sub>2</sub> laser combined with rigid dilatation achieved 82.8%.

**Conclusion:** Endoscopic treatments for SGS in children are effective and show high success rates; however, when used alone, these methods tend to have high recurrence rates. Combining CO<sub>2</sub> laser with balloon dilatation and cold knife incision with rigid dilatation improves success rates and significantly decreases the recurrence of SGS in children.

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## Transoral Robotic Lingual Tonsillectomy in Children: Multi-Institutional Results Review

Dr. Daniel Campbell M.D.<sup>1</sup>, Daron Excel B.S.<sup>2</sup>, Dr. William Palmer M.D.<sup>1</sup>, Dr. Heather Nardone M.D.<sup>3</sup>, Dr. Douglas Johnston M.D.<sup>2</sup>

<sup>1</sup>Thomas Jefferson University Hospital, Philadelphia, Pennsylvania, USA. <sup>2</sup>Ann & Robert H. Lurie Children's Hospital of Chicago, Chicago, Illinois, USA. <sup>3</sup>Nemours Children's Hospital, Wilmington, Delaware, USA

### Abstract

*Background:* The purpose of this study is to explore lingual tonsillectomy outcomes for children with obstructive sleep apnea using transoral robotic surgery (TORS) in comparison with endoscopic approaches. This represents the largest study to date for pediatric TORS lingual tonsillectomy.

*Methods:* A multi-institutional retrospective chart review was conducted on 56 patients who underwent TORS LT (32 males, 24 females; mean age 11.7 +/- 4.2 years old; 29 syndromic) between 2015-2024 at two tertiary care pediatric hospitals. Preoperative and postoperative polysomnogram (PSG) data was collected and analyzed, along with clinical and demographic data to analyze predictors of surgical success.

*Results:* Of the patients with pre and postoperative PSG, 35 patients (81.4%) were considered a surgical success. Significant improvements were seen in AHI (mean difference of -14.39 +/- 5.2; p=0.0079), REM AHI (mean difference of -25.89 +/- 8.8; p=0.0057), and O2 nadir (mean difference of 5.73% +/- 1.64%; p=0.0012). There were no significant differences in the proportion of surgical success based on preoperative OSA severity, presence of a syndrome, or presence of obesity. 11 patients experienced complications (19.6%), including postoperative hemorrhage requiring operative intervention (8.9%), and oropharyngeal scarring (3.6%).

*Conclusion:* For pediatric patients with OSA and lingual tonsillar hypertrophy, TORS is an effective and safe method of performing LT, with benefits including excellent three-dimensional visualization and a greater ability to distinguish the tonsil/tongue musculature interface. While this is currently the largest pediatric TORS LT study, further research with

larger sample sizes and additional sleep and quality of life metrics would add to the existing literature.

### **Speaker Bio**

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## InstaTonsil: Social Media Implications on Patient Perspectives of Tonsillectomy

Madeline Polson MS, BS, Grace Wester BS, Mark Landry MD, Roger Bui MD, Torrey Fourrier MD  
LSU Health Shreveport, Shreveport, LA, USA



**Madeline Polson**

### Abstract

#### Background

Instagram, a popular social media platform, allows users to upload pictures and videos for viewing. Information consumed on Instagram may play a role in the likelihood of patients undergoing a tonsillectomy, a surgical procedure commonly indicated for sleep disordered breathing or recurrent tonsillitis. We aim to grade the accuracy and favorability of available information on Instagram reels regarding tonsillectomies.

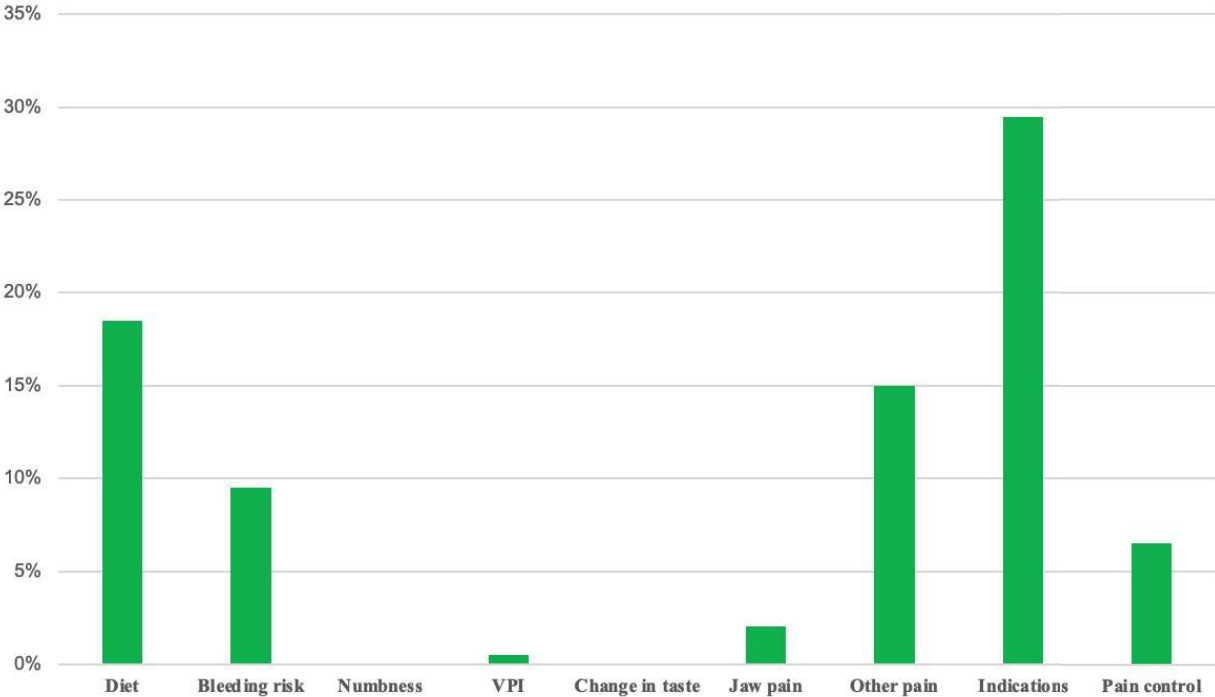
#### Methods

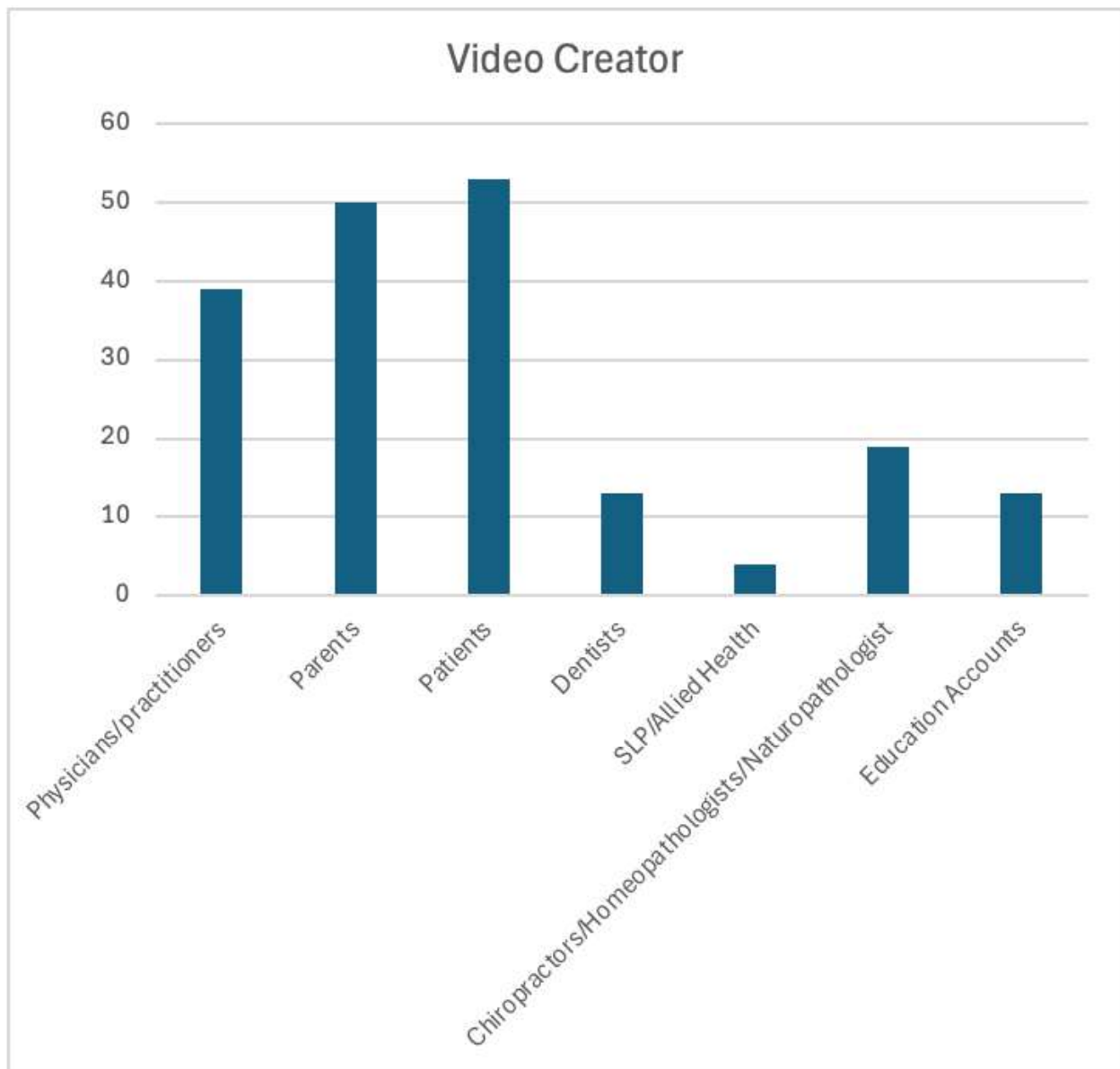
In this cross-sectional study, “#tonsillectomy” was searched in the Instagram search bar, and the first 200 videos were viewed. Two viewers independently assessed these videos within a single time period to avoid refreshing the top 200 search results, with a third viewer managing data in dispute. Data was gathered and analyzed using descriptive statistics in Excel.

#### Results

48.5% of reels were deemed to portray accurate information. 51.5% were posted by parents or patients, with 30.1% accuracy, while 92.1% of physician posts showed accurate information. 37% of videos focused on pediatrics, and 29.5% were aimed towards adults. 19.5% of videos were favorable toward tonsillectomies, 20% unfavorable, and 60.5% neutral. 45.5% were educational reels, 50.5% were based on patient experiences, and 3.5% were entertainment-based. The mean number of likes was  $2703.7 \pm 9412.2$ . The mean number of comments was  $73.04 \pm 216.6$ .

# Topics Discussed





## Conclusions

The data presented indicates users researching tonsillectomies on Instagram may receive inaccurate information when viewing other patients' and parents' videos, possibly influencing their decision to undergo tonsillectomy.

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yes



## Remote Patient Monitoring Use in Postoperative Otolaryngology Care

Terri Giordano DNP, Kavita Dedhia MD, MSHP, Conor Devine MD  
CHOP, Philadelphia, PA, USA

### Abstract

**Background:** Tonsillectomy, adenoidectomy (T&A) and tympanostomy tube insertion (TTI) are the most common pediatric surgical procedures. Post surgical complications of bleeding and dehydration after T&A and TTI complications such as blocked ear tube or chronic drainage can significantly impact the post-operative course. Furthermore, poor post-op tube follow-up and the operational impact of high call volumes can lead to an additional burden on our health care system.

**Methods:** A multi-disciplinary team including, otolaryngologists, nurse practitioners, nurses, healthcare quality and analytics, informatics and digital health collaborated with a third-party vendor to create a remote patient monitoring (RPM) program. Children who underwent T&A, TTI, or a combination of these procedures are included. Families are contacted 7 days prior to the procedure through a text message and contacted at different intervals post-op depending on surgery type. The post-operative chats provide the education and guidance families receive when they call the office.

**Results:** Since inception, 13,959 patients have been enrolled and 11,841 have activated the chat, 399 have opted out. One hundred and twenty-one responses triggered an appropriate escalation to emergency care. No racial or ethnic disparities were identified with RPM enrollment. There has been a decrease in call volume and patient messages since program inception. Both 30-day Emergency Department revisits and Inpatient visits remained similar both before and after the program. The post-op TTI visits did increase from 67-75% pre-program to 81-84% post-program.

**Conclusions:** Given the high volume of T&A and TTI procedures, RPM can effectively provide post-operative guidance.

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## Categories

7. Multidisciplinary

## **Tik-Tok Tonsils: Social Media Implications on Patient Perspectives of Tonsillectomy**

Grace Wester B.S.<sup>1</sup>, Madeline Polson M.S.,B.S.<sup>1</sup>, Roger Bui M.D.<sup>2</sup>, Mark Landry M.D.<sup>2</sup>,  
Torrey Fourrier M.D.<sup>2</sup>

<sup>1</sup>Louisiana State University Health Shreveport School of Medicine, Shreveport, Louisiana, USA. <sup>2</sup>Louisiana State University Health Shreveport, Department of Otolaryngology-Head and Neck Surgery, Shreveport, Louisiana, USA

### **Abstract**

**Background:** TikTok is a major source of health information, especially among younger users—over 60% of Americans under 30 use TikTok, an application designed to share short videos (1). Tonsillectomies are a common surgery in the U.S. As more people turn to social media for medical guidance, content can influence decisions about surgery. Nearly half of parents use social media to research their child's condition. Previous studies have found that most content is created by patients, and almost all videos with a negative tone are patient-created. This study aims to evaluate the content of information on TikTok videos regarding tonsillectomies.

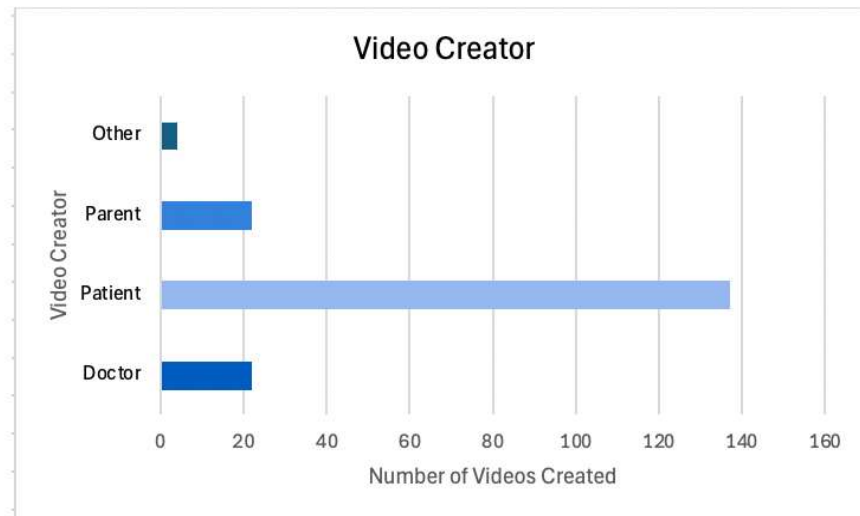
**Methods:** This cross-sectional study evaluated TikTok content related to tonsillectomies. The term “tonsillectomy” was searched on TikTok's search feature. The top 200 videos on March 1, 2025, that met inclusion criteria were included. Each video was independently assessed by two reviewers. A third reviewer was used to settle any disputes. Data was compiled and analyzed using descriptive statistics in Excel.

**Results:** Of the 200 videos, 163 (81.5%) were patient experiences, followed by 31 educational (15.5%), and 5 entertainment (0.05%). Of the patient experience videos, 36.8% had an unfavorable tone, in contrast to 9.6% of educational videos. There was no significant difference between the number of likes the educational and patient experience videos received ( $p=0.64$ ).

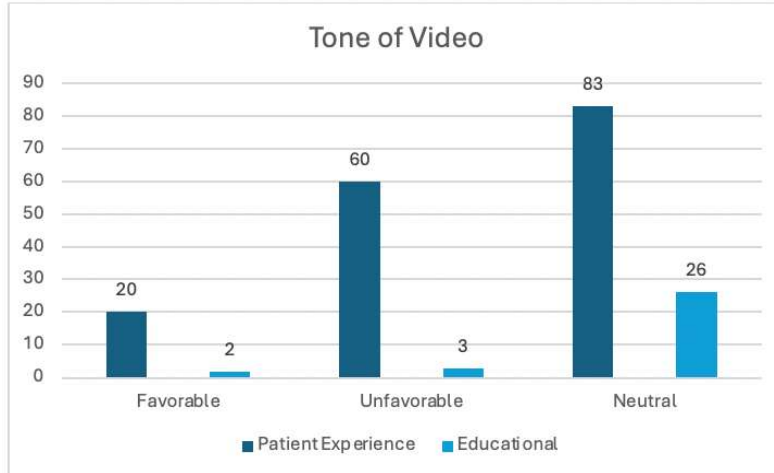
**Conclusions:** These results show that most of the videos on TikTok are patient-created. This study shows a gap in physician-created content which is more likely to provide accurate information and a favorable tone regarding the procedure.

**Table 1.** Accuracy of Information by Content Type

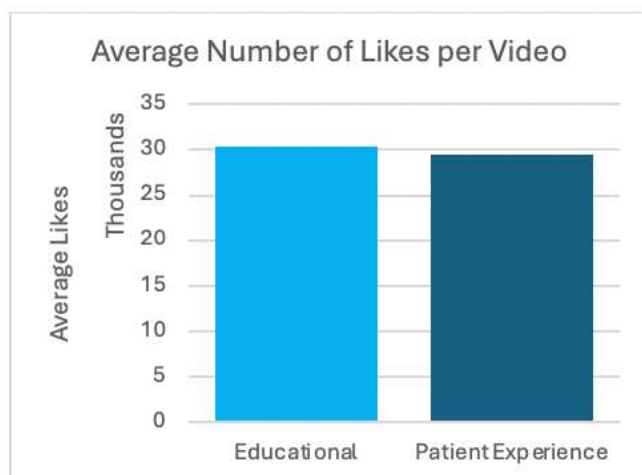
	Accurate Information	Inaccurate Information
Patient Experience	67	3
Educational	28	2



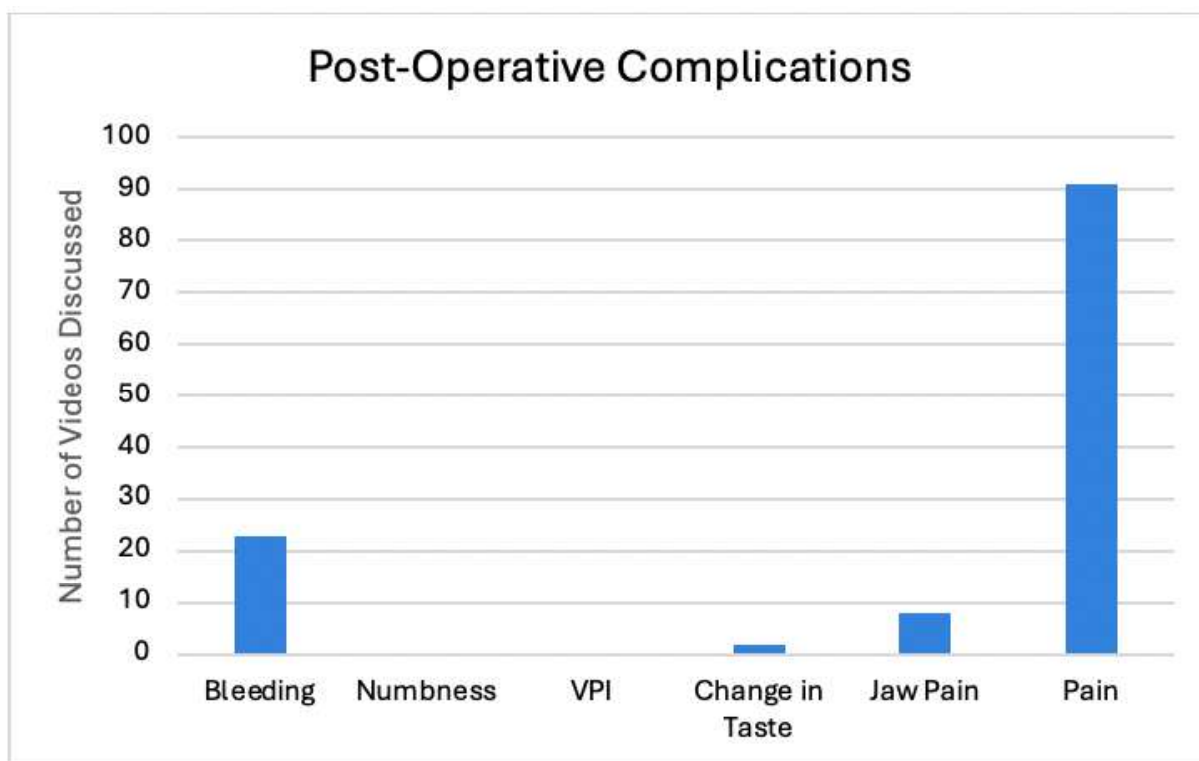
**Figure 1.** Distribution of Video Creators



**Figure 2.** Tone of Video Based on Content of Video



**Figure 3.** Average Number of Likes per Video



**Figure 4.** Number of Times Post-Operative Complications Were Discussed

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yes

## Online Information on Baby-Led Weaning: A Safety and Quality Review

Dr. Ajay Nathan MD<sup>1</sup>, Dr. Katherine Kavanagh MD<sup>2</sup>

<sup>1</sup>University of Connecticut Health, Farmington, CT, USA. <sup>2</sup>Connecticut Children's Medical Center, Hartford, CT, USA

### Abstract

#### Background

Baby-led weaning (BLW), introduced in the early 2000s, encourages infants aged 6 months and older to self-feed whole foods, promoting autonomy and motor development. Its popularity has grown through health blogs, social media, and parenting forums, though the credibility of these sources is unclear. This study assesses the quality, readability, complexity, and safety of top BLW websites.

#### Methods

To reflect sites most likely accessed by parents, “baby led weaning” was searched on Google using a private browser. The top 10 websites focused on parental education were reviewed; sites mainly selling products were excluded. Each website was scored on readability (SMOG, Flesch-Kincaid), credibility (JAMA criteria), complexity (PMOSE/IKIRSCH), and quality (DISCERN index). Safety-related content—covering choking, allergies, first aid, and feeding method appropriateness—was also assessed.

#### Results

Among the 10 websites, sources included 2 medical associations, 3 private companies, 3 expert columns, 1 government agency, and 1 news website. Content averaged a 10th–12th grade reading level (mean SMOG 11.4) and was of low complexity (mean PMOSE 1.8/5). Only HealthyChildren.org and Parents.com scored high for both quality (DISCERN >70) and credibility (JAMA = 4). Just three sites addressed all four safety topics.

#### Conclusions

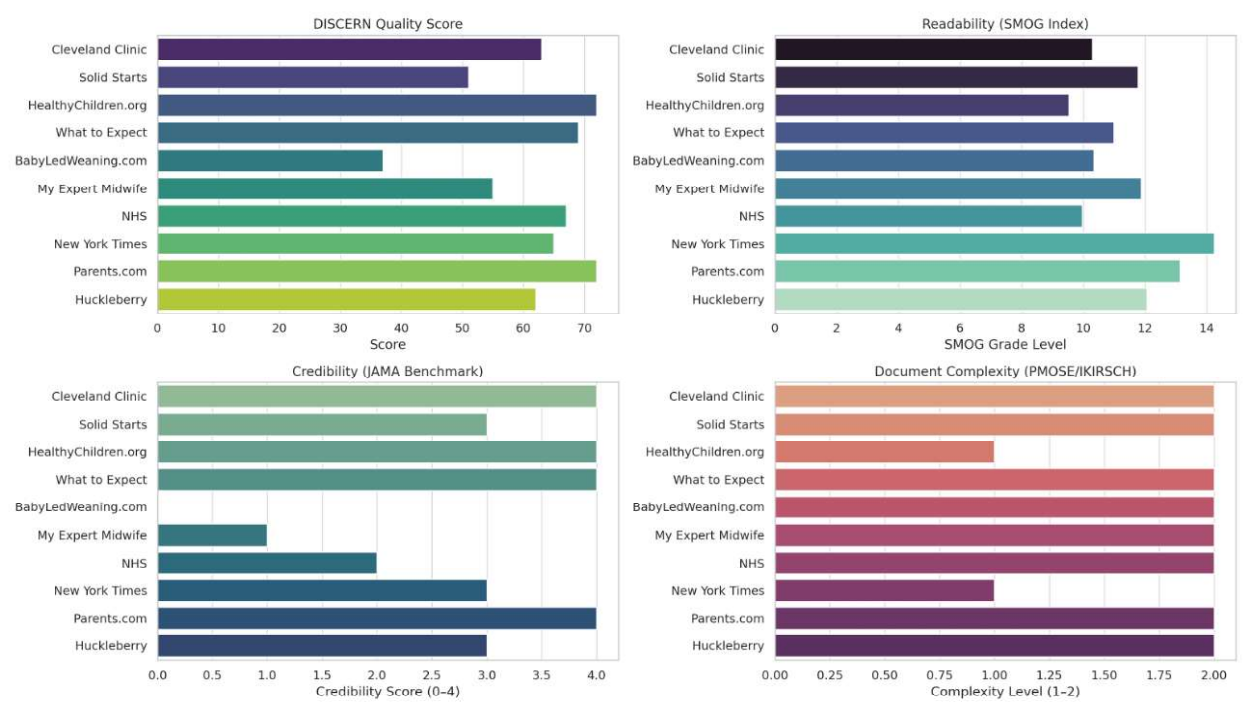
Online BLW resources vary widely in quality and credibility and often lack comprehensive safety information. All are written above the average national reading level. Clinicians should guide families toward trustworthy resources and address gaps in online materials.

#### Table 1

Order of appearance	Website	Source	Source Type	Quality (DISCERN)	Quality (overall DISCERN)	Readability (SMOG)	Reading Level (Flesch-Kincaid)	Credibility (JAMA)	Complexity (PMOSE/IRIRSCH)	Choking or allergies	First aid information	Appropriateness	Modifications or alternatives
1	<a href="https://health.clevelandclinic.org/baby-led-weaning">https://health.clevelandclinic.org/baby-led-weaning</a>	Cleveland Clinic	Medical (academic medical center)	63	4	10.29	8th & 9th grade	4	2	x	x	x	
2	<a href="https://solidstarts.com/baby-led-weaning/2nd1H32Fen-US">https://solidstarts.com/baby-led-weaning/2nd1H32Fen-US</a>	FirstStart	Private Company	51	3	11.78	10th to 12th Grade (High School)	3	2				
3	<a href="https://www.healthychildren.org/English/ages-stages/baby/feeding-nutrition/Pages/baby-led-weaning-is-it-safe.aspx">https://www.healthychildren.org/English/ages-stages/baby/feeding-nutrition/Pages/baby-led-weaning-is-it-safe.aspx</a>	Healthy Children	Medical (medical association)	72	5	9.54	10th to 12th Grade (High School)	4	1	x	x	x	x
4	<a href="https://www.whattoexpect.com/first-year/feeding-baby/baby-led-weaning/">https://www.whattoexpect.com/first-year/feeding-baby/baby-led-weaning/</a>	What to Expect	Expert Advice	69	4	10.99	10th to 12th Grade	4	2	x	x	x	x
5	<a href="https://www.babyledweaning.com">https://www.babyledweaning.com</a>	Baby Led Weaning	Private Company	37	1	10.34	8th and 9th Grade	0	2				
6	<a href="https://myexpertmidwife.com/blogs/my-expert-midwife/baby-led-weaning">https://myexpertmidwife.com/blogs/my-expert-midwife/baby-led-weaning</a>	My Expert Midwife	Expert Advice	55	3	11.87	10th to 12th Grade (High School)	1	2	x		x	
7	<a href="https://www.nhs.uk/start4life/baby/weaning/what-to-feed-your-baby-from-around-6-months/">https://www.nhs.uk/start4life/baby/weaning/what-to-feed-your-baby-from-around-6-months/</a>	National Health Service	Government organization	67	4	9.97	8th and 9th Grade	2	2	x	x	x	x
8	<a href="https://www.nytimes.com/2024/08/19/well/family/baby-led-weaning.html">https://www.nytimes.com/2024/08/19/well/family/baby-led-weaning.html</a>	New York Times	News	65	4	14.24	10th to 12th Grade (High School)	3	1	x		x	
9	<a href="https://www.parents.com/baby/feeding/solid-foods/dos-and-donts-of-baby-led-weaning/">https://www.parents.com/baby/feeding/solid-foods/dos-and-donts-of-baby-led-weaning/</a>	Parents	Expert Advice	72	5	13.14	Undergraduate	4	2	x		x	x
10	<a href="https://huckleberrycare.com/blog/baby-led-weaning">https://huckleberrycare.com/blog/baby-led-weaning</a>	Huckleberry	Private Company	62	4	12.06	10th to 12th Grade (High School)	3	2	x		x	

**Figure 1**

Comparison of Baby-Led Weaning Websites



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no

## Caregiver Use of Low-cost Digital Otoscopes and Smartphones for Pediatric Ear Exams

Leyda S. Marrero Morales BS Eng<sup>1</sup>, Arushi Gulati MD<sup>2</sup>, Stephanie Younan BS<sup>1</sup>, Kimberly Luu MD<sup>3</sup>

<sup>1</sup>School of Medicine, University of California San Francisco, San Francisco, California, USA.

<sup>2</sup>Department of Otolaryngology Head and Neck Surgery, University of California San

Francisco, San Francisco, California, USA. <sup>3</sup>Department of Pediatric Otolaryngology Head and Neck Surgery, University of California San Francisco, San Francisco, California, USA



**Leyda S. Marrero Morales**

### Abstract

**Background:** Accurate diagnosis of pediatric ear disease relies heavily on otoscopic physical examination. Increasing telemedicine use limits the ability to perform an otologic examination. Low-cost, smartphone-guided digital otoscopes offer a promising solution for expanding access to pediatric ear care. This study evaluates the feasibility and diagnostic value of high-quality otoscopic images captured via digital otoscope to inform future pediatric telehealth applications.

**Methods:** A prospective study was conducted in an academic pediatric Otolaryngology clinic. 15 patients presenting for in-person appointments with caregivers were included. Caregivers captured images of their child's ear canals using digital otoscopes with real-time, in-clinic verbal guidance and were surveyed about their experience. A blinded otolaryngologist rated image acceptability.

**Results:** Of the 15 included patients (3 female, 12 male), the mean age was 6 years (range, 4-13 years). 53% of the images obtained were deemed acceptable by a blinded Otolaryngologist. 80% of participants found the low-cost digital otoscope easy to use, and 100% reported willingness to pay for it for telehealth. The mean time for image acquisition by caregivers was 64.1 seconds (95% CI, 43.9-84.2 seconds). Additionally, 60% of participants demonstrated improved cooperation with their caregiver in obtaining images compared to a research assistant using rigid endoscopy.

**Conclusions:** Digital low-cost otoscopes paired with smartphones have been shown to facilitate pediatric ear examinations, yielding acceptable image quality and enhancing patient cooperation. Future studies should investigate specific diagnostic capabilities in remote settings with virtual guidance.

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## Three-Dimensional Assessment of the Nasal Airway in Children with Syndromic Craniosynostosis: A CT-Based Morphometric Analysis

Dr. Ben Levy MD, MSc<sup>1</sup>, Dr. Jennifer Siu MD, MPH<sup>2</sup>, Dr. Evan Propst MD, MSc<sup>2</sup>, Dr. Helen Branson BSc, MBBS<sup>2</sup>, Dr. Nikolaus Wolter MD, MSc<sup>2</sup>

<sup>1</sup>Department of Otolaryngology-Head and Neck Surgery, Toronto, ON, Canada. <sup>2</sup>The Hospital for Sick Children, Toronto, ON, Canada

### Abstract

#### Background:

Craniosynostosis syndromes are associated with nasal obstruction and respiratory distress due to underlying anatomical abnormalities. Despite the frequent need for surgical intervention, nasal architecture in these patients remains poorly characterized. This study aimed to assess nasal dimensions in children with craniosynostosis syndromes using computed tomography (CT) imaging, with specific attention to age-related growth patterns.

#### Methods:

A retrospective review of CT scans was performed for children diagnosed with Apert, Crouzon, Pfeiffer, Saethre-Chotzen, or bicoronal craniosynostosis. Measurements included pyriform aperture (PA) width, septal width, septal deviation, and choanal aperture (CA) width. Patients were age-matched 1:1 with healthy controls. Multivariate linear regression was used to assess the influence of age and diagnosis on nasal dimensions.

#### Results:

Sixty-seven patients (199 CT scans) and 111 age-matched controls were analyzed. Craniosynostosis patients demonstrated significantly narrower PA width (18.7 vs. 19.9 mm,  $p < 0.001$ ), more frequent septal deviation (46% vs. 19%,  $p < 0.001$ ), and smaller CA width (16.5 vs. 20.0 mm,  $p < 0.001$ ). Regression analysis confirmed both age and syndrome status as independent predictors of PA and CA width. Notably, PA width in affected children increased over time and approximated normal values with age, while CA narrowing persisted regardless of age ( $p < 0.001$ ). Subgroup analysis showed consistent trends across all syndromic subtypes.

#### Conclusions:

Children with craniosynostosis syndromes have consistently smaller nasal dimensions compared to healthy controls. PA narrowing improves with age, while CA narrowing persists, contributing to ongoing airway concerns. These findings support early anatomical assessment and may guide surgical decision-making and family counseling.

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## Use of Digital Teaching Materials to Augment Preoperative Ear Tube Teaching

Laurie Newton DNP, RN, CPNP-AC, PC, Isabelle St. John DNP, RN, CPNP-AC, PC  
Medical College of Wisconsin, Milwaukee, WI, USA

### Abstract

**Background:** Our academic institution has implemented a “fast track” ear tube program for children with difficult to treat ear infections where the ear tube consult occurs with a short turn around to the surgery date. Best practices in patient education note that it should include technology, be started early, and provide caregivers unlimited access to teaching materials. Providing all education at once can be overwhelming to families. Digital health care is being used with increased frequency; the aim of our project was to implement digital teaching materials for “fast track” ear tubes and evaluate engagement with and the effectiveness of these teaching materials.

**Methods:** A team was formed with advanced practice providers and digital health team experts. Teaching materials were selected for inclusion in the digital teaching packet, including videos and written materials. A workflow was created to automatically send the digital materials to families after scheduling the consult. A survey was completed by caregivers at their consultation visit assessing which teaching materials were most useful; additionally, engagement with the materials was analyzed through Epic data.

**Results:** (in progress). Survey results will be formally evaluated at the end of summer to assess which materials were most helpful, which materials were viewed most often on the digital platform, and if the materials enhanced caregiver confidence with the material. Results will drive digital care roll out in other areas in outpatient ENT.

**Conclusion:** Digital care is an effective way to augment patient education for outpatient ENT surgical procedures such as ear tubes.

### Categories

6. Nursing

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yes

## How I Use Low Resource 3D Printing to Improve Parent Education: A Step-by-Step Approach

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### Abstract

#### *Background*

3D Printing is becoming increasingly utilized in surgical settings. Its application is useful for understanding the unique challenges presented in pediatric patients such as congenital anomalies and small, compact anatomy. Common roles for 3D printing include preoperative planning, surgical training, and education of patients and families. We present a step-by-step approach to 3D printing that is cost-effective and provide an example of how this method was employed for a Teratoma excision.

#### *Methods*

Freely available software is used to convert the initial DICOM file, which is then anonymized and segmented. The file is then exported and brought into slicing software for printing. A retail Fused Deposition Modeling printer using Polylactic Acid filament completes the process in a few hours.

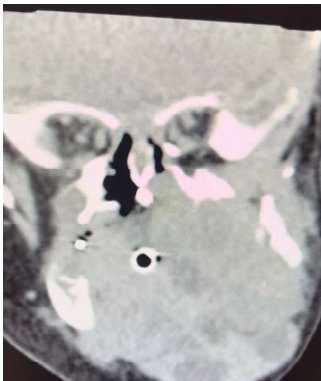
#### *Results*

By applying the above methodology, we have been able to enhance patient and parent understanding of disease. Specifically, this technique was able to facilitate discussion with parents of a neonate with a large Teratoma. The model allowed the family to visualize the internal component of the mass as early vs late intervention options were considered. Additionally, it provided a visual medium to highlight potential complications. From a surgeon's perspective, the model allowed for visualization of a cleft palate and enabled operative planning regarding the relative size of the mass.

#### *Conclusions*

Our cost-effective 3D printing technique improves patient and parent understanding of complex pediatric otolaryngology cases to enhance overall patient care.





## Categories

5. ENT

**SENTAC Student and Early Career Abstract Award: Awards to the top student and early career (7 years postgraduate) abstracts will be given.**

yes

## Mediating Effects of Postoperative Complications in Children with High-Risk Obstructive Apnea Following Adenotonsillectomy

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**Antara Gupta**



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### Abstract

**Background:** Pediatric patients with high-risk obstructive sleep apnea (OSA) undergoing adenotonsillectomy (AT) are at increased risk for postoperative complications. While different risk factors have previously been identified using univariate analysis and logistic regression, the mediating variables that explain how OSA severity leads to postoperative complications have not been studied. By identifying these mediating factors, we aim to provide insights that can guide risk stratification and targeted interventions for this vulnerable patient population.

**Methods:** 307 pediatric patients (<18 years) with high-risk OSA who underwent an AT and polysomnography (PSG) from 2019 and 2021 were included. Causal-mediation analysis was conducted. Primary outcomes were intensive care unit (ICU) intervention, major respiratory intervention, and prolonged hospitalization (>48 hours). 21 different patient characteristics and PSG parameters were analyzed as mediators.

**Results:** The relationship between high-risk OSA and all three postoperative complications is mediated by O2 nadir ( $P < 0.001$  for all), CO2 max ( $P = 0.002$  for major respiratory intervention and prolonged hospital stay;  $P = 0.001$  for ICU), and time spent with oxygen saturation below 90% (Tsto90) ( $P < 0.001$  for all).

**Conclusion:** Prior univariate analysis identified O2 nadir and CO2 max as significantly associated with postoperative complications. In this study, Tsto90 emerged as a novel and consistent mediator, suggesting it may be an important marker for identifying high-risk patients that simple OSA severity scores may miss. While prior univariate analysis showed

significant associations for several variables, causal mediation analysis clarifies which variables acted as true mediators.

Table 1- Outcome: Major Intervention

Mediator	Effect Type	Estimate [95% CI]	p
O <sub>2</sub> Nadir Preop	ACME	0.058 [0.04, 0.09]	<0.001
	Proportion Mediated	-0.618 [-20.43, 20.29]	0.776
CO <sub>2</sub> Peak Preop	ACME	0.032 [0.01, 0.06]	0.002
	Proportion Mediated	0.582 [-8.21, 9.84]	0.750
TSTO <sub>2</sub> < 90%	ACME	0.035 [0.02, 0.06]	<0.001*
	Proportion Mediated	-0.250 [-12.32, 9.64]	0.890
Neuromuscular Disease	ACME	0.007 [-0.003, 0.02]	0.180
	Proportion Mediated	0.072 [-2.12, 2.78]	0.810
uAHI	ACME	0.007 [0.003, 0.02]	0.210
	Proportion Mediated	0.090 [-2.71, 2.64]	0.720

Table 2- Outcome: ICU Admission

Mediator	Effect Type	Estimate [95% CI]	p
O <sub>2</sub> Nadir Preop	ACME	0.033 [0.04, 0.10]	<0.001
	Proportion Mediated	1.128 [-15.03, 11.31]	0.410
CO <sub>2</sub> Peak Preop	ACME	0.039 [0.02, 0.07]	<0.001
	Proportion Mediated	0.582 [-4.45, 5.59]	0.270
TSTO <sub>2</sub> < 90%	ACME	0.035 [0.02, 0.06]	<0.001*
	Proportion Mediated	0.569 [-6.69, 5.50]	0.420
Neuromuscular Disease	ACME	0.007 [-0.002, 0.02]	0.120
	Proportion Mediated	0.094 [-0.68, 1.05]	0.310
uAHI	ACME	0.005 [-0.002, 0.02]	0.210
	Proportion Mediated	0.026 [-0.044, 0.36]	0.430

Table 3- Outcome: Prolonged Hospital Stay

Mediator	Effect Type	Estimate [95% CI]	p
O <sub>2</sub> Nadir Preop	ACME	0.052 [0.028, 0.08]	<0.001
	Proportion Mediated	-0.024 [-0.086, 0.77]	0.990
CO <sub>2</sub> Peak Preop	ACME	0.031 [0.008, 0.06]	0.002
	Proportion Mediated	0.106 [-0.059, 0.53]	0.976
TSTO <sub>2</sub> < 90%	ACME	0.022 [0.009, 0.04]	<0.001*
	Proportion Mediated	0.129 [-0.043, 0.48]	0.970
Neuromuscular Disease	ACME	0.006 [-0.009, 0.02]	0.150
	Proportion Mediated	-8.55e-3 [-0.02, 0.18]	0.900
uAHI	ACME	-0.002 [-0.025, 0.02]	0.870
	Proportion Mediated	2.06e-4 [-0.249, 0.16]	0.994

Speaker Bio

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**Diversity, Equity, Inclusivity, and Health Equity**

no

**SENTAC Student and Early Career Meeting Scholarship: Must be a student that will be presenting in person at the 2025 SENTAC Annual Meeting in San Francisco, CA. Free conference registration will be awarded to ten students.**

yes

## Harnessing AI to reduce provider burnout

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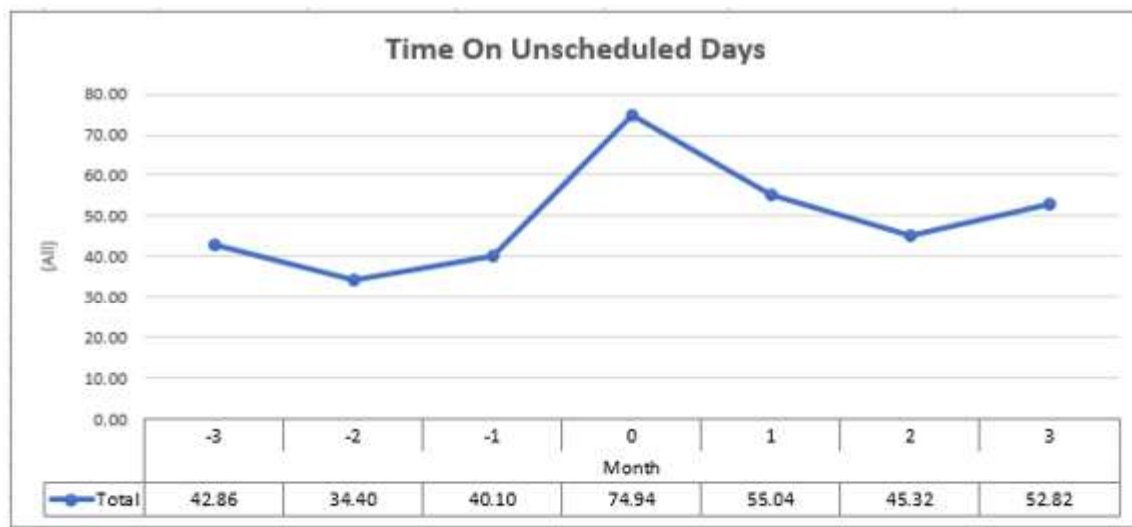
### Abstract

**Background:** For every 8 hours of scheduled patient time, ambulatory physicians spend more than 5 hours in an electronic health record. This is a cause for burnout for many health care professionals. Usage of an ambient listening tool can assist in reduction of burnout in healthcare providers.

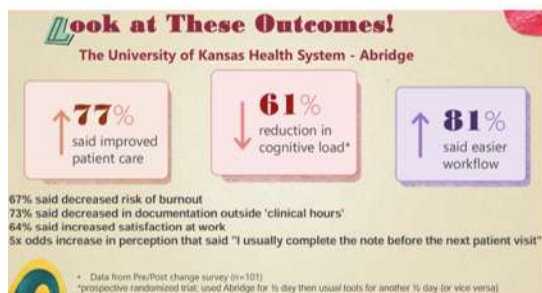
**Methods:** Objective information was gathered using Signal data in Epic comparing time in notes and time in Epic on unscheduled days.

**Results:** After introduction of the use of Ambient AI a provider was able to decrease time in note by 65%. There was also a decrease of 32% in time spent in the system on unscheduled days. When Ambient AI was not available (month 0) an apparent increase in time in the electronic health system is noted.





## Ambient AI - Why



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Conclusions: Leveraging AI in the ambulatory setting can reduce the cognitive burden of documentation in addition to reducing time in the electronic health record. Intentional and wise usage of AI is key to implementation in a practice. Additional applications may include emergency care and inpatient.

## Speaker Bio

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