



Children's Hospital Colorado

Tip Rhinoplasty and/or Septoplasty for Correction of Cleft Lip Nasal Deformity at the Time of the Primary Cleft Lip Repair: Analysis of National Database

Anna D. Lee BA BS¹; Molly Murphy BS¹; Jasmine Chaij BA BS¹; Antonio Porras PhD¹; Jason Yu DMD MD¹; Brooke French MD¹; Kristen Lowe DDS¹; Phuong D Nguyen MD¹; David Mathes MD¹; David Khechoyan MD¹

¹ Children's Hospital Colorado, Department of Pediatric Plastic Surgery

Affiliated with University of Colorado Anschutz Medical Campus

BACKGROUND

- All patients with cleft lip or cleft lip/palate exhibit some degree of cleft lip nasal deformity and present with a congenitally deviated septum
- The decision to perform a primary versus intermediate tip rhinoplasty remains contingent upon the surgeon's expertise and regional practice patterns
- Previous literature from another national database reported 31% of cleft patients receiving primary cleft lip repair with rhinoplasty

PURPOSE

- Conduct a follow-up study to examine the prevalence and demographic factors associated with tip rhinoplasty and/or septoplasty at the time of the primary cleft lip repair

METHODS

- Retrospective study using TriNetX, a national deidentified aggregate database (110+ million patients, 80 healthcare organizations)
- Patients were identified through Current Procedural Terminology (CPT) and Current Dental Terminology (D) codes
- Inclusion criteria: patients under 12 months of age who underwent unilateral (CPT: 40700) or bilateral (CPT: 40701, 40702) cleft lip repair from Jan 1, 2000 to Nov 3, 2023
- Concurrent tip rhinoplasty (CPT: 30460) and/or septoplasty (CPT: 30462) billed on the same day of cleft lip surgery were categorized by the year of their initial cleft lip repair
- Linear regression analysis and descriptive analysis was performed using PRISM and TriNetX

RESULTS

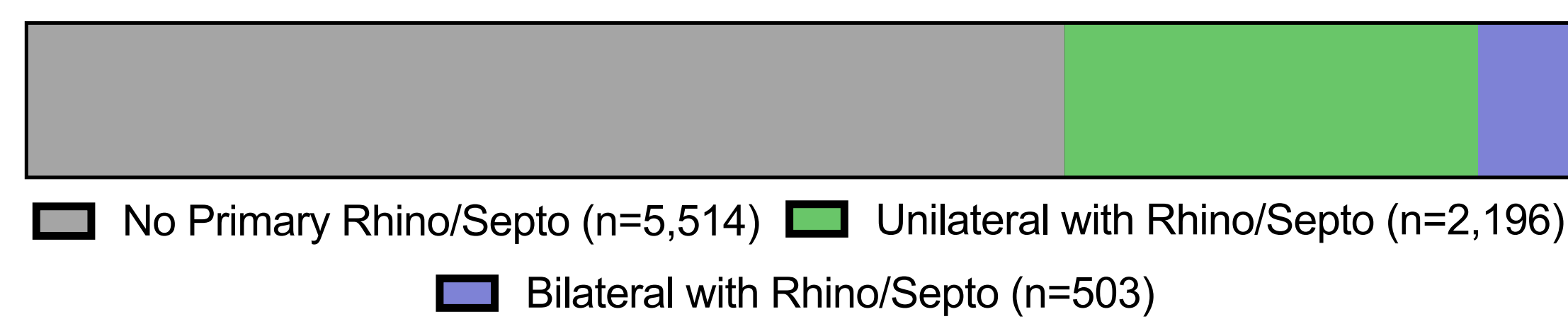


Figure 1. Patient population of interest.

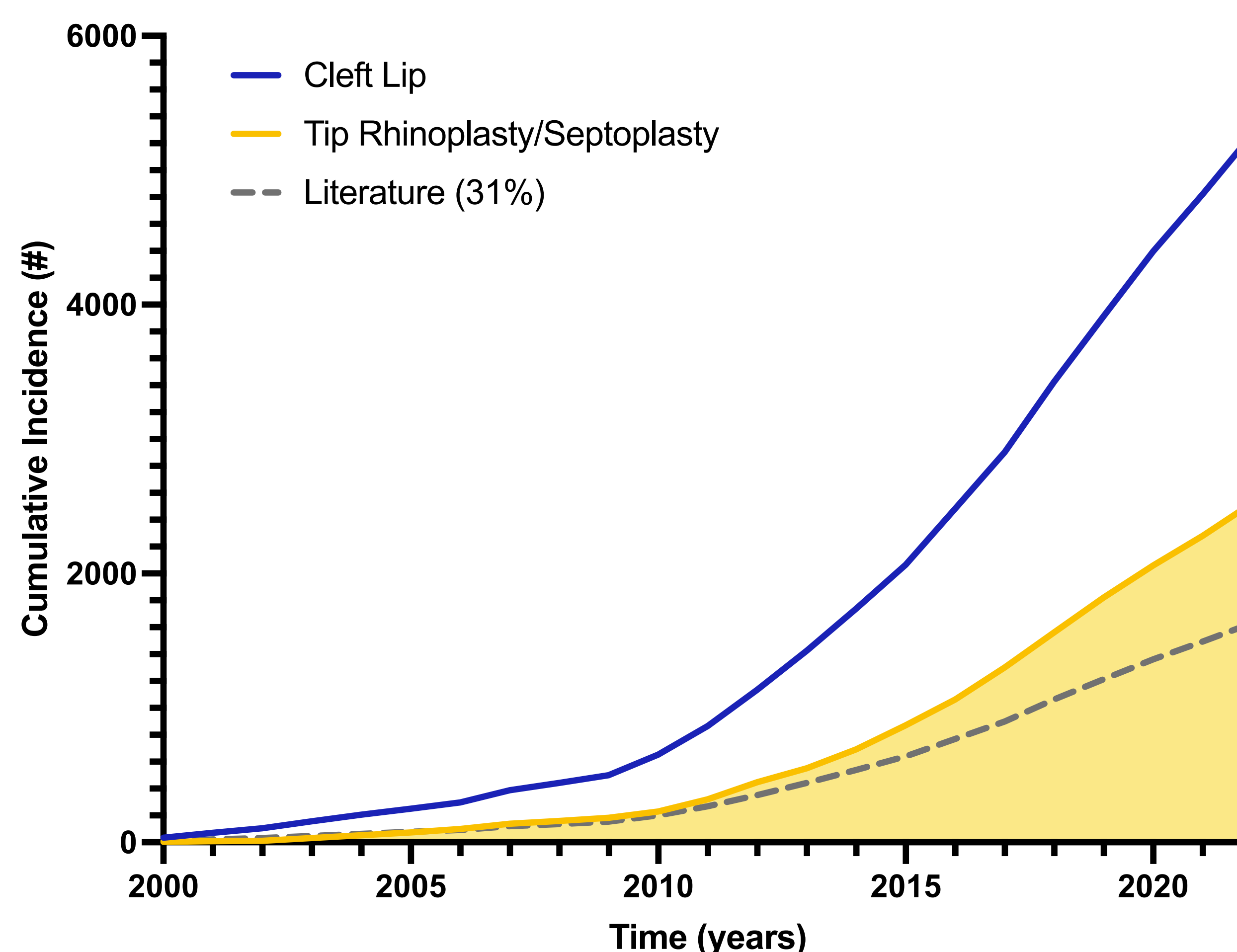


Figure 2. Cumulative incidence of patients undergoing cleft lip repair with or without primary tip rhinoplasty or septoplasty

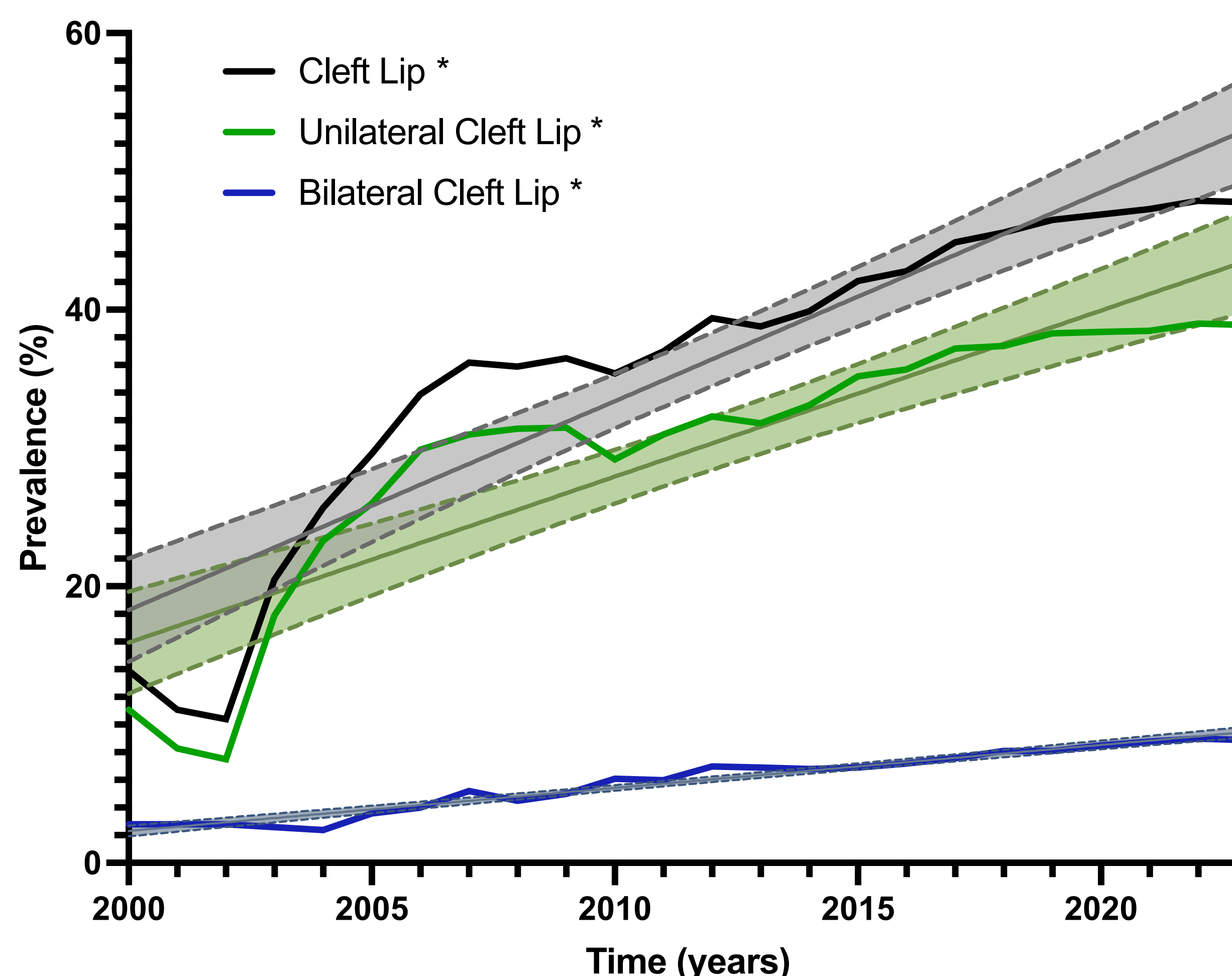


Figure 3. Prevalence of patients undergoing primary tip rhinoplasty or septoplasty device. * indicated $p < 0.05$ for linear regression analysis

CONCLUSIONS

- About 50% of patients younger than 12 months received concomitant tip rhinoplasty and/or septoplasty for correction of cleft lip nasal deformity at time of primary cleft lip repair.
- While both the incidence and prevalence of concurrent rhinoplasty and/or septoplasty have increased over the past two decades, this number may be underestimated, as billing practices may vary

IMPLICATIONS

- As concomitant tip rhinoplasty and/or septoplasty procedure become the standard of practice, surgeons may help decrease financial burden, anesthesia exposure, and total recovery time for cleft lip patients

REFERENCES

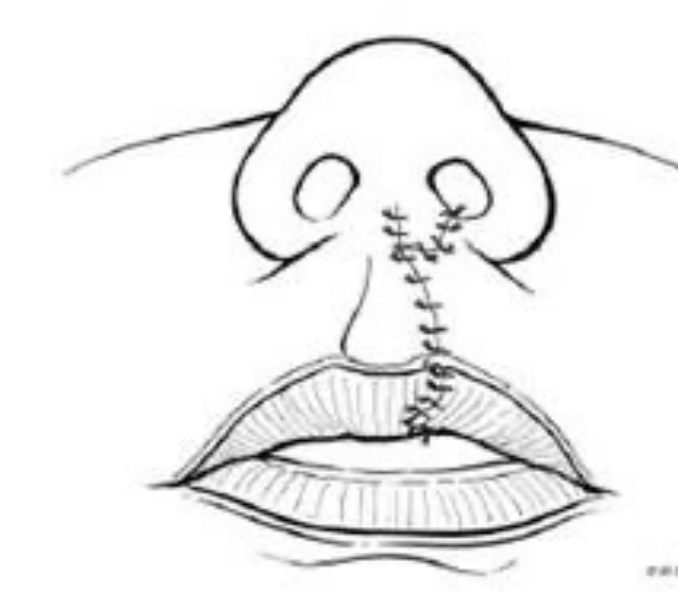
- Delaire J. Theoretical principles and technique of functional closure of the lip and nasal aperture. *Journal of Maxillofacial Surgery*. 1978;6(3):109-116.
- Gosain AK, Fathi AH. Assessment of secondary cleft rhinoplasty using resorbable plates at the age of primary school. *Journal of Craniofacial Surgery*. 2009;20(8):1801-1805.
- Haddock NT, McRae MH, Cutting CB. Long-term effect of primary cleft rhinoplasty on secondary cleft rhinoplasty in patients with unilateral cleft lip-cleft palate. *Plastic Reconstructive Surgery*. 2012;129(3):740-748.
- Jazayeri HE, Lopez J, Pourtaheri N, Lee KC, Peck CJ, Best DL, Yu JW, Gosain AK, Peacock ZS, Edwards SP, Steinbacher DM. Clinical Practice Trends and Postoperative Outcomes in Primary Cleft Rhinoplasty. *Cleft Palate Craniofacial Journal*. 2022 Aug;59(8):1079-1085.

DISCLOSURES

No conflicts to disclose



Picture 1 Cleft lip



Picture 2 Cleft lip repair

Figure courtesy of Nationwide Children's Hospital