

A Comparison of Vomer Flap Palatoplasty Techniques on Fistula Rate in Bilateral Cleft Lip and Palate

Collean Trotter, BA, MAT; Dylan G. Choi, BS; Idean Roohani, BS; Sarah Alfeerawi, BS, MS; Pasha Shakoori, MD, DDS, MS; Artur Fahradyan, MD; Jessica A. Lee, MD; William P. Magee III, MD, DDS; Mark M. Urata, MD, DDS; Jeffrey A. Hammoudeh, MD, DDS

Background

- **Bilateral cleft lip and palate (BCLP)** accounts for 9% orofacial cleft diagnoses globally
- If left untreated, these anomalies can cause debilitating sequela
- **Vomer flaps** provide additional soft tissue to establish **tension free** closure of the hard palate

Objective

- This study aimed to evaluate the impact of **vomer flap usage** and soft palate repair technique on **fistula rates**

Methods

- IRB-approved retrospective review of pediatric patients with **BCLP** undergoing palatoplasty from 2003-2022
- Patients with **index operations at an outside institution** were **excluded**
- Patient demographics, palatoplasty technique, fistula prevalence and fistula repair were **compared** based on **vomer flap utilization**
- Subset analysis of patients with postoperative fistulas was completed to identify the effect of palatoplasty technique on **fistula repair rates**

	Overall	Vomer Flap (n=172)	No Vomer Flap (n=20)	p-value
Age at Palatoplasty (months)	14.1	14.2	12.9	0.180
Fistula	60 (31.3%)	58 (33.7%)	2 (10.0%)	0.039
Fistula Repair	33 (17.2%)	33 (19.2%)	0 (0.0%)	0.028
Follow Up Time (years)	7.2	7.1	7.5	0.865

Table 1. Comparison of fistula and fistula repair rates based on vomer flap utilization

	Overall	Straight Line Repair (n = 33)	Furrow Repair (n= 27)	p-value
Fistula Repair	33	14 (42.4%)	19 (70.5%)	0.039

Table 2. Subset analysis of patient with postoperative fistulas

Results

- **192** patients with BCLP underwent palatoplasty, of which **172** received vomer flaps
- Patients with **vomer flaps** experienced **higher** rates of **fistula** and **fistula repair** compared to those without (Table 1)
- Subset analysis of patients with fistulas demonstrated **straight line repair (SLR)** was associated with **lower rates** of fistula repair compared to Furrow (Table 1)

Conclusions

- Patients with **vomer flaps** experienced **higher rates** of postoperative **fistula**
- In population of patients with fistulas, **SLR** associated with **lower rates of fistula repair**
- These results demonstrate a potentially **high burden of wide clefts** in this population, vomer flaps may have more potential for fistuloplasty prevention when used in combination with SLR