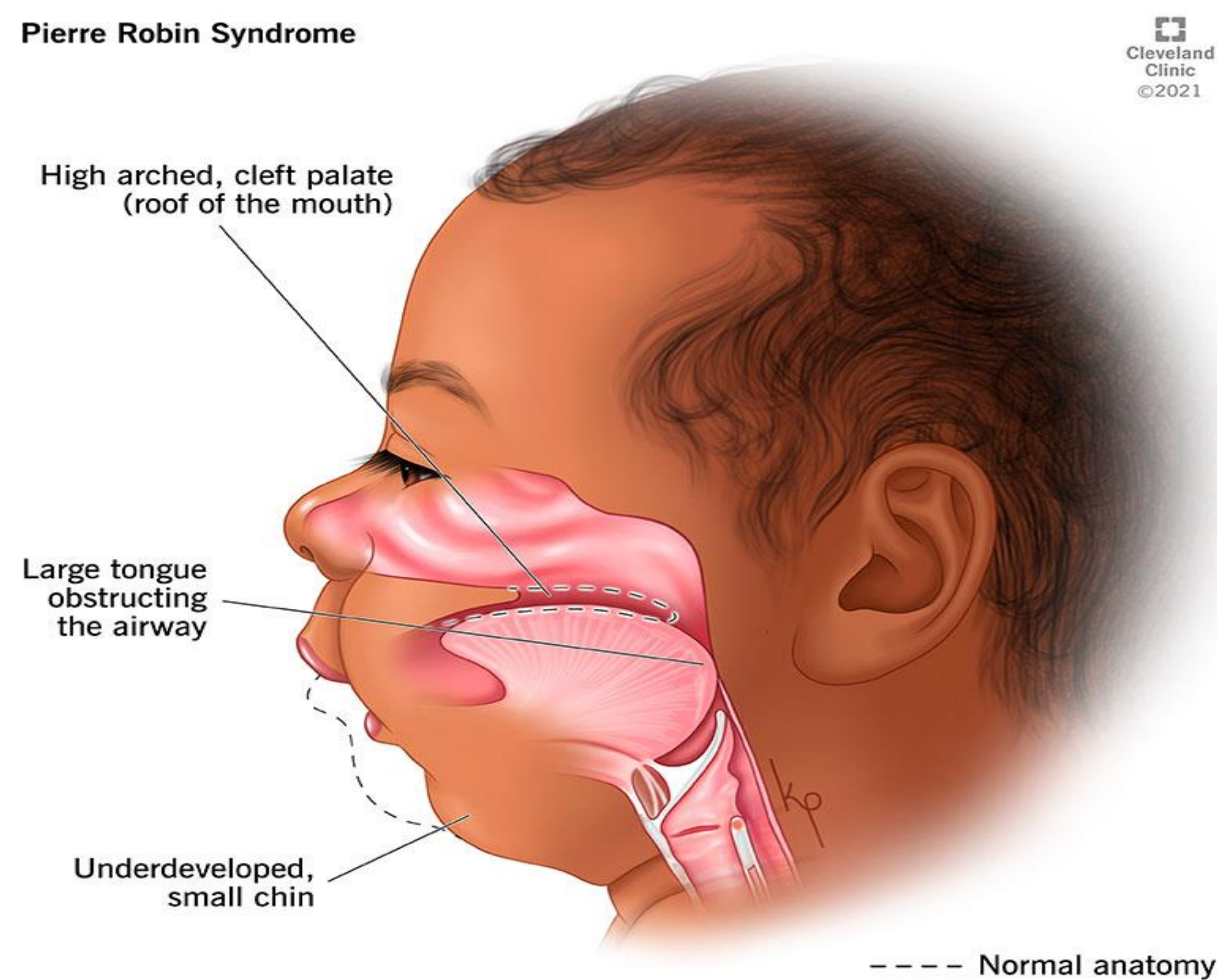


BACKGROUND

- Pierre Robin Sequence (PRS) is a rare congenital birth defect characterized by glossoptosis, micrognathia, and upper airway obstruction [1, 2]
- Despite cleft palate repair (CPR), about ¼ of children with PRS develop velopharyngeal insufficiency (VPI) [3]
- VPI can lead to stigmatizing hypernasal speech, which may require a secondary surgery with uncertain speech outcomes [4-6]



PURPOSE

- To evaluate surgical care and speech outcomes to better understand the unique implications for speech difficulty in patients with PRS.

METHODS

Retrospective chart review of children with PRS who underwent MDO and/or CPR at our pediatric hospital from 2010 to 2024.

Included patients who received MDO and/or CPR with speech and palate repair data

Chi-square and Spearman's statistical significance set a priori at $p < 0.05$

RESULTS

Table 1. Demographics

Demographic and Clinical Characteristics	N=70
Sex:	
Female	57% (40)
Male	43% (30)
Comorbidities:	
Hearing loss	31% (22)
Prematurity	14% (10)
Stickler syndrome	14% (10)
Heart disease	23% (16)
None	37% (26)
Others	43% (30)

MDO Efficacy

- About half of the patients with PRS underwent MDO
- **MDO was associated with decreased need for secondary speech surgery ($p=0.033$)**

Figure 1. Speech Outcomes

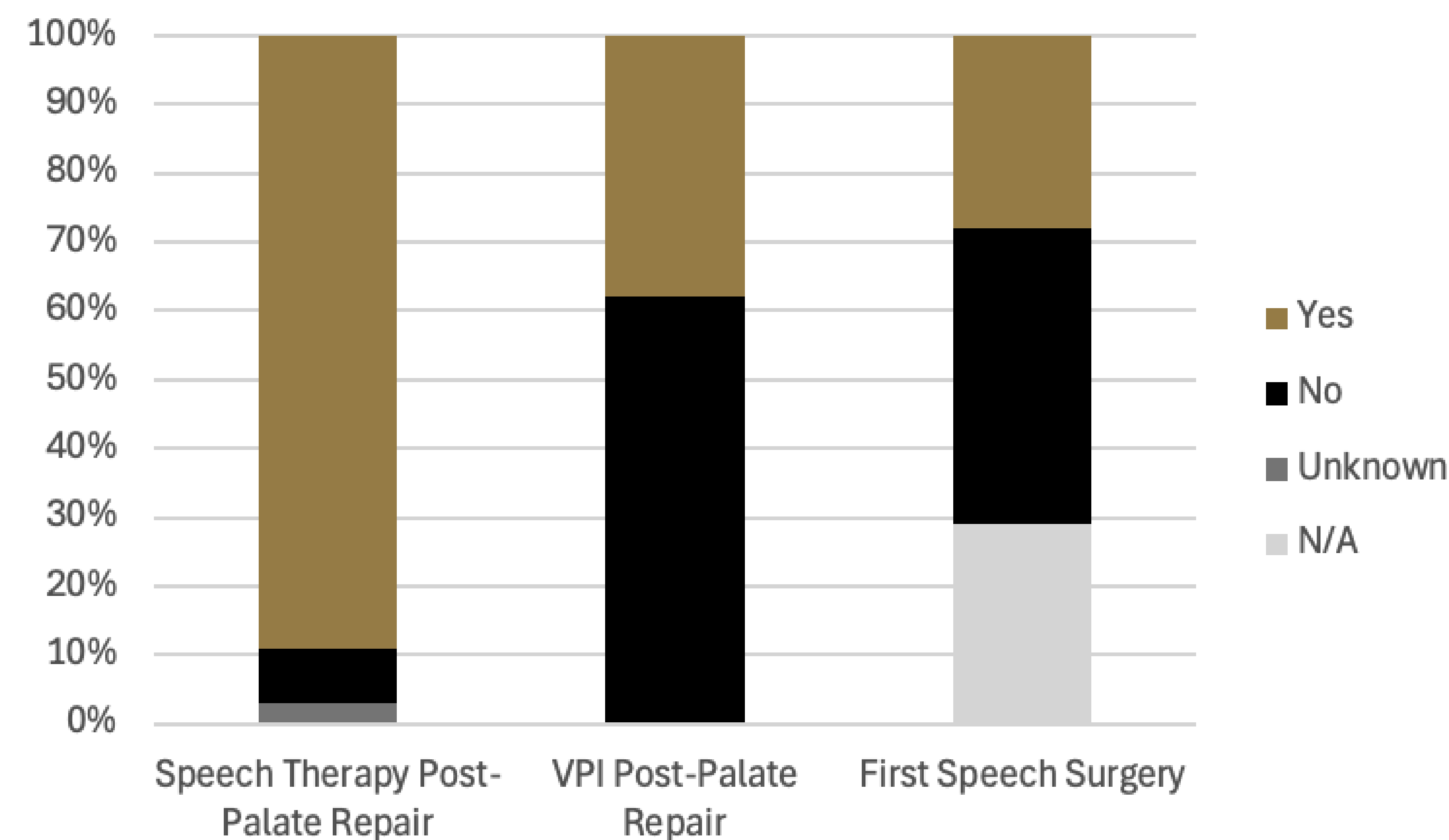


Table 2. Effect of Cleft Palate Repair Technique on Speech Outcome

Palate repair technique	Speech surgery after palate repair			
	N/A, N=19	No, N=28	Yes, N=18	P Value
<i>Furlow on Soft Palate</i>	26.3% (5)	7.1% (2)	5.6% (1)	.086
<i>V to Y Palatoplasty/ VY Pushback on Hard Palate</i>	42% (8)	29% (8)	72% (13)	.014*
<i>Use of Vomer Flap</i>	15.8% (3)	7.1% (2)	16.7% (3)	.540
<i>Other Repair</i>	10% (2)	29% (8)	22% (4)	.340

DISCUSSION

- There may be a protective effect of MDO in needing secondary speech surgery, potentially due to improved palate access during primary repair.
- **Limitations:**
 - Small sample size
 - Some patients not reached at 6 years old
- **Future Directions:** Increase cohort size by collaborating with other institutions to gain more insight into speech outcomes

CONCLUSION

- The vast majority of patients required speech therapy post-palate repair.
- VPI was observed in 22 patients, of whom 18 underwent speech surgery.
- 8 patients required tracheostomy, of whom 6 were decannulated with median age at decannulation of 27 months.
- V to Y palatoplasty/VY pushback on hard palate was associated with a higher risk for requiring secondary speech surgery after primary palate repair when compared to other palate repair techniques.

CONTACT / REFERENCES

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References