

Two Decades of Midline Cleft Lip Management: Insights From a Single Institution

Artur **Manasyan**, BS; Raina K **Patel**, BS; Anika **Kim** MS, Meryem **Guler** BS, Caroline **Kreh** BS, Erin **Wolfe** MD; Ishani **Premaratne** MD, Priyanka **Naidu** MD MSc; Matteo **Laspro** MD; William P **Magee** MD DDS; Mark M **Urata** MD DDS; Jeffrey A **Hammoudeh** MD DDS

Purpose

- This study reviews our experience with MCL, focusing on patient features, surgical repair, and outcomes.

Methods

- Retrospective review (2004–2024)** of patients <18 years undergoing MCL repair; IRB-approved.
- Symmetry:** pre/postoperative photos analyzed in ImageJ; deviations from facial midline measured.
- Analysis:** descriptive stats and Wilcoxon signed-rank test.

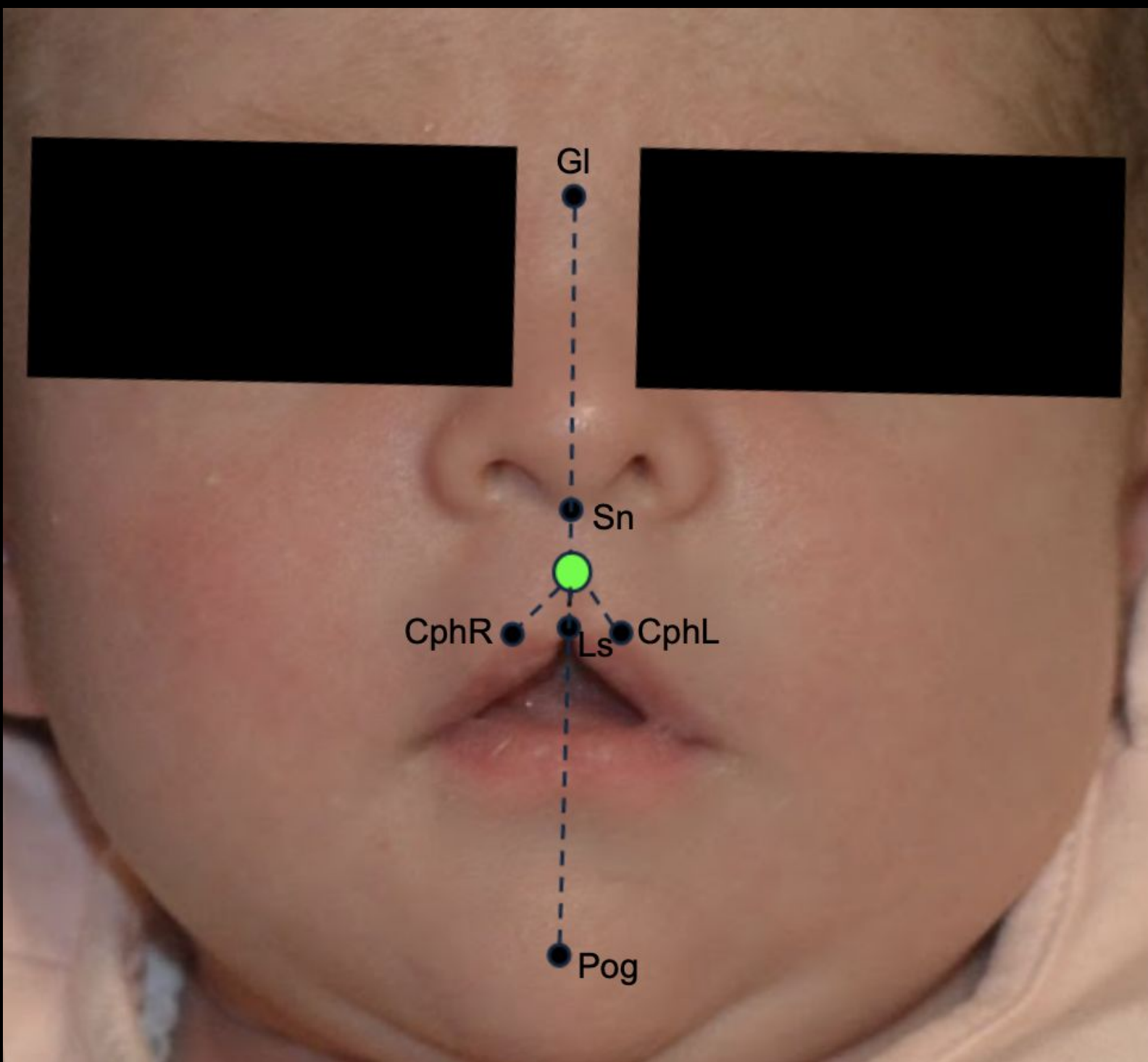


Figure 1. Landmarks used in anthropometric analysis, including Glabella (Gl), Subnasale (Sn), Labiale Superius (Ls), Crista Philtri Left and Right (CphL, CphR), and Pogonion (Pog).

Facial Landmark	Pre-Op Deviation	Post-Op Deviation	Reduction in Deviation	p-value
Glabella	63.8 ± 30.0	41.2 ± 14.0	22.6	0.216
Subnasale	62.0 ± 38.9	22.2 ± 12.6	39.8	0.003
Labiale superius	41.8 ± 24.9	17.5 ± 10.3	24.3	0.018
Crista philtri left	121.3 ± 40.0	76.4 ± 18.9	44.9	0.017
Crista philtri right	88.3 ± 29.0	75.2 ± 14.5	13.1	0.414
Pogonion	63.8 ± 30.0	41.2 ± 14.0	22.6	0.216

Table 1. Horizontal deviation of facial midline landmarks from the calculated facial midline, measured preoperatively and postoperatively in patients undergoing MCL repair. The facial midline was defined as the midpoint between the Glabella and Pogonion landmarks for each patient. As such, these two landmarks consistently demonstrate equal deviations, as they anchor the calculation of the midline itself. Reduced postoperative deviation reflects improved alignment and facial symmetry. Bolded values are statistically significant.

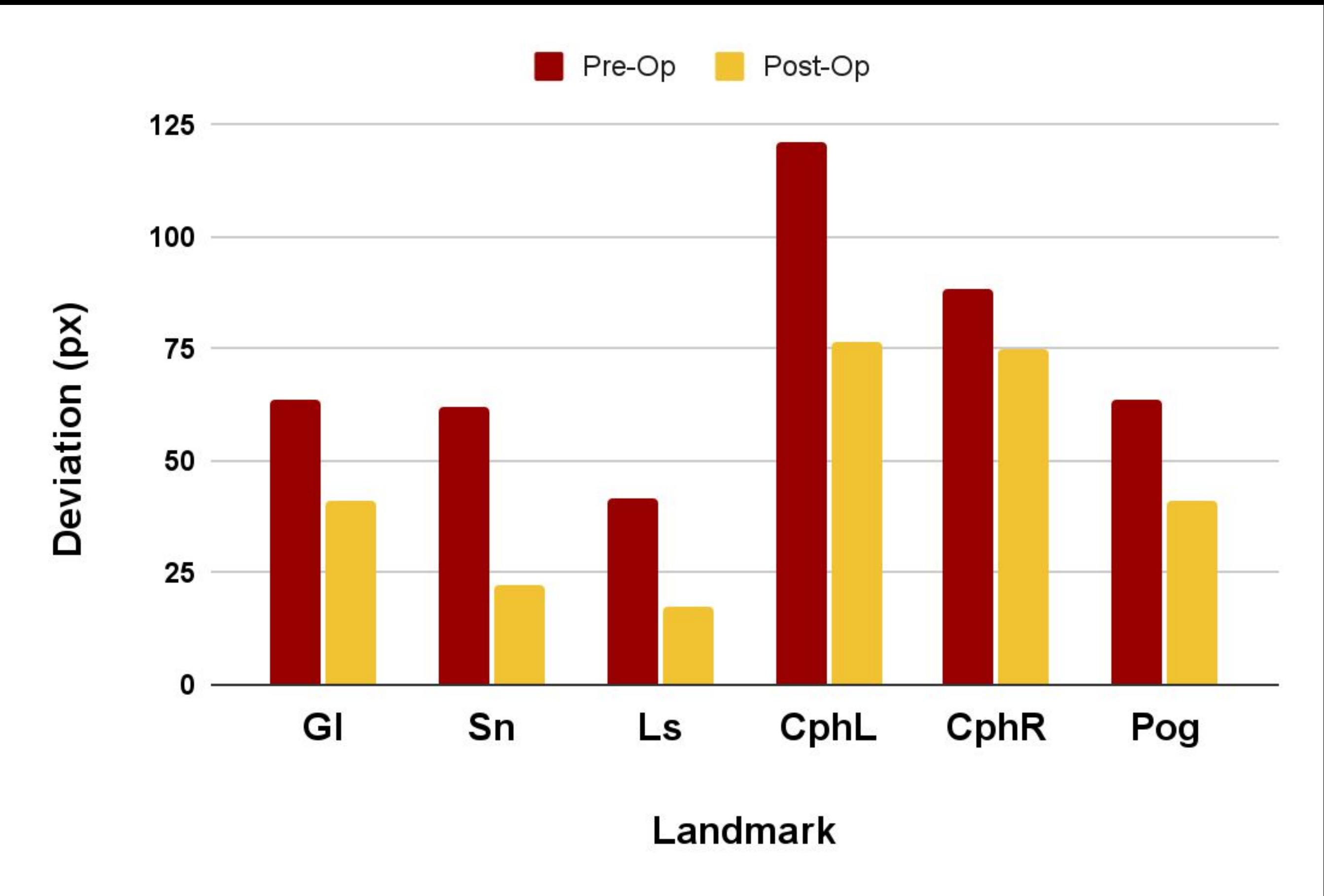


Figure 2. Chart demonstrating pre- vs. post-op anthropometric measurements

Results

- Twenty patients were included: **60% with cleft lip and palate**, 40% with isolated cleft lip; **65% had CNS anomalies**.
- Median age at repair was **6.4 months**; mean follow-up was **10.4 years**.
- No intraoperative complications occurred; three patients had minor postoperative complications.
- Revisions were required in 25%** of patients.
- Image analysis showed **significant improvement in midline symmetry** at the subnasale, labiale superius, and left crista philtri landmarks.

Conclusion

- Midline cleft lip is rare and often associated with **CNS anomalies**.
- Surgical repair is **safe** and improves **midline symmetry**.
- 25% revision rate** highlights the need for ongoing technique refinement and long-term follow-up.