

Title: The Role of Nasal Sill Correction in Secondary Cleft Rhinoplasty**Author(s): Sanjay Jinka****Affiliation:** Northeast Ohio Medical University

Patients with nasal deformities secondary to cleft lip and palate require rhinoplasty. Photogrammetric analysis shows which surgical techniques and anthropometric characteristics lead to better outcomes. This was a 10-year retrospective review of 30 consecutive patients with unilateral cleft lip who underwent rhinoplasty by a single surgeon at a single center. Photographs were measured preoperatively (T0) and postoperatively at early and late time points (T1 and T2, respectively). Ten craniofacial clinic members completed subjective ratings of photos utilizing the Unilateral Cleft Lip Surgical Outcomes Evaluation (UCL SOE), to rate the nose, cupid's bow, lateral lip, and free vermillion, each with a score of 0-2. Wilcoxon signed rank test and Spearman correlation coefficients were used for statistical analysis. Nasal UCL SOE and overall UCL SOE significantly ($p < 0.05$) improved from T0 to T1 (0.7 to 1.2, $p = < 0.001$ and 3.6 to 4.7, $p < 0.001$, respectively) and T0 to T2 (0.7 to 0.9, $p = 0.023$ and 3.6 to 4.8, $p = 0.002$, respectively). Nostril height, width, medial quarter height, and columellar angle were significantly ($p < 0.05$) different between T0 and T1. Decreased columellar angle (-0.6, $p = 0.007$), decreased cleft-sided nostril height (-0.4, $p = 0.041$), and increased cleft-sided sill height (0.8, $p = 0.001$) significantly ($p < 0.05$) correlated with improved nasal ratings. Surgical techniques/procedures did not produce significant correlations. Overall, decreased columellar angle, decreased cleft-sided nostril height, and most notably increased cleft-sided sill height correlated with improved subjective outcomes. Further study with larger sample size is required to determine which surgical techniques create significant improvements.