

CRITICAL ANALYSIS OF CONSECUTIVE UNILATERAL CLEFT LIP REPAIRS BY PARENTS VERSUS SURGEONS: DETERMINING IDEAL SAMPLE SIZE

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BACKGROUND: Previously we found poor agreement between cleft surgeons when evaluating lip repairs and no statistical support for presenting 10 consecutive cases to reflect average surgical results. The purpose of this follow-up study is to compare parents' evaluations of cleft severity and outcomes to those of surgeons. Secondary objectives are to determine the validity of showing consecutive lip repairs to parents and to calculate inter-rater reliability.

METHODS: Consecutive pre- and two-year post-operative photographs of the unilateral cleft lip/nose complex were included from one practice. Ethics approval and informed consent were obtained. Photographs were randomized and evaluated by parents of patients with cleft lips within a multidisciplinary clinic using both descriptive and qualitative scales. Evaluations were compared to those performed by senior cleft surgeons at the American Cleft Palate-Craniofacial meeting. Parametric and non-parametric analyses were performed according to chronologic, consecutive order. The mean standard deviation over all raters enabled calculation of expected 95% confidence intervals around a mean tested for various sample sizes.

RESULTS: Photographs of 39 patients were evaluated by 20 parents and 10 senior cleft surgeons. Parents demonstrated higher inter-rater agreement for cleft severity (ICC=0.77) and outcomes (0.84) than surgeons (ICC=0.65 and 0.21, respectively). Narrowing 95% confidence intervals within one point on both post-operative grading scales required presenting 27 consecutive cases to surgeons versus 12 cases to parents. Within both groups, outcomes did not correlate with cleft severity (parents, $p=0.56$; surgeons, $p=0.28$).

CONCLUSIONS: Parents demonstrated stronger agreement than surgeons when evaluating both cleft severity and outcomes, which may reflect different evaluation criteria or surgeon bias when evaluating a colleague's results. There may be statistical validity in showing 12 consecutive lip repairs to parents as an educational tool in pre-operative consultations.