

## NASAL ALAR SURFACE AREA DIFFERENCES AFTER UNILATERAL CLEFT LIP REPAIR: LONG-TERM EFFECTS OF THE PERIALAR INCISION

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**Background:** The Millard rotation-advancement cleft lip repair is the most commonly performed cleft lip repair. An extended perialar incision allows for further advancement of the lateral lip element and improved positioning of the alar base. There is a lack of data evaluating differences in nasal alar growth when the perialar incision is utilized. This study compares the long-term effects of a perialar incision on the alar surface area of unilateral cleft lip patients who underwent a Millard cleft lip repair.

**Materials/Methods:** Thirty-seven patients with a diagnosis of unilateral cleft lip treated with a Millard primary lip repair were studied. A perialar incision was utilized in 16 patients while 21 patients underwent a standard Millard repair. 3dMD facial images were taken at least 10 years after the initial lip repair. Using the patient's non-cleft side as an internal control, the Alar Ratio (AR) was calculated, defined as the cleft alar surface area divided by the non-cleft alar surface area.

**Results:** The AR was significantly greater in the standard Millard repair group compared to the perialar incision group, 0.74 and 0.64 respectively ( $p = 0.02$ ). The incomplete cleft population demonstrated a more profound difference between the treatment groups (0.82 and 0.62, respectively).

**Conclusions:** This study reveals an association between a perialar incision and decreased alar surface area. Long-term follow up results suggest a perialar scar restricts alar growth leading to significant asymmetry between the cleft and non-cleft sides. Therefore, surgical technique must be carefully considered prior to utilizing a perialar incision during unilateral cleft lip repair.