Bilateral cleft lip repairs can result in various secondary deformities. One commonly seen deformity—the whistle deformity—is characterized by a reduced or absent tubercle, orbicularis oris muscle diastasis, and abnormalities of the philtrum with notched appearance of cupid’s bow. Various techniques have been described to address these problems. One common procedure is the lip-switch flap originally described by Abbe in 1898, which has been modified by various surgeons. In these procedures, lower lip vermilion, mucosa, orbicularis, and lip skin are transposed to the upper lip on a pedicle that is later divided. In all these variations of the lip-switch procedure, the transposed tissue involves the entire lower lip skin—leaving large, unsightly, and unnecessary scars. It also brings abnormal tissue into the philtrum further distorting the upper lip. A modified cross-lip flap that is limited to the taking only mucosa, vermilion, and orbicularis is feasible and provides an optimal reconstruction without compromising additional tissue. (Plast Reconstr Surg Glob Open 2016;4:e1092; doi: 10.1097/GOX.0000000000001092; Published online 25 October 2016.)

For secondary unilateral cleft lip repairs, Hovey performed a modified cross-lip flap limited to only mucosa, vermilion, and orbicularis without violation of the lower vermilion border. This technique reconstructed the entire tubercle as a unit without unnecessarily taking lower lip skin. In this series, we demonstrate that a similar procedure can treat the whistle deformity of bilateral cleft lip repairs. Adhering to the principle of restoring entire lip subunits with like tissue, the skin-sparing lip-switch procedure effectively restores the tubercle with minimal inconspicuous scarring to the lower lip.

METHODS AND SURGICAL TECHNIQUE
The Kaiser Northern California Institutional Review Board approved a retrospective case series review. Three patients underwent the procedure. The average number of prior operations was 8, and the average age at time of surgery was 25 years. All patients received division of flap 3 weeks after initial operation.

Technique
The subunits of the upper lip are precisely identified, including extent of abnormal tissue at the area of defunct tubercle (Fig. 1). The abnormal tissue and scarring is discarded, and the malpositioned philtrum is incised for re-orientation (Fig. 2). The lower lip flap is marked 1 mm wider than the defect. The flap is incised full thickness...

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preserving the underlying inferior labial artery. The inferior extent of the flap stops sharply above the vermilion border. The flap is inset into the defect with 180 degrees of rotation and secured with multilayer closure ensuring careful alignment of orbicularis muscle (Fig. 3). The defect is closed in a U-Y fashion. The patient is brought back to the operating theater in 3 weeks for division. The patient is seen at 6 months follow-up (Fig. 4).
DISCUSSION

The principle of discarding abnormal tissue and replacing like with like is effectively applied to the whistle deformity using the described technique. Other techniques that graft foreign tissue such as tongue, palate, or acellular dermal matrix fail to create a convincing tubercle given these tissues are not lip. Procedures that advance upper lip tissues inappropriately shorten the upper lip and also fail to restore tubercle. Grafting and advancement techniques also fail to treat the underlying orbicularis diastasis. The traditional cross-lip flap comes close to achieving reconstructive goals. However, as currently described in the literature, this flap inappropriately brings inferior lower lip tissue into the philtrum, leaving the philtrum asymmetric and irregular. Further, it places an unnecessary scar on the lower lip. The inconspicuous scar of the lower lip is hidden within the vermilion, which is forgiving to limb-length discrepancies of the closure—there is no resulting standing cone deformity. A vermilion limited cross-lip flap is technically just as feasible as the traditional version, and accomplishes all reconstructive goals with minimal donor site scarring.

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PATIENT CONSENT

The patient provided written consent for the use of her image.

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