

## A Better Way to Repair Torn Earlobes Using a Modified Z-Plasty

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Ear piercing is a well-established cultural and fashion-related practice from ancient times.<sup>1</sup> Most people do not realize the common complications involved: contact dermatitis, keloid formation, infection, lobular tissue loss from trauma, and tearing of the earlobe, most commonly from repeated mechanical stress from heavy earrings.<sup>1</sup> Torn earlobes are also referred to as cleft or split earlobes. Split earlobes are a common acquired deformity in people who wear heavy or dangling earrings, which increase the tension on the piercing site. As the pressure point from the earring atrophies, the piercing hole gradually enlarges and can eventually split.<sup>1</sup> Repair of a torn earlobe is a common procedure encountered in facial plastic surgery.

Repair techniques range from a simple excision of the epithelial tract with primary closure to the elaborate incorporation of a Z-plasty design at the inferior lobular margin along with flap maneuvers to reestablish the earring site. Complications of primary closure include development of an earlobe cleft (Figure 1).<sup>1</sup>

The authors describe a technique in which double partial-thickness flaps are used to close a torn earlobe and strengthen the integrity of the final wound.

### Surgical Technique

Preoperatively, a triangle is drawn incorporating the tear or the stretched portion of the earlobe. Another small triangle is drawn outside the first triangle margins (Figures 2A and 3). A large chalazion clamp is placed over the earlobe, and an 11 blade is used to excise the inner triangle (Figures 2B and 3). An 11 blade is then used to incise the wound to half thickness on the anterior surface of the adjacent flap (Figures 2C and 3) and the same from the posterior surface of the other adjacent flap (Figures 2D and 3). The two flaps are interconnected and sutured using 6-0 nylon interrupted sutures (Figures 2E and F and 3).

### Results

Nine patients undergoing repair using a sliding flap technique displayed good wound integrity and no postoperative cleft or dehiscence (Figure 1). All patients were followed for 18 months. Three patients underwent ear lobe repiercing by one surgeon (RMS) after the 3-month postoperative period without complication.

### Discussion

There are two categories of torn earlobes: complete or incomplete clefts, which can either be unilateral

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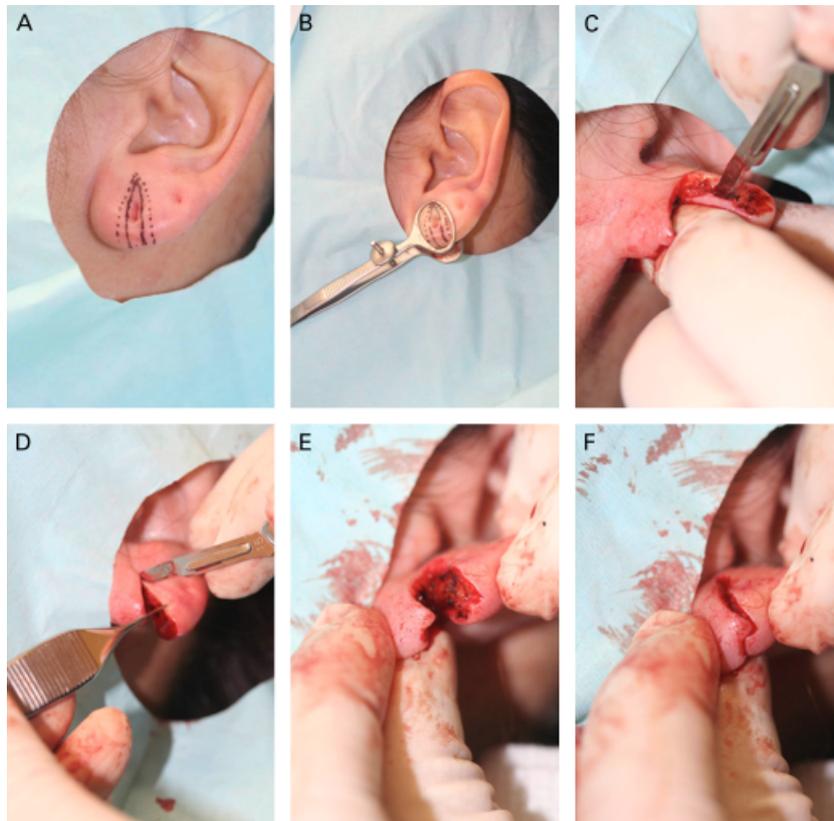
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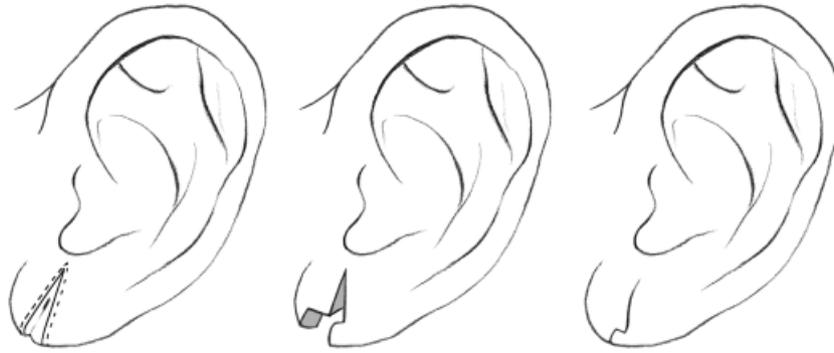
**Figure 1.** The photograph on the left shows the postoperative result of an ear cleft after a simple ear lobe tear repair. The photographs on the right show the highly aesthetic result of a patient who underwent repair using a sliding flap technique that displays good wound integrity, avoidance of a postoperative cleft, and step-off or scar 3 months after surgery.

or bilateral. A simple closure may provide an aesthetically pleasing result. Over time, with wound contracture, a groove along the suture line or a notch

at the inferior free earlobe margin may develop (Figure 1).<sup>1</sup> To avoid this complication, many authors have recommended using some method to



**Figure 2.** (A) Preoperatively, a triangle is drawn incorporating the tear or stretched portion of the earlobe. Another small triangle is drawn outside the previous triangle margins. (B) A large chalazion clamp is placed over the earlobe, and an 11 blade is used to excise the inner triangle. (C and D) An 11 blade is used to incise the wound to half thickness on the anterior surface of the adjacent flap and the same from the posterior surface of the other adjacent flap. (E and F) The two flaps are interconnected and sutured with 6-0 nylon interrupted sutures.



**Figure 3.** The steps of the sliding flap technique. Left—Preoperatively, a triangle is drawn incorporating the tear or stretched portion of the earlobe. Another small triangle is drawn outside the previous triangle margins. Middle—The anterior and posterior flaps. Right—The two flaps are brought together.

break up the standard straight-line closure on the anterior surface of the earlobe or, more commonly, at the inferior lobular rim using a Z-plasty.<sup>1-4</sup>

Elsahy and colleagues recommended preserving the original piercing hole during the cleft repair using small superiorly based flaps.<sup>2</sup> This technique involves freshening the margins of the cleft using vertical parallel incisions. The superiorly based skin flaps are then sutured together to produce a hole at the cleft apex. After the remaining inferior portions of the two thin flaps are excised, the wound is sutured in a straight line. A temporary earring site spacer (2.0 nylon suture) is replaced by an earring in 1 month.<sup>2</sup> In this procedure, the tensile strength of the thin flap tissue is not strong enough for the traction and weight of an earring.<sup>1</sup>

Reiter and colleagues reported a series of 68 patients with cleft earlobe repair followed for 4 to 10 years. They recommended that lobes less than 4 mm thick be closed using a “lateral skin Z-plasty”—posteriorly in a linear fashion and anteriorly using a Z-closure. In thicker earlobes, they had better results when the Z-plasty excision was made full thickness.<sup>3</sup>

## Conclusion

Torn or stretched earlobes present more and more commonly as piercings become increasingly com-

monplace. Although not a difficult procedure, technical precision and careful planning of incision and flap designs are essential in repair of torn earlobes.<sup>1,4</sup> The standard direct excision of the torn portion allows for a direct closure but frequently results in weak wound integrity at the site of repiercing. Secondary to wound contraction, a traumatic cleft may result. The sliding flap technique affords a theoretical advantage in the repair of torn earlobes by improving and strengthening wound integrity, which may also help diminish the potential complication of a cleft. We recommend waiting at least 3 months before repiercing the patient’s ear.

## References

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