Repair of the Torn Earlobe

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Ear piercing has been practiced since the time of ancient civilizations, not only to call attention to female beauty but also to make statements about social status. More recently, popular cultural trends have resulted in an increased incidence of multiple ear piercing and male ear piercing. As a result, earlobe tears are an increasingly commonplace complaint among patients presenting to the cosmetic surgeon.

There are various classifications of earlobe tears. Partial tears refer to a vertical elongation of the earring hole and are sometimes referred to as "slit earlobes" (Fig. 174.1). Complete tears of the earlobe are also referred to as "split earlobes" or "cleft earlobes" (Fig. 174.2).

The mechanism for earlobe tears can be acute trauma (i.e., earring pulled through the earlobe). However, many patients report an indolent progressive elongation of the earring hole until it eventually becomes a complete tear. Conventional wisdom has it that this is due to wearing heavy earrings. Others have described earlobe necrosis due to clip-on earrings (McLaren 1954; Wallace and Garretts 1960). More recently, Raveendran showed that many of these patients had chronic dermatitis and hypothesized an allergy to gold (Raveendran and Amarasinghe 2004).

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Repair of earlobe tears may seem simple and straightforward. In fact, it requires great precision, much like closure of an eyelid margin or the

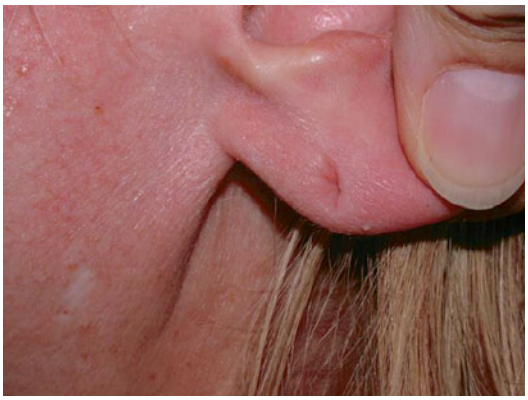

Fig. 174.1 Partial earlobe tear, approximately 75 % of the distance between the piercing hole and the earlobe margin

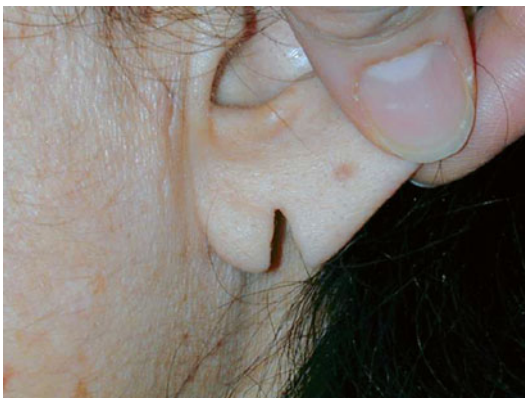

Fig. 174.2 Complete earlobe tear

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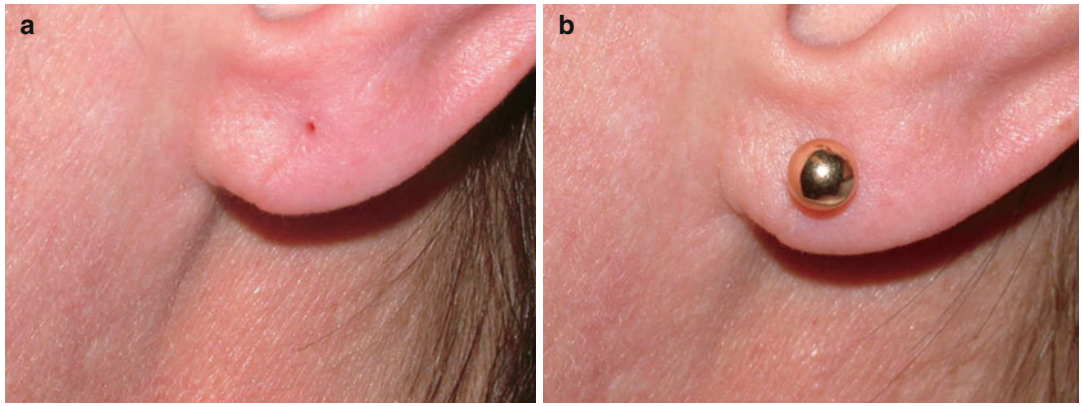

Fig. 174.3 Successful repair of complete (**a**) torn earlobe. Note the naturally smooth earlobe margin (**b**)

lip vermillion. If one edge is off by a millimeter, it is obvious, and you will have a dissatisfied patient. Furthermore, this is made more complex by the fact that the patient will want to wear earrings again as soon as possible after the repair; this will place a constant mechanical load on the repair again and predispose to repeat tears (Fig. 174.3).

Multiple techniques have been proposed for repair of the torn earlobe. Straight line closure after excision of the epithelial tract is the simplest method of repair (McLaren 1954). However, one of the main concerns is the significant risk of recurrent hole elongation or complete tears (Raveendran and Amarasinghe 2004). For this reason, others have proposed elaborate flaps such as L-plasty, Z-plasty, or inverted V-plasties (Boo-Chai 1961; Niamtu 2002). Some authors have advocated preservation of the original ear piercing hole or immediate repiercing at the time of repair (Boo-Chai 1961; Niamtu 2002). Some have suggested converting partial tears into complete clefts (Boo-Chai 1961).

Questions to Ask the Patient

1. Was there a traumatic event that led to the earlobe tear?
2. Did you wear heavy or dangling earrings?
3. What was the metal composition of your earrings?
4. Do you have any skin sensitivities to other jewelry?
5. Was there any history of chronic earlobe inflammation or discharge?
6. Have you ever had the earlobe repaired in the past?
7. Are you planning to wear pierced earrings again? Can you go without them for 3–4 months?

Basic Principles

1. *Remove the entire epithelial lining of the piercing tract and earlobe tear*. Unless the patient has a clear history of trauma or very heavy earrings to cause the tear, these individuals are predisposed to this problem, and therefore the entire tract and original hole should be closed to minimize the chance of recurrence.
2. *If more than 75 % of the distance between the earlobe piercing hole and the inferior edge is slit, convert the partial tear into a complete tear.*
   This will optimize the final cosmetic result.
3. *Use one or more Z-plasties along the vertical axis of the complete tear.* These flaps will accomplish two important tasks: first, they will lay down a series of zigzagging scar tissue thereby lending strength to the repair; second, a Z-plasty will provide vertical elongation, which is important to prevent the appearance of an indentation at the earlobe margin afterwards (due to scar contracture).

4. *When faced with a complete tear, draw a line along the center of the earlobe margin on both sides before infiltrating with local anesthetic, and always close the earlobe margin first.* This will give the proper three-dimensional alignment and make it easy to close the remainder of the tear.
5. *Close the earlobe margin with overcorrected everting sutures.* This will allow the margin to end up flat after healing is complete.
6. *Do not pierce earlobe again for at least 3 months.*

Surgical Technique for Complete Earlobe Tears

1. Draw a line along the center of the earlobe margin on both sides of the tear before infiltrating with local anesthetic.
2. Mark along the inside of the tear where the incision is to be made (inverted V).
3. Infiltrate the entire earlobe with 1 % xylocaine with 1:100,000 epinephrine. I add 200 units of hyaluronidase to a 50 cc bottle of the anesthetic in order to enhance the spread of the anesthetic solution and minimize the distortion of the tissues.
4. Cleanse the entire earlobe area with Betadine solution and place sterile drapes around the field.
5. Make an incision along the center of the inverted "V" tear on both sides to split the tear into anterior and posterior flaps. Although one can use a #15 blade, I think it is easier to perform the incision with the fine tip of the Ellman radiofrequency cautery unit. *Note: Although some authors suggest using a dermal punch to remove the epithelium lining the tear, I do not find this practical or helpful.*
6. Using curved blunt Stevens scissors, spread in the plane between the two flaps to mobilize the tissues. Remove any subcutaneous fibrosis that is binding down the edges of the incisions. Alternatively, these tissue edges can also be resected. *Note: Some authors advocate using a chalazion clamp or cutting on a tongue blade to get better control of the floppy earlobe. This may be helpful in some patients.*
7. Square off the margin edges with a #15 blade on both sides to insure there is no notch postoperatively. This may be a time when cutting on a sterile tongue blade is helpful.
8. Close the earlobe margin first. This is a similar concept to closure of an eyelid or vermillion laceration in order to get accurate three-dimensional alignment. Using the previously marked center of the margin as a guide, place a 5-0 absorbable suture such as chromic gut or polyglactin 910 subcutaneously with the knot superior. Then place 6-0 fast-absorbing gut or polypropylene vertical mattress sutures medially, centrally, and laterally to get good wound eversion.
9. Make Z-plasty incisions if the length of the tear is adequate. These can either be full thickness or the Z-plasty on the lateral flap can be the mirror image of the Z-plasty on the medial flap. Make the incisions over the tongue blade to stabilize the earlobe. Your assistant can stabilize the earlobe inferiorly with a skin hook, but take care not to place any traction in order to avoid wound distortion. Transpose the flaps and suture closed (lateral flap first) with 5-0 polyglactin 910 subcutaneous sutures and 5-0 fast-absorbing gut or 6-0 polypropylene sutures through the skin edges in standard fashion. *Note: The Z-plasty closure will provide vertical elongation to the earlobe so as to prevent notching at the margin after scar contracture. This will also make the scar less obvious and decrease the likelihood of recurrent tears.*
10. Clean the area, and dress with bacitracin ointment. Have the patient keep the incisions moist with the ointment for 5–7 days until they return for suture removal.
11. Tell the patient to return for a check of the wound in 3–4 months. If it is well healed and the incision is soft, consideration can then be given to repeat piercing at that time. If possible, place the new piercing anterior or posterior to the original hole.

Surgical Repair for Partial Torn Earlobes

1. For partial tears greater than 75 % of the distance between the piercing hole and the earlobe margin, convert to a complete tear and follow instructions above.
2. For partial tears less than 60–70 % of the distance between the piercing hole and the earlobe margin, follow only Steps 2–6 as noted above. Because the tear is partial, the earlobe margin is intact and will provide proper three-dimensional alignment for the repair. For tears in between 60 and 75 %, the surgeon will have to use his or her judgment.
3. If the partial tear is small, it can be closed with a straight line in three layers: close the subcutaneous layer with buried 5-0 polyglactin 910 sutures; close the lateral flap with vertical mattress 6-0 fast-absorbing gut or polypropylene interrupted sutures; and finally, close the medial flap with interrupted sutures of the same material.
4. If the partial tear is larger, close with a broken line or W-plasty. Remove two triangles from the anterior edge, and make mirror image incisions on the posterior edge. Close with a cerclage of subcutaneous 6-0 polyglactin 910 sutures through the apices of the flaps and then interrupted 5-0 fast-absorbing gut or 6-0 polypropylene sutures through the skin edges in standard fashion. *Note: If the earlobe is thick, the W-plasty only needs to be done for the lateral flap, and the medial flap can be closed with 5-0 or 6-0 polyglactin 910 sutures subcutaneously and 5-0 fast-absorbing gut or 6-0 polypropylene sutures through the skin.*
5. Follow Steps 10 and 11 as noted above.

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