Otoplasty

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ESSENTIALS OF DIAGNOSIS

- *Prominauris (prominent ears) occurs in approximately 5% of the population.*
- *Knowledge of anatomy, embryology, and normal aesthetic proportions is essential for accurate diagnosis and surgical treatment of auricular deformities.*
- *Conchal prominence and the absence of an antihelical fold represent the most common causes of prominence of the ears.*
- *Although there are hundreds of techniques to correct auricular prominence, the most common are suture techniques for conchal setback (technique of Furnas) and for creation of an antihelical fold (technique of Mustarde).*
- *Otoplasty refinement techniques exist for deformities such as large earlobes and excessive helical prominences.*
- *Complication rates from otoplasty range from 7% to 12% and may be subdivided into early, late, and aesthetic/anatomic in etiology.*
- *Auricular hematoma occurs in 1% of otoplasties. Complaints of unilateral pain or tightness within the first 48 hours postoperatively require prompt removal of dressings to examine the wound site for hematoma collection.*

General Considerations

Deformities of the external ear, specifically prominent ear deformities, are relatively common. While posing negligible physiologic consequences, prominent ear deformities can be a source of profound psychological stress on the patient. Dieffenbach is credited with performing the first otoplasty in 1845 through resection of postauricular skin and conchomastoid fixation. Since that time, hundreds of techniques have been reported for correction of the prominent ear. Proper analysis, in combination with meticulous surgical technique, can optimize form, symmetry, and ultimately patient satisfaction.

ANATOMY & EMBRYOLOGY OF THE AURICLE

The external ear is a composite of cartilage and skin. Important topographic landmarks of the external ear include the circumferential structures of the helix, tragus, and lobule (Figure 78–1). These structures encase a multitude of well-described folds and involutions of the external ear, such as the conchal bowl, which is subdivided into the superior cymba concha and inferior cavum concha by the anterior helical crus. The antihelical fold courses superiorly and anteriorly, dividing into the superior crus and sharper inferior crus. The resulting depression that is formed between the antihelix and the helix is known as the *scaphoid fossa,* and the depression that is formed between the superior and inferior crura of the antihelical fold is known as the *triangular fossa.*

Embryologically, auricular development is first seen in the 5-week embryo and stems from six mesenchymal proliferations, or hillocks, of the first (mandibular) and second (hyoid) branchial arches. These primitive hillocks develop into mature auricular landmarks. Most of these anatomic landmarks are derived from second arch structures (helix, scapha, antihelix, antitragus, lobule), and a less significant contribution is made by first arch components (tragus and helical crus).

The ear consists of six clinically insignificant intrinsic muscles (major and minor helices, tragus, antitragus, transverse, and oblique muscles) and three extrinsic muscles that contribute minor structural support to the ear (anterior auricularis, superior auricularis, and posterior auricularis muscles). The arterial blood supply to the external ear is derived from the superficial temporal, posterior auricular, and occipital arteries. Motor innervation to the external ear, which varies among individuals, is supplied by the facial nerve. Multiple nerves are responsible for sensation to the auricle and include the lesser occipital, greater auricular, auriculotemporal, and Arnold's (CN X) nerves.

Janis JE, Rohrich RJ, Gutowski KA. Otoplasty. *Plast Reconstr Surg.* 2005;115:60e. [PMID: 15793433] (Comprehensive review