

Pediatric Esthetic Otoplasty



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KEYWORDS

• Otoplasty • Esthetic ear surgery • Auricular deformity • Prominauris • Cartilage suturing

KEY POINTS

- Otoplasty is a thinking–surgeon’s operation, much like rhinoplasty, that requires assiduous planning and execution.
- Meticulous attention to detail is required during initial patient evaluation, including less commonly appreciated features such as asymmetries, cartilaginous contours, and abnormalities of the scapha and lobule.
- Suture techniques provide a more predictably natural auricular contour compared with cartilage-cutting otoplasty but potentially at the expense of diminished stability of the correction over time.
- Conchal setback sutures should be placed before antihelical contouring, because much of the medialization desired can be achieved in this manner, while obviating over-tightening the antihelical sutures.
- A single triangular fossa–temporalis fascia suture can help address persistent overprojection of the superior pole.

INTRODUCTION/OVERVIEW

Auricular deformities in children are a frequent source of ridicule and ruthless taunting by peers, beginning at an early age.¹ “Bat ears,” “elephant ears,” “Dumbo ears,” and “donkey ears” are only some of the unflattering names heard in association. As such, cosmetic ear problems, none more common than protruding ears, or *prominauris*, frequently impose developmental psychological problems on young children, including behavioral disturbances such as aggression and petulant behavior, social phobias, neurosis, and feelings of insecurity.² Such issues may impact social development and persist in later stages of life. One particular study demonstrated that 40% of adolescents with problem behaviors had auricular

deformities.³ Adults with auricular deformities frequently continue to suffer from varying levels of insecurity and may contemplate corrective surgery for years while attempting to hide their ears with camouflaging hairstyles. Thankfully, there are techniques today that allow for correction of these deformities with minimal pain and require limited time away from school and extracurricular activities.

Surgical techniques for correction of auricular deformities have evolved considerably over time. The expansive history is detailed in other works of the senior author.^{1,4} Despite inventive and varied contributions to esthetic correction of the malformed auricle by surgeons over the last century, modern-day “cartilage-sparing” techniques have only evolved since the 1960s. Notable

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contributions include those of Mustarde⁵ and Furnas,⁶ who influenced the shift in philosophy away from cartilage-cutting otoplasty techniques. The more aggressive excisional techniques can result in contour irregularities, auricular instability, and an operated appearance. It should be noted that cartilage-cutting techniques are still more commonly applied in certain parts of the world such as Europe.⁷ Cartilage-sparing surgery involves reshaping techniques using sutures; these have been largely adopted in North America. These more conservative techniques, which attempt to re-create and strengthen the antihelical fold by folding scaphal cartilage using permanent transcartilaginous sutures (Mustarde), and setback the concha using tacking sutures to the mastoid periosteum (Furnas), provide a more predictably natural auricular contour. They also help eliminate unsightly cartilage ridging, which commonly results from resection techniques. These advantages are, arguably, at the expense of diminished stability of the correction over the long term.

Furnas later described additional suture methods, including fossa triangularis-temporalis fascia sutures to medialize a protruding superior crus and lobule-mastoid sutures to medialize a prominent cauda helicus.⁸ Webster⁹ is credited with assimilation of many of these available techniques to provide a comprehensive approach to otoplasty, including posterior skin and soft tissue excision, circumspect conchal resection, anterior cartilage scoring, and application of suture techniques as described.⁶ The senior author's current philosophy and approach to pediatric otoplasty have largely evolved as an adaptation of the historical techniques already mentioned, principally relying on suture techniques with adjunctive cartilage scoring or shaving performed in rare cases as required. The authors' most updated methodology is shared in this article.

CLINICAL ASSESSMENT

As is the case with all facial plastic surgical procedures, pediatric otoplasty requires meticulous attention to detail including careful patient evaluation during consultation and astute preoperative planning to optimize outcomes. The surgeon must have an appreciation for facial esthetics, which is expected of the facial plastic surgeon but, naturally, less of a focal point for the pediatric Otolaryngologist. Extensive knowledge of ear anatomy and a firm understanding of the rationale for the various techniques applied are required.

As of the 1990s, nearly two-thirds of the senior author's otoplasty cases had been performed on the pediatric age group, with 50% of patients

falling between the ages of 5 and 9 years of age.¹⁰ Since that time, most cases have been performed on adults, many of them revisions, which reflect the author's transition to a mostly noninsured private practice.

In general, the multimodal peaks in demand for otoplasty coincide with early school years, adolescence, and early adulthood, when social pressures reach their pinnacle.¹ Patients should be considered for otoplasty no earlier than age 5 when the auricle's size and strength approximates its mature form but remains pliable and elastic. These features diminish with age, necessitating more aggressive treatment in older patients. Five is also the approximate age when children begin to notice abnormalities in others, and teasing may begin. As this also happens to be a key childhood stage of social growth and identity development through interaction with peers, surgical correction at this stage is almost a way of "protecting" children from senseless bullying.¹¹

During the initial patient evaluation, it is extremely important to elicit both the child's and their parents' specific concerns about their ears. Needless to say, young children will often be unable to voice specific cosmetic concerns and are more likely to share their general distress imposed by their esthetic disadvantage. In other instances, the decision to proceed to surgical consultation might be solely the parents' initiative, with the best interest of their child in mind. Parents should be asked about school performance, self-esteem, and potential bullying and teasing within the classroom. A medical history should be elicited, including associated medical conditions and fitness for surgery, developmental history, allergies, and medications. As the inheritance of auricular deformities is autosomal-dominant with variable penetrance, and close to 60% of otoplasty patients have a family history,¹¹ an extended family history of auricular deformities and associated syndromes should be investigated. Potential familial concerns, such as bleeding tendencies, pathologic scar formation, and potential anesthetic concerns such as pseudocholinesterase deficiency, should be elucidated.

On physical examination, each ear must be examined in isolation and in relation to each other. Although both ears tend to share similar characteristics, they are not infrequently affected to varying degrees by deformities, and in some instances, only one ear is affected. Asymmetries in contour, projection, and size must be noted and brought to the attention of the parents, as some of these elements may be difficult or impossible to correct. The individual anatomic features of the auricle should be noted and recorded in a systematic way, effectively taking note of each anatomic

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