Otoplasty

In the expanding field of Facial Plastic Surgery, Otoplasty is one of the operations trainees are exposed to early in their career. Approximately 5% of the population have protruding ears making it the most common malformation in the head and neck. For what seems to be a relatively straightforward procedure, there is a bewildering array of literature dating back to the late 19th century, which, like Rhinoplasty, can be confusing to the neophyte surgeon. Ears are unique with no two being the same and minor variations are generally not noticed (look at photos of Frank Sinatra). Where there is a size difference of 15% or greater, then the discrepancies between the two sides start to be noticeable. What is frequently noticed by patients seeking surgery, is excessive prominence of one or both ears, and occasionally abnormalities of position or rotation of the pinna, or lobule. Failure of the folding of the antehelix or hyperplasia of the conchal bowl are the main structural abnormalities.

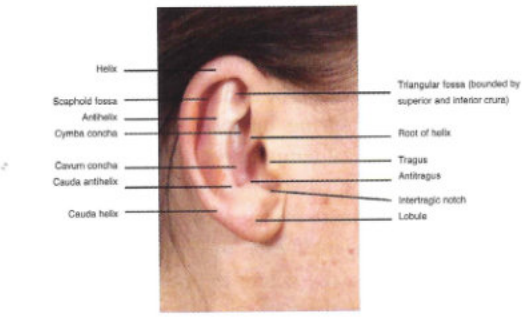

Figure 1:
Ear anatomy annotation for pinnaplasty.

It should be remembered that a neonate's ears are mouldable at birth and taping back over a suitable mould ('Earbuddies') may obviate the need for surgery later in life.

The normal ear averages 55-65mm in length with the long axis inclined 10-15° posteriorly (Figure 1). Two further angles are important. Firsly, the auriculocephalic angle, normally 25-35°. More than 45 degrees is a protruding ear. Secondly, the angle defined at the inferior crus, the scaphaconchal angle, which should be less than 90°. Greater than 90° makes the triangular fossa and the upper pole of the ear face forwards.

An important aspect of assessment is palpation of the cartilage - soft cartilage, which will roll easily, will be suitable for a suture technique. More rigid cartilage is likely to require a combination of techniques to achieve a stable remodelling of form. Finally, the lobule, which hangs off the cartilage framework, is assessed for size and position.

Figure 2:
Mustarde sutures, conchal setback, lobule stitch.

Care should be taken to exclude all hair from the operative field by taping and drapes. A single dose prophylactic antibiotic is given at induction as infection in the cartilage is a disaster.

Reshaping the cartilage

Permanent sutures, posterior incisions, anterior scoring and combinations of these techniques are the main methods available and some judgement is required as to when to apply them (Table 1).

In all techniques, control of bending and predictable healing are needed to achieve symmetrical results. The summit of the new antehelix should always be marked.

Individual horizontal mattress sutures described by Mustarde[1] are the best for soft pliable cartilage allowing precise modelling of the antehelix and superior crus. The suture should be placed at right angles to the intended new fold and between three to six may be required per ear. The sutures include the perichondrium and are placed close together to prevent bucking. This technique avoids anterior skin elevation, eliminates the risk of haematoma, and does not cause irregularities of the surface of the cartilage. Braided polyester ('Ti cron') 3/0 or 4/0 tendon sutures work well producing little trauma to the cartilage.

Table 1.

Abnormality	Feature	Technical solution
Antihelix	Soft cartilage	Mustarde sutures
	Firm or strong cartilage	Posterior incisions/anterior scoring +/- sutures
Conchal bowl overgrowth	Prominent lateral anterior antehelix	Conchal setback +/- posterior shave excision of cartilage
Lobule protrusion	Prominent cauda helicis	Section and repositioning of cauda or mattress suture to cavum