NEOMALLEUS OSSICULOPLASTY
Neomalleus ossiculoplasty. Use of an organic strut overlying a malleus-stapes/footplate assembly device in absent malleus cases to recreate an assembly situation.
Columella ossiculoplasty, the alternative to neomalleus methods. The columella may extrude, displace, or fixate.
Malleus stapes angulation effect. If the angel exceeds 45°, vector force is diminished and a “wobble” effect emerges. Concurrent instability on the stapes head.
Indirect/Inverted-L malleus-stapes assembly: effect of angulation, producing an “elbow” protrusion against the drum, risking pressure, dehiscence and extrusion.
Neomalleus theory. Resiting the drum strut over the stapes increases vector force transmission and protects the underlying prosthesis from drum biomaterial reactions.
Neomalleus technique. Rotation of the drum strut to overly the stapes site for optimal audiological and durability effect.
Neomalleus technique to replace the malleus and incus, using a Spanner malleus-stapes reconstruction.
Neomalleus chain reconstruction of a site lacking a malleus, incus and stapes superstructure, employing a Spanner malleus-footplate device.
Neomalleus reconstruction using a strut fashioned from cortical bone.
Spanner extrusion after a neomalleus procedure utilising cortical bone as the drum strut. As with previous ossiculoplasty experience, cortical bone is unreliable.
Neomalleus chain reconstruction using a strut of autograft conchal bowl cartilage.
Spanner protrusion after resorption of an autograft cartilage strut, thought to be secondary to removal of perichondrium, predisposing the cartilage to gradual necrosis.
Definitive neomalleus strut, using helical rim cartilage with attached perichondrium to maintain vitality.
Helical rim cartilage neo-malleus strut donor site. The overlying skin is rolled anteriorly, hiding the incision deep to the rim.
Reconstruction of the entire ossicular chain. Helical rim cartilage strut overlying a Spanner MFA. The strut is rotated posteriorly to lie directly lateral to the stapes footplate.
Helical rim strut neomalleus repair. The posterior drum has been grafted with a cartilage composite graft to repair severe adhesive otitis.
Neomalleus strut and composite graft drum and chain reconstruction. The strut lies parallel to and posterior to the anteriorly placed malleus handle.
Cartilage strut neomallues. Total drum grafting using a tragal perichondrial graft.