OSSICULAR RECONSTRUCTION

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Wullstein classified the middle ear operations as types I through V, based on concepts of sound transformation at OW and sound protection of RW.

A modified version of Wullstein's classification for tympanoplassty (1990):

- Type 1: Repair of TM without altering the Ossicular system
- Type 2: Repair of TM & Ossicular chain with restoring Lever mechanism
- Type 3: Repair of TM with direct Transduction from TM to Stapes
- Type 4: Repair of TM with direct Connection of TM in mobile foot plate
- Type 5: Repair of TM with direct Connection of TM in fixed foot plate
TYPE 2 TYMPANOPLASTY

Preserving Lever mechanism

Reconstruction with:

- Synthetic Prosthesis
- Bone Strut
- Bone Cement
TYPE 3 TYMPANOPLASTY

- **Stapes Columella**

  *Direct connection between*

  *Tympanic Membrane &*

  *Capitulum of Stapes*
TYPE 3 TYMPANOPLASTY

- Stapes Columella
- Minor Columella
TYPE 3 TYMPANOPLASTY

- Stapes Columella
- Minor Columella
  - Interposition
TYPE 3 TYPANOPLASTY

- **Stapes Columella**
- **Minor Columella**
- **Interposition**
TYPE 3 TYMPANOPLASTY

- Stapes Columella
- Minor Columella
  - Interposition
  - Inposition
TYPE 3 TYMPANOPLASTY

- **Stapes Columella**
- **Minor Columella**
  - **Synthetic:** PORP
  - **Biomaterials**
TYPE 3 TYMPANOPLASTY

- Stapes Columella
- Minor Columella
- Major Columella
  - Synthetic: TORP
  - Biomaterials (Incus TORP)
Nadol Jr. JB, McKenna MJ. *Surgery of the ear and temporal bone*, 2nd edition, 2005, Lippincut Williams & Wilkins, Philadelphia, USA


THANKS FOR YOUR ATTENTION