OSSICULOPLASTY
PROGNOSIS
Case Evaluation

- Ossicular chain
- Other ear aspects
- Patient general condition
OSSICULAR PROGNOSIS
1991 Spite Method

- **Surgical Difficulty**
  - Prosthetic
    - Malleus lost
    - Stapes superstructure lost
    - 50+ low frequency ABG
  - Infection: chronic / myringitis
  - Tissues: poor quality, deep EAC
  - Eustachian: collapse, effusion
Ossiculoplasty Prognosis

Surgical complexity

Mucosa
- Adhesions, tympanosclerosis

Ossicles: Black ABCDE method

Tubal function
- Effusion, drum collapse

EAC
- Myringitis, EAC obliteratorative fibrosis

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Surgically complex congenital ear deformity. Ossicular malformations and fixation likely. Guarded prognosis.
Radical mastoidectomy cavity. Complex wall, drum and chain repair combination required, tubal function suspect.
Complex surgical situation: gross attic erosion, probable group D/E chain, Stage IV* adhesive otitis: severe cholesteatomatous collapse and chronic effusion.
SMOTE Evaluation

Mucosal Aspects
Gross mucosal damage from advanced chronic otitis media. High adhesion risk. Chain and tubal status uncertain.
Gross mucosal loss due to marked drum collapse and cholesteatoma formation. Probable concurrent tubal insufficiency, loss of incus and stapes, diseased malleus handle.
Gross drum collapse, adherent to the medial wall with concurrent extensive mucosal loss. Total ossicular loss.
SMOTE Assessment
Ossicle (Pre-repair) Classification

- **+** MALLEUS
- **--**

A

+ STAPES

- **--** UNUSABLE MALLEUS = MALLEUS ABSENT

B

Compromised stapes

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Ossicular Classification

Points to note

- Classification as estimated at the moment of repair
- Assembly-unusable malleus = no malleus (necrosed, diseased, displaced, fixed)
- Stapes superstructure unusable for MSA = no SSS
- Includes Group E stapes compromised cases
Group A loss of incus. Malleus handle and stapes superstructure present and in useful relationship for a malleus-stapes assembly reconstruction.
Group B loss of incus and stapes superstructure. Tympanosclerotic drum, but the ear remains aerated indicating a functional Eustachian tube.
Group C: necrosed and shortened malleus handle, but the stapes superstructure remains mobile. Total drum loss secondary to scarlet fever.
Group E: An aberrant facial nerve occluding the oval window. Despite the absence of concurrent other pathology, the ossicular prognosis is very guarded.
Group E: A large mass of tympanosclerosis is causing severe stapedial fixation. The prospects for optimal audiological results are poor.
Severe middle ear disease: Myringitic canal, total drum and incus loss, diseased malleus handle, severely fibroosed and diseased stapes site. Staging required.
SMOTE Evaluation

Tubal aspects
Stage I* adhesive otitis: mild collapse but an effusion present. Group A chain: if fixation requires an ossiculoplasty, poor tubal function may frustrate an optimal outcome.
Chronic right eustachian insufficiency. In ossiculoplasty cases this may indicate insuperable tubal problem that will prevent satisfactory hearing outcomes.
Group D/E chain, secondary to Stage IV (cholesteatomatous) adhesive otitis. The stapedial status is uncertain; enveloping epithelium may dictate staged surgery.
Group C case; the malleus is adherent to the promontory, with attic fixation, requiring removal. Stage III* adhesive otitis: Gross collapse and chain fixation, plus effusion; ossiculoplasty prognosis is poor.
SMOTE Evaluation

EAC aspects
Diffuse chronic myringitis covering drum remnants and coating the deep EAC, large drum defect. Significant post surgery fibrosis over the drum.
Chronic otitis with chronic myringitis extending over the anterior angle. Removal incurs a risk of blunting and residual conductive deafness.
Deep EAC obliterative fibrosis. Repair will require excision of the fibrous plug, split skin grafting and possible tympanoplasty if secondary to old COM. Potential for a variety of difficulties.
Other Case Pathology
Tissue Considerations

- Advanced age
- Immunological insufficiency
- Poor general health
- Malignancy
- Chronic smoking
Advancing age. Suspect tissue vitality may prolong or impede optimal healing, leading to graft breakdown, myringitis or infection.
Radionecrosis secondary to previous skin cancer irradiation. Stenosing EAC and devitalised tissues that may not heal satisfactorily, become infected or abruptly necrose.
Squamous cell carcinoma of the temporal bone. Subtotal petrosectomy required, ossiculoplasty impossible or with very tenuous prognosis.