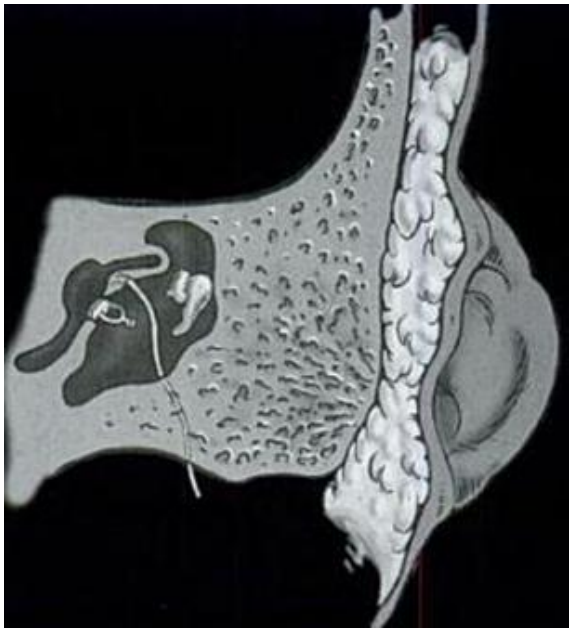
Microtia
the GOS approach



Microtia - small ear

1st Clinic visit

- Information
- Early provision of BC aid
- Optimistic, positive approach
- Balanced view of alternatives
- No decision until later

Key Parental Questions

- Why did this happen?
  - Did I do anything wrong?
- What can be done about it?
  - Hearing loss
  - Cosmetic appearance
- Will it happen again?
  - Recurrence risk
  - Offspring risk

Examination

- Position of microtic ear - often low and anterior with reduced distance between glenoid fossa and mastoid

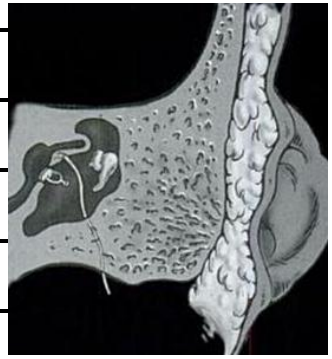
- "normal" ear - ? minor abnormalities of the pinna or canal
-
- Skin tags / pre-auricular tracts
- ?Facial palsy
- ?syndromic features

Suitable for rib reconstruction?

Initial discussion with parents

Surgical options for *middle* ear

- Unilateral atresia – Monitor "good ear"
  - Avoid good ear surgery
  - School support
  - ?*Offer unilateral BAHA*
  - Otosurgery
    - if type I
    - once old enough



- Bilateral atresia - usually osseointegrated Hearing Aid
  - (Bone Anchored Hearing Aid-BAHA)
  - *? Bilateral BAHA*

Initial discussion with parents

Surgical options for *external* ear

Hearing assessment

- Initial:
- “Good” side: Otoacoustic emissions or Air Conduction Brain Stem Evoked responses
- For affected side: Bone Conduction Brain Stem Evoked responses

- Later:
- Distraction
- VRA (visually reinforced audiometry)
- Conditioning (free field)
- Pure Tone Audiogram
  - AC/BC (air conduction and bone conduction)

Cool BC aid or Softband

CT scan

- Age 4-5 years?

- To assess feasibility of surgery
- Jahrsdoerfer Classification
-
- To exclude congenital cholesteatoma?

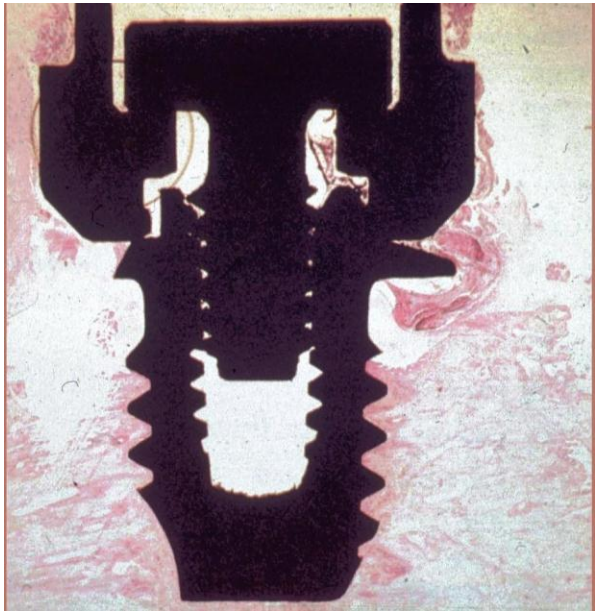
- Parental wishes

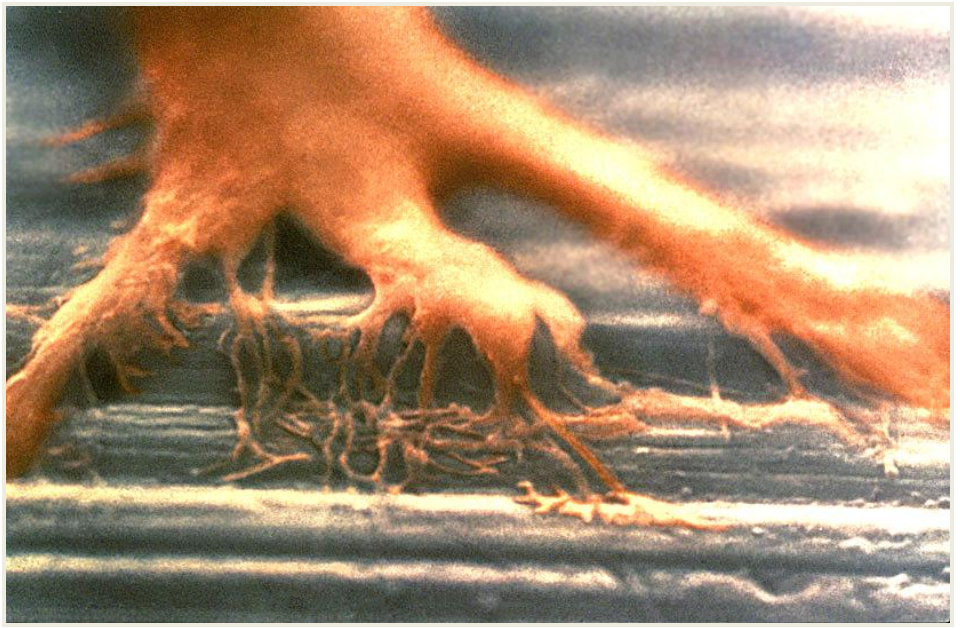
Middle ear reconstruction

- “Surgical repair of congenital aural atresia attempts to restore natural hearing to the ear.”
- “In selected patients, the chances of achieving normal or near normal hearing with surgery approach 90-95%.”
- “Not all children are candidates for atresia surgery.”
- “We predict that a child with a 7/10 has a 70% chance of achieving normal or near normal hearing; an 8 out of 10 protends an 80% chance; a 9/10 predicts a 90% chance. I generally do not recommend atresia repair,, until the child is old enough to cooperate with postoperative care.”
-

Osseointegration

- for hearing aids and prosthetic ears





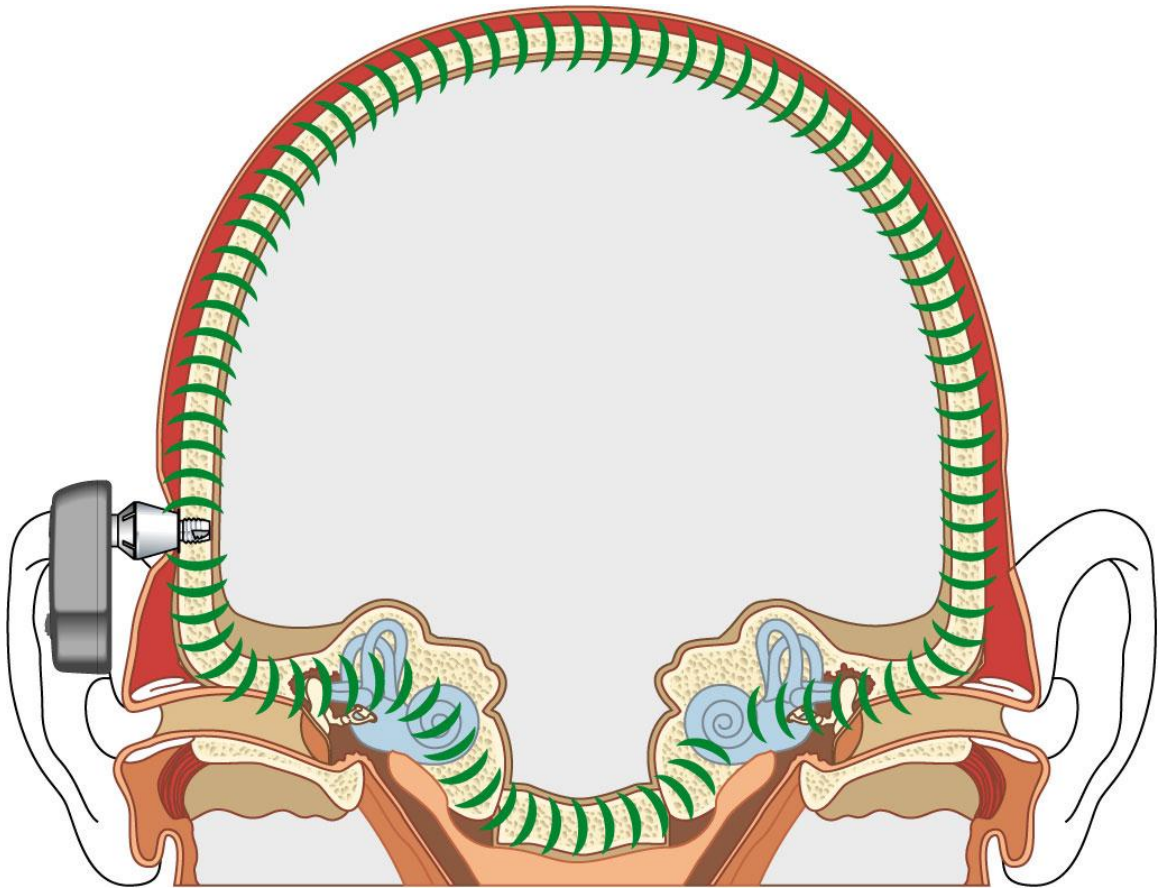
No capsule between bone and metal

"*direct contact between living bone and a loaded implant surface*"

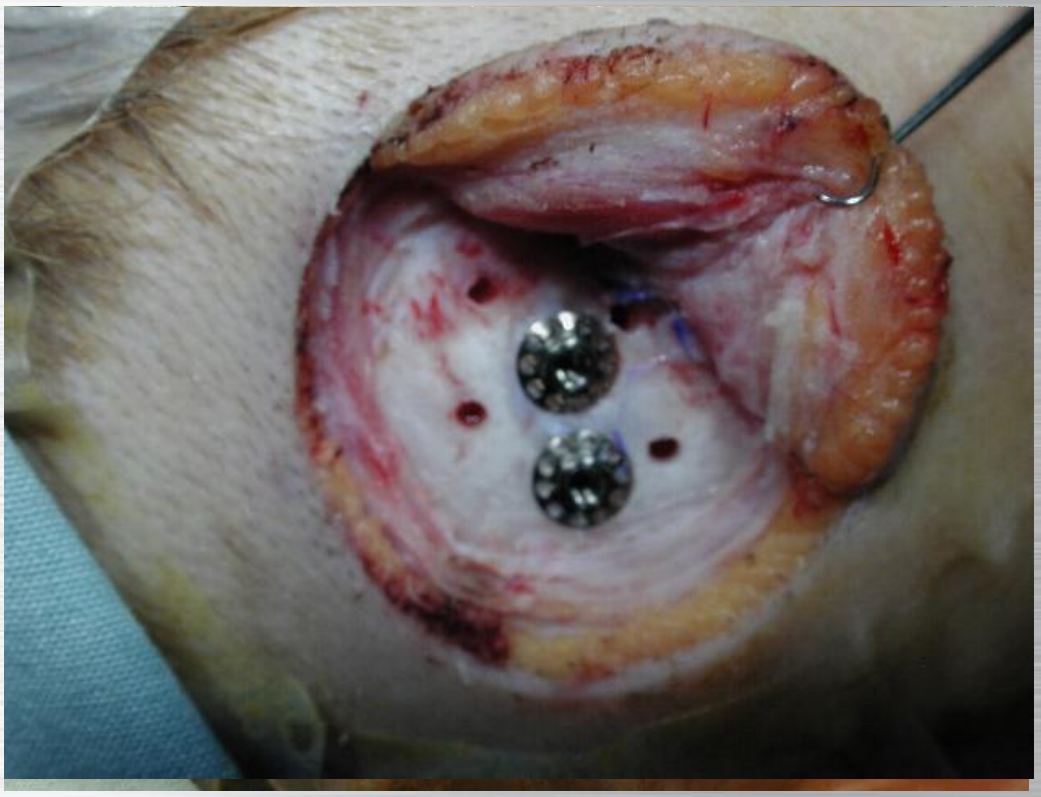
1977 - First Patient Treated

Approved in US in 1996

Direct Bone Conduction



Stage 1 - fixture



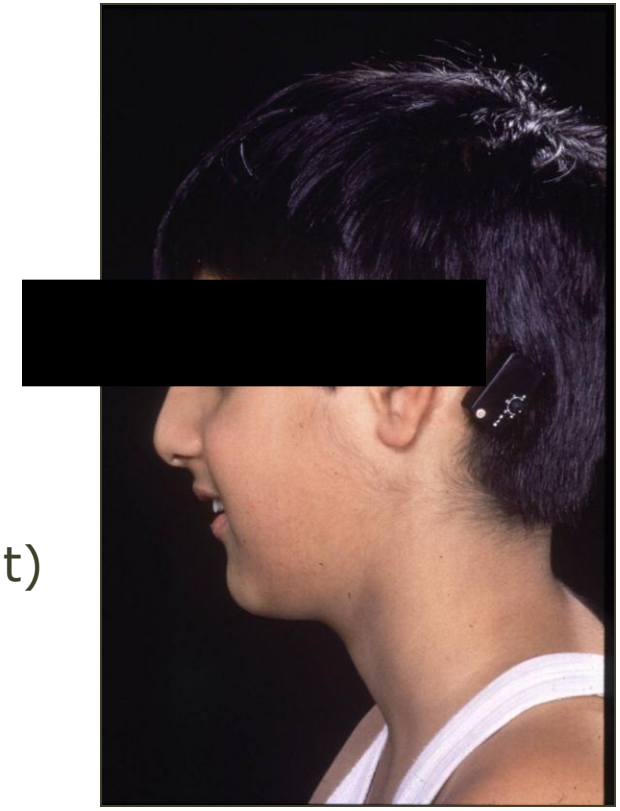
Bone anchored hearing aid

Device

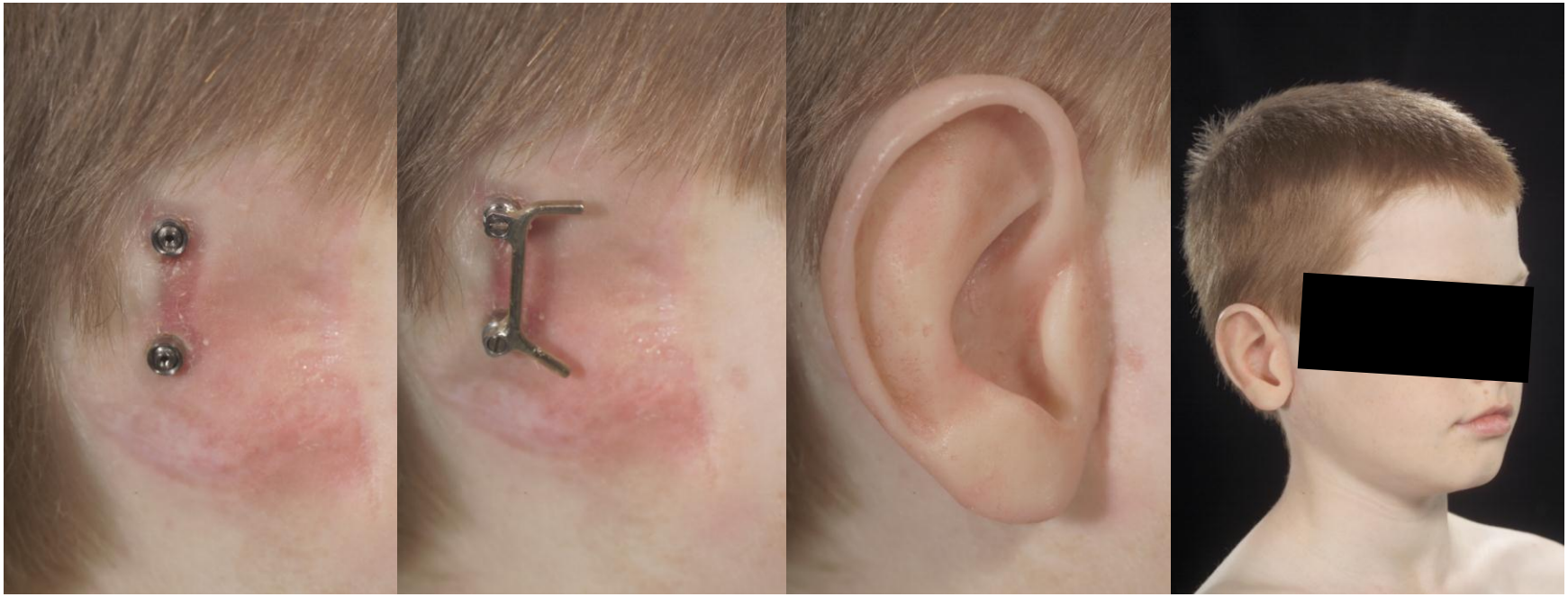
(push fit)

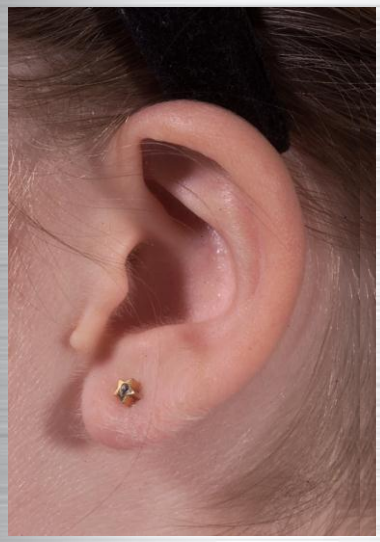
Abutment and screw

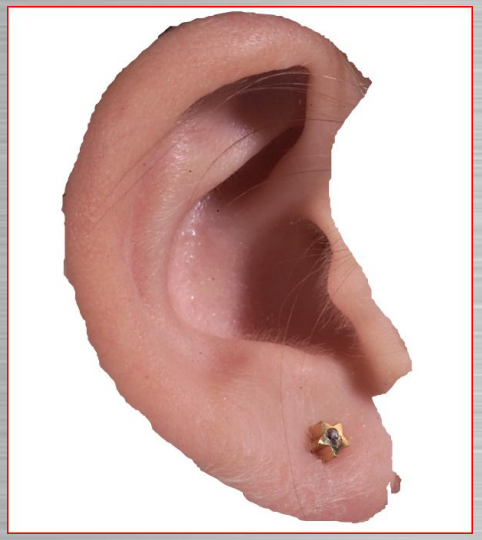
Fixture - osseointegrated



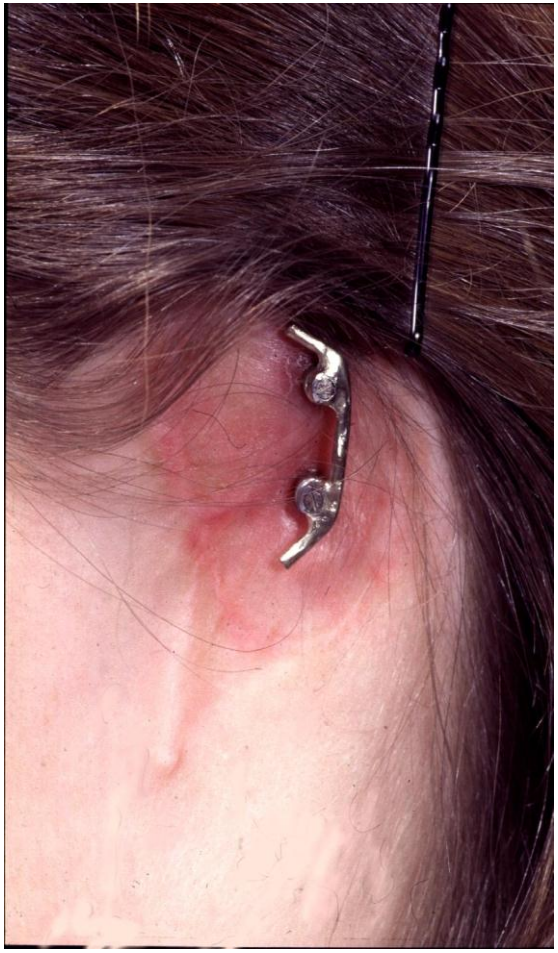
Prosthetic ears

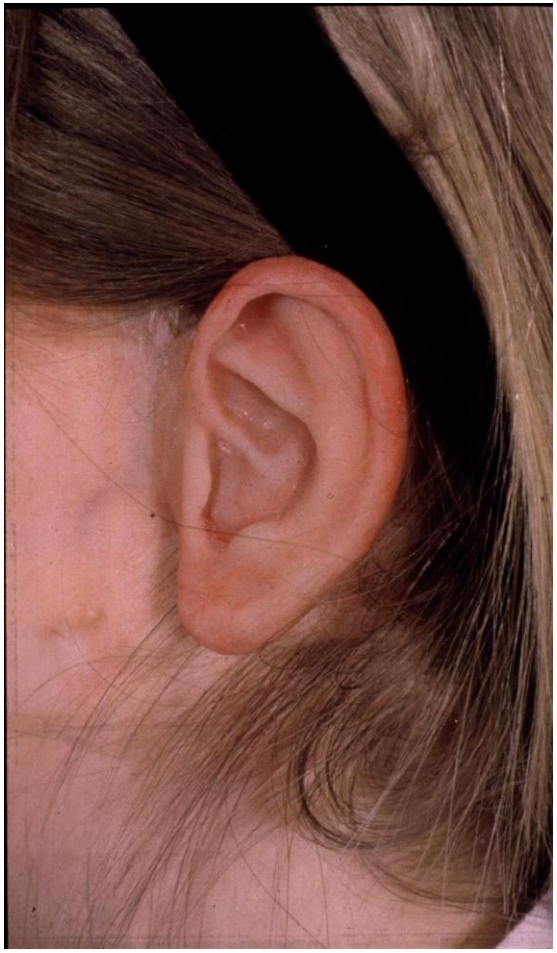




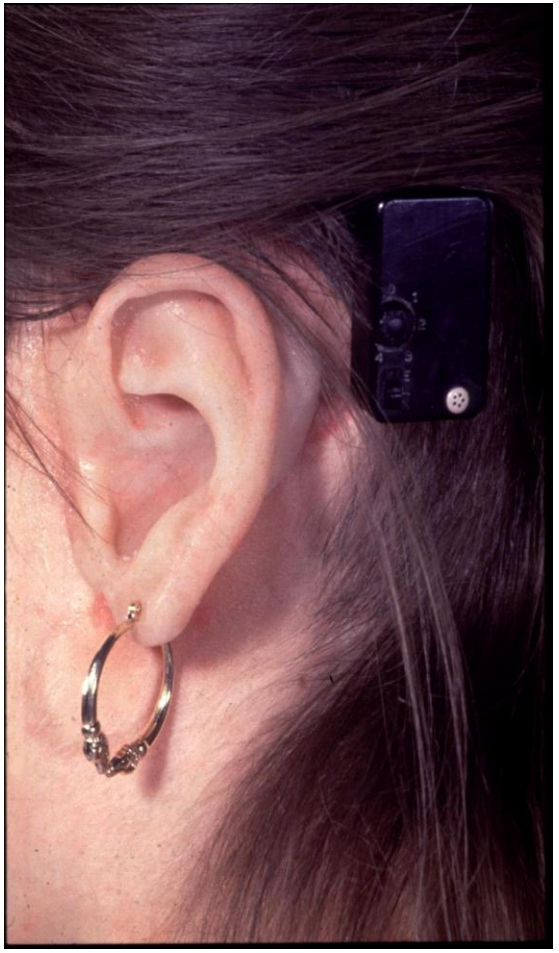




Prosthetic ears



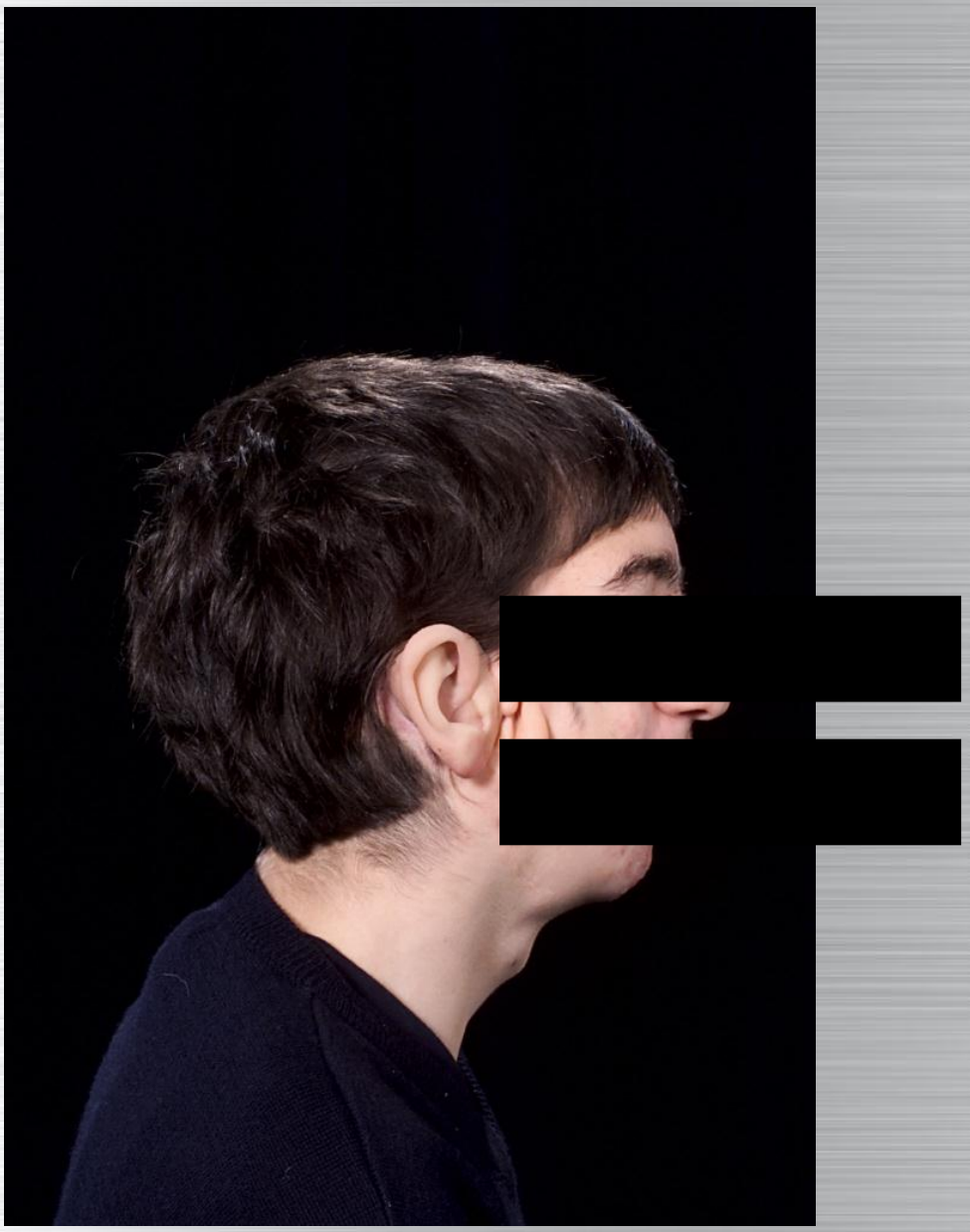


Prosthetic ears



Prosthetic ears

Prosthetic ears

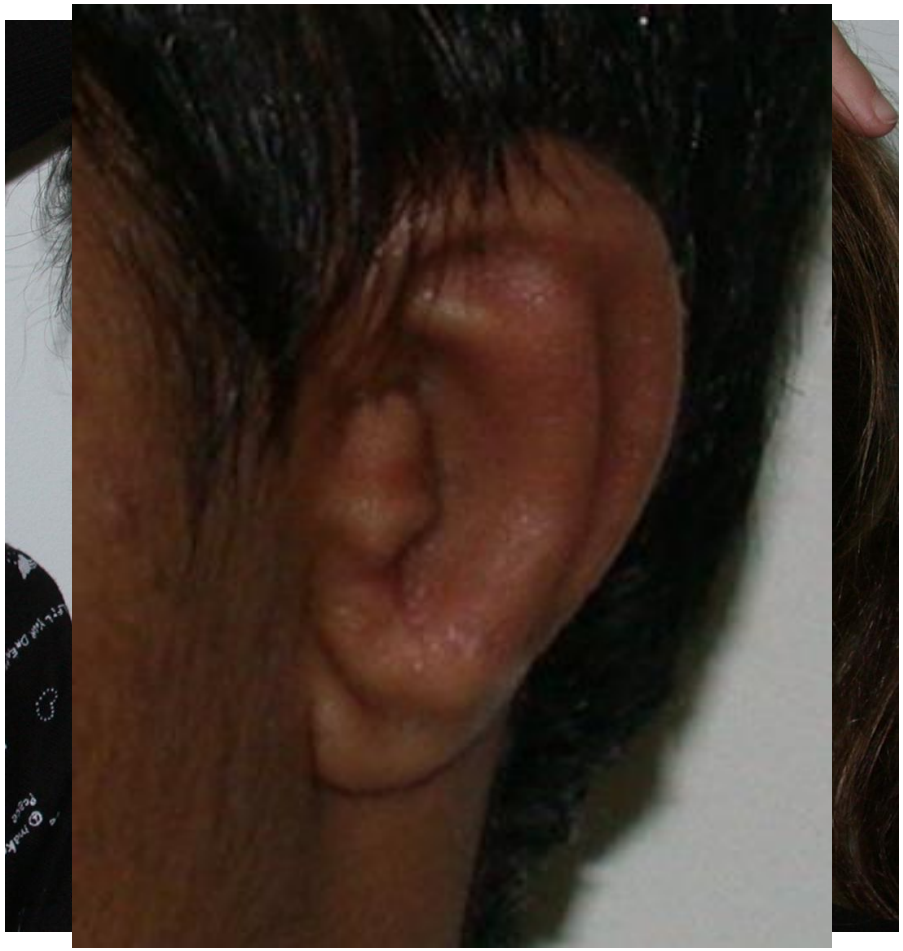


Microtia 2009 Thomas Jefferson University

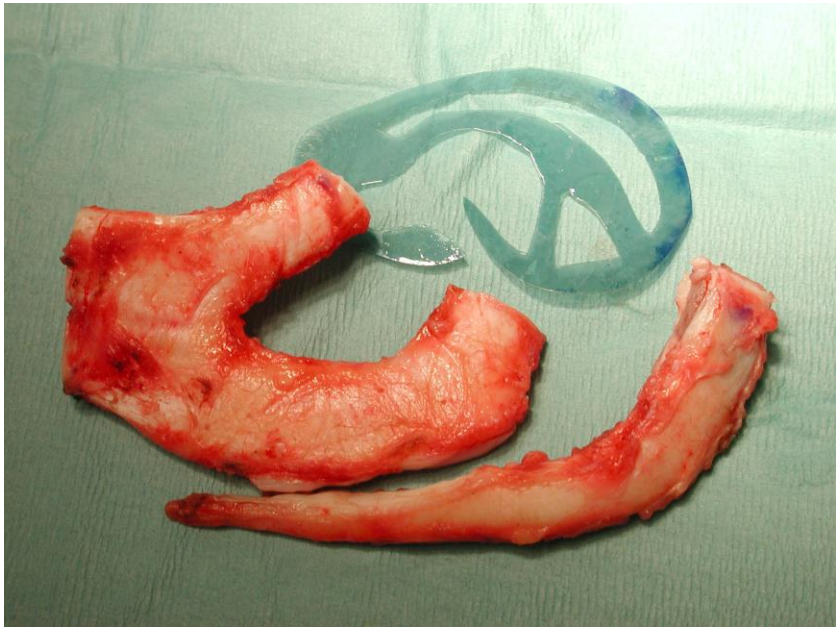
Higher complication rate in paediatric population

- Non integration
- Trauma
- Higher rate of skin reaction
- Bone overgrowth

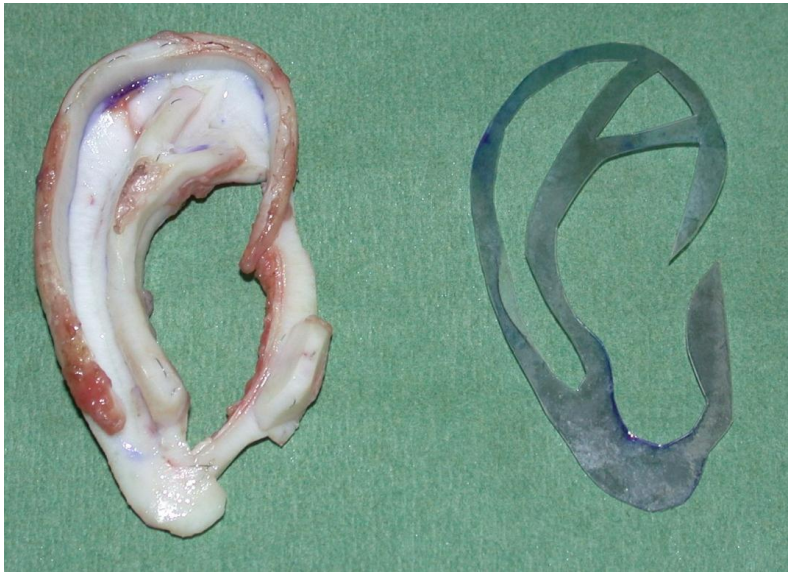
Rib cartilage reconstruction



Rib cartilage reconstruction



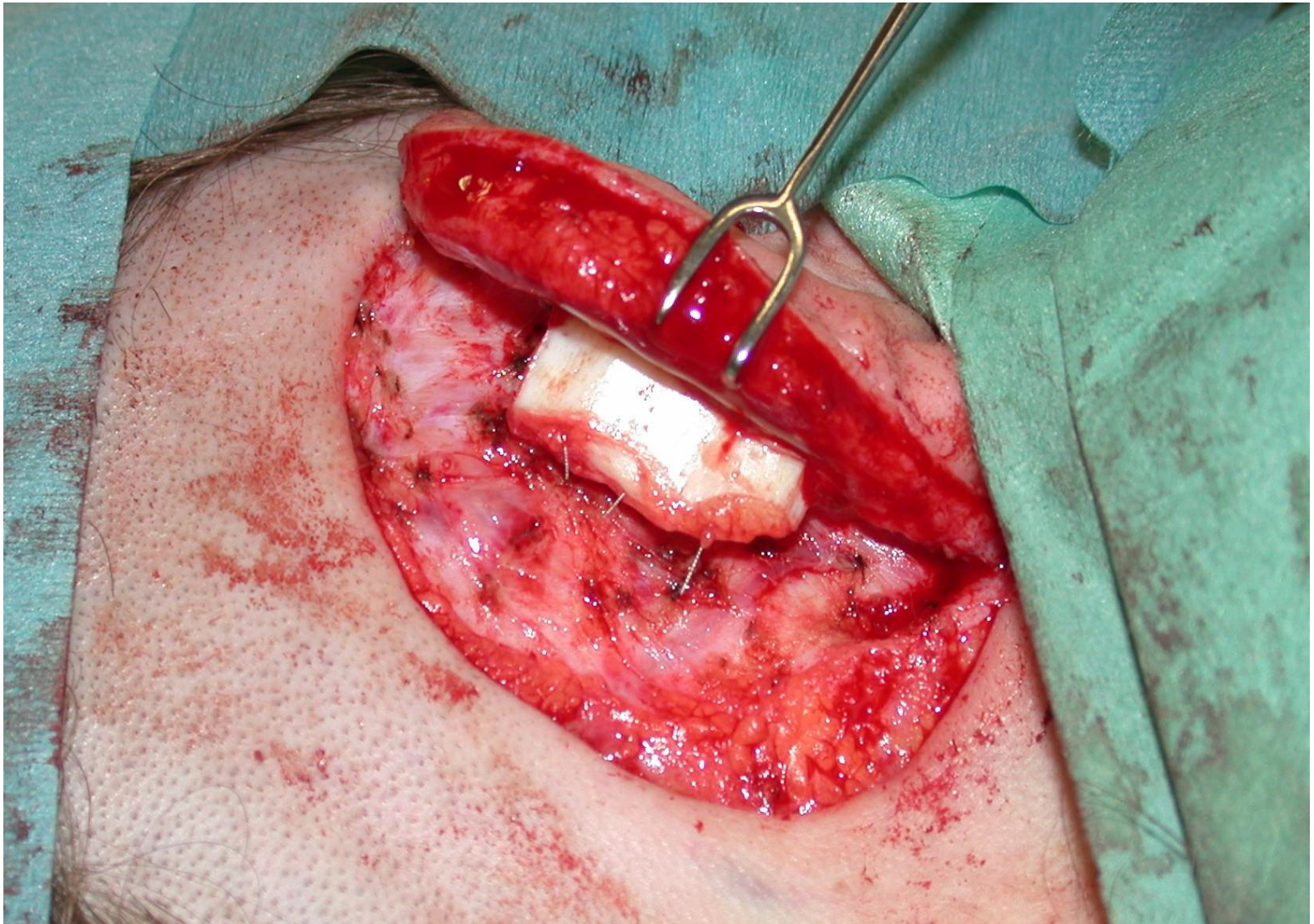
Rib cartilage reconstruction



Rib cartilage reconstruction

Rib cartilage reconstruction

2nd Stage



2nd Stage

Bilateral Ear Reconstruction

Prosthetic Ear vs Rib reconstruction

- Predictable and adjustable results with few contraindications
- But..
- Needs maintenance

- Own tissue
- Can always convert to BAAP
- But..
- Not for all

Same age for both

20 years of the Microtia clinic

- 6 clinics per year
- 8 new patients per clinic
- Over 660 patients in database

- 260 patients: chose rib reconstruction
- (over 400 ears to date)
- 23 patients: prosthetic ears
- Remainder: chose no treatment
- or waiting for surgery

Thank you