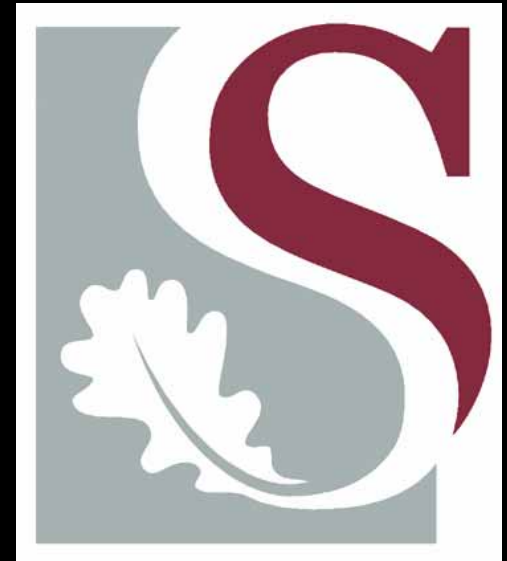


HEARING LOSS IN CHILDREN

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CHILDHOOD HEARING LOSS: CAUSES

● CONDUCTIVE

Common:

- MEE / OME
- Perfs/CSOM

Rare:

- EAC: eg
 - Microtia
- TM:
- Middle ear:
 - Ossic.Chain

● SENSORINEURAL

(Cochlea/CN VII/Central)

- In Utero: -Genetic
 - Non-genetic
eg Rubella
- Birth: Hypoxia, etc
- Neonatal: Kernicterus,
prem., etc
“High risk”
- Childhood: Meningitis
Childhood viral
illnesses

IMPORTANT FACTS ABOUT HEARING LOSS IN CHILDREN:

- A child's brain has a unique ability, "brain plasticity" for learning language / speech, which is of limited duration (from birth to ~6-10 years).
 - The child must hear to learn speech
 - Time lost is very difficult to catch up
 - No speech by 6-10yrs means no speech forever
- Diagnosing hearing loss in children, especially "prelingual" children, presents special difficulties: of co-operation, comprehension, concentration. Need special tests / techniques.

DIAGNOSING HEARING LOSS IN CHILDREN:

- ~1/1000 children severe S-N hearing loss –
~ half hereditary, half acquired
- Should have Universal Neonatal Screening:
using objective screening tests: OAE / ABR
- Infant screening: Milestones/developmental
questionnaire: 7-8/12
- Manchester rattle: no longer used
- School screening: too late
- Importance of awareness esp. maternal

● HISTORY:

● IS THERE A HEARING LOSS?:

- What does mother think?
- How severe? (?Severe S-N or mild conductive?)
- Responsiveness to calls when not looking?
- Speech development for age?
- TV volume?
- School progress? (older child)

● CAUSES:

- Familial?
- In utero – pregnancy? eg rubella
- Birth? eg hypoxia
- 1st month? eg ventilated, jaundiced
- Childhood? eg meningitis, childhood diseases

● OTHER MILESTONES / DEVELOPMENT

- **EXAMINATION:**

- General appearance of child (syndromes)

- Pinna (microtia)

- Ext. Aud. Canal

- T. M.: NB Mobility

- Clinical tests of hearing:

- Voice tests

- Tuning fork tests: (from age 5+)

● SPECIAL INVESTIGATIONS:

● ADULT AUDIOMETRY (age 5+)

● PLAY AUDIOMETRY

} Subjective

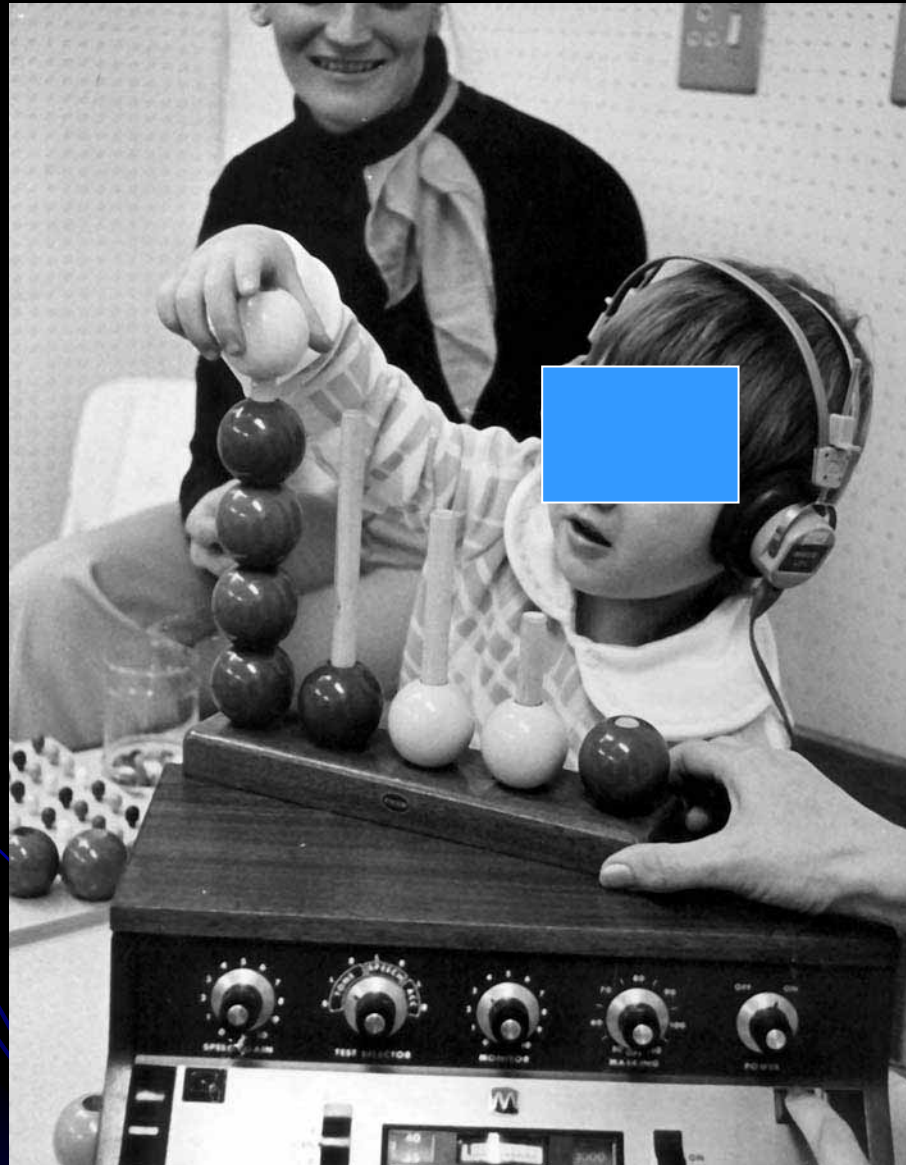
● OAE

● ABR / BAER

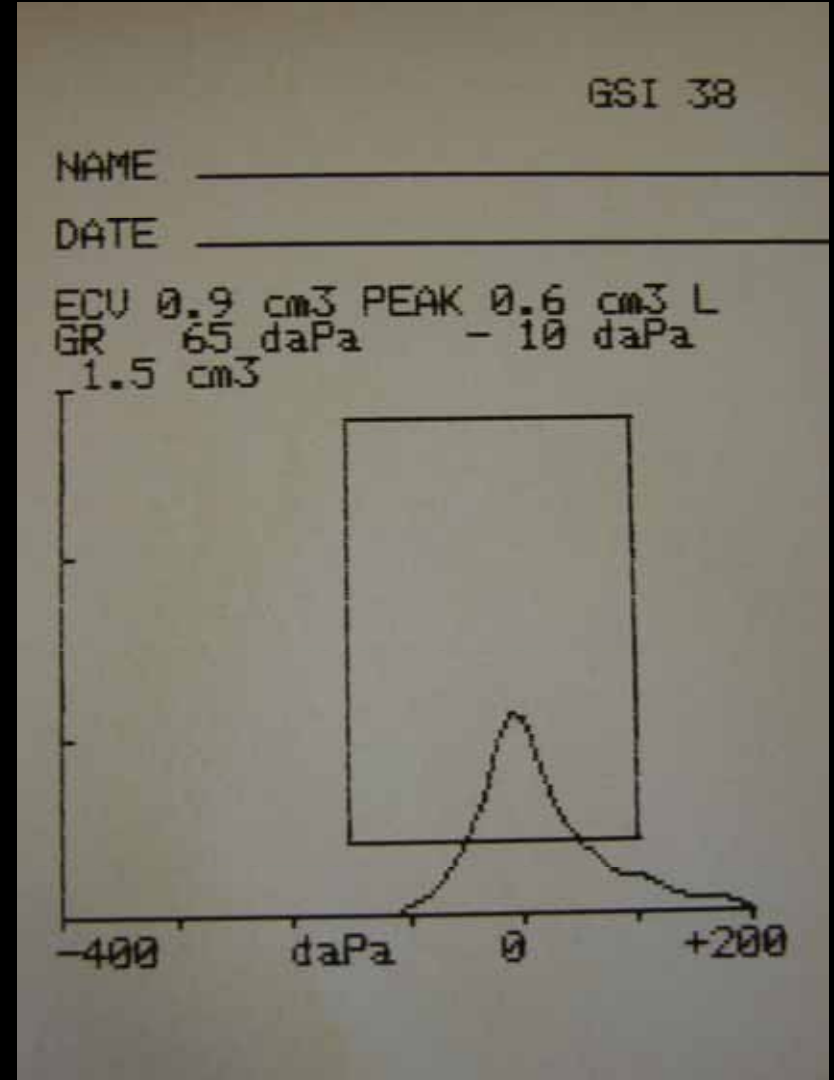
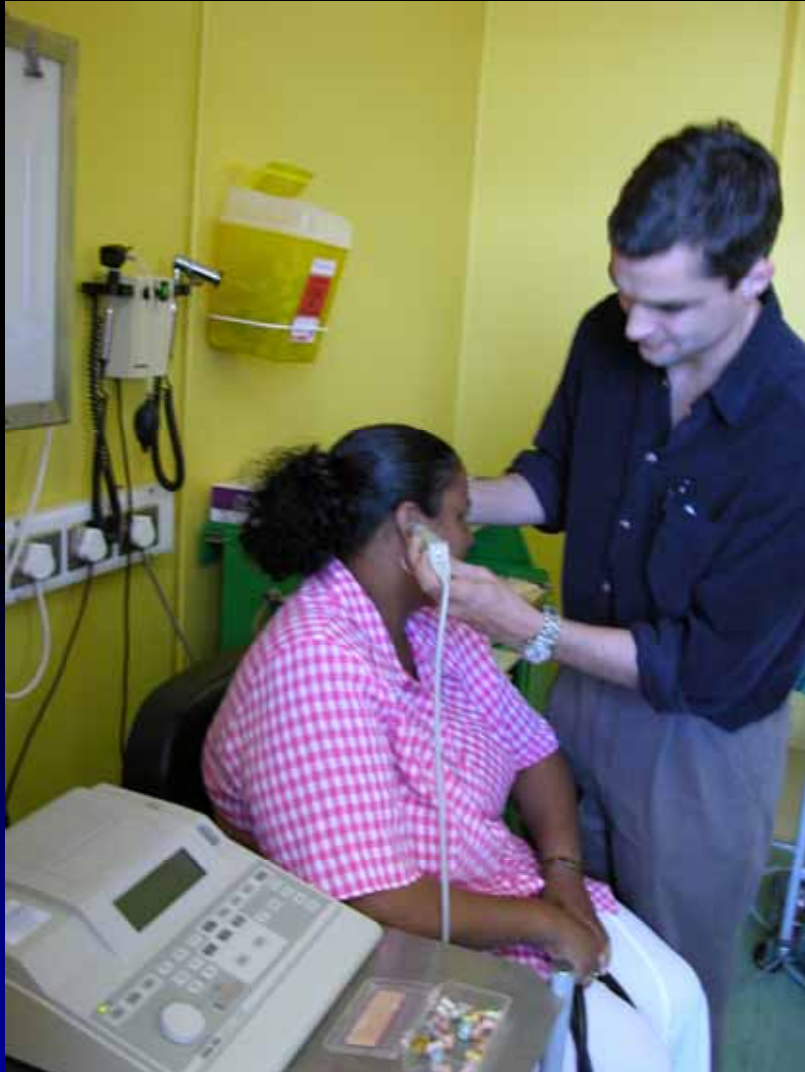
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● TYMPANOMETRY

PLAY AUDIOMETRY

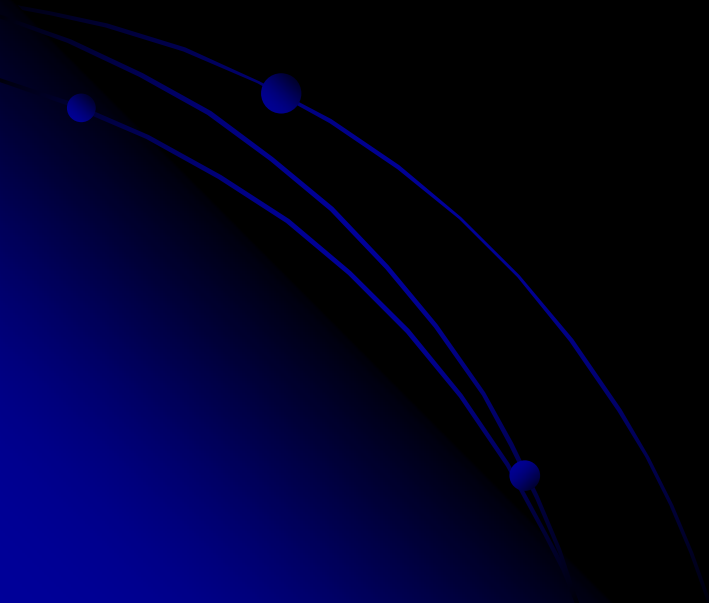


TYMPANOMETRY



CHILDHOOD H. LOSS:

- How does one manage the different causes?



CHILDHOOD H. LOSS: SP. CASES:

MIDDLE EAR EFFUSIONS / GLUE EAR / OME:

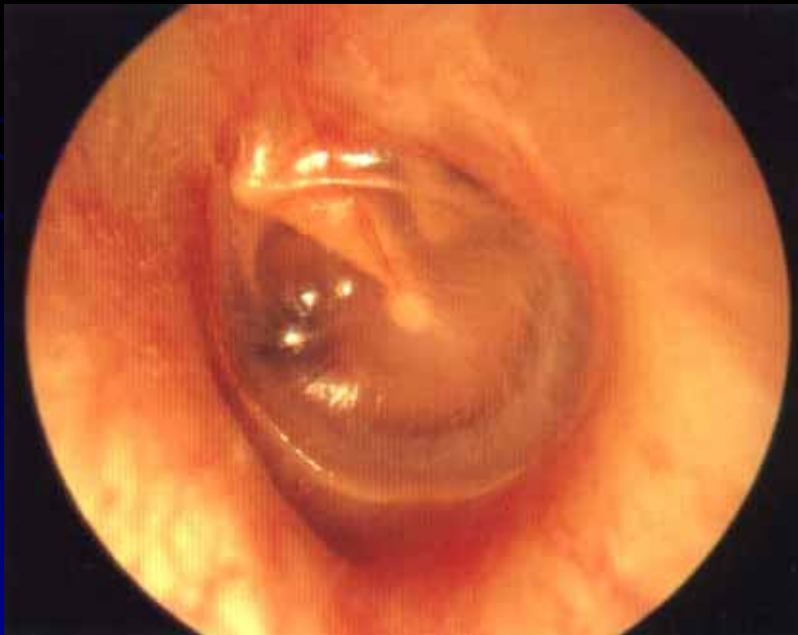
- Eust. Tube dysfn. → inad. Ventilation ME → -ve pressure → MEE
- Mild / moderate hearing loss



CHILDHOOD H. LOSS: SP. CASES:

MIDDLE EAR EFFUSIONS / GLUE EAR / OME:

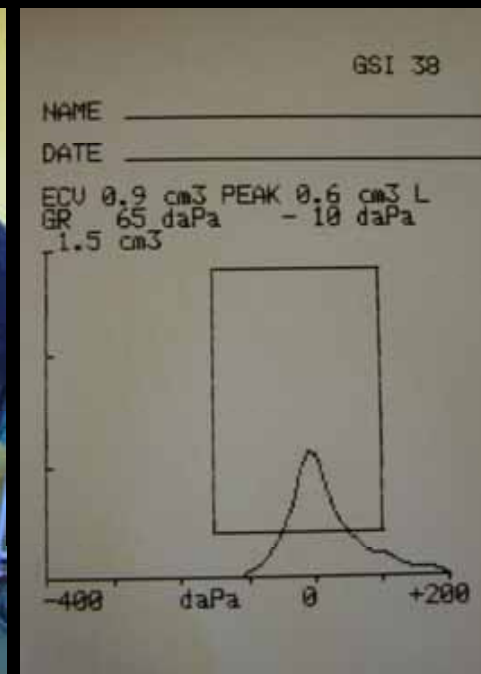
- Subtle signs on examination:
 - NB “pneumatic otoscopy”
 - Tympanometry



CHILDHOOD H. LOSS: SP. CASES:

MIDDLE EAR EFFUSIONS / GLUE EAR / OME:

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CHILDHOOD H. LOSS: SP. CASES:

MIDDLE EAR EFFUSIONS / GLUE EAR / OME:

- *R*: time

ventilation tubes/“grommets”



CHILDHOOD H. LOSS: SP. CASES:

T.M. PERFORATIONS / CSOM:

- Acute otitis media → TM perf → CSOM š cholesteatoma
- Cholesteatoma → CSOM
- TB

HEARING LOSSES:

TM +/- ossicular chain damage → H.Loss

Rarely S-N H Loss dt ? labyrinthitis

- R:**
- Get and keep dry
 - Attention to hearing
eg sit in front of class
 - ? Hearing aid
 - Surgical repair



CHILDHOOD H. LOSS: SP. CASES:

CONGENITAL MICROTIA:

Defective development of ear:

ext/?middle/?inner

Complex

Needs:

- Assessment by an ENT
- CT Scan of PTB

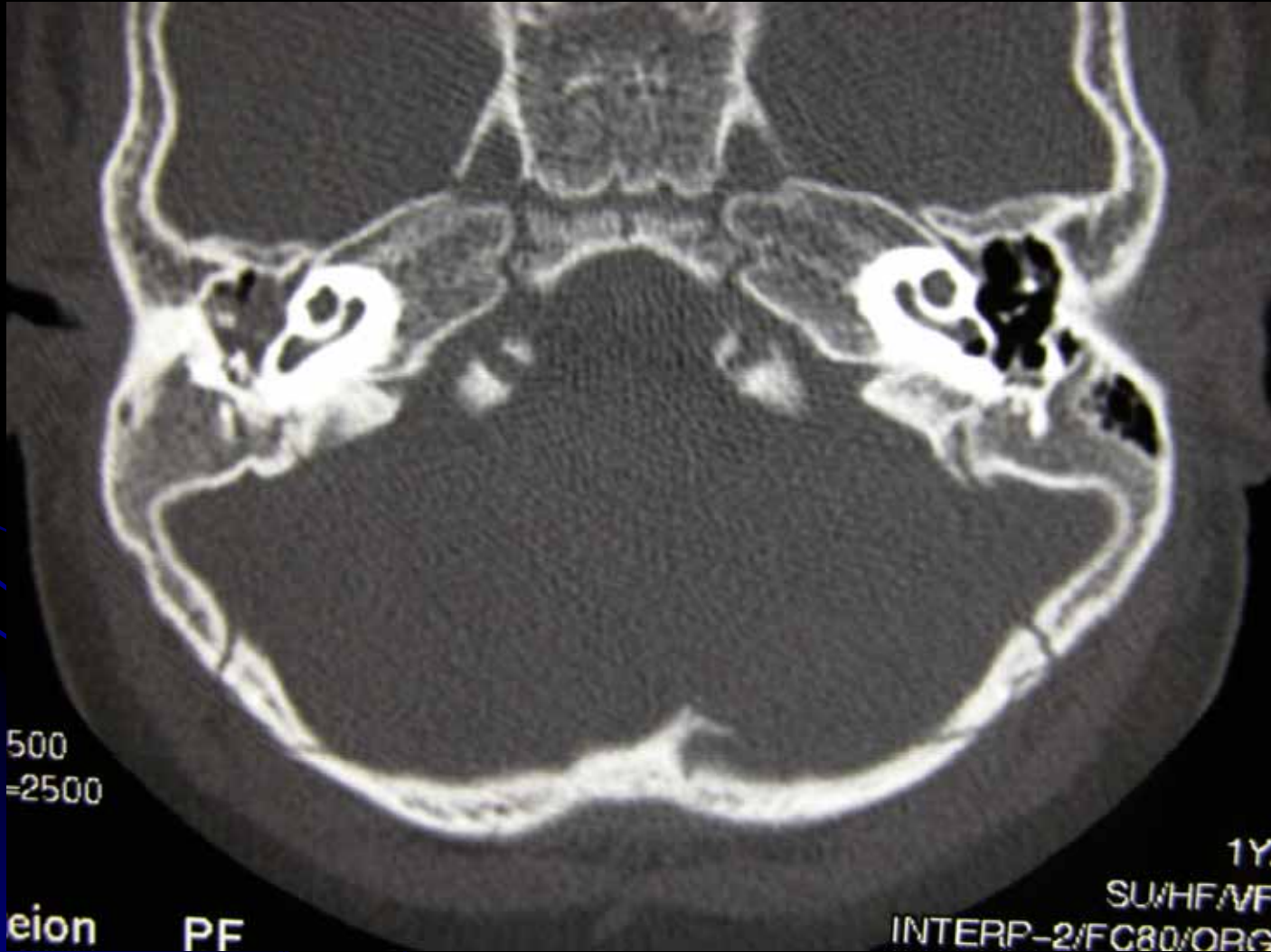
● *R*:

- Unilateral often nil
- Bilateral need hearing help
- Cosmetic aspects



CONGENITAL MICROTTIA:

CT Scan of PTB



CHILDHOOD H. LOSS: SP. CASES:

● SENSORINEURAL HEARING LOSS

- NB pick up and refer early!!!
- Get them hearing sound:
 - Hearing aids
 - Cochlear implants
- Teach them communication / language:
 - Teach them speech
 - Sign language
- Social management / placement:
 - Home
 - “Deaf schools”
- Manage the associated problems

MANAGING CHILDHOOD S-N. H. LOSS:

Hearing Aids:

Special Schools:

Cochlear Implants:

