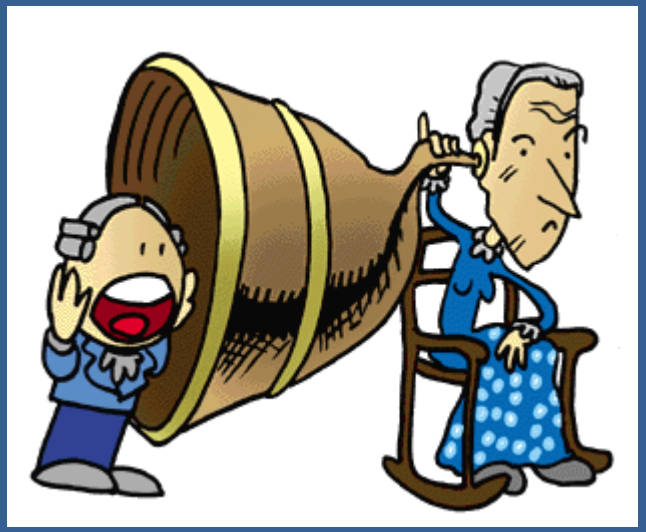
Emma King

Pre-registration Clinical Scientist (Audiology)

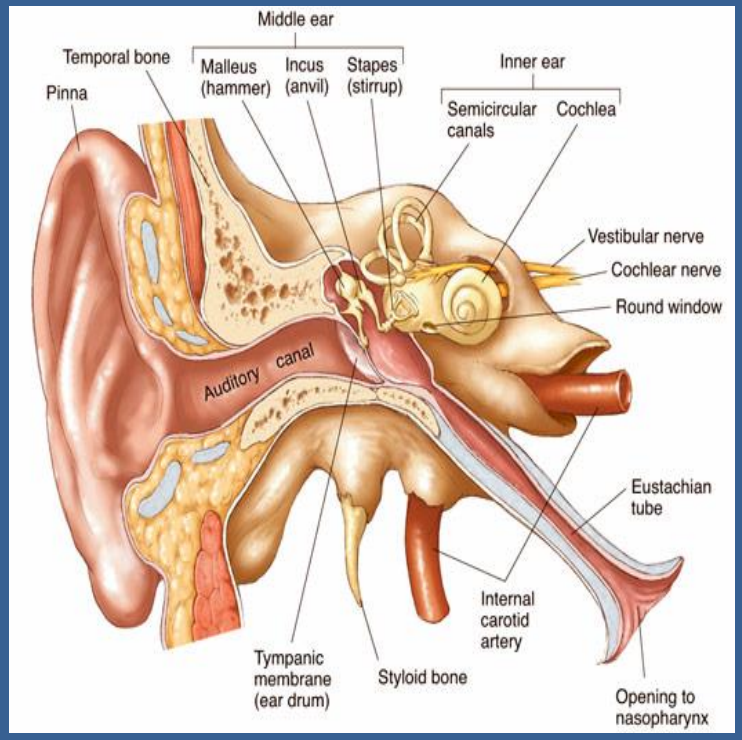
Based at Hinchingbrooke Hospital

Audiology



Who do we see?

We offer identification, diagnosis and rehabilitation of patients with HEARING and BALANCE problems.



Who can refer?

- Paediatric Patients
  - GP
  - Health Visitor
  - School Nurse
  - Speech Therapist
  - Paediatrician
  - ENT
  - Neonatal Hearing Screening Programme (NHSP)
- Adult Patients:
  - GP
  - ENT

Paediatric Hearing Referrals

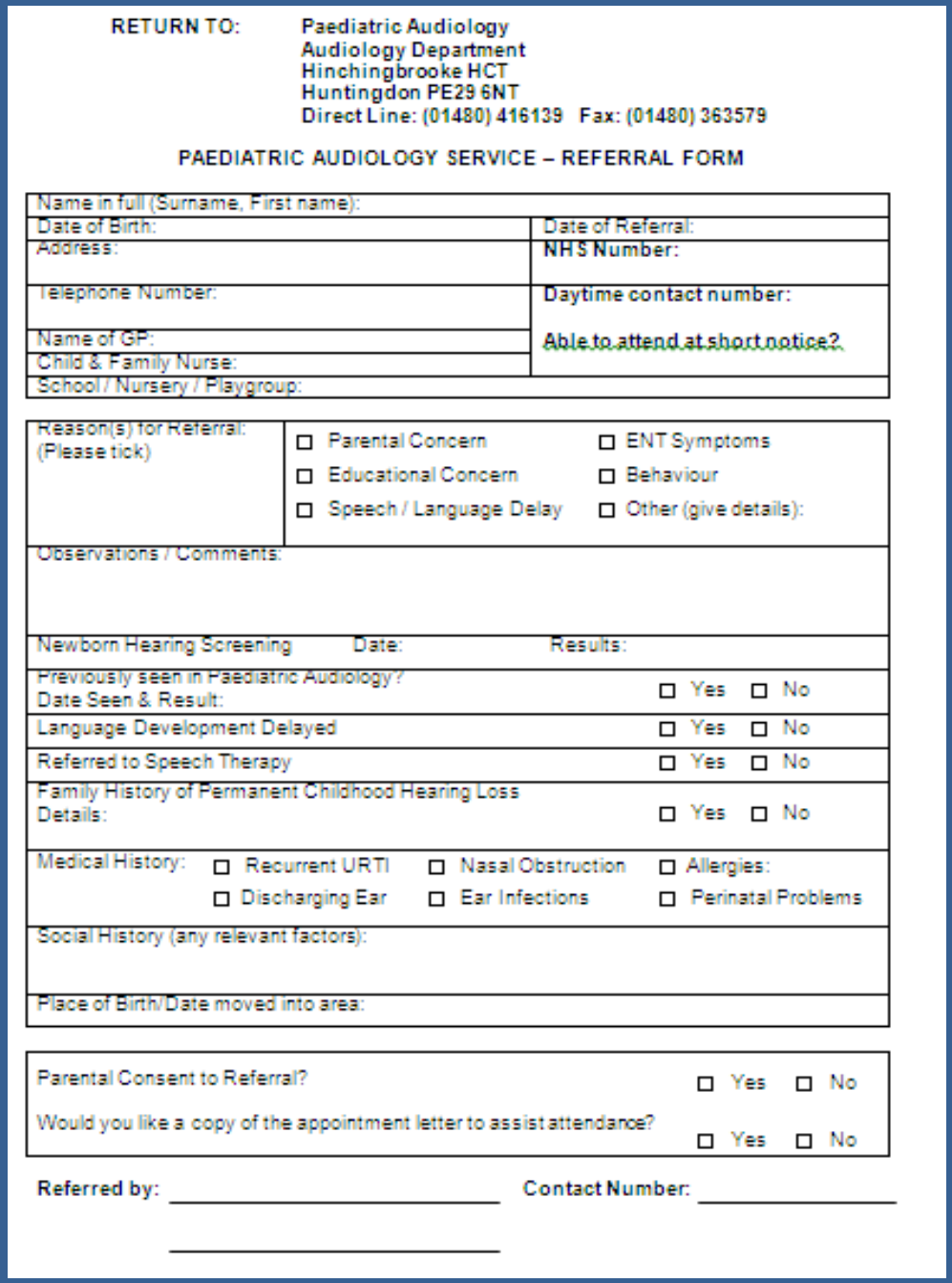
Audiology:

- Hearing problems suspected
- Suspected otitis media with effusion (no other features)

ENT:

- Otitis media with effusion with other features (such as gross abnormality on examination, perforations, etc)
- Recurrent ear infections
- Dizziness

Simply fill in the form and send to Hinchingbrooke.



RETURN TO: Paediatric Audiology
Audiology Department
Hinchingbrooke HCT
Huntingdon PE29 6NT
Direct Line: (01480) 416139 Fax: (01480) 363579

PAEDIATRIC AUDIOLOGY SERVICE – REFERRAL FORM

Name in full (Surname, First name):	
Date of Birth:	Date of Referral:
Address:	NHS Number:
Telephone Number:	Daytime contact number:
Name of GP:	Able to attend at short notice?
Child & Family Nurse:	
School / Nursery / Playgroup:	

Reason(s) for Referral: (Please tick)	☐ Parental Concern ☐ ENT Symptoms ☐ Educational Concern ☐ Behaviour ☐ Speech / Language Delay ☐ Other (give details):
Observations / Comments:	
Newborn Hearing Screening Date: Results:	
Previously seen in Paediatric Audiology? Date Seen & Result:	☐ Yes ☐ No
Language Development Delayed	☐ Yes ☐ No
Referred to Speech Therapy	☐ Yes ☐ No
Family History of Permanent Childhood Hearing Loss Details:	☐ Yes ☐ No
Medical History:	☐ Recurrent URTI ☐ Nasal Obstruction ☐ Allergies: ☐ Discharging Ear ☐ Ear Infections ☐ Perinatal Problems
Social History (any relevant factors):	
Place of Birth/Date moved into area:	

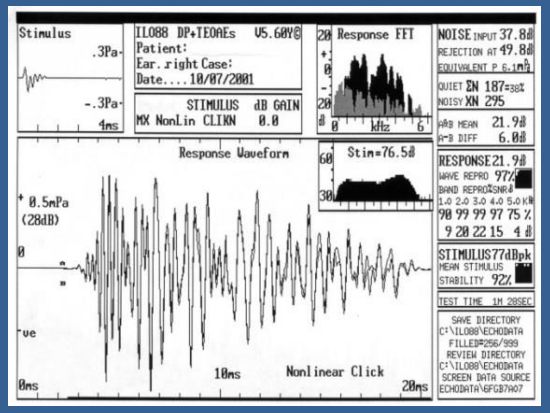
Parental Consent to Referral?	☐ Yes ☐ No
Would you like a copy of the appointment letter to assist attendance?	☐ Yes ☐ No

Referred by: _____ Contact Number: _____

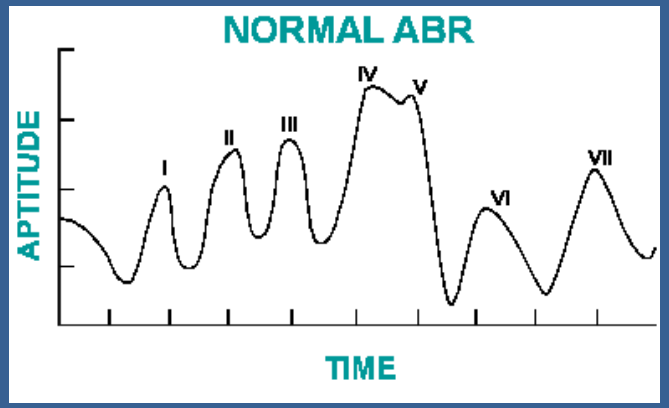
_____

Paediatric Hearing Tests: Newborns

Otoacoustic Emissions (OAE):



Automatic Auditory Brainstem Response (AABR):



Distraction Testing (~9-18 months)

Visual Reinforcement Audiometry (~9 months – 24 months)

Play Audiometry (~30 months – 7 years)

Puretone Audiometry (~7 years+)

Adult Hearing Aid Referrals

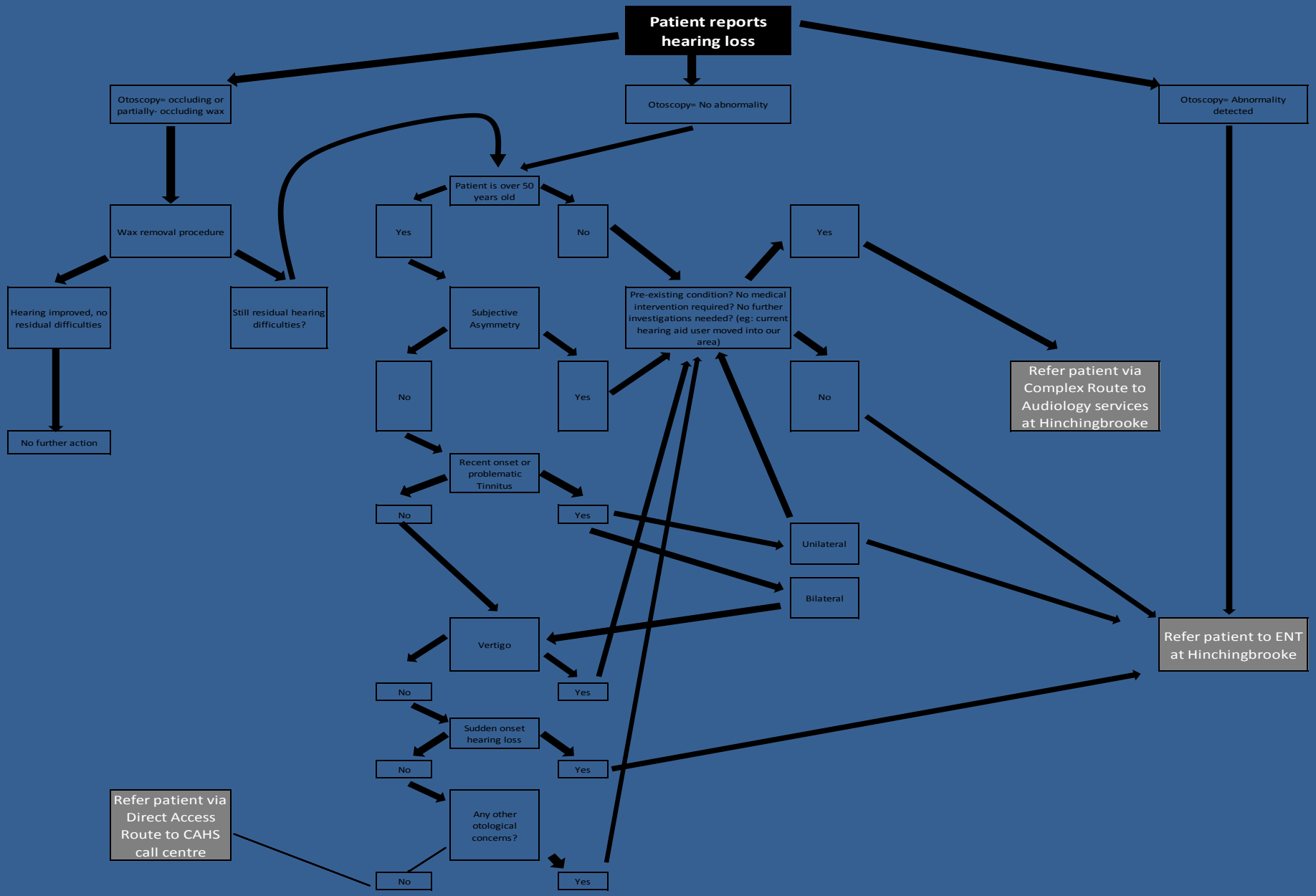
1. Direct Access Route

- Cambridge Adult Hearing Services (CAHS)= agreement with Specsavers in Cambridgeshire area
- Patients can choose whether to be seen at the hospital or at their local Specsavers branch
- Patients MUST meet the following criteria:
  - Over 50 years old
  - No subjective asymmetry
  - No recent onset tinnitus
  - No vertigo
  - No sudden onset hearing loss
  - No other current otological concerns

2. Complex Route

- For patients who do not meet the above criteria
- Refer to ENT first, they will then refer to Audiology after a medical assessment
- Can refer directly to Audiology for existing hearing aid wearers who have moved to the area, do not meet the above criteria, but who do not require medical investigation (already completed elsewhere).

Adult Referral Pathway for Hearing Aid Intervention



Inappropriate Referral Examples

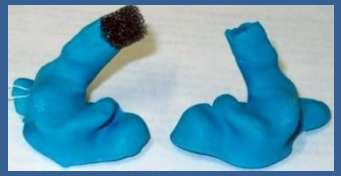
- Patient referred via CAHS, no ear canal on Rt side, born this way > Audiology if he only wants hearing help for Lt ear / ENT if he wants possible ear canal reconstruction
- Bilaterally occluding wax > removal in surgery
- Sudden onset, unilateral hearing loss with tinnitus sent to Audiology > this should be ENT
- Standard age-related, bilateral hearing loss, aged 75 years, no tinnitus, no dizziness sent to ENT > should be sent via CAHS route

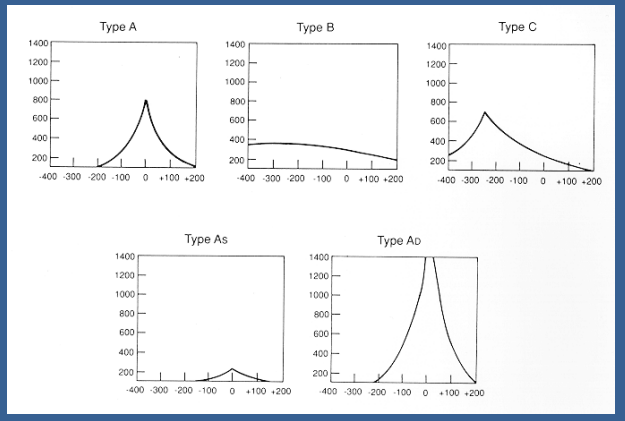
Adult Hearing Pathway

Initial Assessment

- History
  - Hearing difficulties
  - Lifestyle
  - Hearing loss (fluctuations, asymmetry, etc)
  - Ear health + otologic history (ops, perfs, etc)
  - Tinnitus
  - Dizziness
  - Other factors (eg: dexterity, cognition, eyesight)

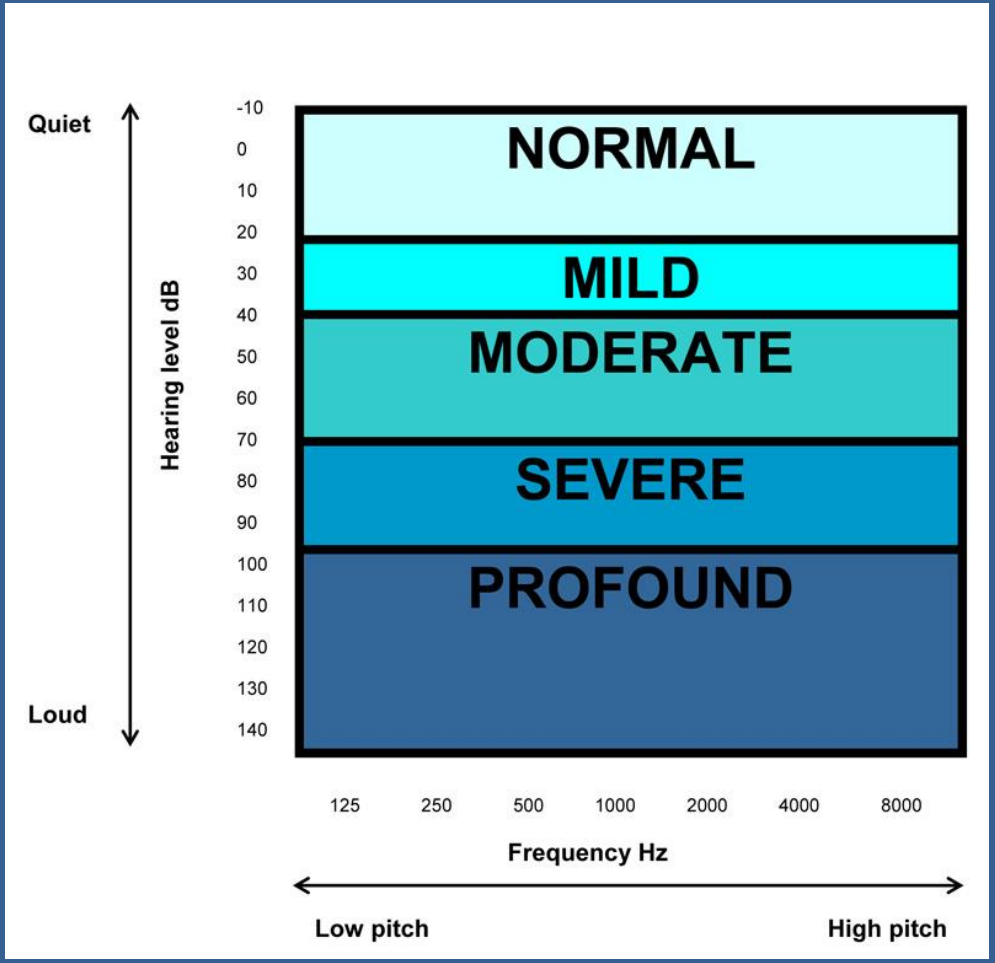
- Otoscopy (cerumen / abnormalities)
- Audiometry (soundproof environment)
- Tympanometry (as required)
- Debrief
- Hearing aid pros and cons (as required)
- Impressions (as required)



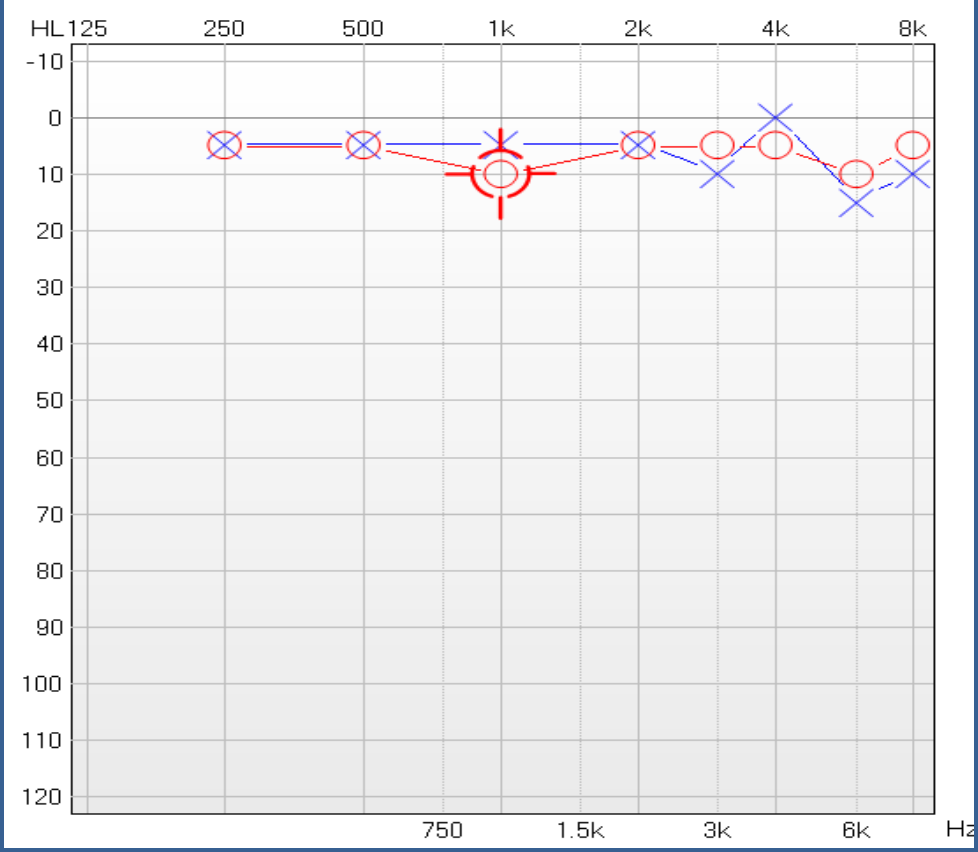


Hearing Loss

- Audiometry conducted from 250 Hz – 8 kHz
- Hearing loss severity is categorised based on an average of thresholds

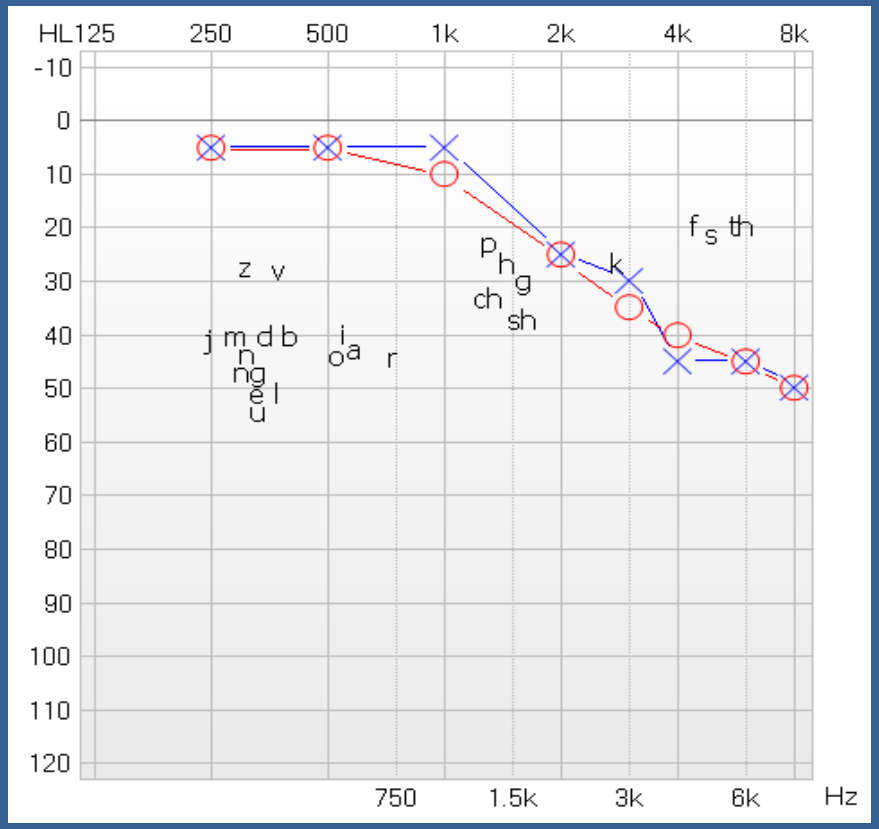


Normal Hearing



Calculated using a sample of 18-30 year-olds

Mild Sensorineural Hearing Loss



- Problems with clarity not volume
- Face-to-face, one-on-one conversations will usually be ok
- Problems in background noise and in poor listening situations
- Patients will say…

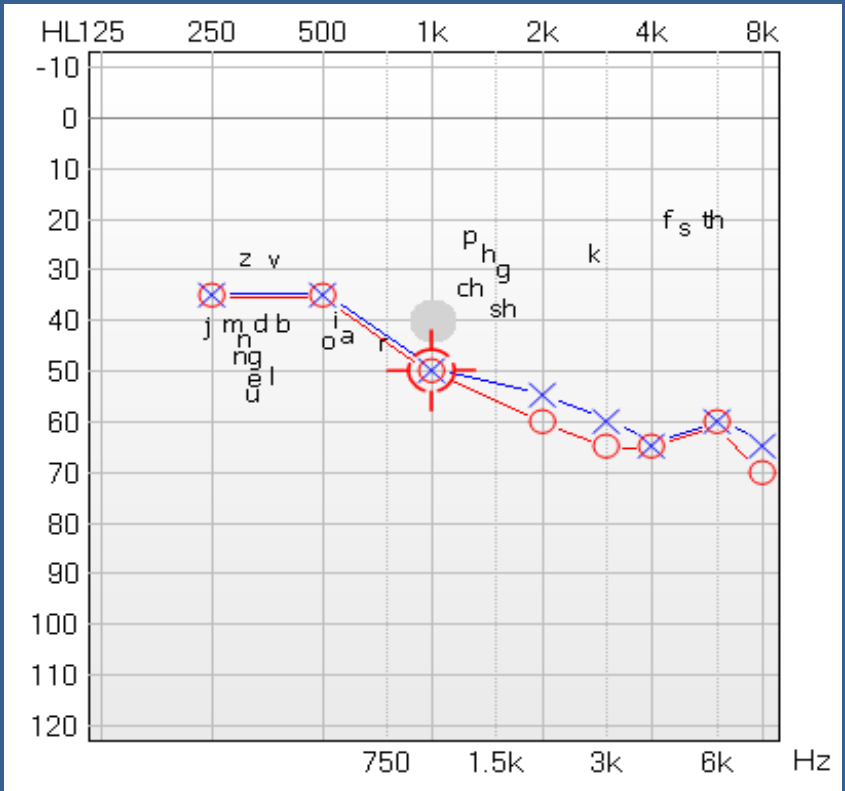
  "I can hear that someone is speaking but I don't know what they are saying"

  "I can't hear my wife when she calls me from another room."

  "I can't hear my children when they speak to me with the TV on."

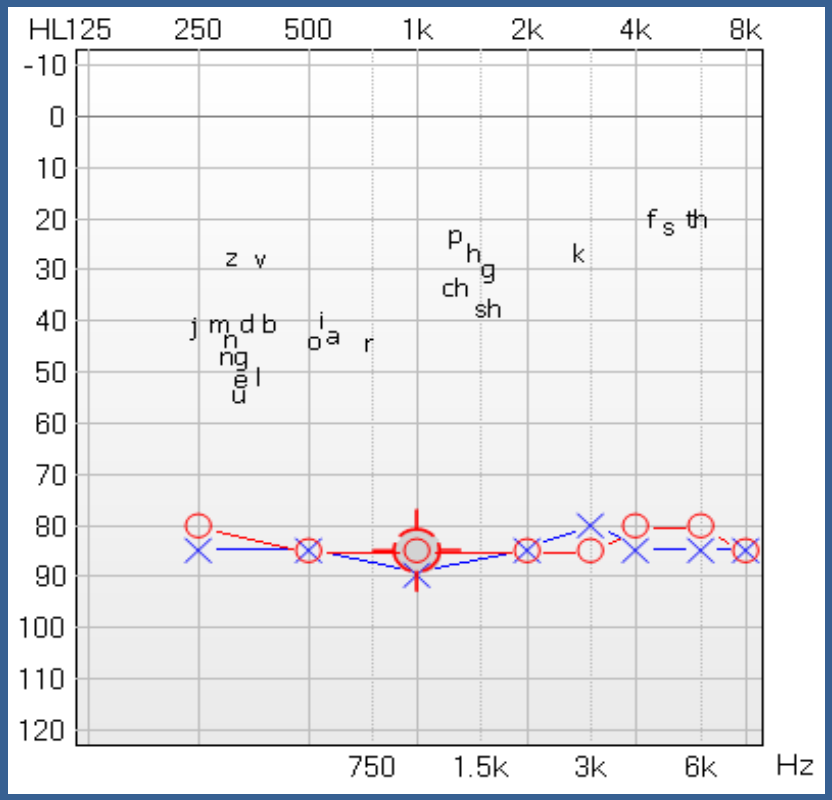
- Hearing aids may be beneficial
- Communication tactics often make the most difference

Moderate Sensorineural Hearing Loss



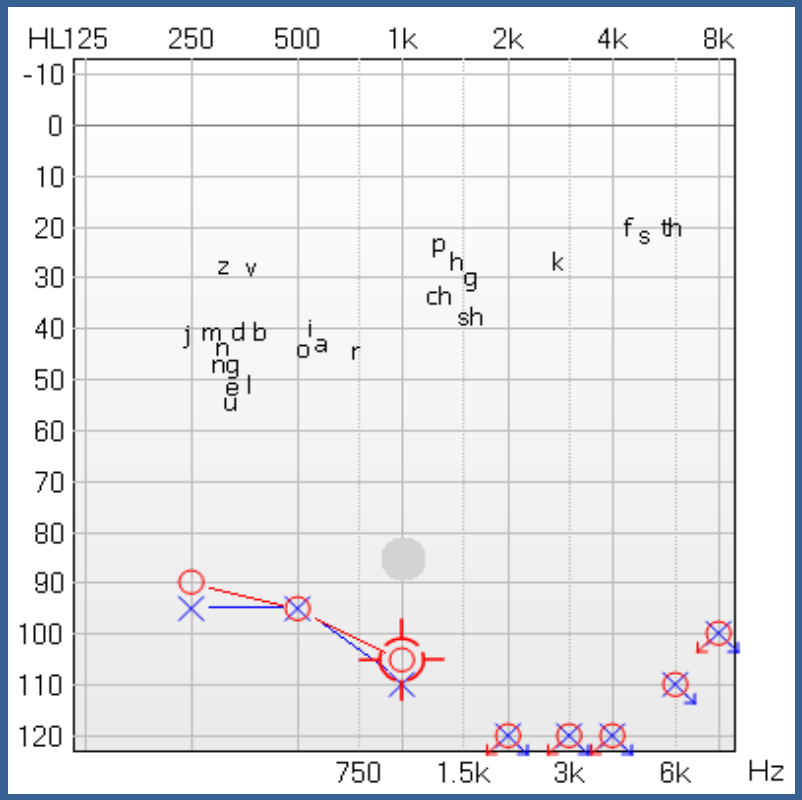
- Patient will struggle with volume as well as clarity
- Normal conversational speech will be partially audible
- Require a clear voice to hear even one-on-one in quiet situations
- Rely on lip-reading cues to ‘fill in the gaps’
- Struggle with accents
- Severe problems in background noise
- May noticeably struggle to hear you in clinic, or may just nod and smile
- Hearing aids should be of significant benefit

Severe Hearing Loss



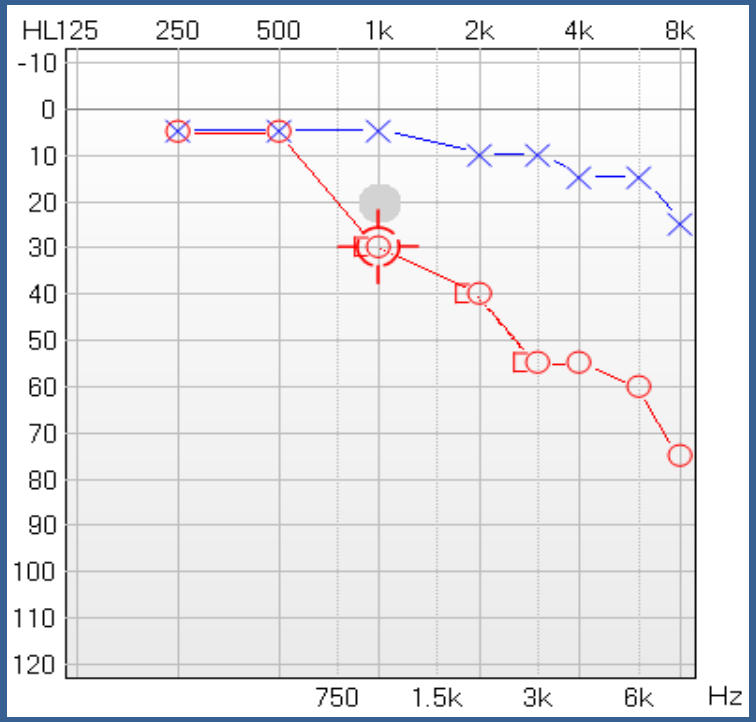
- Normal conversational speech will be totally inaudible
- Safety issues as will not hear smoke alarm, phone ringing, doorbell, cars coming on road
- Hearing aids will likely be essential but speech discrimination still may not be very good
- Clear spoken voice, face-to-face communication and reducing background noise is essential in addition to their aids
- Will need lip-reading cues to ‘fill in the gaps’
- Will need subtitles on TV
- Will benefit from extra equipment (eg: vibrating smoke alarm pads, extra loud doorbell, phone with loop + amplifier

Profound Hearing Loss



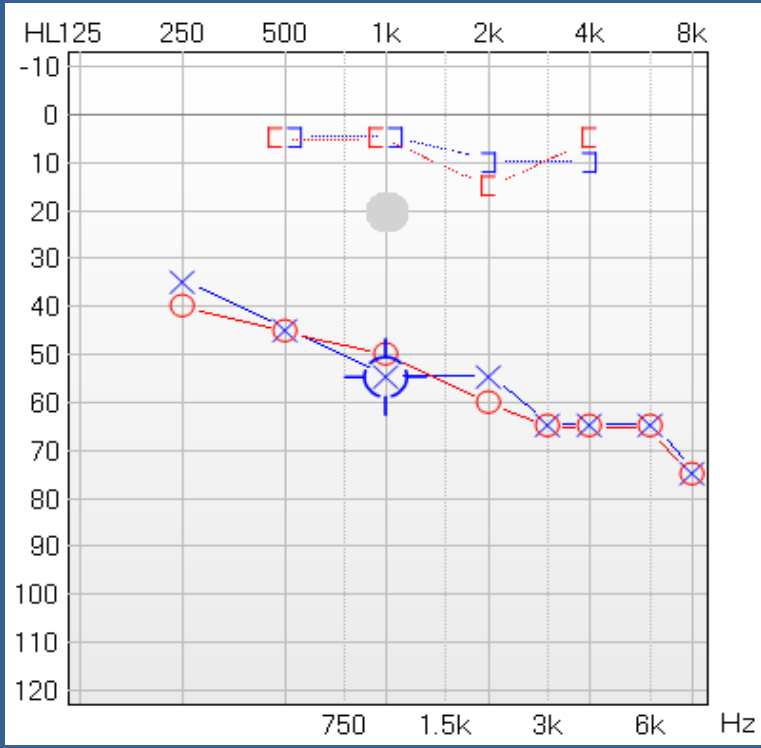
- May be living in deaf community, may sign
- Hearing aids may be worn but purely for environmental awareness and help with awareness of own voice
- Hearing aids will be large with occluding moulds
- Patient will likely have deaf speech (to some extent even if they have been deafened later in life)
- Patient will not be hearing any of the high frequency sounds
- Rely totally on lip reading to communicate if they do not sign
- Will need extra equipment (eg: vibrating alarm clock, special baby monitors, alerting lights for doorbell)
- May be suitable for cochlear implant instead as conventional hearing aids will be of little benefit

Asymmetric Sensorineural Hearing Loss



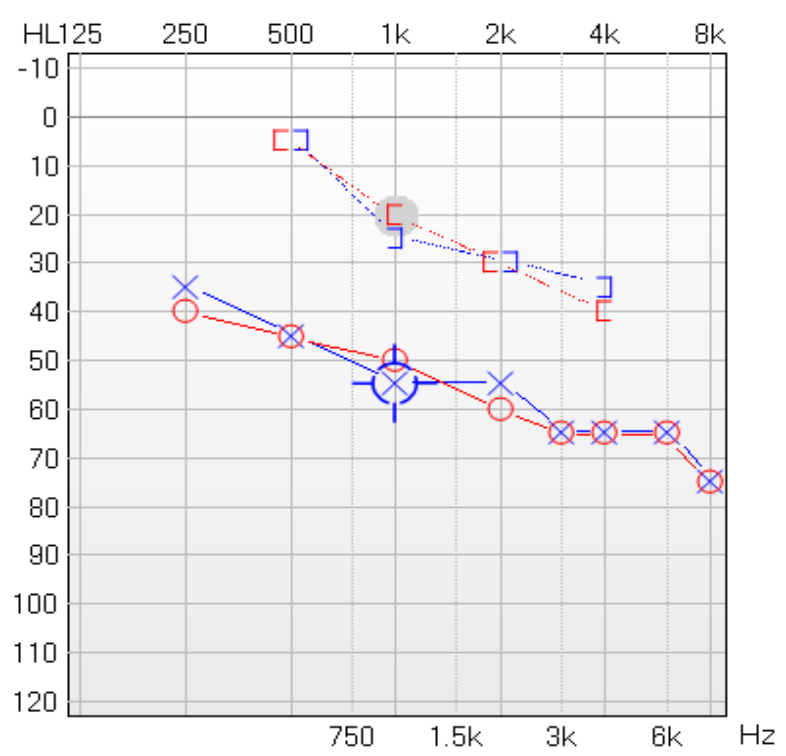
- Departmental protocol would suggest an MRI- IAM scan for this patient to rule out acoustic neuroma
- We have referral pathway directly as long as certain criteria are met
- If you see this in clinic, refer to ENT not Audiology

Conductive Hearing Loss



- Hearing is muffled due to middle ear issues
- May be temporary (eg: passing glue ear) or more permanent (eg: otosclerosis)
- Hearing may be improved surgically
- Hearing aids are usually of excellent benefit as patient hears well once sounds are simply made louder (no distortions)

Mixed Hearing Loss



- Underlying SNHL + middle ear issues overlaying
- Conductive element may be temporary or more permanent
- Hearing may be partially improved surgically

Adult Hearing Pathway

Fitting Appointment

- Hearing aids are prescribed to the individual patient's hearing loss + ear acoustics
- Counsel on use of aids
  - How they work
  - How to clean them
  - Where to get batteries
- Selection of extra programmes
  - Eg: loop system
- Expectation setting
- Practice insertion
- Provision of literature

Hearing Aids

- Patients will be offered one or two Behind-the-Ear (BTE) hearing aids that are selected based on their needs

- Generally you can tell how hard of hearing the patient is by looking at their hearing aid
  - The larger the aid, the deafer they are
  - The more blocked their ear is by their earmould, the deafer they are

Hearing Aids

- Pros:
  - Improve speech clarity
  - Boosts environmental sounds that would otherwise miss
  - Reduce social isolation
  - Improve relationships
  - Improve safety
- Cons:
  - Communication in background noise will always be problematic compared with listening in quiet
  - Hearing when communication is poor (eg: someone has their back to them) will always be more challenging

Adult Hearing Pathway

Follow Ups

- Most patients will have a routine progress check after ~8 weeks to see how they are getting on
- Every patient should be seen again after 6 months for a routine hearing aid check and retube (patient to contact directly)
- Hearing aids should be retubed every 4-6 months thereafter , even if nothing is wrong
- Drop-in retubing and battery clinics are also run by Cambridgeshire Hearing Help (http://camtadcambs.org.uk/)
- Repair clinics by appointment at Hinchingbrooke (patient to contact directly with any hearing aid faults)

Specialist Hearing Aids

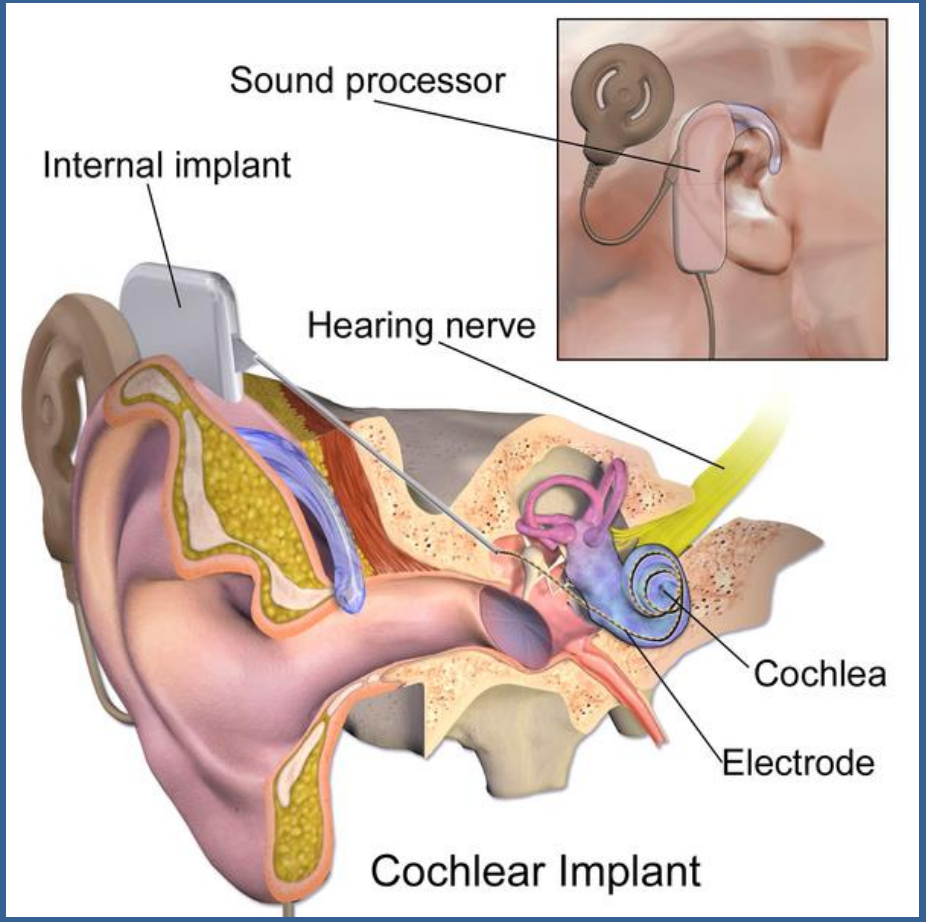
Bone Anchored Hearing Aid (BAHA)

Specialist Hearing Aids

CROS / BiCROS

Specialist Hearing Aids

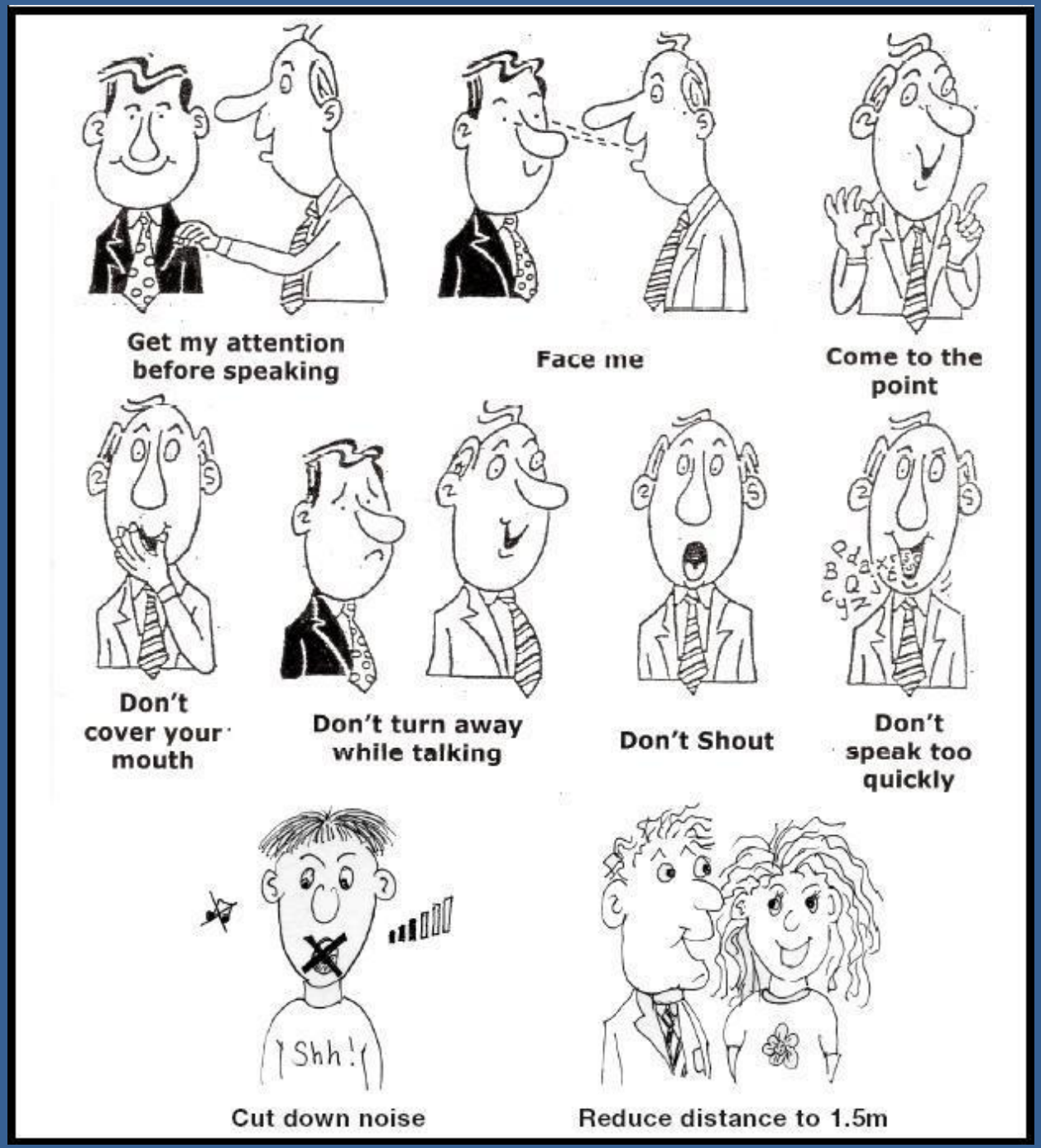
Cochlear Implants



Communication Difficulties

- Generally, the worse a patient's hearing, the more difficult it will be for them to communicate effectively
- It is essential that they receive good quality communication in addition to wearing hearing aids
- Things they need to do for themselves:
  - Actively listen
  - Ensure they are looking at your face
  - Ensure they are wearing their hearing aids
  - Ensure they are in a favourable position to hear (front on, not side by side)
  - Tell you what they need
  - Not just nod and smile

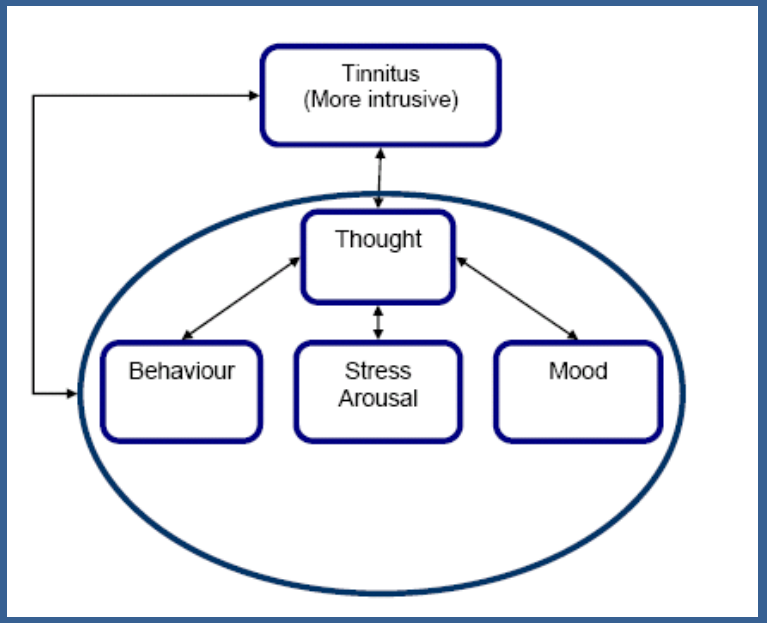
Things you can do for them:



Assistive Listening Devices

For some people, hearing aids alone are not enough to help them hear as effectively as possible…

Tinnitus Clinic



- Problematic tinnitus can be very debilitating.
- The worst thing you can say is that there is nothing that can be done.
- There is no cure but there is plenty that can be done.
- Hearing aids are sometimes prescribed for tinnitus treatment
- We have a dedicated tinnitus clinic for people with tinnitus that is significantly affecting their life
  - Refer to Audiology down complex route

Useful Resources

- http://www.actiononhearingloss.org.uk/
- http://www.connevans.com/
- http://www.ndcs.org.uk/

ndcs
every deaf child