

## Interprofessional Education between Speech and Language Therapy and Nursing Students

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### Learning Aims

- To encourage professions to learn with, from and about each other to improve the quality of care.
- To introduce shared concepts, skills, language and perspectives that establish common ground for interprofessional practice in the workplace.
- To promote teamwork and mutual support

### Learning Outcomes

- To develop an understanding of the effects of hearing loss on speech perception in older people.
- To develop knowledge and skills in hearing aid function, use and basic maintenance.

### Hearing Loss

The effects of hearing loss on speech perception:

Presbycusis, or age-related hearing loss, varies from mild to severe and affects high frequencies more than low. It also causes a reduction in frequency discrimination making speech sounds more muffled. Speech perception is therefore affected especially for the high frequency consonant sounds (fricatives).

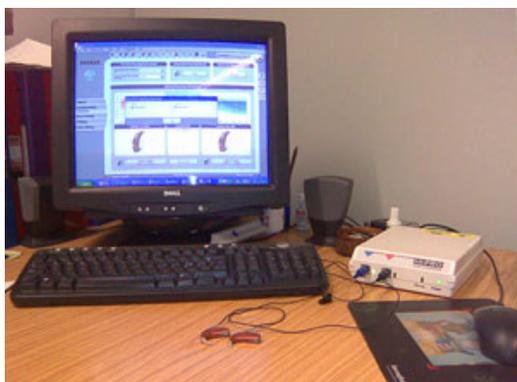


To see and download HearLoss - Hearing Loss Demonstrator, go to the Mark Huckvale's website at UCL

<http://www.phon.ucl.ac.uk/resource/hearloss/>

You could also see the short video of the Demonstrator in Hearing Aids tutorial at [www.cetl.org.uk/learning](http://www.cetl.org.uk/learning)

### Programming a Hearing Aid



An appropriately powered digital hearing aid is programmed on a computer by an Audiologist to deliver the correct amount of amplification at each frequency to match the individual's hearing needs.

## Hearing aid function, use and basic maintenance



Phonak Eterna



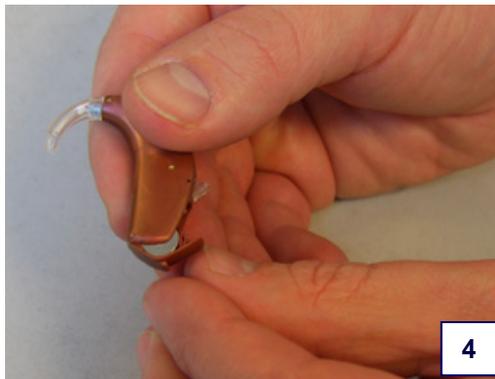
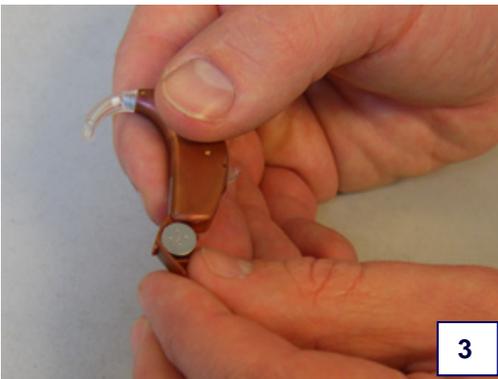
Siemens Prisma 2



Oticon Spirit 3

commonly used  
NHS contract  
hearing aids

### Insert an appropriate sized battery (1-4)



### Ear Pieces



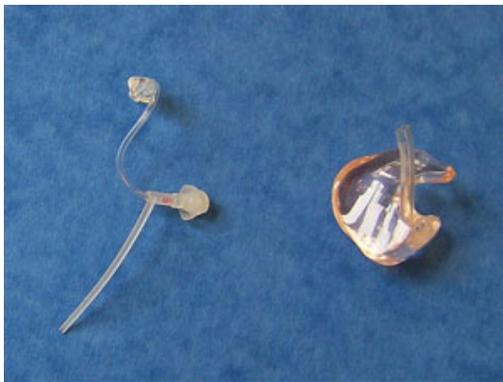
Custom ear piece



Open fit

Some people who wear hearing aids use a custom made ear piece, others an open-fit. It is important to check the tubing and elbow for cracks, blockages and condensation.

## Ear Pieces



### Checking for cracks, blockages or condensation in the tubing:

If there are cracks present the tubing needs changing, if blocked it should be unblocked, normally using a puffer, or changed



### Unblocking the tubing:

Washing the earpiece (but NOT the hearing aid) in warm water will normally unblock it. It should then be shaken or a puffer used to remove water from the tubing and left to dry.



### Replacing the tubing:

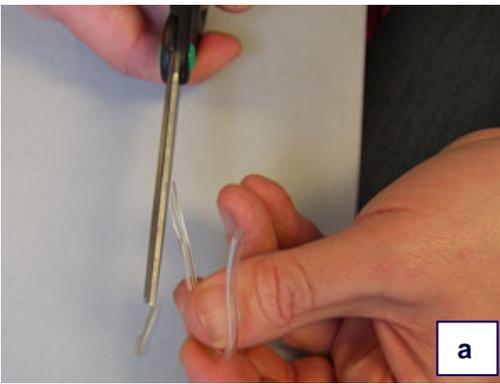
After 6 months the flexible tube in the ear piece may need replacing. Hearing aid users normally have spare tubing as part of their issue pack..



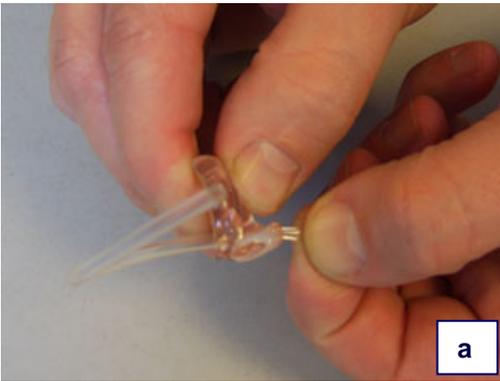
### 1.

Pull the old tubing out of the ear piece and keep it, as you will need it later

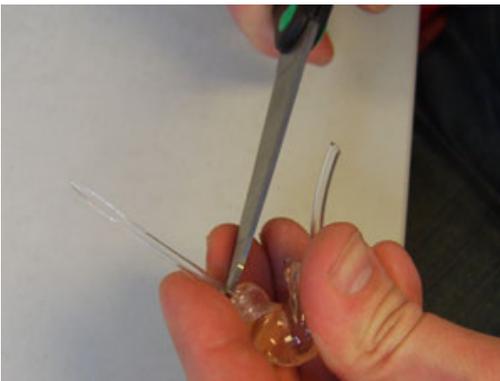
## Replacing the tubing:



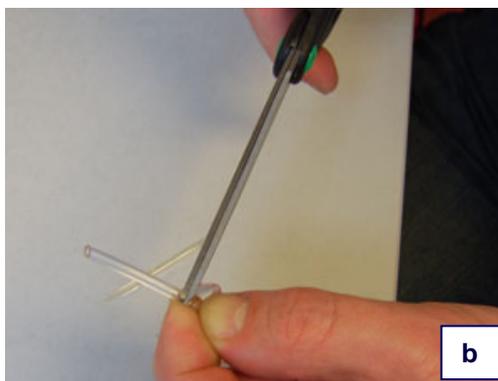
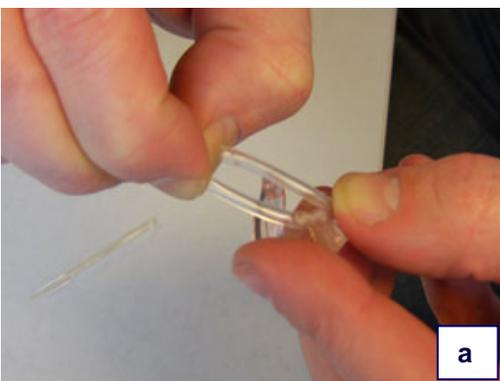
2. Take a piece of tubing and taper one end so you can thread it right through the canal in the ear piece



3. Pull the point of plastic that emerges at the tip until the opposite end of tubing is standing roughly upright

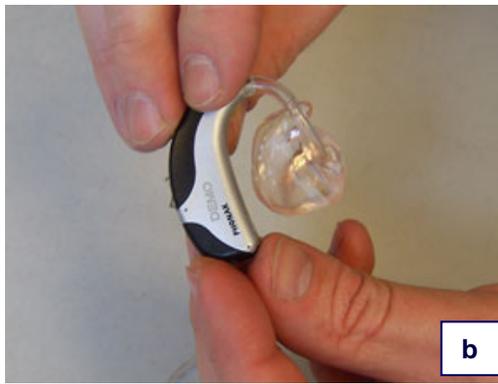


4. Cut off the tapered end



5. Using your old piece of tubing as a template, measure the correct length of the tubing and cut as shown

## Replacing the tubing:



6. Reattach the hearing aid to the ear piece

## Checking the hearing aid



Close the battery drawer, this will normally switch the hearing aid on. (Listen for the beeps). NB Powerful aids may whistle loudly, so turn the volume down before switching on. Cup it in your hands.

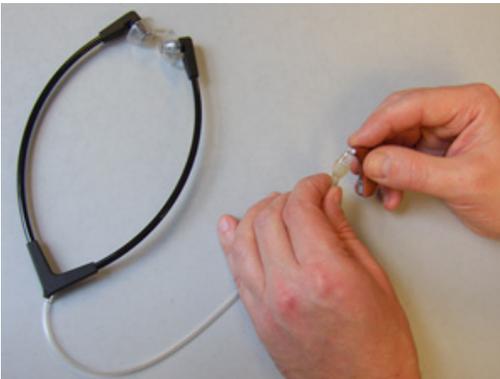
What do you hear?

You should hear hearing aid whistle

Put your finger over the end of the ear mould or elbow and cup it in your hands.

The whistling should stop. If it doesn't there is probably a crack in the tubing or a fault with the aid.

To see video of these steps see Hearing aids tutorial at [www.cetl.org.uk/learning](http://www.cetl.org.uk/learning)



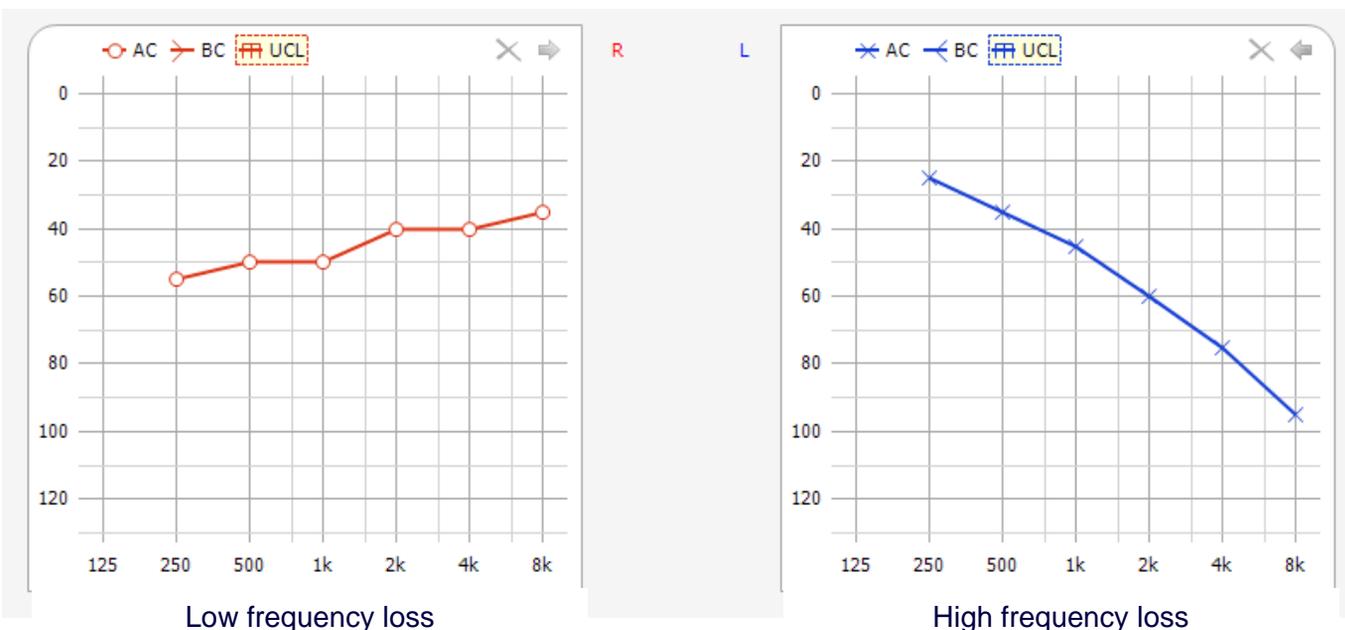
Insert the hearing aid elbow into the steto clips. Put the clips in your ears.

With the volume turned down low, close the battery drawer to switch the hearing aid on.

Once the hearing aid is switched on, speak to it and adjust the volume wheel/toggle up and down, being careful not to allow the volume to become uncomfortably loud.

To see video of these steps see Hearing aids tutorial at [www.cetl.org.uk/learning](http://www.cetl.org.uk/learning)

## Checking the hearing aid



How does it sound?

depending on the users hearing loss, the hearing aid may sound bassy (low frequency hearing loss) or tinny (high frequency hearing loss)

But it should give clear and consistent sound quality (no crackling or intermittency).



Press the programme button until it beeps  
Compare how it sounds now to previously  
Why might it sound different?

It might sound different because it is set to a different programme e.g. for listening in noisy surroundings

Press it again and listen for further beeps  
Compare how it sounds now to previously  
Why might it sound different ?



It might sound different because it has changed to a third programme, e.g. to the telecoil setting for use with induction loop systems. On this setting the hearing aid pick up its signal direct from a specially adapted sound source e.g. a telephone, television or microphone in a railway station or theatre. When you see the sign below, it means that the telecoil is fitted in that building.

## Checking the hearing aid



Repeat the process for another hearing aid noting the changes between programmes

## Summary

Presbycusis affects a person's ability to hear quiet sounds and to discriminate speech.

Hearing aids are programmed to match an individual's hearing loss as far as possible.

When checking a hearing aid, you should start by replacing the battery, you should then check the earpiece tubing for cracks and blockages and then the hearing aid itself.

It should whistle when you turn it on especially if you cup it in your hand.

The whistling should stop when you block the earpiece or elbow.

If you listen to the aid it should sound clear with no crackling or intermittency.

## Further reading

Dillon, H. (2001) Hearing Aids. Thieme

Katz J (2007), Handbook of Clinical Audiology, 5th Edition, Williams and Wilkins