“One Size Does Not Fit All”
Assessing Deaf Students’ Needs
in HE
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Understanding Deafness

Levels of deafness:
- Mild deafness: 24 - 40 dB
- Moderate deafness: 41 - 70 dB
- Severe deafness: 71 - 95 dB
- Profound deafness: 95+ dB

Frequency in Hertz (Hz)

Hearing level in decibels (dB)

Soft sounds

Loud sounds

Courtesy of the National Deaf Children’s Society
Different types of hearing aid

**Completely-In-the-Canal (CIC)**
Not suitable for severe hearing losses.
No audio connection or telecoil.

**In-the-Canal (ITC)**
Suited to mild/moderate hearing losses.
No audio connection or telecoil.

**In-the-Ear (ITE)**
Suited to wider range of hearing losses.
No direct audio input connection but may have a telecoil if space permits.
Behind-the-Ear instruments (BTE)
Suitable for most hearing losses.
The type of aid generally provided by the NHS.
Most have a telecoil and direct audio input connection.

Open Fit instruments
Generally suitable for mild/moderate high frequency hearing losses.
May have a telecoil and direct audio input connection.
Cochlear Implants
Consists of a surgical implant and an external speech processor. For those who receive no or limited benefit from conventional hearing aids. Most have a telecoil and a direct audio input connection.

Bone Anchored Hearing Aids
Clips onto a screw implanted into the skull behind the ear. Sound is transmitted by vibration into the cochlea (inner ear). Most have a direct audio input connection and an optional plug-in telecoil.
Why do we use personal fm systems?

Deaf people find it difficult to listen in due to:

• Background noise
• Distance
• Reverberation

*Even with the latest audiological technology, these problems cannot be solved by a hearing aid alone*
Background noise

- Affects the understanding of speech
- “...it overlaps some of the speech to make it inaudible or masked”

(Dirks, Morgan & Dubno 1982, Helfer, 1991)
Distance

- Signal drops by 6dB with every doubling in distance
Reverberation

Early reverberation

Late reverberation
How does an FM system help?

- Decreasing the distance between speaker and listener
- Delivering the sound direct to the ear
- The sound is delivered uncontaminated by noise and reverberation

An FM system offers the most efficient and practical way of doing this
Connecting to Hearing Aids

- Hearing aids and cochlear implants can be used on their own, or connected to many other devices.
- There are two main ways of connecting:
  - Direct Audio Input
  - Telecoil or “T” position
Radio Aids / Personal fm Systems
Body-Worn fm system
Ear-level fm System
If you have any questions after today, please email us at:

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www.deafequipment.co.uk