

---

# THE CLINICAL VIEWPOINT: patient assessment, therapies, devices and future requirements.

---

David Proops.  
University Hospital,  
Birmingham.

---

# Clinical Viewpoint: patient assessment.

- Ear Nose and Throat surgeons traditionally assess hearing problems.
  - The diagnostic hearing tests are undertaken by audiologists.
  - The ear examination is undertaken by E.N.T.
  - The prescription of an aid is usually made by E.N.T.
  - Hearing aids are fitted by audiologists.
-

---

# Clinical assessment.

- Sensorineural deafness.
  - Conductive deafness.
  - Mixed deafness.
-

---

# Clinical Viewpoint: therapies.

Traditionally;

Hearing aids.

Surgery.

Recently;

Hearing aids.

Some doubts about the benefits of surgery.

Implantable hearing devices.

---

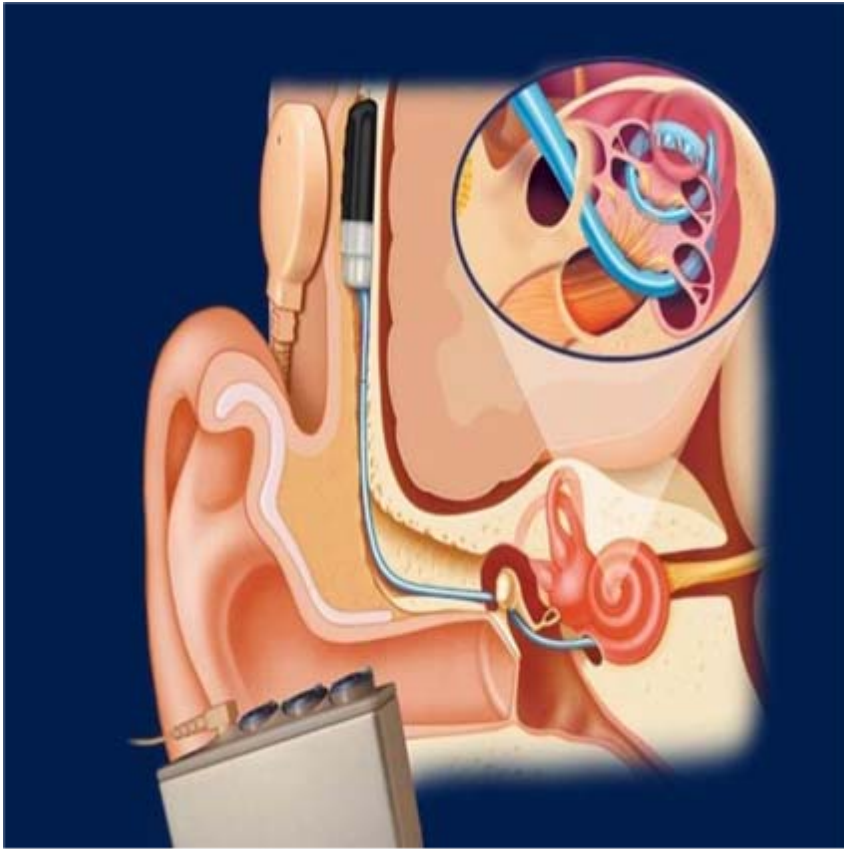
---

# Clinical viewpoint: devices

- Cochlear Implants.
  - Bone Anchored Hearing Aids.
  - Middle Ear Implants.
-

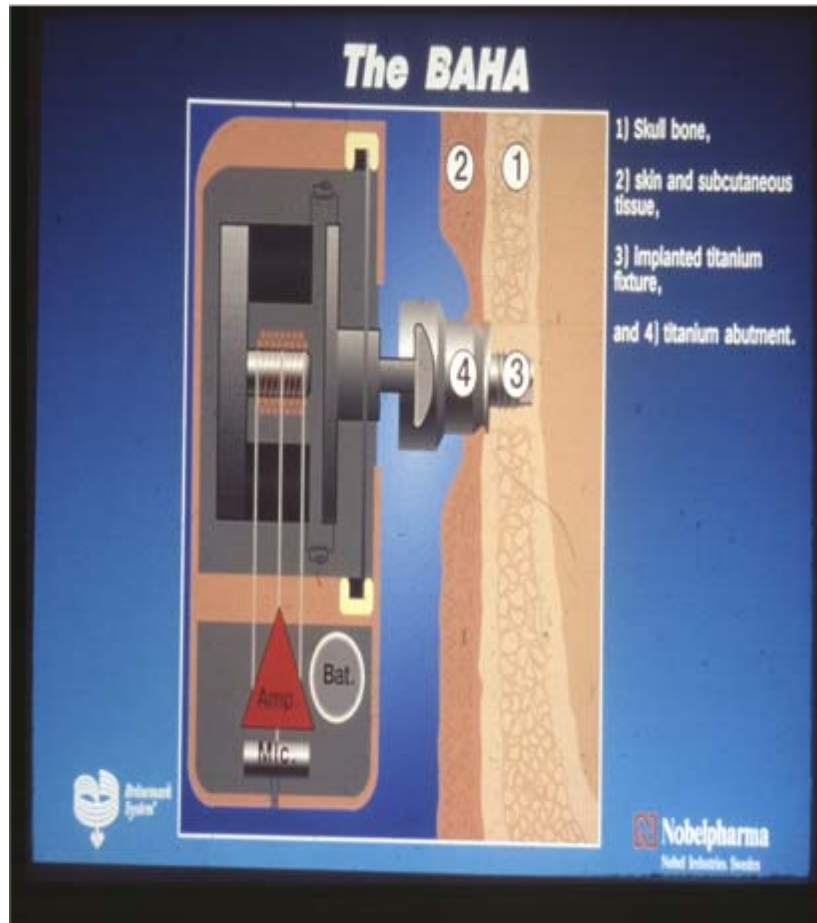


# Devices: Cochlear Implants.



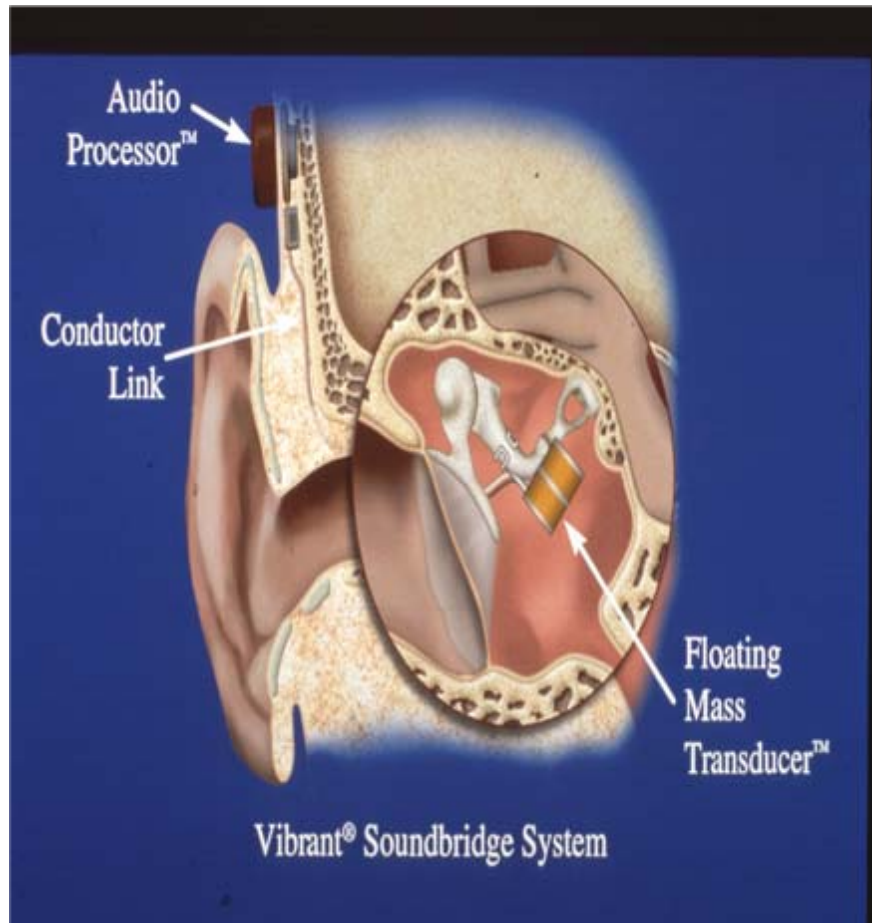
- Designed for profoundly deaf.
- Bypasses the commonest cause of the deafness, failure of the hair cells.
- Serendipity of computer revolution, implantable materials and operating microscope.
- N.I.C.E. 2009.

# Devices: Bone Anchored Hearing Aid.



- ❑ Designed for conductive and mixed hearing loss.
- ❑ Made possible because of osseointegration.
- ❑ Good for those who cannot wear conventional aid.
- ❑ Alternative to Ossiculoplasty.
- ❑ Simple surgery and predictable results.

# Devices: Middle Ear Implants.



- Designed for sensorineural loss.
- Risks to ossicles.
- Complex surgery.
- Relies on cochlear reserve.
- No ear occlusion.
- Cosmetically more acceptable

---

# Clinical viewpoint:

## Future requirements.

- Attitudinal change by E.N.T. Surgeons.
  - Multi-disciplinary working.
  - Recognition that hearing benefits of conventional ear surgery are poor.
  - Recognise that failure has costs.
  - Develop and prove new devices.
  - Simplify and de-skill (surgeons love difficulties!)
-

---

# Clinical viewpoint:

## *Aims and challenges.*

- Systematic diagnostic algorithms.
  - Prioritised decision options.
  - Multi-disciplinary decisions.
  - Simplified surgery.
  - Robotic assistance.
  - Improved precision and reduced harm.
  - “Take the surgeon out of the surgery”!
-

# Clinical Success.



---

Clinical success achieved through teamwork.

