Center for NEUROSCIENCES | EAR & HEARING
Otology | Neurotology | Audiology

Bone Anchored Hearing Implant Protocol
Ear & Hearing | Center for Neurosciences

Conventional hearing aids pass sound waves through the air while a bone anchored hearing implant passes sounds by vibration through the skull and on to the inner ear. Patients with single sided deafness (SSD), conductive hearing loss, or mixed hearing loss may be a candidate for a bone anchored hearing implant (BAHI).

BONE ANCHORED HEARING IMPLANT SIMULATION — 30 MINS

Counseling

Review audiogram
Discuss hearing loss and the need for hearing rehabilitation
Counsel on expected listening difficulties and appropriate expectations
Review aural rehabilitation options:
- Conventional hearing aids
- CROS hearing system
- Bone Anchored Hearing Implant

Overview of how BAHI works:
- Sound processor transfers acoustic sound waves into mechanical vibration
- Discuss Surgical vs. Non-surgical options: Softband or SoundArc

Discuss surgical options:
- Titanium post implanted in mastoid region behind ear
- Osseointegration required (8 weeks between surgery and activation)
- Coupling of BAHI Processor to Implant: Direct connect (abutment) or magnet

Device Simulation and Assessment

Patient is given the opportunity to listen to each BAHI device in office (Oticon Medical and Cochlear Americas) via external listening post.

Device Selection, factors to consider:
- Sound quality preference between manufacturers
- Lifestyle demands for direct connect vs magnet coupling
- Device accessories and compatibility

Discuss follow-up appointment schedule and Audiology fee
Inventory of patient's listening needs: COSI – assess initial ability
Completion of order form should patient elect to proceed

BONE ANCHORED HEARING IMPLANT ACTIVATION — 60 MINS

8-weeks following surgery to allow for osseointegration

Device Programming

Select correct configuration in software
Direct bone-conduction threshold evaluation through BAHI in-situ

BONE ANCHORED HEARING IMPLANT ACTIVATION *continued…*

Volume Control
Programs
Feedback management

Device orientation

Parts of sound processor
- Battery
  - Battery size, life, where to purchase
  - Ingestion dangers
- Coupling
  - Connect: abutment - cleaning
  - Attract: magnet strength is IMPORTANT, and must be tight enough for good retention
  - Lowest strength with the best retention possible to avoid skin breakdown issues
  - Check magnet site at home to ensure no pain or redness; return to clinic if concerned
  - Softwear pads: improves comfort and increases dB transmission
  - Softband: tightness of band IMPORTANT (2 fingers under band)
  - SoundArc: shape and tightness of wire IMPORTANT
- Safety line: Use until confident with device retention
- Storage and Care
  - Turn off when not in use
  - Dry-aid kit if processor submerged under water
  - Use dry cloth to clean; no cleansers necessary

MRI & TSA

MRI: all external pieces must be removed: processor + external magnet
- Internal device can undergo static magnetic field of up to 1.5 Tesla

TSA: System may activate airport security metal detectors – show medical device card

Troubleshooting

Listening post
Softband/SoundArc tightness
Feedback
Battery

User Manuals and Support Resources

Review manuals, resources, and warranties

Practice connecting sound processor to abutement or magnet

Top of processor at 12 o'clock,
Attach/detach: roll together & apart
Battery: insert/remove
Program/Volume buttons

Wireless Accessories: Pairing and streaming Apps and MFi

Usage/Wearing Schedule

Consistent, daily use during all waking hours, except when sleeping or around water
Better to work up to full-time use over 2-3 weeks vs inconsistent use or magnet issues

MAGNET CHECK

1-week following activation 15 MINS

If patient elects to proceed with the magnet coupling option, a magnet check appointment will be scheduled 1-week after initial activation to verify that the magnet strength is appropriate and adequate.

1-MONTH FOLLOW-UP 30 MINS

1-month following BAHI fitting

Counseling

Successes and challenges
Troubleshooting

Validation of BAHI

Subjective: COSI – assess final ability
Objective: Speech performance gap:

Aided CNC 50-word list in sound field at 60dBA
Unaided CNC 50-word list in sound field at 60dBA
Contralateral ear in the “plug & muff” condition

Following the 1-month appointment we recommend at least ***annual visits*** to evaluate the performance of the Bone Anchored Hearing Implant. These visits are not covered by insurance and are on a self-pay basis. Please note, audiologic evaluations are typically covered by insurance.

Thank you for choosing Ear and Hearing | Center for Neurosciences.