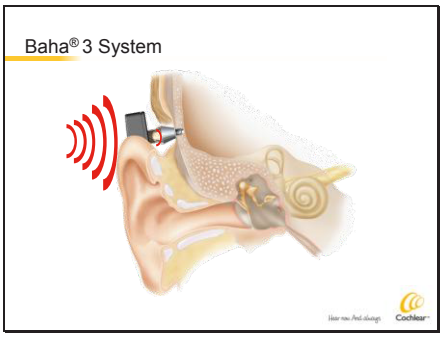
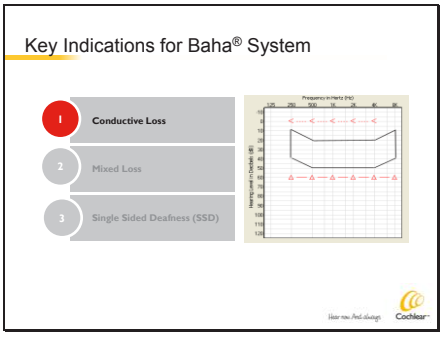
Slide 1

Slide 2



Slide 3



Slide 4

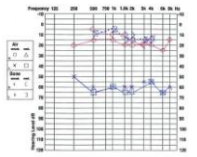
Mixed and Conductive Hearing Loss

Possible causes:

- Chronic otitis media (ear infections)
- Congenital atresia
- Cholesteatoma
- Middle ear dysfunction/disease
- External otitis

Slide 5

The Baha® System
Unilateral Conductive Hearing Loss

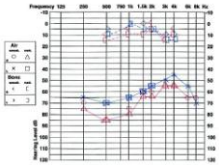


Unilateral conductive hearing loss

Diagnosis example: ear canal atresia, left ear

Slide 6

The Baha® System
Bilateral Conductive Hearing Loss



Bilateral conductive hearing loss with normal inner ear function.

Diagnosis example: Bilateral microtia

Slide 7

The Baha® System

FDA Indication Criteria for Implantation

Mixed and Conductive Hearing Loss

- ≥ 5 years of age
- ≤ 65 dB HL BC PTA
- For bilateral fitting - Symmetric bone conduction thresholds are defined as less than 10 dB difference on average (0.5, 1, 2, and 3kHz) or less than 15 dB at individual frequencies.

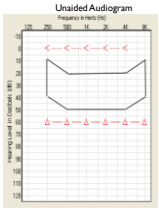
Slide 8

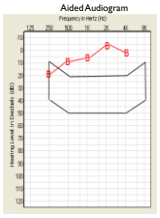
Solutions for Conductive loss

- **Hearings aids**
  - Feedback
  - Large earmolds
  - Saturation/Distortion issues
  - Issues with draining ears, external otitis, atresia, malformations
- **Stapes Surgery**
  - Great promise (90% success rate)
  - Risk (0.5-1.0% SNHL, Vincent et al., 2006)
  - Limited Reality: 15dB improvement post surgery (Hausler, 2007; Pérez-Lázaro et al., 2005)
- **Baha® System**
  - Bypasses conductive element
  - Low power = excellent sound quality
  - No issues with draining fluid, external otitis, atresia

Slide 9

Conductive 'Aided' Outcomes

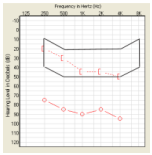




Slide 10

Key Indications for Baha® System

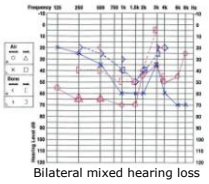
1. Conductive Loss
2. **Mixed Loss**
3. Single Sided Deafness (SSD)



Slide 11

The Baha® System

Bilateral Mixed Hearing Loss



Bilateral mixed hearing loss

Diagnosis example: right ear – cholesteatoma operation, left ear – chronically draining

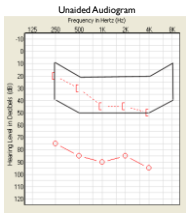
Slide 12

Solutions for mixed hearing loss

- **Hearing aids**
  - Large earmold
  - Feedback
  - Saturation/Distortion
  - Under amplification
  - Issues with draining ear, external otitis, atresia
- **Stapes Surgery**
  - SNHL component remains (still require hearing aids)
  - 15dB improvement
- **Baha® System**
  - Bypasses conductive element, compensates for SNHL
  - Much less gain required than a hearing aid
  - Can address up to 65dBHL (W/Cordelle) sensorineural component

Slide 13

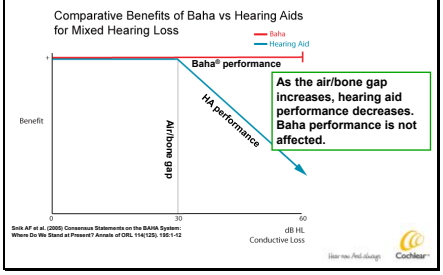
Mixed 'Aided' Outcomes



Slide 14

Air/bone gap > 30dB?

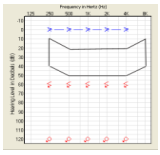
Baha® System outperforms hearing aids



Slide 15

Key Indications for Baha® System

1. Conductive Loss
2. Mixed Loss
3. **Single Sided Deafness (SSD)**



Slide 16

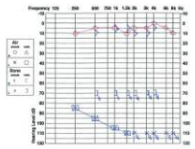
Single Sided Deafness

Possible Causes:

- Acoustic neuroma tumors, other surgical intervention
- Sudden deafness
- Neurological degenerative disease
- Trauma
- Ototoxic treatments
- Genetics
- Meniere's Disease

Slide 17

The Baha® System
Single Sided Deafness



Single Sided Deafness

Diagnosis example: acoustic neuroma removal, left ear.

Slide 18

The Baha® System

FDA Indication Criteria for implantation
Single Sided Deafness

- ≥ 5 years of age
- Normal hearing in contralateral ear
  - Normal hearing is defined as PTA AC threshold equal to or better than 20 dB at .5, 1, 2 and 3kHz.
- Functions by transcranial routing of the signal

Slide 19

Single Sided Deafness (SSD)

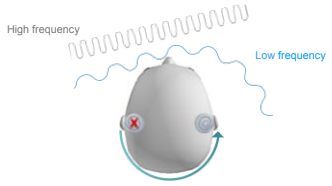
- Purpose
  - To provide sufficient amplification force to overcome the head transfer function
- Additional force may be required to;
  - Overcome large head transfer function
  - Compensate for sensorineural hearing loss (if loss develops due to ageing or some other natural process later in life)
- Common difficulties adults with SSD experience
  - Hearing in background noise
  - Localization
  - Understanding a person situated on the deaf side
- Common Experiences of children with unilateral hearing loss[1]
  - Speech and language delay
  - Difficulty paying attention in school
  - Difficulty hearing in noisy environments
  - Difficulty localizing sounds

1. Bess FH, Tharpe, AM. Case history data on unilaterally hearing impaired children. Ear Hear 1986;7(1):14-19

Hear now. And always. Cochlear

Slide 20

Head Shadow Effect



-3dB Head Shadow Effect

Hear now. And always. Cochlear

Slide 21

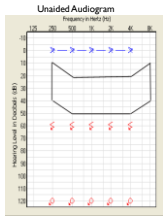
Solution with Baha®

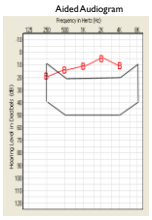
Baha Reduces Head Shadow Effect

Hear now. And always. Cochlear

Slide 22

SSD 'Aided' Outcomes





Slide 23

Baha® Implant with Abutment

Slide 24

Baha® Sound Processor

Slide 25

Baha® Softband

Slide 26

Why Baha® System?

- Safe and minor surgery
- Predictable outcomes
- "Plug and Play"
- High wearer satisfaction
- Simple yet effective
- Natural sound quality
- Most effective treatment for SSD
- First direct bone conduction system for hearing rehabilitation