



Develop America's Medical Airmen Today ... for Tomorrow

Three Options for Profound Unilateral SNHL: BAHAs, BICROS and Transcranial CROS Hearing Aids

Jennifer Jones, CAPT, USAF

Travis AFB

Malisha Martukovich, CAPT, USAF

Lackland AFB

Providing Great Care...Building Warrior Medics



Overview



Develop America's Medical Airmen Today ... for Tomorrow

- Definition/Candidacy Criterion of Profound Unilateral SNHL
- Three Treatment Options
- Counseling
- Fitting Devices
- Summary



Definition/Candidacy Criterion



Develop America's Medical Airmen Today ... for Tomorrow

- Candidacy Criterion: Patients with Profound Unilateral SNHL, other ear has normal to mild hearing loss through 4000 Hz
- Medical clearance



Bone Anchored Hearing Aids



Develop America's Medical Airmen Today ... for Tomorrow

- Definition: A hearing aid that is surgically placed that bypasses the outer and middle ear and stimulates the cochlea directly through bone conduction
- Surgery option
- Cochlear Product
 - <http://www.cochlearamericas.com/Products/2013.asp>



BAHA evaluation



Develop America's Medical Airmen Today ... for Tomorrow

- Completed prior to surgery
- Complete audiological evaluation
- Aided testing with test BAHA in the soundfield
- Trial period with loaner BAHA





BAHA fitting



Develop America's Medical Airmen Today ... for Tomorrow

- Three months post-op
- Cleaning of site and device
- Fitting/Counseling
- Adjustment of trim pots
- Quick SIN/ aided soundfield
- Follow-ups
- Pediatric Fittings



Providing Great Care...Building Warrior Medics

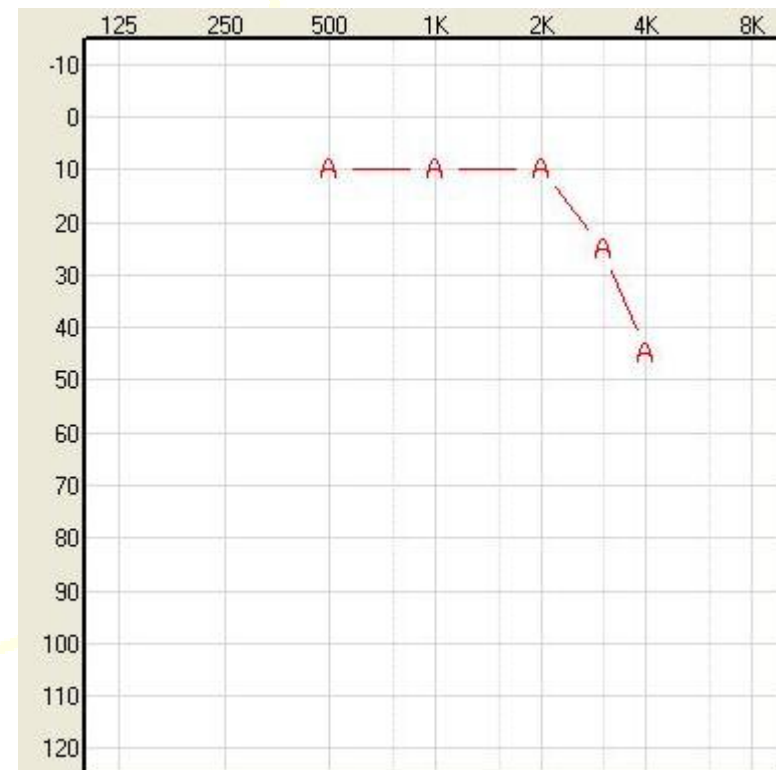
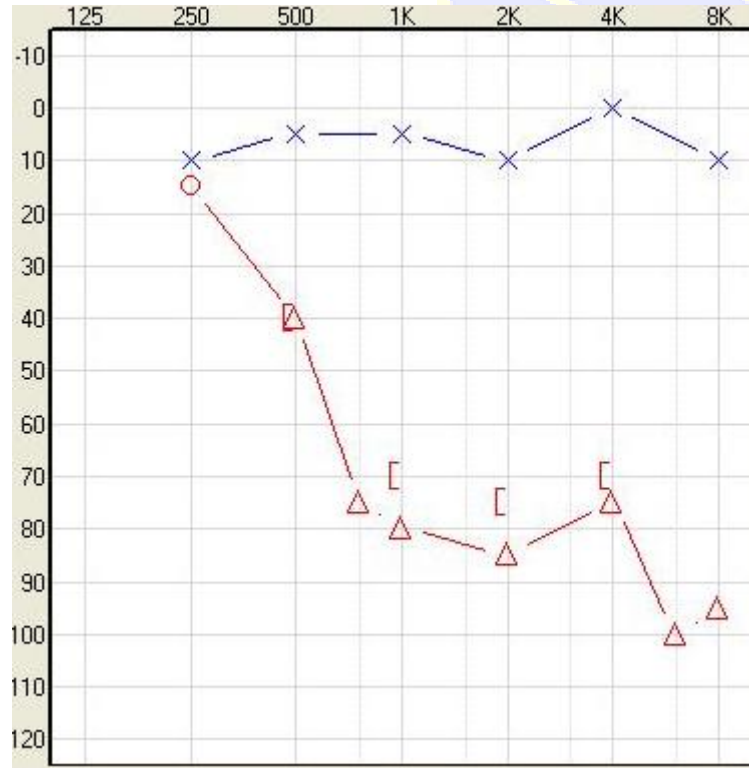


Case Study



Develop America's Medical Airmen Today ... for Tomorrow

- 16 yr old female, sudden hearing loss AD
- 20% word discrimination AD, 100% AS
- BAHA immediately recommended





BICROS



Develop America's Medical Airmen Today ... for Tomorrow

- Definition: Routes acoustic signal from profound SNHL side to better side which may also have hearing loss
- Pt wears two devices
- Wireless (Transmits sound via FM signal), BTEs, ITEs



BICROS fitting



Develop America's Medical Airmen Today ... for Tomorrow

- Fit better ear device first
- Set microphone balance to 3.0 to 6.0
- Only give patient one program at initial fitting
- Add transmitter side
- Recommend two week follow up



WiFi Mic - Rx
wireless receiver/
digital hearing aid



WiFi Mic - Tx
wireless
microphone



WiFi Mic - Rx
wireless receiver/
digital hearing aid

WiFi Mic - Tx
wireless
microphone

Providing Great Care...Building Warric

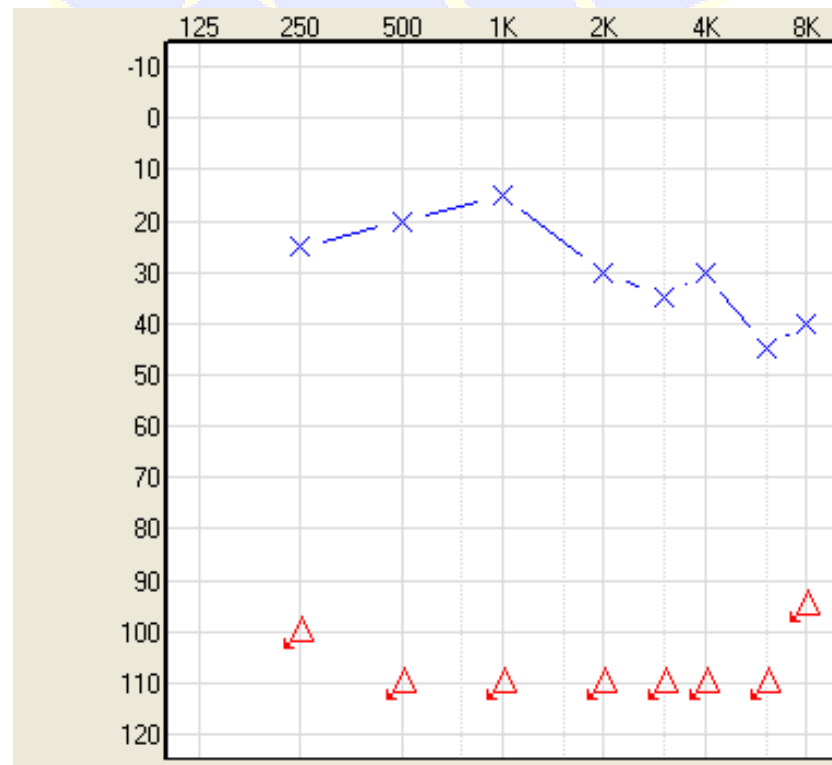


Case Study 1



Develop America's Medical Airmen Today ... for Tomorrow

- 64 yo male, sudden hearing loss AD
- Fit pt with Interton BICROS BTE hearing aids



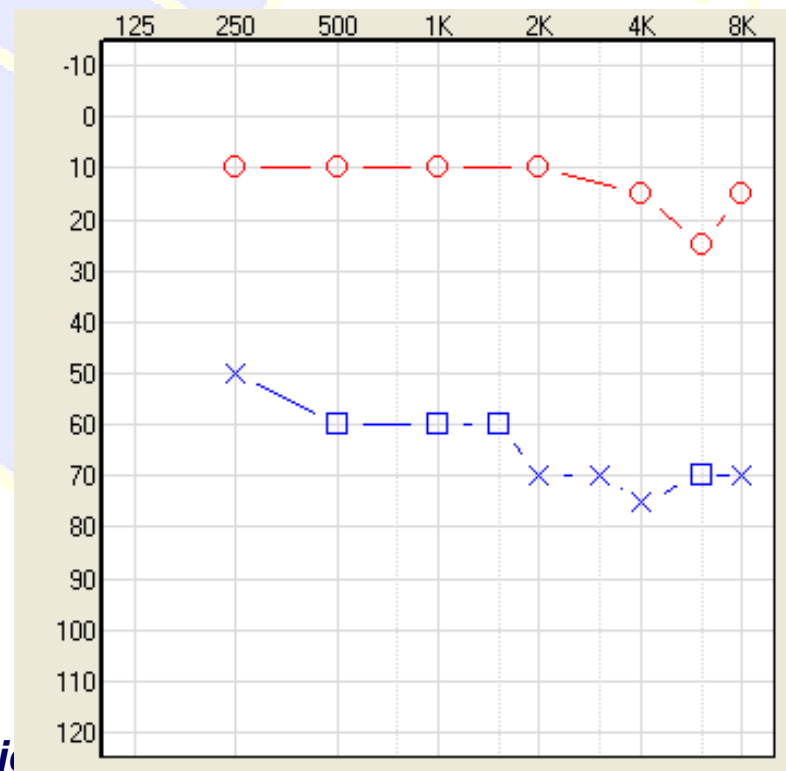


Case Study 2



Develop America's Medical Airmen Today ... for Tomorrow

- 57 yo male, sudden hearing loss AS
- 78% word recognition AS, 100% word recognition AD
- Originally fit with Siemens Centra ITE AS in 2007
- Fit pt with Interton BICROS BTE hearing aids





Transcranial CROS



Develop America's Medical Airmen Today ... for Tomorrow

- Definition: Transmits acoustic signal from profound SNHL side to normal hearing ear via vibrations picked up by the better cochlea
- Pt wears one device
- Power ITE to Power CICs



Transcranial CROS fitting



Develop America's Medical Airmen Today ... for Tomorrow

- BTE, ITE or CIC power models
- Good fit/feedback program is important!
- Intra-aural attenuation of approximately 40-50 dB gain
- Follow up in two weeks
- Starkey Inteli Power D Full Shell
- Unitron Next power CIC

STYLES	BATTERY SIZE	2CC dB SPL		EAR SIMULATOR dB SPL	
		PEAK GAIN	PEAK OUTPUT	PEAK GAIN	PEAK OUTPUT
Power CIC	10A	55	116	66	127
Full shell power	13	60	122	69	132
BTE P	13	70	130	73	138
BTE HP	13	75	135	78	140
Moxi xP receiver	312	55	123	62	130

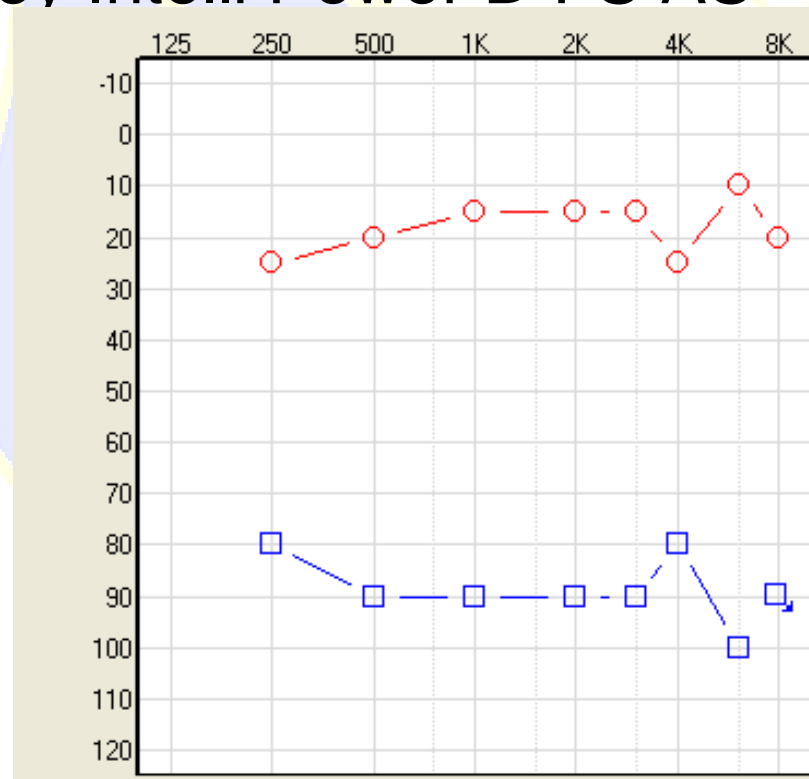


Case Study



Develop America's Medical Airmen Today ... for Tomorrow

- 64 yo male, sudden hearing loss AS
- Previously fit with Phonak Savia 311 BTE hearing aid AS
- Fit with Starkey Intelli Power D FS AS



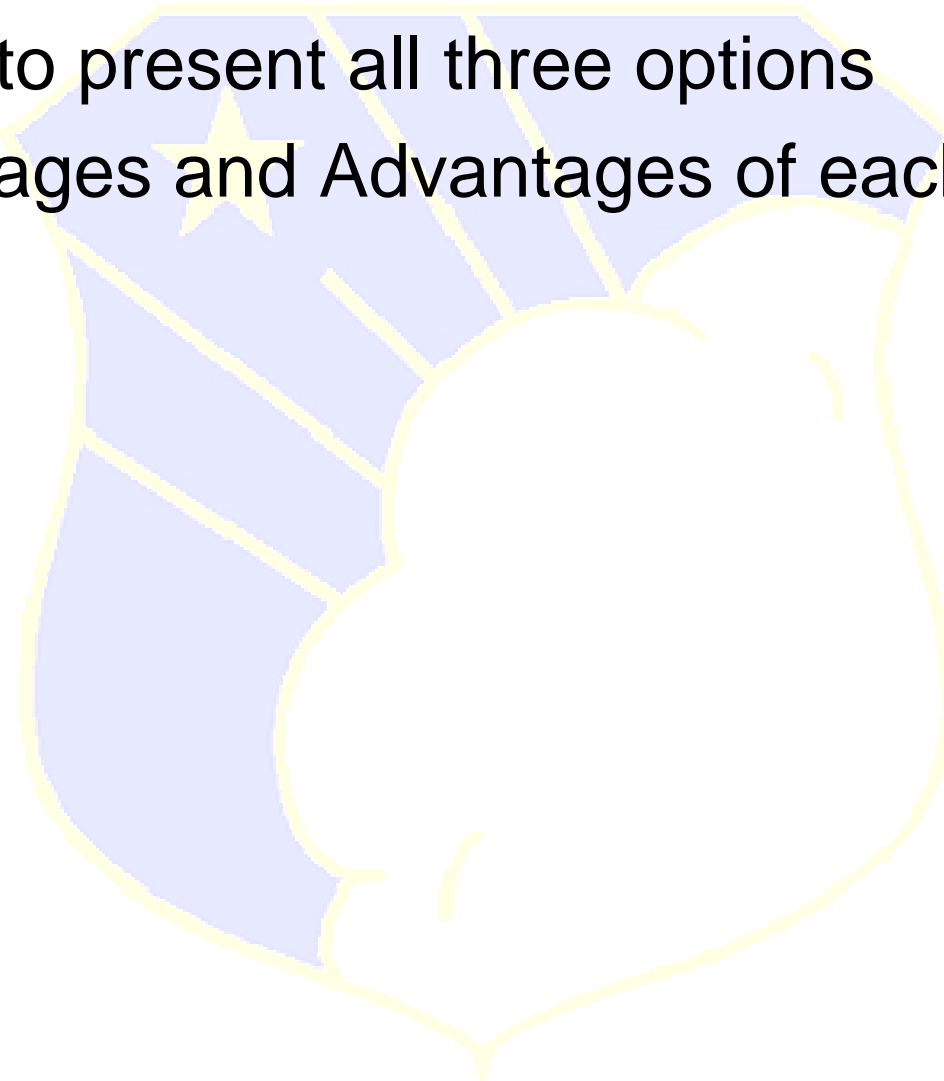


Counseling



Develop America's Medical Airmen Today ... for Tomorrow

- Important to present all three options
- Disadvantages and Advantages of each



Providing Great Care...Building Warrior Medics



Counseling



Develop America's Medical Airmen Today ... for Tomorrow

- ASHA Leader 04 November 2008
 - Will my hearing return?
 - Will I have to wear a hearing aid?
 - Will I lose the hearing in my other ear?
 - How long will I have this hearing loss?



Summary



Develop America's Medical Airmen Today ... for Tomorrow

- Definition/Candidacy Criterion of Profound Unilateral SNHL
- Three Treatment Options
- Counseling
- Fitting Devices



Develop America's Medical Airmen Today ... for Tomorrow

59th Medical Wing

“Providing Great Care...Building
Warrior Medics”

Providing Great Care...Building Warrior Medics