MEETING NOTES NOVEMBER 11, 2010 MANDI FISHER-LEGACY HILLS

The meeting consisting of 16 members was called to order by Gary Shepard who introduced Mandi Fisher of Legacy Hills Hearing Center to discuss the process of hearing loss testing, interpreting test results and prescribing the correct hearing aids.

During the meeting there appeared to be some confusion on the issue of testing costs which are consistent in the marketplace. In an effort to address the issue more fully than time permitted during the meeting Gary Shepard created a white paper subsequently posted to the Hearing Aid SIG Forum. FOR AN INDEBTH DISCUSSION OF TESTING COSTS PLEASE REVIEW THE POST.

BIOGRAPHY-MANDI FISHER

Lead Audiologist at Legacy Hills Hearing Center

Education

- Bachelor's in Communication Disorders from Texas State University in 2002
- Doctor of Audiology from the University of North Texas in 2006

Professional Background

- Ear, Nose and Throat settings
- Private Practice settings
- Adjunct professor for Undergraduate Speech and Hearing Sciences at the University of North Texas
- Regional Trainer for GNResound

PRESENTATION

A HEARING TEST IS A PROCESS-NOT AN EVENT

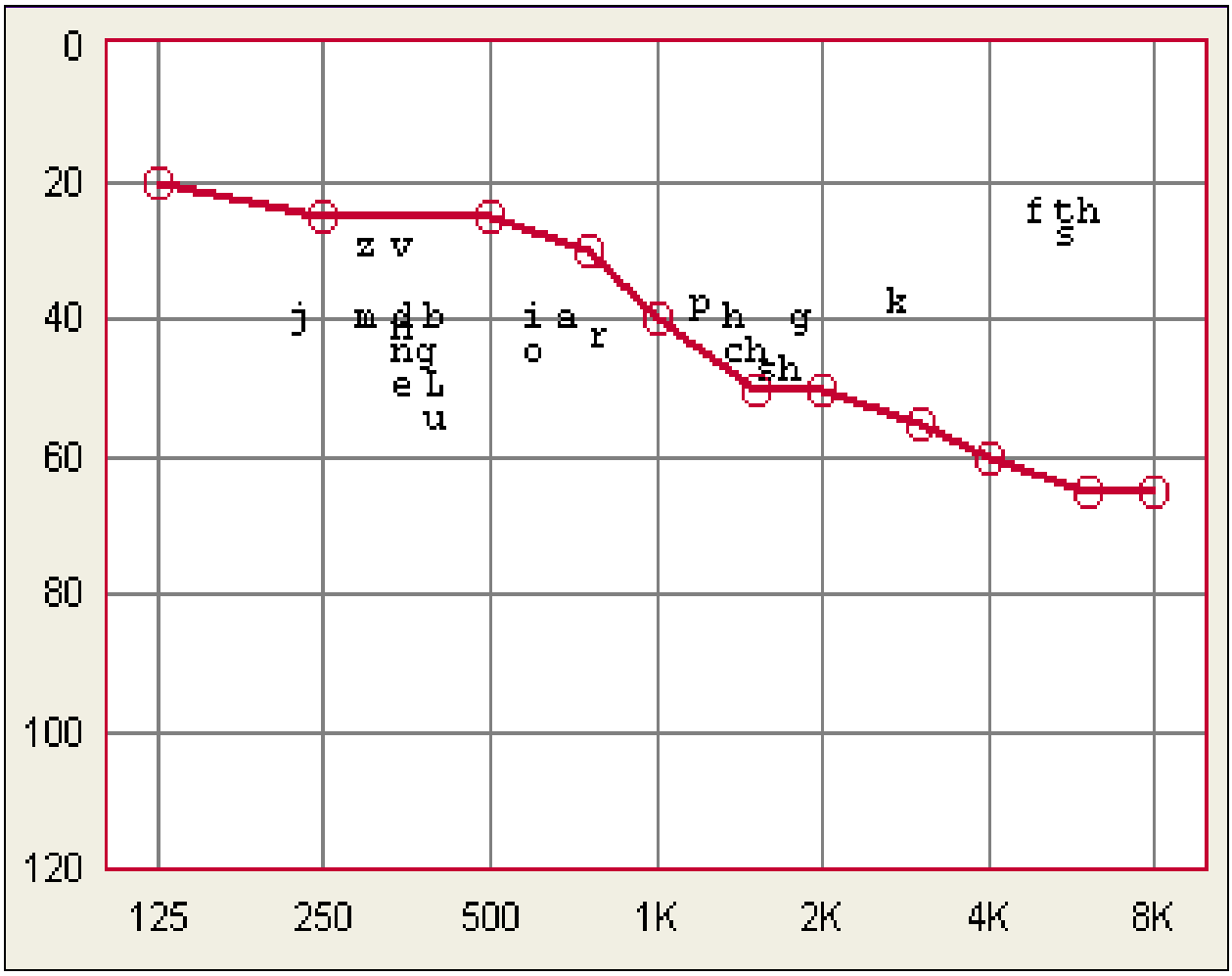
- ❑ Realize what you are missing
- ❑ Recognize potential hearing loss
- ❑ Educate yourself on hearing loss and potential treatments
- ❑ Seek professional care
- ❑ Schedule an appointment
- ❑ Get your hearing tested
- ❑ Discuss your options with a hearing healthcare professional
- ❑ Select and use the appropriate solution

- ❑ Schedule follow up appointments

EVALUATION STEPS
Assessing your lifestyle and social requirements
Matching your needs with available technologies
Choosing the right product for you
Customizing the instruments for your specific hearing needs
Keeping product performance optimal

LEVELS OF SEVERITY
Normal
Mild
Moderate
Severe
Profound

WHY CAN I HEAR BUT NOT UNDERSTAND?



Above is an audiogram of a patient with mild loss in the low frequency pitches and moderate loss in the high pitches. As you can see, the soft, consonant sounds are in the high frequencies and the louder vowel sounds lower in pitch.
Low frequency hearing loss makes hearing vowels difficult, but words can be pieced together by the brain.
High frequency hearing loss (the most common) makes hearing consonants difficult. Understanding speech is very challenging in high frequencies.

SPEECH TESTING

Speech Recognition Threshold (SRT)

- Used to test the accuracy of the hearing test
- Two syllable words
  - Patient repeats words as they get softer
  -

Word Recognition Scores (WRS)

Typically tested at a listening level that is louder than normal conversational speech

- 80 dB signal with 50 dB of masking (static sound) in opposite ear
- List of 10 words unless one incorrect response is given, then 25 word list is used
- "Say the word…"

WRS MODIFICATION

Most Comfortable Loudness

Audiologist finds most comfortable listening level for patient

Normal Conversational Speech Level

Typically 50 or 60 dB presentation level

WRS TESTING (PIPB rollover)

Poor result on WRS at loud presentation level (80dB), but when presentation level is decreased, score improves

Could be indicative of a central abnormality (i.e.; tumor)

INTERPRTATION OF WRS TEST RESULTS

WRS is used to determine how much benefit a patient can expect from hearing aids

The higher the score, the better the benefit

A low score can indicate damage in the inner ear that is severe enough to interfere with hearing aid benefit

May just amplify distortion

Hearing aid benefit cannot be determined until a hearing aid has been tried

QUICK SIN

Number one complaint of individuals with hearing loss is hearing in background noise

Speech understanding in background noise cannot accurately be determined from the audiogram

QuickSIN measures signal to noise ratio loss (SNR)

- Hearing impaired individual's performance in background noise in comparison to normal hearing individual
  - How much louder does speech need to be over noise for a hearing impaired person to understand the speech?

Quick SIN was developed to:

Provide a quick way to determine patient's ability to hear in background noise

Determine if emphasizing high frequencies improves or degrades understanding speech in noise

Assist in choosing appropriate hearing aids

Provide information useful in counseling patients regarding realistic expectations

High Frequency Quick SIN Lists

Some patients do worse when hearing aids provide extended high frequency range

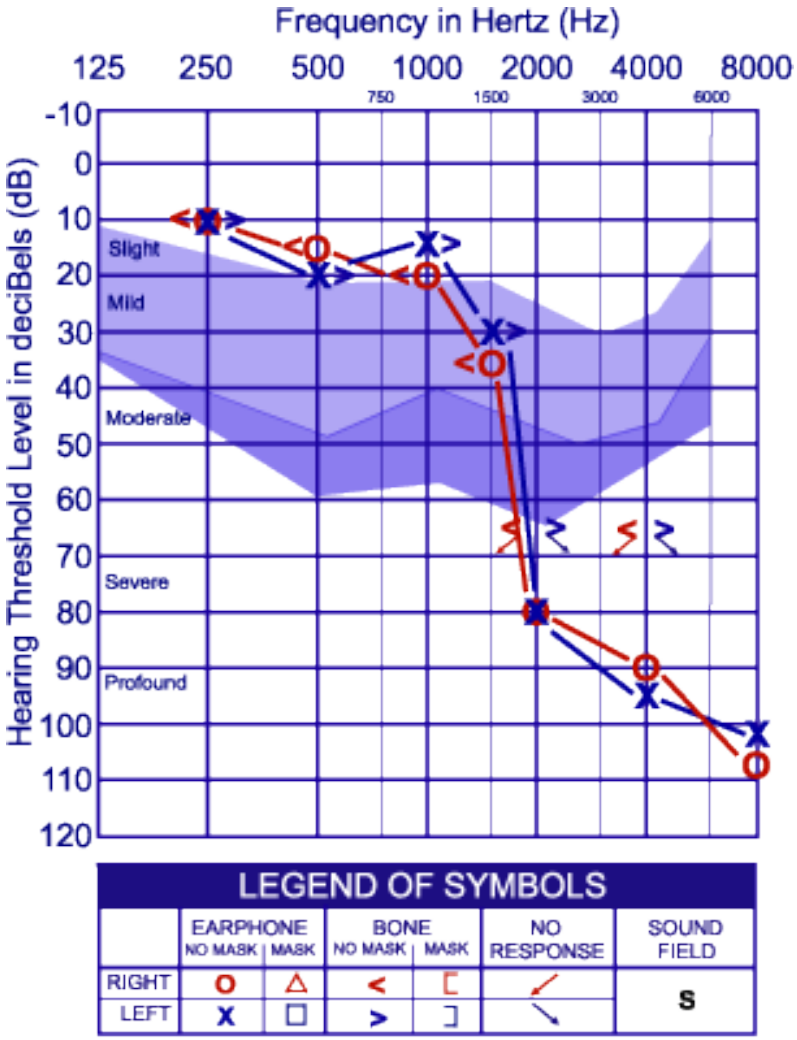
Others' performance improves

Comparisons can be done between high frequency emphasis lists and non- high frequency emphasis lists to determine whether or not extended high frequency amplification will be beneficial

USING THE SNR LOSS MEASURE FOR FITTING HEARING AIDS

SNR LOSS	DEGREE OF SNR LOSS	EXPECTED IMPROVEMENT WITH DIRECTIONAL MIC
0 - 2 dB	Normal/Near Normal	May hear better than normals in noise
3 – 7 dB	Mild SNR Loss	May hear almost as well as normals hear in noise
8 – 15 dB	Moderate SNR Loss	Directional Microphones help. Consider array mic
> 12 - 15 dB	Severe SNR Loss	Maximum SNR improvement is needed. Consider FM system Companion Mic

CASE HISTORY



Lifestyle:

- Sun City Meetings
- Church
- Theater
- Cocktail Parties
- Frequents Busy Restaurants

Previous Basic Level ITE user (1 aid)

Complaints:

- Overall clarity
- Plugged up
- Hearing in background noise

Recommendations:

- 2 Open fit BTEs

Top of the line technology
Improved noise reduction
More automatic to compliment active lifestyle
More flexibility to focus in on big drop in high frequencies

NOTE; MANDI'S POWER POINT PRESENTATION WAS CONVERTED TO THE ABOVE WORD DOCUMENT TO REDUCE IT TO A MANAGEABLE FILE SIZE FOR POSTING TO THE HEARING AID SIG WEB SITE.

Gary Shepard