USE OF FM WITH HEARING AIDS: A PRACTICE MANAGEMENT AND PATIENT-FOCUSED APPROACH

ADVANCES IN AUDIOLOGY - TOMORROW'S SOLUTIONS FOR TODAY'S CHALLENGES
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There is ample evidence that FM systems work for understanding speech in noise and for many other everyday situations.
FM systems can be used not only for communication, but for access to any desired sound source.
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Why is there low adoption of FM systems by patients?
**Possible Causes of Low FM Adoption**

Who/What is to blame?

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- Cost/Access
- Knowledge/Application/Compatibility/Maintenance
- Shifting Responsibility
- Inconvenience or Stigma?
Step 1. Potential Candidacy for HAT
Hearing Loss | Auditory Processing Deficit | Learning Disability
Auditory Neuropathy Spectrum Disorder | Language Deficit
Attention Deficit | English Language Learner

Documented evidence of hearing, listening, or learning problems?

Yes

Step 2. Considerations [In and out of school]
Acoustic environment | Social/emotional | Functional | Support

Yes

Contra-indications

No

Step 3. Device Selection

Step 4. Fitting and Verification

Step 5. Implementation and Validation

For individuals older than 21, what guidelines are there?

How can I introduce FM technology into my practice?

How can I help patients see the value of FM technology beyond hearing aids (and cochlear implants?)

Who else might benefit?

Reconsider

Counsel Monitor Review

AAA Guidelines (2008)
Patients with hearing loss have varying degrees of difficulty in noise, and most, if not all complain about background noise.
Practice Management Approach
FM Systems as Part of Your Practice

Anticipation
In my practice, who might benefit and adopt, and how can I test?

Application
Would I be able to demonstrate FM technology on demand?

Availability
Do I have equipment to show on demand?
Practice Management Approach
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“Knowing is not enough; we must apply. Willing is not enough; we must do.”

(Johann Wolfgang van Goethe)
Anticipation
Complete a Communication/Needs Assessment

- Formal and Informal Methods
- Getting Beyond the Hearing Aids
- Think Beyond Classic Listening Situations
- Think About Communication Partners and Sound Access
Anticipation

Complete a Communication/Needs Assessment

‣ One of my favorites: Communication Questionnaire by Rebecca Morris

http://www.onthejobwithhearingloss.com/
Anticipation

QuickSIN Test as Part of Your Test Battery

- QuickSIN Test offers 1-minute assessment of SNR Loss
Figure 1 (From Killion, 2002)
Anticipation

ANL Test as Part of Your Test Battery

- The Acceptable Noise Level (ANL) Test offers a quick assessment of tolerance of noise
  - Low ANL Score (Good Hearing Aid User)
  - High ANL Score (Poor Hearing Aid User)

\[ \text{MCL} - \text{BNL} = \text{ANL} \]
Tolerates Noise Well (ANL is SMALL)

Does Not Tolerate Noise Well (ANL is LARGE)
Anticipation
ANL Test as Part of Your Test Battery

- ANL Test on CD available from Frye Electronics
- ANL Test also available in Starkey’s App “uHear” under the “Speech in Noise” test feature
Anticipation

ANL Test as Part of Your Test Battery

1. What is the quietest sound you can hear?
2. How well do you hear in noise?
3. Create your hearing performance profile
4. Are you ready to start?

Steps:

- **STEP 1**: Go to a very quiet environment.
- **STEP 2**: Wear your headphones/earbuds in the correct ear.
- **STEP 3**: Set your volume to 75%.
- **STEP 4**: Are you ready to start?
Anticipation
ANL Test as Part of Your Test Battery
Anticipation

ANL Test as Part of Your Test Battery
Anticipation

ANL Test as Part of Your Test Battery

Your acceptable Noise Level Score: 16 dB SNR

Sam, Monday, December 3 at 12:42
When Considering Unaided Hearing to Predict Hearing Aid Use…

ANL Score

- Low SNR Loss, Tolerance Not Issue

QuickSIN (SNR Loss)

0

0

>15

30
When Considering Unaided Hearing to Predict Hearing Aid Use…

- SNR Loss Not Issue, But Tolerance Is
- Low SNR Loss, Tolerance Not Issue
- SNR Loss Is Issue, But Tolerance Is Not

QuickSIN (SNR Loss)

ANL Score

30

0

0

>15
When Considering Unaided Hearing to Predict Hearing Aid Use...
May Not Need, Except Some Situations

When Considering FM Technology...

ANL Score

QuickSIN (SNR Loss)
Could Be Beneficial

May Not Need, Except Some Situations

Could Be Beneficial

QuickSIN (SNR Loss)

When Considering FM Technology...
When Considering FM Technology...

- QuickSIN (SNR Loss)
  - 0 ≤ QuickSIN < 15: Could Be Beneficial
  - QuickSIN ≥ 15: Strong Need

- ANL Score
  - 0 ≤ ANL < 30: May Not Need, Except Some Situations
  - ANL ≥ 30: Could Be Beneficial
Many Patients Will Likely Fall In Middle

When Considering FM Technology...
Application
Nothing is More Powerful Than a Demonstration

“See It To Understand It”
Application
Nothing is More Powerful Than a Demonstration

Noise

-10 dB
Impossible!

0 dB
Difficult!

+10 dB
Better!

+20 dB
Best!

Speech
Application

Nothing is More Powerful Than a Demonstration

<table>
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<tr>
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Davis, Atcherson, & Johnson (2007)
Application
Nothing is More Powerful Than a Demonstration

Adapted from Bess and Tharpe (1986) *Ear Hear* 7(1)
Application

Nothing is More Powerful Than a Demonstration

- Demonstrate FM System Technology in a Sound Booth.
  - Present white or speech-shaped noise, or some environmental sound, into the sound field
  - Wear microphone transmitter and talk to your patient while he/she is wearing a receiver

- Demonstrate FM System Technology by using your iPhone/ iPad to enrich the room with noise

- Consider Aversiveness Subscale in the APHAB Questionnaire for Outcome Measures
Availability
Are You Ready for ON DEMAND?
Availability
Are You Ready for ON DEMAND?

- The beauty of FM technology is:
  - It is wireless
  - It gives remote access
  - It can be integrated into hearing aids
  - It is smarter with dynamic FM

You Must Have These To Show and Be Prepared to Demonstrate!
The single biggest problem in communication is the illusion that it has taken place.

-George Bernard Shaw
Ask Me 3™

- What Is My Main Problem?
- What Do I Need to Do?
- Why Is It Important for Me to Do This?

Diagnosis  Treatment  Context

www.npsf.org/askme3/
To the Heart of Matters
What Are the Inherent Motivators?

- **Motivators for the Hearing Professional**
  - Increased compliance with hearing aids (less return)
  - Increased satisfaction by doubling functionality of hearing aids

- **Motivators for Patient**
  - Unobstructed access to a variety of desired sounds
  - Portability and flexibility
  - Benefits outweigh cost
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Patients can be the best advocates of FM technology by telling others about it. But they need to learn about it from YOU!
HLAA Completes Another Successful HAT Training

Consumers from around the country joined HLAA’s Hearing Assistive Technology (HAT) Training Program October 26-28. Supported by a grant through the National Institute on Deafness and Rehabilitation Research (NIDRR) and the Rehabilitation Engineering Research Center on Hearing Enhancement (RERC-HE) at Gallaudet University, HLAA’s HAT Training program seeks to ensure that consumers get the information they need about HAT. The people who are selected for this hands-on train-the-trainer program agree to take what was learned and teach others in their local community about HAT.

This year a terrific group of 21 motivated people gathered at the Marion Downs Hearing Center in Aurora, Colorado. We covered everything from hearing aids and cochlear implants to listening systems to alerting systems and hearing aid accessible phones. Trainees were immersed in the technology that makes lives easier for people with hearing loss, taught by experts in the field. The training was accessible to the consumers via CART and an assistive listening system.

Even as the session came to a close, plans are underway for the 2013 HAT Training. If you are interested in joining the training, please send an email to HAT@hearingloss.org.
Questions?
Contact Me:
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http://www.uams.edu/chrp/audiospeech/
sratcherson@ualr.edu