



2009 Summer Conference Handout

Sunday, July 19, 2009

10:45 – 11:45 a.m.

***FM Fitting: Developing Strategies to Comply with AAA
Clinical Practice Guidelines***

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Fitting FM/HAT: Developing Strategies to Comply with the AAA Clinical Practice Guidelines

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Educational Audiology Association
Summer Conference, New Orleans, 2009

AAA Clinical Practice Guidelines: Remote Microphone Hearing Assistance Technology for Children and Youth Birth-21 Years

AAA HAT Committee:
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www.audiology.org/publications/documents/positions/Hearing+Assistance+7

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 - Supplement B. Sound Field/Desktop Fitting and Verification Procedures (not available)
 - Supplement C. Induction Loop System Fitting and Verification Procedures (not available)

Activity

- Divide into groups
- Using form provided, discuss strategies for implementing each topic according to time schedule provided
- Use AAA HAT Guidelines and ppt slide information to review each topic
- Groups report on top 5 strategies/recommendations for each topic at end of session
- Turn in form

Implementation Topics

1. Personnel Qualifications 5 min
2. Equipment and Space Requirements 5 min
3. Remote Microphone HAT Candidacy, Implementation & Device Selection Consideration 10 min
 - 5.1 Potential Candidacy (Step 1)
 - 5.2 Implementation (Step 2)
 - 5.3 Device Selection (Step 3)
4. Fitting and Verification Procedures (Step 4) 10 min
5. Implementation & Validation Procedures (Step 5) 10 min
 - 7.1 Orientation, Training & Usage Plan
 - 7.2 Validation
 - 7.3 Monitoring

Topic 1. Personnel Qualifications

- Audiology Scope of Practice
 - "Audiologists are the professionals singularly qualified to select and fit all forms of amplification for children and youth, including personal hearing aides, frequency-modulated (FM) systems, and other hearing assistive devices"
- Meet state licensure and/or regulatory requirements
- Audiologists have expertise to complete all appropriate tests
- Audiologists need test equipment necessary to complete all required procedures
- Audiologists must adhere to procedures consistent with current standards of practice

Topic 2. Equipment and Space Requirements

- Sound booth with diagnostic 2-channel audiometer and sound field capabilities
- Sound level meter
- Materials for measuring or estimating reverberation time
- Otoscope
- Electroacoustic analysis equipment
- Real Ear measurement equipment

Equipment and Space Requirements

- Battery testers, stethoscopes, and hearing aid checking devices
- Visual aids and materials for training and classroom presentations
- Age-appropriate test materials for validation
- Back-up HAT devices and accessories
- Space that is ventilated, away from noise sources and sufficient for audiologist, child/youth, parent, and necessary equipment

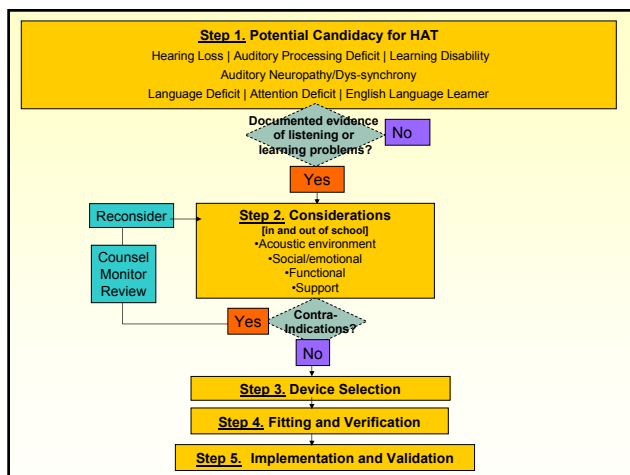
Topic 3.

Remote Microphone HAT Candidacy, Implementation & Device Selection Consideration

5.1 Potential Candidacy (Step 1)

5.2 Implementation (Step 2)

5.3 Device Selection (Step 3)



Step 1. Potential Candidacy for HAT: Target Populations

- Group 1: Children and youth with hearing loss who are actual or potential hearing aid users.
- Group 2: Children and youth with cochlear implants.
- Group 3: Children and youth with normal hearing sensitivity who have special listening requirements.

Step 2. Decision Considerations to Implement HAT [in and out of school]

Acoustical environment

- ANSI
- Transient noise

Social-emotional

- Motivation
 - student & teachers
 - child & family members
- Attention and fatigue
 - listening/looking
- Self-image
- Self-advocacy
- Social acceptance
- Classroom culture
- Family support

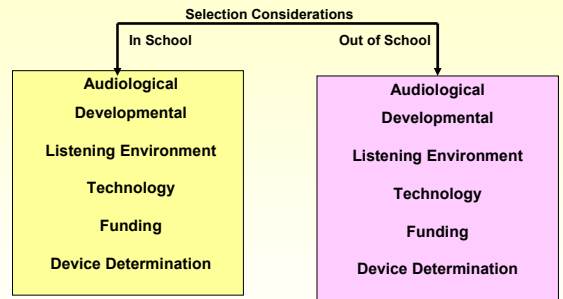
Functional

- Age
 - chronological
 - developmental
- Academic
- Communication Skills
- Home/school communication environment

Support

- Awareness
- External acceptance
- Ability to use and manage technology
- Financial resources
- ADA obligations

Step 3. Device Selection Considerations for Type of Device to Select



Device Determination

- Device selection
 - Receiver
 - Ear receiver location
 - Transmitter/mic
 - Accessories

Topic 4. Fitting and Verification Procedures

Goals of fitting HAT are to:

1. Provide audibility and intelligibility of speech that is commensurate with performance in ideal listening conditions;
2. Maintain full audibility of self and others;
3. Reduce effects of distance, noise, and reverberation.

Verification Procedures:

1. Electroacoustic
2. Behavioral

Verification Priorities

- The FM system should provide at least 10 dB relative advantage over hearing aid only
- If the system typically has both the FM and HA microphones active, then verification should be performed in the FM+HA position
- Assess performance electroacoustically with a speech-weighted input using the same type of signals for both HA microphone and FM system (calibrated real speech is preferred if available)
- Behavioral verification necessary to confirm that selected FM system functions as expected on child/youth

Topic 5. Implementation and Validation Procedures

- Orientation, training & usage plan
- Validation procedures
- Monitoring procedures

Orientation & Training Topics

Children/Youth

- Implications of HL
- Device features & function
- Expectations: Benefits/limitations
- Care & Maintenance
- Basic troubleshooting
- Self-monitoring of function
- Self-advocacy

Parents/Caregivers/Teachers

- Implications of HL
- Basic function of device
- Device features & function
- Expectations: Benefits/limitations
- Listening check & basic troubleshooting
- Report of a suspected malfunction
- Advocacy
- Classroom/community setting orientation to HAT

Validation Procedures

- Validation is a demonstration of the benefits (and limitations) of the recommended HAT device.
 - Full audibility and intelligibility of speech
 - Full audibility of self and others
 - Reducing effects of distance, noise, and reverberation
- Validation is an ongoing process to assure that the child/youth is receiving optimal speech input from self and others (Pediatric Working Group, 1996).

Validation, cont'd.

- Validation procedures consist of objective or subjective measures and reflect typical listening environments.
- IDEA requires that the selection and use of assistive technology include a functional evaluation of the child/youth in their customary environment.
- Paramount to the validation process is providing **evidence** that the recommended HAT achieves fitting goals for communication access.

Validation Tools

Self-assessments

- Listening Inventory for Education (LIFE)
- Classroom Participation Questionnaire (CPQ)

Functional Evaluations

- Functional Listening Evaluation (FLE)
- Ling Six Sound Test
- [PBK-SIN](#)

Observation Questionnaires

- Early Listening Function (ELF)
- Children's Home Inventory of Listening Difficulties (CHILD)
- LIFE
- Screening Instrument for Targeting Educational Risk (SIFTER)
- Meaningful Auditory Integration Scale (MAIS, IT-MAIS)
- Functional Auditory Performance Indicators (FAP)
- Children's Auditory Processing Scale (CHAPS)

Monitoring Procedures

- Any child who uses HAT should have a monitoring plan
- Repairs need to be completed in a timely manner
- Loaners should be provided
- IDEA requires that schools must monitor all amplification devices to assure that they are functioning properly

Monitoring, cont'd.

Individual monitoring plan documents proper functioning of amplification devices:

- Who
- Where
- When
- How
- What if

Monitoring, cont'd.

Audiological monitoring should document whether the child's performance with the amplification instruments

- Meets auditory/listening goals
- Achieves communication access with
 - Teachers and school staff
 - Classmates & peers
 - Self

AAA HAT Guidelines Proposed Monitoring Plan

HAT Function

Procedure used to monitor HAT:

- Ling 6 sounds
- Other _____

Person who will monitor: _____

Location of monitoring: _____

When will HAT be monitored: _____

Procedure to follow when HAT malfunctions: _____

Child/Youth Performance with HAT

Meeting personal auditory/listening goals?

- Yes
- No

Achieves communication access with teachers and school staff?

- Yes
- No

Achieves communication access with peers?

- Yes
- No

Comments: