Auditory Integration Training in Current Practice: Ethical Issues
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Abstract
In 2003 ASHA determined that provision of Auditory Integration Training (AIT) therapy is a violation of the ASHA Code of Ethics (ASHA, 2003b) except as conducted for research purposes. Yet, ASHA-certified practitioners continue to provide AIT services across the country. This presentation reviews ethical issues in light of contemporary AIT practice, current research status, and the ASHA Code of Ethics. Guidelines are discussed regarding scope of practice and safe delivery of AIT within the current environment of AIT practice.

What is AIT?
• Therapy aimed at eliminating auditory spikes through listening to frequency-filtered and amplitude-modulated music through headphones.
• AIT was first developed in the 1980’s by French ENT, Guy Berard.
• Popularized with 1991 publication of The Sound of a Miracle describing a miraculous case after AIT therapy.
• Said to treat autism, ADHD, APD, and a wide variety of other disorders.
• Audiogram required before treatment to determine eligibility and customize filtering.
• Typical course of treatment consists of two-half hour sessions per day for 10 days.
• Cost is usually about $1,200-$2,000 per course or more, depending on the length of treatment. Treatment is provided by audiologists, speech-language pathologists or any AIT-trained provider.
• Training is usually 2-4 days; equipment cost is about $4500 (mid range, 2007).

Current Status of AIT
• Research has been conducted but methods found questionable and results mixed.
• The American Academy of Audiology (1993), ASHA (1994) and the American Academy of Pediatrics (1998) all agreed that AIT should be considered an experimental procedure. More research was recommended.
• In 1999, FDA denied approval of AIT devices, except for educational use. ASHA finds that AIT has not met scientific standards for efficacy to justify its practice, except for purposes of research (ASHA, 2004).
• In 2003, ASHA advised that members may be found in violation of the Code of Ethics if they provide services such as AIT, for which there is no reasonable expectation of benefit.
• However, AIT continues to be practiced across the country. Methods and provider qualifications vary.
• Device replacing the FDA-banned AudioKinnet, has been ruled not to require FDA regulation (mid range, 2007).

In Support of AIT
• Anecdotal evidence from parents and clinicians, reporting reduction in problem behaviors, decreased hypersensitivity to sounds, and improved language skills.
• Research claims of improvements in: auditory processing, attention, expressive/receptive language, autism, handwriting, adaptive behaviors (NEGI, 2000).
• Claims of improved word recognition scores (Madell, 1999).
• Exercises and strengthens middle ear muscles which focus the ear (Berard, 1993 as cited in Gravel, 1994).
• Progressively strengthens the right ear in its dominant role in speech perception (Berard, 1993 as cited in Gravel, 1994).

In Opposition to AIT
• Research to date is inconclusive and methods problematic: AIT is based on a controversial premise that auditory and sensory processing disorders are common among people with speech or language problems. Treatment is aimed at removing auditory spikes through listening to frequency-filtered and amplitude-modulated music.
• Claims of improved word recognition scores (Madell, 1999).
• Treatment is expensive, preys on desperate parents who will try anything to help their children.

Ethical Issues

Research

<table>
<thead>
<tr>
<th>Description</th>
<th>Flaws Identified</th>
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<tbody>
<tr>
<td>Research to date is inconclusive and methods problematic</td>
<td>• Small sample size</td>
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<tr>
<td>No published peer-reviewed studies using acceptably rigorous and carefully designed research in order to prove efficacy of AIT (e.g., double-blind method, adequate controls, sample size and participation criteria)</td>
<td>• Non-control (no-treatment) group</td>
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<td>Current practice includes widely varying methods, regimens, equipment, levels of expertise and standards</td>
<td>• ASHA practitioners/experimenters not blinded</td>
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<td>• Sound volume is high (85dB and higher), may damage hearing if improperly used (e.g., Parke, 1990).</td>
<td>• No measures of spikes in hearing before and after treatment</td>
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<td>• No control group (referred to control group), no treatment</td>
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<td>• No true control (no-treatment) group</td>
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<tr>
<td>• Improved P300 ERP in AIT group only</td>
<td>• No changes in hearing thresholds of middle ear (Berard, 1993)</td>
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<td>• Improved word recognition scores (Madell, 1999)</td>
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Safety Guidelines
Need to be established for decibel levels and exposure times for the young clients who are most often the subjects of AIT therapy.

Future research: What elements can confirm a hypothesis of efficacy?
• Inclusion of complete audiological evaluation, and examination for presence of neurological disorders.
• Audiograms and objective measures (ABR, OAE).
• ERPPET (also objective measures) can be used to investigate effect on CANS.
• Double-blind (to eliminate experimenter effect, expectation effects, Hawthorne effect).
• Well controlled (control group / test group: no music, filtered, randomized subject selection - not self-selected) with adequate sample sizes.
• Subject selection criteria has to be clear. As first step, may focus on one population. Detailed individual background information needed.