

APD & Music: Listening Therapies and Rhythm Therapies

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Disclaimer

- Dr. Lucker is a researcher and professor at Howard University and the University is not paying him for this presentation
- Dr. Lucker is in private practice and may receive referrals based on his presentation, but the presentation is not done for the referral sources
- Dr. Lucker has co-authored a book and webinars on APD but is not presenting to sell his book or webinars



Overview

- Areas for which Listening Therapies and Rhythm Therapies might be appropriate
- What are Listening Therapies?
 - Including research supporting them
- What are Rhythm Therapies?
- Expected Outcomes



Let's Get Started: Why Choose Listening or Rhythm Therapies?



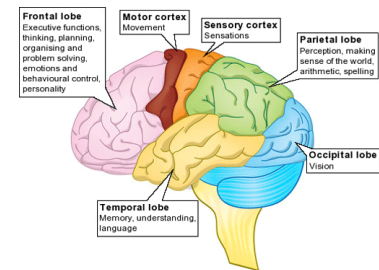
Already Used Music Based Therapies

- For years people has used songs to teach memory related tasks
- Songs have also been used to teach specific knowledge concepts
 - Examples:
 - How did you learn the letters of the alphabet?
 - How do children learn to keep things clean?
- But, Music and Rhythm Therapies have not received much interest for APDs



Listening Therapies and Rhythm Therapies

- Listening and Rhythm therapies have been used mostly by OTs and not by SLPs (definitely not by AUDs) in general
- Listening Therapies are appropriate for children found to have
 - Auditory hypersensitivity problems
 - Auditory overloading problems
- Rhythm therapies relate to
 - Auditory temporal processing



ASHA's Views on Listening Therapies

- In the early/mid- 1900s, ASHA formed a sub-committee on AIT (one of the popular listening therapies of that time)
- Their position paper was against AIT as a treatment
 - That became generalized to all listening therapies
- Up-date is that they are still anti-all listening therapies



AMERICAN
SPEECH-LANGUAGE-
HEARING
ASSOCIATION

Earliest Therapies

- Tomatis Training

- Developed by Alfred Tomatis
- Music trainer for Opera singers (and other singers) in France
- Observed when hearing changes, opera singers often have a change in their voices to a degree that they could not sign anymore or they sang poorly
- He developed the concept of a machine to alter music to “retrain” the brain



Earliest Therapies

- Dr. Guy Berard worked with Tomatis and learned Tomatis' training program
- Berard has a less expensive, simpler machine constructed
- Berard believed that all genres of music should be used in his Auditory Integration Training or AIT
- Traveled with machine (Audiokinetron) to the U.S.



Research on the Earliest Therapies

- **THERE WAS NONE**



Nothing.

- **ONLY anecdotal reports of “cures”**

Problems with Early Listening Therapies

- The early (1990s) listening therapies identified they could “cure” almost every problem that existed
 - Biggest problem was the claim that therapies such as Tomatis training and AIT (Auditory Integration Training) **cured** autism
- Original presentations of AIT and ASD was based on N=1 and the mother’s report that daughter was cured of ASD

Modern Listening Therapies

- Listening therapies

- The Listening Program or TLP

- www.advancedbrain.com



- Integrated Listening Systems or iLS

- www.integratedlistening.com



- Therapeutic Listening

- www.vitallinks.net



- They are *similar* in some ways but very different in many other ways

Research on Listening Therapies

- Auditory hypersensitivity
 - See *Autism Science Digest* April 2012
 - See *Focus on Autism* March 2013
 - See *Autism Research & Treatment*, 2015
- *Sadako and Lucker(2015) (to be published March or April 2016)*
 - *Occupational Therapy International*
 - Meta-analysis on published research
 - Used effect size changes Post-Pre tx
 - Greatest changes were found on SCAN



Changes in Auditory Processing

- In addition to reduced hypersensitivity, improvements have been seen in...
 - Improvements in integrative processing APD test findings (on SCAN = Filtered Words, Competing Words, and Competing Sentences)
 - Better comprehension of verbal messages
 - Better focusing when listening likely b/c reduced “fight/flight” responses

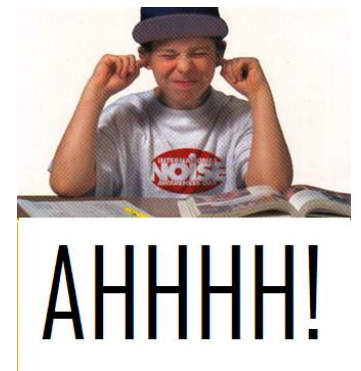
Listening Therapies

- Listening Therapies use specially recorded music
 - Soon to be published Lucker and Doman on the musical aspects in recording TLP
 - *Music and Health* journal
- iLS and Vital Links incorporate movement (therapeutic) with the listening
- All have different “programs” or orders of listening based on their theories



For WHOM are Listening Therapies Appropriate

- Children with....
- **Awareness, detection**, knowing that a sound exists (hearing loss vs. hyposensitivity)
- **Hypersensitivity** to loud sound
- **Auditory Overloading**
 - All involve negative emotional reactions



How Listening Therapies are Done

- Each program has a different protocol
- The provider of the specific program chooses the specific protocol
- TLP uses listening only
- iLS and Vital Links uses listening and OT movement
- My research has been mostly with TLP so I can discuss some of these factors



TLP protocols

- The different protocols relate to
 - A general protocol
 - Low frequency emphasis for basic sensory processes
 - High frequency emphasis for speech-language needs
 - You can combine and vary programs
 - Uses modulation (changes in the sound) and variations in the sound



What to Expect

- Quantitative (Sadako and Lucker's research) more than a one standard deviation improvement in auditory processing test results
- Qualitative (What parents and teachers report)
 - Calmer, more focused, more attentive, better "listening", better memory, better learning, and better communication

Rhythm Therapies

- Basically, they use rhythms to get the child's whole body moving in rhythm to the beat of the music
- IM uses a metronome type rhythm
 - Listener follows the metronome rhythm while doing specific movement activities
- In Time uses drum beats
 - Listener beats a drum matching the beats of the drum heard

Rhythm

Rhythm Therapies

- Interactive Metronome (IM)



interactive
metronome®

- www.inteactivemetronome.com



- In-Time

- <http://a.advancedbrain.com/tlp/inTime.jsp>

- These therapies are mostly used by OTs
- Lucker's research on IM (Lucker and Fallon, 2013)
- Presently I am doing research with internationally adopted children

Research on IM

- My research has been done solely with IM
 - Lucker and Fallon (2013)
- Findings: Educational, communication, listening, attention, and behavioral improvements (HS special education students)
- Present research on Internationally Adopted Children (IM)



What to Expect from Rhythm Therapies

- Better synchronization of processing so better temporal processing (temporal APD tests)
 - Also, should see increased speed of processing with increased accuracy in processing and comprehension
- Better motor coordination so writing can improve
- Better movement




Summary

- Two therapies using music factors to consider using with children with APD include
 - Listening therapies (TLP, iLS, Vital Links)
 - Rhythm therapies (IM and In-Time)
- Research supports positive improvements in APD esp. for Listening therapies



Future Considerations

- Another therapy that uses “Rhythm” is called LearningRx The logo for LearningRx features the word "Learning" in a purple, sans-serif font and "Rx" in a green, sans-serif font. The text is enclosed within a stylized, rounded rectangular frame that is purple on the top and bottom and green on the sides, with a small gap at the bottom center.
- LearningRx is really straight forward academically oriented training
- But, LearningRx uses metronomes to get the person to do with academic work in time with specific rhythms
- Non-research observations: Improvements in reading, math, academic skills

Let's Keep in Touch

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