

# Mythbusting Auditory Processing Disorders

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MSHA Webinar  
By Dr. Jay R. Lucker



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# Disclaimer

- Dr. Lucker identifies that he is not being paid for this webinar presentation
- He has no conflicts of interest to report
- He will discuss some research he has conducted
- However, since he is in private practice, it is possible that some participants may wish to refer clients for auditory processing assessment

# Overview

- The area of auditory processing has many controversies
- Often, parents, educators, professionals will hear or say certain things without evidence to support such things
- I call these things ***APD Myths***
- Thus, this webinar focuses on ***“mythbusting”***



# Let's See The First Myth



# At What Age Can A Child Be Tested for APD?

- This question is often answered stating that you can't test a child before the age of 7 or 8 years
- But, WHY wait until 7 or 8 years of age?
- Professionals may say
- “You have to wait” giving no rationale
- You can't identify APD in a younger child”

# Age for Testing

- Let's see what our professional associations say.....
  - American Speech-Language-Hearing Association or ASHA
  - American Academy of Audiology or AAA
- Here is what they have to say about age
- ASHA “*Care must be taken if a child's mental abilities are below 7 years.*”



AMERICAN  
SPEECH-LANGUAGE-  
HEARING  
ASSOCIATION

AMERICAN  
ACADEMY OF  
AUDIOLOGY

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# Age for Testing

- Why only take care if the mental age is below 7 years?
- What about a 5 year old who can do a test of APD appropriately while a 10 year old cannot do that test, but the 10 year old has a mental age of 10 years?
- Shouldn't care be taken at every age?



# References

- See Jack Katz's publication 2005, *SSW Reports*
- See Lucker's publication 2005, *SSW Reports*
- See Lucker's Publications, 2015 (Jan), *Audiology Today and Fall 2015 Canadian Journal of Audiology*
- See *ASHA Leader*, Feb 1, 2017 (Letter)

# Conclusions on Age

- Almost **all** tests of auditory processing have norms down to 5 years
  - Some have norms down to 4 years
- Knowing auditory development from fetus to 7 years the audiologist knows what to look for on a qualitative basis in younger children
- Most important thing is early intervention

# Recent Research/Survey

- A group of PhD students from Howard University completed this research
- Three Surveys:
  - One for AUDs and SLPs
  - One for Professionals (Non-AUD or SLP)
  - One for Parents
- Asked questions regarding the youngest age they test, they refer, and feelings about testing young children for APD

# Survey Results: Age They Test

- Professionals: AUDs/SLPs: N = 126
  - Percent who Test for APD = 44.4%
  - 3years = 25%
  - 4years = 46.4%
  - 5years = 64.4%
  - 6years = 80.2%
  - 7 years+ = 100%
- Average 3-6 years = 54%

# Survey Results: Age Refer for Testing

- AUDs/SLPs
  - Percent who do not test but refer = 55.6%
  - 3yo = 17.5%
  - 4yo = 29.9%
  - 5yo = 60%
  - 6yo = 72.4%
  - 7 years+ = 92 to 95%
- Average 3-6 years = 45%

# Survey Results: Screen Children for APD

- AUD/SLP = 55.6% who do not test
  - 3 years = 34.4%
  - 4 years = 56.3%
  - 5 years = 71.8%
  - 6 years = 75%
  - 7 years+ = 81.3%
  - Average 3-6 years = 59.4%

# Survey Results: Age At Which It Is Appropriate To Test for APD

- APDs/SLPs = 28.6% responded it is not appropriate to ever test for APD (Thus, 71.4% feel it is appropriate to test for APD)
  - 3 years = 33.3%
  - 4 years = 46.6%
  - 5 years = 73.4%
  - 6 years = 80%
  - 7 years = 97.8%
  - 8 years = 100%
  - Avg. 3-6 = 58.3%

# Next Myth



# Care Must Be Taken....Mental Age Below 7 Years

- Another question arises whether one can assess APD in children with developmental disabilities
- Consider a child of any age whose functional age level is below 7 years
- How do we test this child? Or.....
- Is it not possible to appropriately test this child?



# Developmental Disabilities

- Audiologists are taught to....
  - Administer tests of APD
  - Score the tests
  - Compare the scores to age level norms
- Thus, if a child is 10 years old, the audiologist is taught to compare the child's performance to the 10 year old norms



# Developmental Disabilities

- But, what if the child's functional age is 5 years old? (Based on cognitive age)
- As indicated before, age should **not** be a limit in testing auditory processing in a child and....
- Most measures of APD have norms down to 5 years (and some younger)
- So, what do you do with this child?

# Developmental Disabilities

- Why not compare the child's performance with his/her chronological age and then.....
- Compare performance with the child's mental or functional age level
- Thus, for the 10 year old functioning like a 5 year old – compare results to both age levels



# Developmental Disabilities

- If the child passes the APD measure at the 10 year old norm values, there is definitely no problem
- If the child passes the APD measure at the 5 year old level, the problem is based on the child's developmental disability
- If the child fails the APD measure at the 5 year old level, the child has APD in that area measured! ! !

# Reference

- See Lucker, 2010, *SSW Reports*
- Presents two case examples
  - Both young adolescents with cognitive limitations – about the same level of cognitive limitation
- One child failed at CA but passed at MA
- One child failed at CA but failed in two areas at MA – that child has APD problems in those two areas

# Next Myth



# Is It APD or Second Language Learning?

- There are many children who are English Language Learners
  - They have a first language and are now learning English as a second language
- They have problems listening and processing what they hear
- Question: Is it APD? Or Is it their lack of English language knowledge?

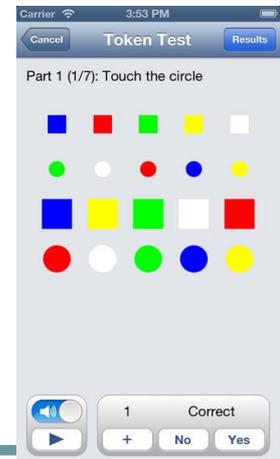
# Second Language Learners

- Schools and professionals may blame the ESL and say the child needs work on second language learning especially if the school is an English Language based learning environment
- But, could the child have problems because of APD issues even in their first language?

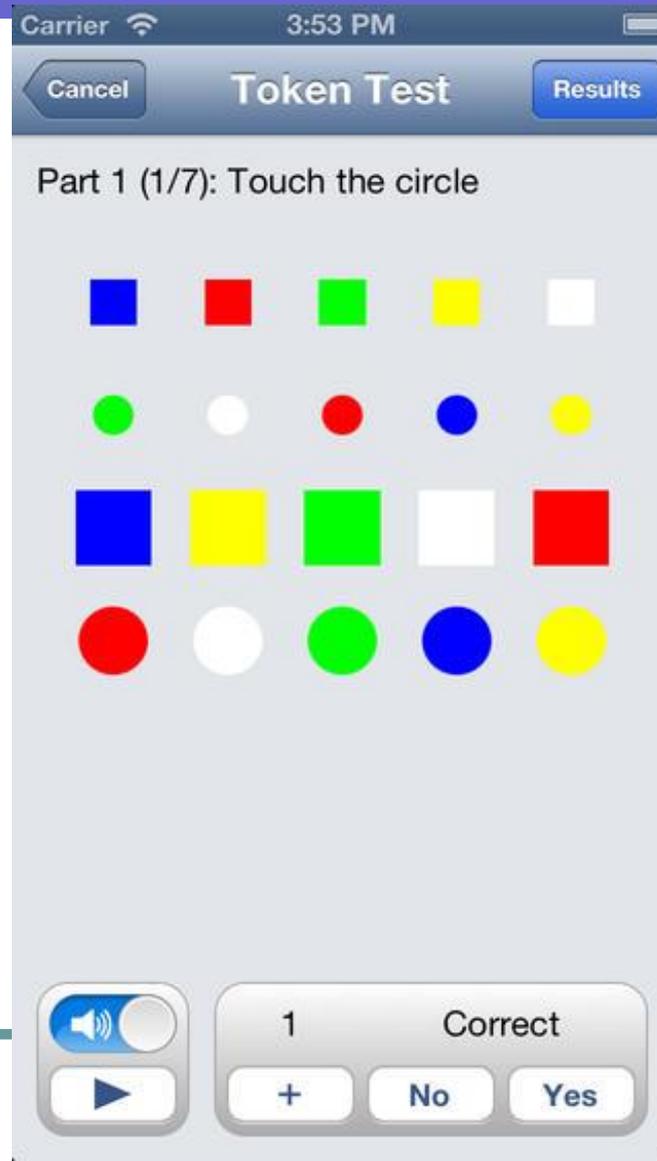


# Second Language Learners

- Why not administer a test that is exactly the same in both languages and compare results in English and in the child's first language?
- Lucker adapted the Token Test for Children or TTFC (original)
- Research: Testing English and
- Spanish – Arabic – Farsi



# TTFC



# Second Language Learners

- If the problem is APD, child will likely fail and perform equally in both languages
- If the problem is ESL, child will fail in English and pass in the child's first language
- Also, this test may help determine the truth about a child's bilingualism relative to language comprehension rather than language use

# Second Language Learners

- Research – supports the expectation of
  - Performing equally in both languages is more a reflection that language and learning problems in English is due to APD issues
  - Performing better in first language than in English is due to ESL issues
- Thus, you can use this modified TTFC to determine problem may be APD or ESL



# Second Language Learners

- Are children learning two languages **really** proficient in both languages?
- The usual determination is that the child can converse and use both languages
- But, in school, a major factor is understanding and not language use
- In one study of bilingual children (Arabic/English) an interesting finding.....

# Second Language Learners

- Children were all in a bilingual English/Arabic speaking educational program in school
- Some were English with Arabic as a second language – others the reverse
- Findings: Overall, students performed significantly better in English on the TTFC than in Arabic
  - Thus, are they truly bilingual?

# Next Myth



# Where Do You Need to Test for APD?

- Often a school wants a child tested for APD at the school
- The audiologist says you can't because you need a sound proof booth
- But, where's the evidence to support such a statement?
- The research says that testing is *usually completed* in a sound proof booth



# Where to Test?

- Recent publications have investigated doing standard hearing threshold testing in the booth vs. outside the booth
- This research has proven that there are **no differences** in threshold test results in either location
- In one study, authors conclude that when testing above normal hearing thresholds (25dB or higher) booth is not needed

# Where to Test?

- Research completed by this professional (JAAA, 2016)
- 20 subjects
  - 10 with NO APD
  - 10 with APD
- Tested in the booth vs. outside the booth
  - Counterbalanced where testing was done



# Where to Test?

- Results revealed absolutely *no differences* in APD test findings in the booth vs. outside the booth
- Used noise reduction headphones in the booth and in a quiet test room
- So, why can't APD testing take place in a quiet test room at the child's school?
  - More children would be evaluated and helped

# References

- MacLennan-Smith F, Swanepoel de W, Hall JW (2013). *International Journal of Audiology*, 52 (2), 66-73
- Margolis RH, Madsen B. (2015). *Journal of the American Academy of Audiology*, 26, 1-8.
- Lucker, *Journal of the American Academy of Audiology*, 2017.



# Next Myth



# Conclusions

- There are MANY myths about APD testing
- These are just a few
- Always ask for **evidence to support what professionals are saying**
- Become a mythbuster and ask for proof when a professional says something to which you have questions



# Conclusions

- Check the research/publications
- Be sure the publication is by a professional in the area of auditory processing
- Anyone can say anything, but is there research to support what that professional says?



# We Have BUSTED All These Myths



# Let's Keep in Touch

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