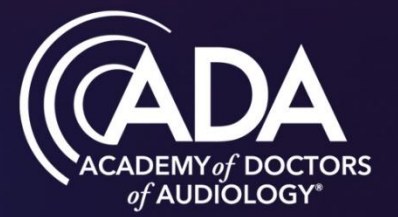
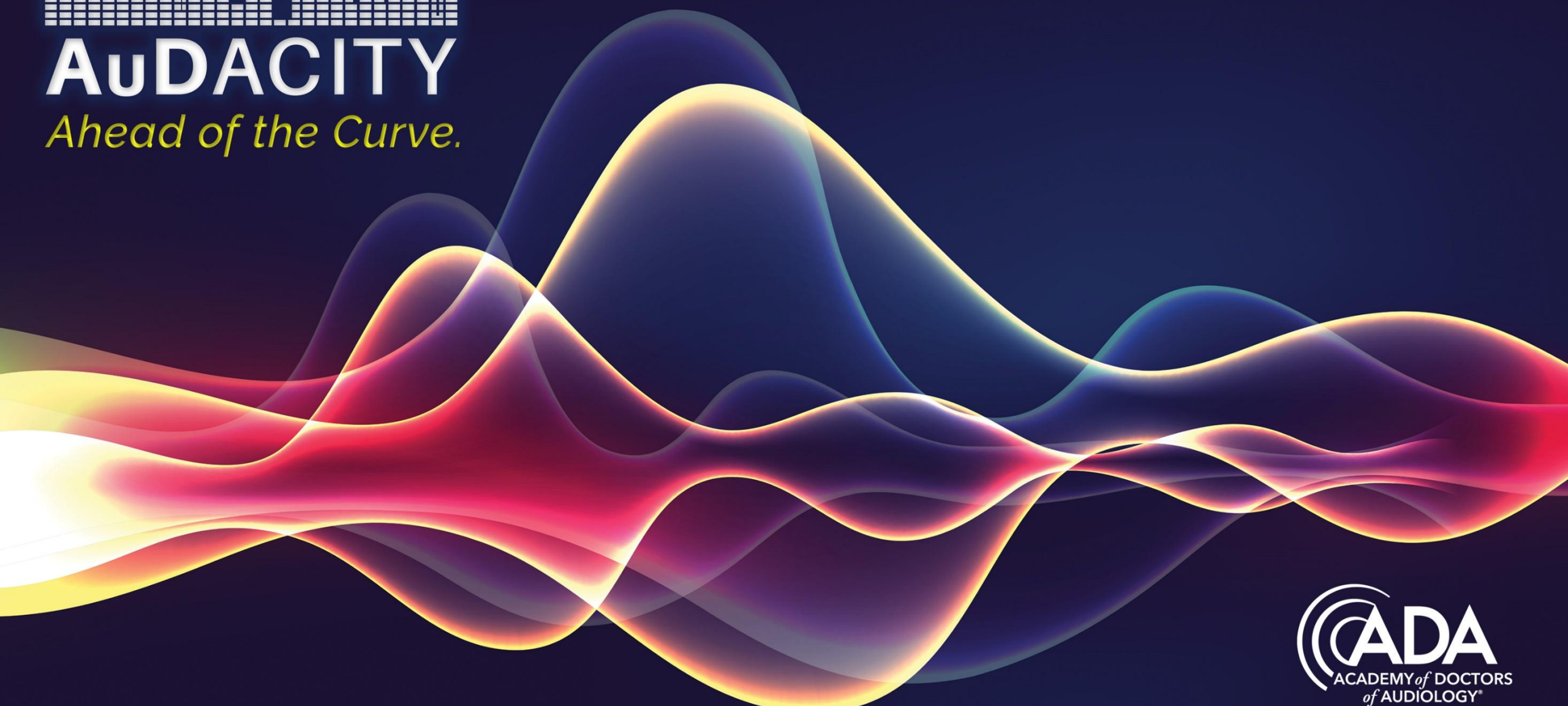




# AuDACITY

*Ahead of the Curve.*

October 20-23, 2022  
Grapevine/Dallas, Texas



# The ABCs of APD

*Overview of incorporating APD in your  
practice*

*Gail M. Whitelaw, PhD.*

*The Ohio State University*

*Whitelaw.1@osu.edu*

# A little about me...

- I work in a University as an audiologist and a clinical preceptor
  - Fell in love with APD when I was an undergraduate student
  - Work with children and adults
  - Teach coursework in APD to AuD students at Ohio State and other Universities and to the profession
  - Demand far outstrips the supply!
  - As I always say, it is a field of dreams "If you build it, they will come!)

# Setting up an APD program

- Who do you want to serve?
  - Children (what age?)
  - Adults (what age?)
  - Specific patient populations
    - People who are neurodivergent (wanting the service of audiologists)
    - Traumatic brain injury
    - Neurology/neurotology
    - Children with learning issues/dyslexia

# Setting up an APD program

- With whom do you want to partner?
  - School districts (become knowledgeable about APD as part of IEP, 504 plan, etc.)
  - Speech/language pathologist
  - Physicians
  - Reading specialists
  - Parent advocates
  - Psychologists/psychiatrists
  - PT/OT
  - Families

# Setting up an APD program

- Who is your “audience”?
  - Guides what you will do for evaluation
    - Schools need the “apples to apples”: How do you compare auditory processing skills to language/cognitive, etc.
      - Why I like standardized tests: This is one approach
    - Medical model: Electrophysiology
  - Our value as audiologists
    - My recent 14 year old patient with undetected auditory neuropathy
  - Will hear varying recommendations for evaluation
    - On this panel
    - No, there is no gold standard evaluation protocol
    - “Just do it”: Capitalize on our knowledge and skill as audiologists

# What will you do?

- Pre-appointment information
  - Questionnaires (there are many that help guide this, can be completed by the patient, the family, the teacher, allied professionals, etc.)
    - In adults, I use the AAPS
    - In children, I use the CHAPS, SIFTER and EcliPs
    - In all, the Vanderbilt Fatigue Inventory (looking at functional issues)
  - Careful case history screening to keep in line with who you want to see and so you have no surprises (age, native language, neurodiversity, cognitive function, etc.)
  - Front office staff have to be trained in addressing/scheduling people with APD
    - Often have a lot to say>
- Evaluation:
  - How will you “tax” the auditory system?
  - Will you do audiologic evaluation and APD in the same session?

# What will you do?

- Treatment
  - Hearing aids (a lot to say about this and it's success with this population)
  - Remote microphone system
  - Consultation with school/workplace/family, etc.
    - Participate in educational meetings, ADA, BVR
  - Auditory training
    - Group
    - Individual
    - Provided by audiology and/or SLP
    - Provided by a “provider” and mediated in your practice
    - Provided by your practice



# The case for hearing aids

- It is a tool that can be used with both children and adults with APD
  - APD on the continuum of "hearing loss"
  - What we know:
    - People with APD have issues with speech in noise, frequency selectivity, temporal processing, working memory at a minimum
    - Current hearing aids can address this issues with technology
    - Small n studies support this, current study with a manufacturer is addressing this
    - Anecdotal evidence very strong
      - John
      - DC

# Who will pay?

- Contract with school district
- Part of Independent Education Evaluation (IEE) with school districts
- Third party payment
  - Time based codes
- Vocational Rehabilitation
- Private pay
- Note: Have had success with explaining results and getting hearing aids covered by both public and private payors

# Why are these services needed?

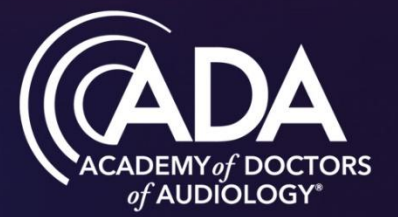
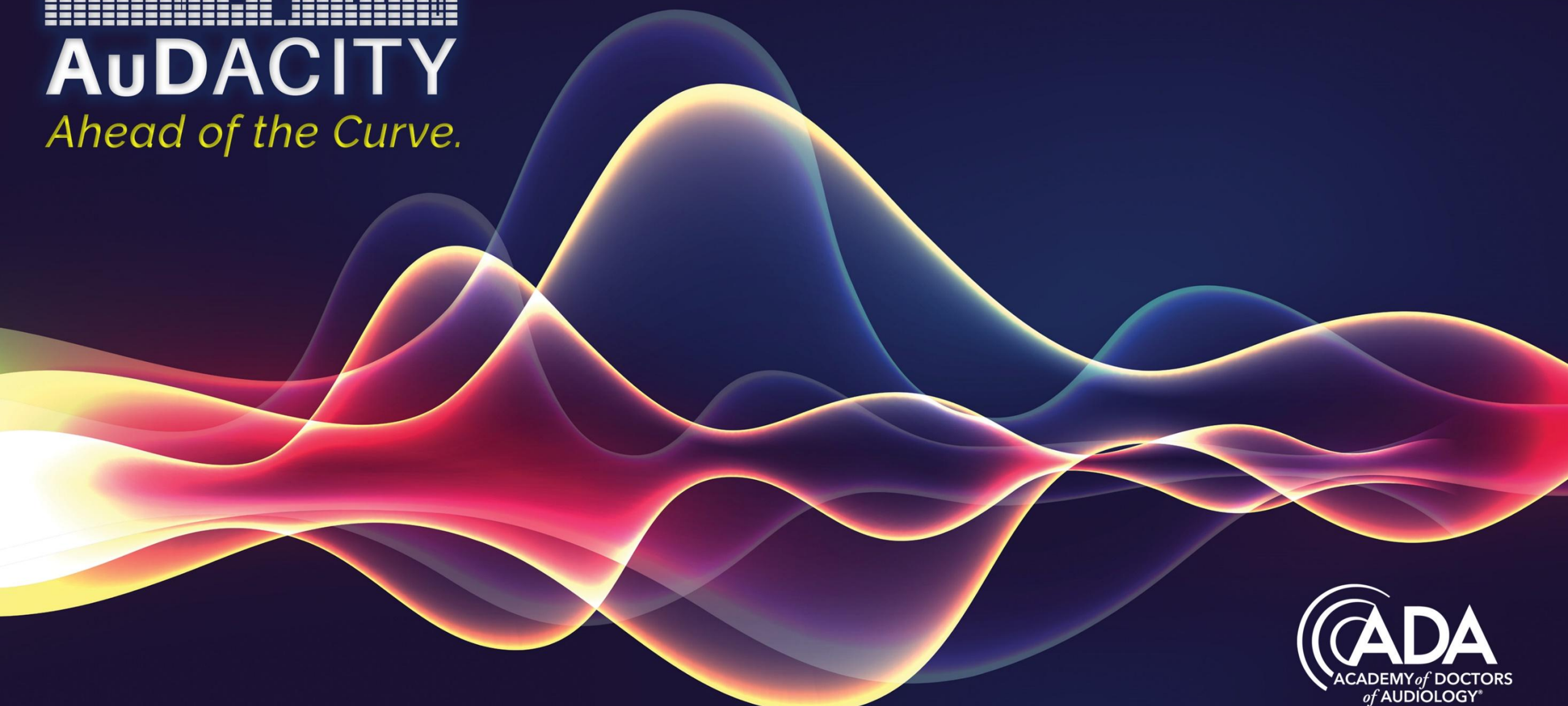
- What we offer in addressing communication issues
- Same continuum as hearing loss
- Quality of life!!!



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# THE ABC'S OF APD

*Mary Anne Larkin, Au.D.  
Lowcountry Listening Lab, LLC  
Spartanburg, South Carolina*

# MY APD JOURNEY

# WHY ADD APD SERVICES TO YOUR PRACTICE?

- There are very few Audiologists that specialize in this area and there is such a great need!
- It's your opportunity to make a difference!
- Diversification is Key!
- APD can be a profit center for your practice.

# TYPE OF AUDITORY PROCESSING PRACTICE

- Diagnostic services only – refer out to community for Auditory Training (AT)
- Diagnostic services + deliver commercially based AT programs that individual does in their own home
- Diagnostic services + perform 1 on 1 AT in-house yourself
- Diagnostic services + hire a person to provide AT in-house



# HOW MY APD PRACTICE OPERATES

- Scheduling Process
- Payment
- Case History – Testing – Results/Recommendations
- Treatment/Auditory Training
- Retest Post-APD Therapy

# APD CASE STUDY

- Patient – Robert Age 13/7<sup>th</sup> grader
- SLD's in Reading, Writing and Math, ADHD
- Exhibits difficulty understanding, following and remembering auditory information, especially in background noise
- Referred by local Psychologist

# PATIENT - ROBERT

- Diagnosed with APD condition
- Deficits in Binaural Integration, Auditory Decoding/Closure and Tolerance Fading Memory
- Robert spent 6 months working with two different commercially based APD therapy programs

# ROBERT'S APD THERAPY GAINS

- Pre- and Post-therapy APD clinical test results improved significantly – to within normal limits
- Improved hearing and listening abilities
- Improvement in following directions
- Decrease in asking for repetition and misunderstandings in conversations
- Alertness and working memory improved
- Academic performance greatly improved

# DEMOGRAPHICS

WHAT IS THE TYPICAL PROFILE OF AN  
APD PATIENT?

# WHERE DO MY APD REFERRALS COME FROM?

- Psychologists
- Speech-Language Pathologists
- Occupational Therapists
- Other Audiologists
- ENT's
- Pediatricians
- Dyslexia Tutors
- Developmental Optometrists
- Concussion Specialists
- Schools-  
(Public/Private/Colleges)

# MARKETING APD SERVICES

- The Audiologist is the ONLY professional who diagnoses Auditory Processing Disorders.
- Audiologists don't just recommend preferential seating and FM systems. There are auditory training therapies that can assist in the remediation of an APD condition.

# TESTIMONIAL

- As a School Psychologist in private practice, I strongly recommend Dr. Mary Anne Larkin and her services. She has been an invaluable asset to my clients. I refer students with deficits in pragmatic language, auditory working memory, receptive language skills and phonological processing. After she makes a differential diagnosis in impaired auditory pathways, she prescribes interventions that target specific weak neural pathways. I often see students making approximately two years' academic gains during her treatment programs. Parents notice marked improvements in social interactions and decrease in anxiety as their child better understands conversational speech. Of the plethora of recommendations I make, I routinely recommend that Dr. Larkin's auditory processing evaluation and interventions be their first & primary intervention.
- Terri B. (Licensed Psycho-Educational Specialist)



# SO WHO IS WITH ME?

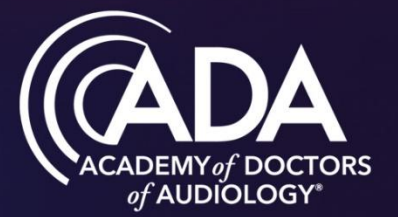
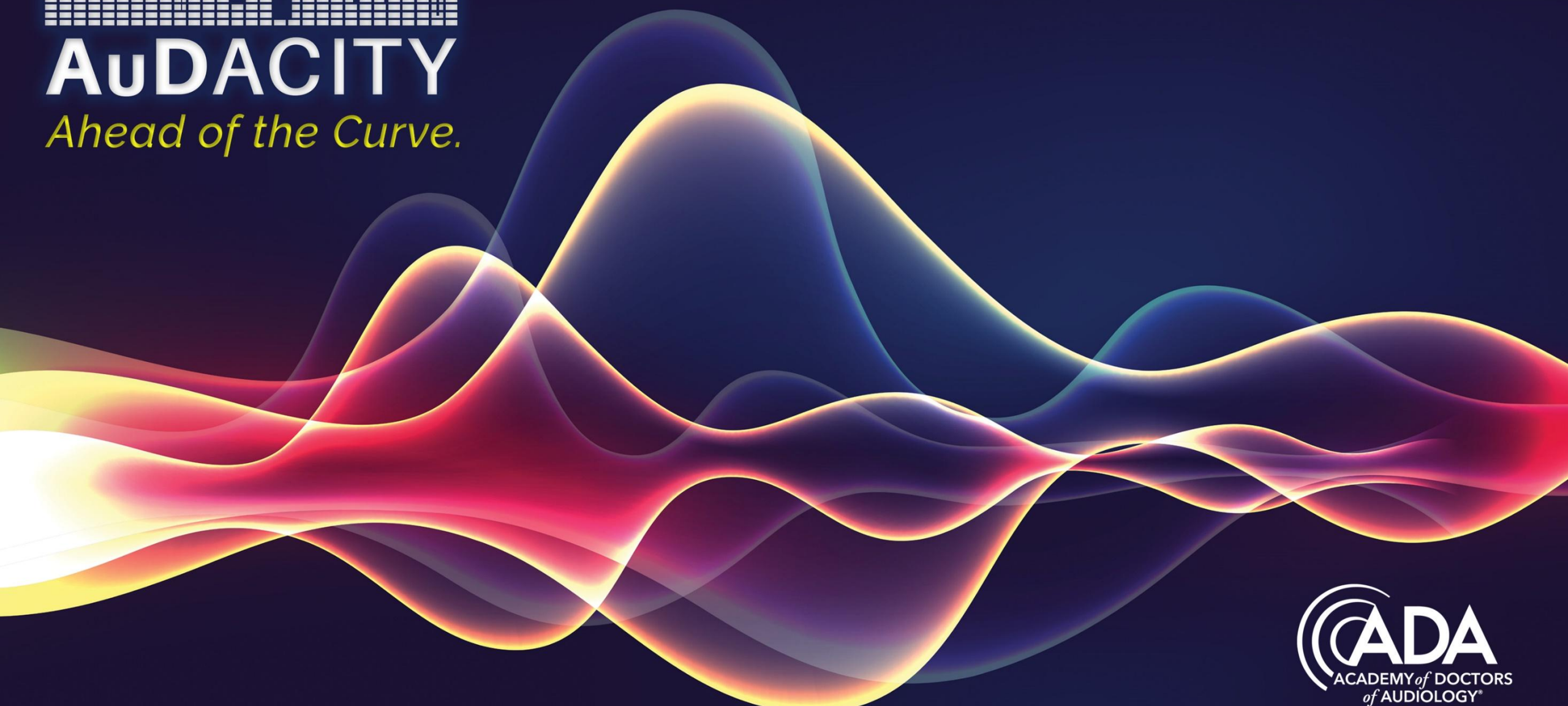
- APD Services can be an integral part of the future of audiology practices!
- There is a definite need!
- Rewarding work!
- Individuals with auditory processing weaknesses will pay for care OUT OF POCKET!
- So..... Take a deep dive and see if adding APD services is right for you!



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# ABC's of APD

*Matthew Barker, AuD*

*Mary Ann Larkin, AuD*

*Gail Whitelaw, PhD*

.....The Backstory



TEXAS TECH UNIVERSITY



# acoustic pioneer

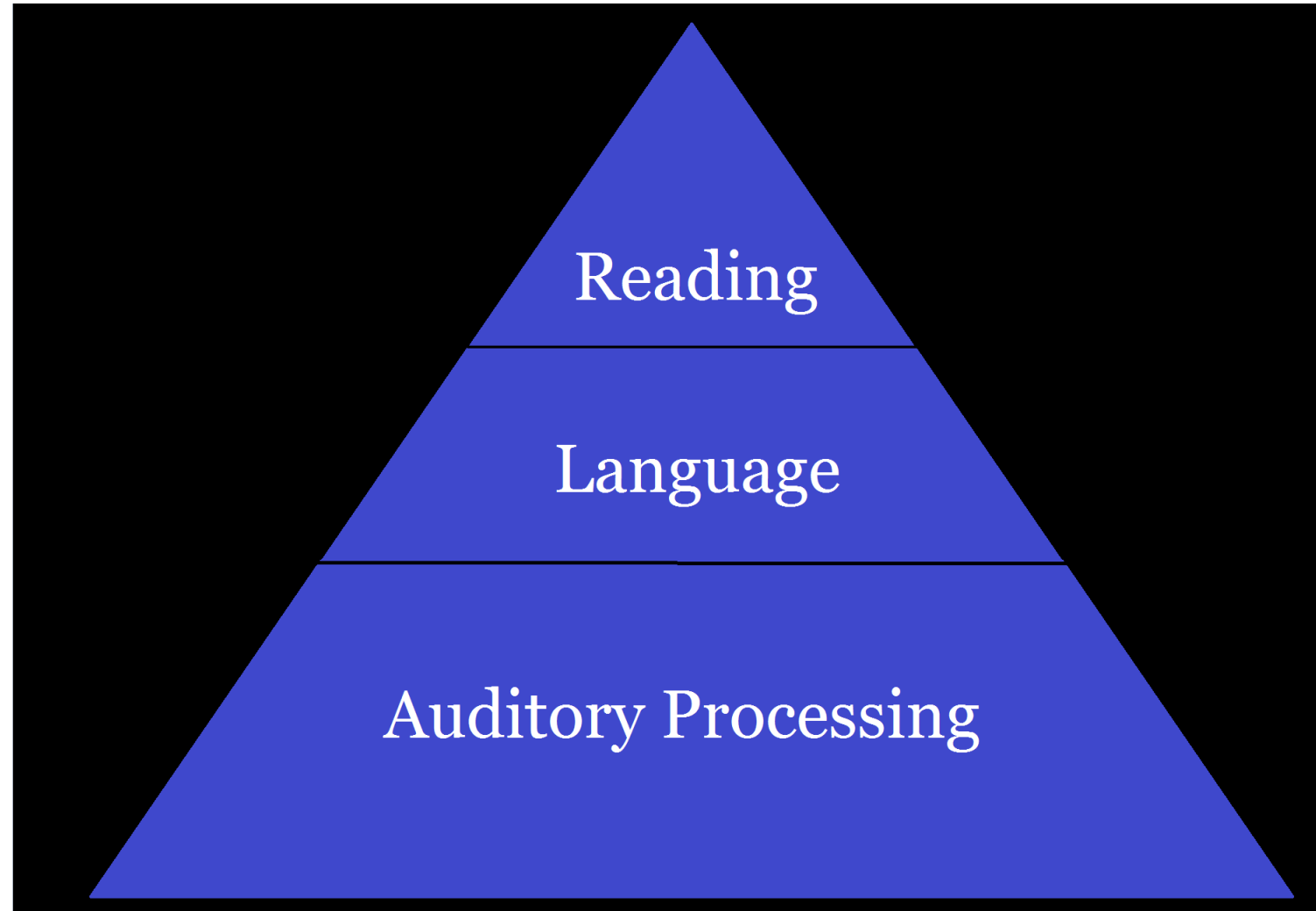
*Te Whare Wānanga o Waitaha*  
CHRISTCHURCH NEW ZEALAND



# Expert Level NOT required to start!

- Can start simple and expand as you learn and experience more. You can expand into more methods with time.
- There are much more time efficient methods of testing/reporting.
- Can administer tests inside a sound booth as historically done OR in other locations, even remote testing available!

# How is AP situated in the larger context?



# Advancements in Technology are on our side

- There are therapeutic interventions available – that are effective
- And those interventions actually make REAL WORLD improvements.

## Case early in my career

- 32 yo female with slightly lower intelligence quotient
- Office job – receptionist
- Testing indicated a deficit
- Therapy (self administered) was implemented that took almost 10 months.
- At follow up testing, the deficit was then normal compared to same aged peers



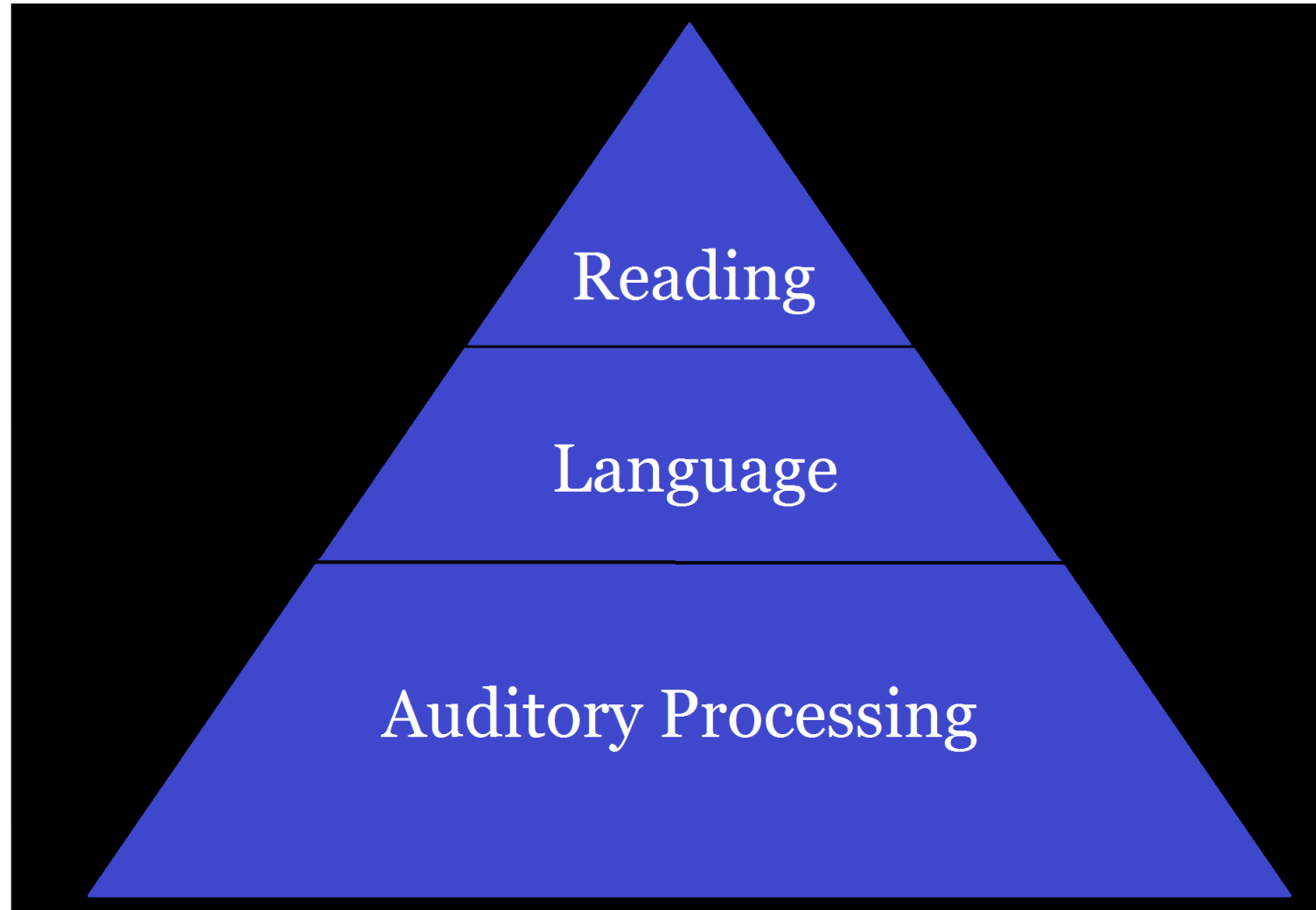
# REAL world improvements.

- Comment from the manager: “What changed? I have noticed you don’t need to have instructions repeated any more.”

# The Numbers are in.....

- (predominately school aged numbers)
- All of the following will likely benefit from an AP intervention
  - Reading delays
  - Language delays
  - Classroom learning difficulties

Because.....



That is over 10% of the grade-school aged population.

Example: Amarillo, TX

Grade school (K-5) = 16,000

>1,600 would benefit from an auditory therapy

# CAS Dichotic Double-Words

## Double Codes

This game assesses the ability to hear multiple sets of two words coming separately into each ear at the same time. This skill tests the auditory pathway which connects both cortical hemispheres (auditory portion of the corpus collosum). The inter-hemispheric pathway is used for coordinating and amalgamating information which is processed by the right and left hemispheres of the brain.

Non-linguis

Hearing Sc

area	result	SD above/below mean
Dichotic Double-Words Left	40%	-6.4 SD
Dichotic Double-Words Right	70%	-3.3 SD

Rapid Tone

This result indicates a significant weakness when compared to same-aged peers.

# Dichotic Double-Words

## Double Codes

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Word Mem

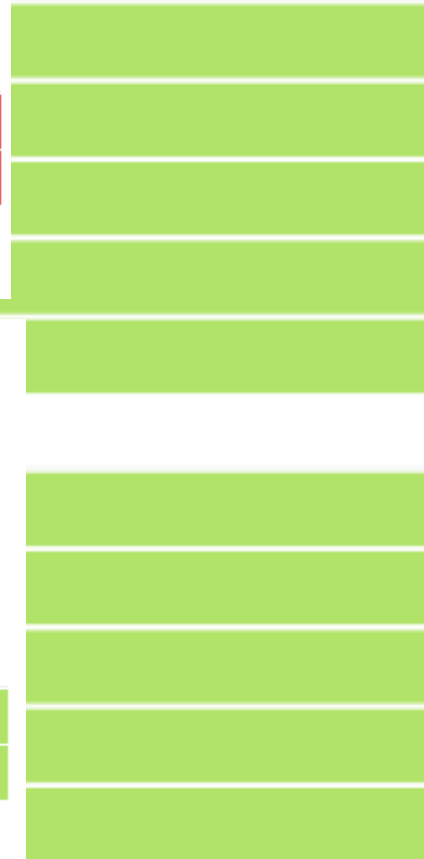
Rapid Spee

area	result	SD above/below mean
Dichotic Double-Words Left	85%	0.0 SD
Dichotic Double-Words Right	90%	-0.8 SD

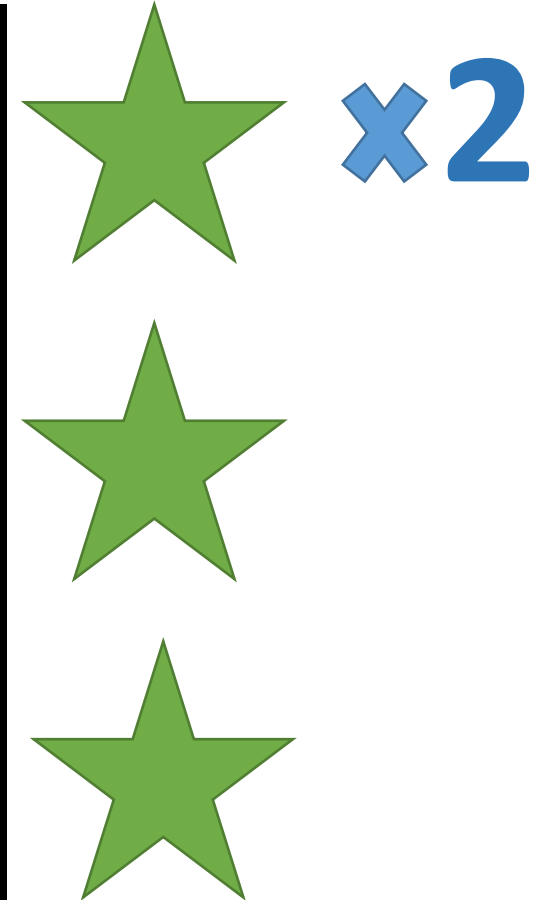
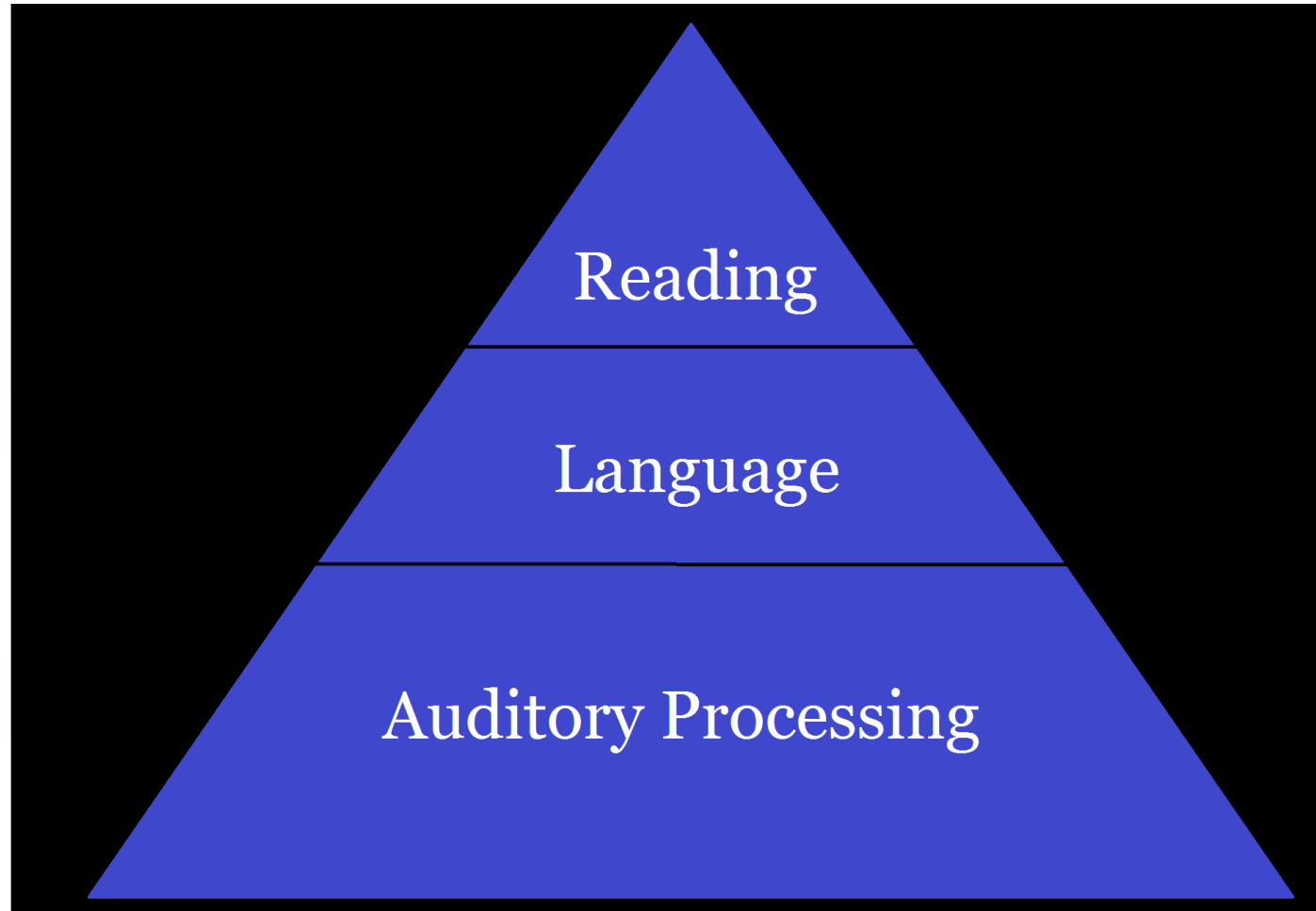
Speech-in-l

This score indicates a normal result when compared to same-aged peers.

otic Listening  
erdevelopment



# What about measurable benefit?



Join me tomorrow morning for some more WHY  
and HOW!

- Thanks!
- Matthew Barker, AuD
- QnA?