

Midwest Ear Institute

Therapy Program



Intervention

- Intervention should begin as soon as possible after diagnosis is made
 - To exploit plasticity of CNS
 - To maximize successful therapy outcomes
 - To minimize residual functional deficits
- Training can include bottom up and top down approaches
 - Must be intensive to exploit plasticity and cortical reorganization
 - Extensive to maximize generalization and reduce functional deficits
 - Should provide salient reinforcement to promote learning



Intervention

- Training should be based on:
 - diagnostic test findings
 - case history
 - related speech/language and psycho-educational assessment data
 - remediation of deficits skills
 - management of the disorder's impact on the individual



Midwest Ear Institute Data

- 2,172 APD Therapy Sessions have been completed (from 1/1/2010 to 3/1/2015)
- Insurance coverage
 - 92507 – Treatment of speech, language, voice, communication and/or auditory processing disorder; individual
 - % of these evaluations have been covered by insurance
 - Private insurance versus Medicaid
- Effective
 - 73% tested normal on re-evaluation (as of 9/2013)



APD Program at MEI

- Therapy
 - 14 weekly 50 minute sessions
 - Followed by re-evaluation
 - Insurance authorization
- Coordination of Services
 - Classroom accommodations
 - Consultation with other therapists
 - Referral for services in school district



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APD Therapy at MEI

- Buffalo Model
 - Decoding
 - Phonemic Training Program
 - Phonemic Synthesis Program
 - Tolerance Fading Memory
 - Word in Noise Therapy
 - Short Term Auditory Memory Training
 - H and Friends
 - Organization
 - Sequencing
 - Integration
 - Dichotic Offset Training



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APD Therapy at MEI

- Supplemental Therapy Techniques
 - HELP – Handbook of Exercises for Language Processing
 - Recalling information / sentence memory
 - Comprehend auditory information in a sentence
- Working Memory Training
 - Digits in order from lowest to highest
 - Digits and words
- Auditory Directives
 - Follow multistep directions to draw a picture or complete an activity



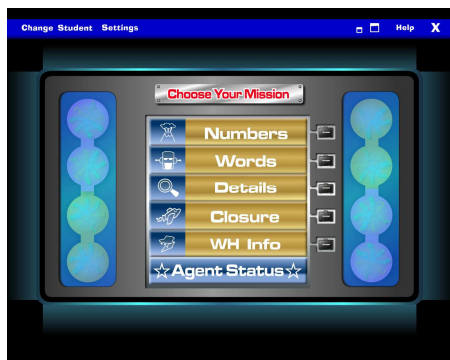
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APD Therapy at MEI

- Supplemental Therapy Techniques
 - Earobics
 - Multiple games focusing on memory, phonemic discrimination, rhyming, pattern perception
 - Difficulty increases throughout levels
 - Hearbuilder
 - 4 programs: Auditory Memory, Phonemic Awareness, Sequencing and Following Directions
 - Angel Sound
 - Multiple modules to increase difficulty



Hear Builder Auditory Memory



APD Therapy at MEI

- Apps
 - Sound Match
 - Voices
 - ABC Pocket Phonics
 - Magic Penny Reading
 - Simon HD
 - Hear Coach
 - Able
 - i-Angel



Therapy with special populations

- ADHD
- Autism Spectrum Disorder
- Hearing Loss
- Cognitively Impaired



Monitoring Performance Improvements

- Baseline performance
- Regular interval checks
- End of treatment re-evaluation



Case Presentation - Medulloblastoma

- Case History
 - 8 year old female
 - Self referred due to concerns with understanding auditory information
- Medical History
 - Medulloblastoma at age 4 – tumor resection, shunt placement, chemotherapy and radiation
 - Posterior Fossa Syndrome – cerebellar mutism, right sided weakness, irritability
- School History
 - Third grade in public school
 - IEP – other health impairment
 - Psychoeducational Evaluation in 2008 – average cognitive skills
 - Psychoeducational Evaluation in 2012 – cognitive late effect deficits



Case Presentation - Medulloblastoma

- Audiological Evaluation
 - Bilateral, sensorineural hearing loss at 6000Hz and 8000Hz
- APD Evaluation
 - BMQ – 31 indicators
 - SSW
 - Total score – 26 errors, left competing – 16 errors
 - 17 qualifiers
 - SCAN 3 C
 - Competing Words – 9th percentile
 - Right ear advantage on 2 tests
 - PST
 - normal



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Case Presentation - Medulloblastoma

Completed 14 therapy sessions followed by a re-evaluation

	Pre Therapy	Post Therapy
SSW Total	26	12
PNC errors	1	0
RC errors	6	0
LC errors	16	10
LNC errors	3	2
PS Quantitative Score	18	21
PS Qualitative Score	15	20
SCAN 3C		
Filtered Words	12	12
AFG +6	7	10
Competing Words	6	10
Competing Sentences	7	7
Total SCAN percentile rank	18th	45th



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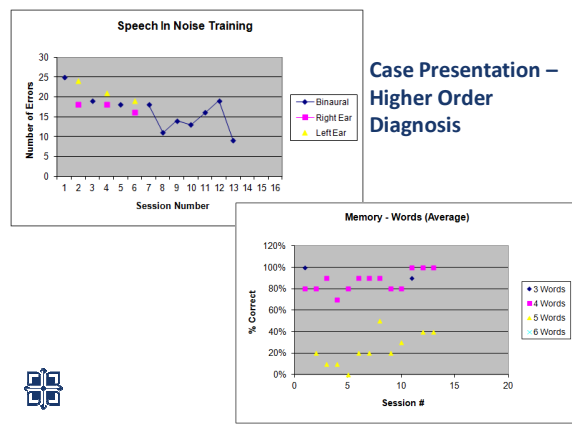
Case Presentation – Higher Order Diagnosis

- Case History
 - 13 year old male
 - Parents report that he often says huh or what and has difficulty hearing in noise
- Medical History
 - Aspergers, ADHD, behavioral problems
 - Medications: Concerta, Lexapro, Tenex, Abilify
- School History
 - Self contained classroom
 - Low average IQ
 - Many years of therapy / social skills training
- Hearing Evaluation
 - Hypo-compliant eardrum mobility, normal reflexes, normal OAE's, normal hearing and word understanding in quiet



Case Presentation – Higher Order Diagnosis

- APD evaluation
 - BMQ – 28 indicators
 - SSW
 - Total score – 13 errors
 - Abnormal RC, LC, LNC, ELH
 - 14 qualifiers
 - SCAN 3
 - FW, CS – 1SD, AFG, CW, TCS, total – 2SD, REA on 3 tests
 - Phonemic Synthesis
 - normal



Case Presentation – Higher Order Diagnosis

- Re-Evaluation
 - BMQ – 9 indicators
- SSW
 - Total Score: 7 errors
 - LC: 5 errors
- Phonemic Synthesis
 - normal
- SCAN 3
 - normal



Case Presentation - Adult

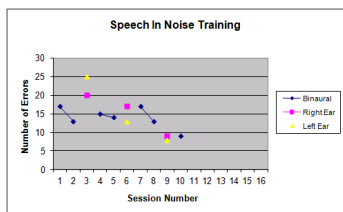
- 48 year old male
- Realtor
- Complaints
 - Can't understand television or on the phone
 - Can't hear in noise
- Hearing Evaluation
 - Normal hearing, word understanding in quiet, tympanograms, reflexes, OAEs reduced
- Auditory Processing Evaluation
 - SSW: normal
 - SCAN 3A: abnormal AFG +0, ear advantages
 - BKB SIN: abnormal



Case Presentation - Adult

- Therapy
- PTP
 - Phonemic Synthesis
 - Speech in Noise
 - Memory training

- Post Therapy Results
- Improvements on everything
 - AFG+0 – 5th to 50th percentile rank
 - Subjective improvements



The End

- Questions?

