

Apraxia Kids®

Treatment Strategies

Including for Comorbid Challenges

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Hello from Alberta, Canada!

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Acknowledgement

We acknowledge that we are on Treaty 6 territory, a traditional meeting ground, gathering place, and travelling route in Alberta of the many First Nations, Métis, and Inuit who are the traditional custodians of the lands on which we meet.




Thank you to Apraxia Kids

Acknowledge the 2021 bootcamp instructors and bootcamp participants who moved our knowledge base forward with their questions, wonderings, and breadth and depth of knowledge.




Learner Objectives:

- SLP participants will increase their knowledge of evidence based treatment practices.
- SLP participants will come away with treatment strategies to use in practice with children with speech-motor learning difficulties.
- SLP participants will increase their understanding of common comorbid challenges.



Learner Objectives:

- **SLP participants will increase their knowledge of evidence based treatment practices.**
- SLP participants will come away with treatment strategies to use in practice with children with speech-motor learning difficulties.
- SLP participants will increase their understanding of common comorbid challenges.




What is evidence based practice?

EBP = Best possible outcomes


- Based on:
(Dollaghan, 2007)
 - External Scientific Evidence
 - Client Perspectives (internal evidence):
 - Clinical Expertise (internal evidence from clinical practice)

"the conscientious, explicit and judicious use of current best evidence in making decisions about the care of individual patients"

Sackett, Rosenberg, Gray, Haynes & Richardson, 1996, p. 71; from Bowen, 2005.



Evidence Based Practice: Treatment




Key components of motor based intervention:

- Incorporates Principles of Motor Learning (PML)
- Focus is on movement, not phoneme or sound
- Dynamic Intervention (finding the "sweet spot")
- Practice, practice, practice
- Target Selection

Principles of Motor Learning

Why?

- CAS = motor learning difficulty
- PML = Literature and research on **principles** that reliably enhance learning of **non-speech motor skills** (PML)
- Exploring if those same principles enhance learning of speech skills in children with CAS



- ★ Practice Amount
- ★ Practice Distribution
- ★ Variability
- ★ Schedule
- ★ Feedback

Focus on Movement

Why? CAS = motor learning difficulty


★ speech movements are NOT segmented

Phonemes Mental Categories	Sounds Acoustic Realization of Phonemes	Speech Continuous movements with varied motor parameters based on coarticulation
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Dynamic Intervention


"FINDING THE SWEET SPOT"

- Dynamically adjust variables
- Data as a guide
- Thoughtful/Reflective practice



Practice, Practice, Practice

- Know the correct motor parameters
- Consider co-articulation patterns
- Engage in errorless learning as much as possible



Target Selection

- Move beyond consonants!
- VOWELS
- Syllable length
- Syllable shape
- Stress patterning
- Varied prosody (pitch, volume, duration, coarticulatory contexts, linguistic contexts)



Learner Objectives:


- SLP participants will increase their knowledge of evidence based treatment practices.
- **SLP participants will come away with treatment strategies to use in practice with children with speech-motor learning difficulties.**
- SLP participants will increase their understanding of common comorbid challenges.



Intervention Choices ???

- | | | |
|--|---------------------------------------|---|
| Nuffield | Motor Speech Training Protocol (MSTP) | Biofeedback (Ultrasound) |
| Dynamic Temporal Tactile Cueing (DTTC) | Integrated Phonological Awareness | Rapid Syllable Transition Training (ReST) |
| Motor Speech Chaining | | |
| PROMPT | Melodic Intonation Therapy | Kaufman Speech to Language Protocol |

Intervention Choices: Levels of Evidence



Low/No evidence
NSOMEs, Kaufman Speech to Language


Medium Evidence
PROMPT/Motor Speech Treatment Protocol

High Evidence
DTTC, ReST, Integrated Phonological Awareness (IPA),
BioFeedback/Ultrasound, AAC, Nuffield Dyspraxia Program (NDP3)

Adapted from: McCabe, P. (2019, July 11) "Turning CAS Research into CAS Practice-Thought for Parents and Professionals from Left Field" [Keynote Address] Apraxia Kids National Conference, Pittsburgh, PA


Intervention Choices

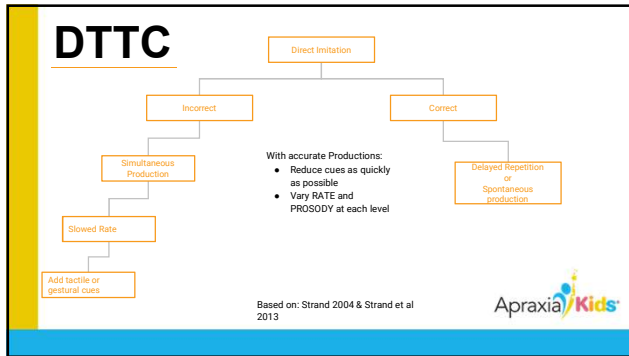
- Dynamic Temporal Tactile Cueing (DTTC)
- Rapid Syllable Transition Training (ReST)
- PROMPT



DTTC

Dynamic
Temporal
Tactile
Cueing





- ### DTTC & Motor Based Elements
- Easily incorporates PML
 - Explicit focus on movement
 - Focus on coarticulation
 - Challenge point framework (finding the “sweet spot”)
 - Emphasizes accuracy
 - Targets chosen to improve movement patterns
- Apraxia Kids

DTTC: more information

www.childapraxiatreatment.org



[DTTC: A treatment strategy for CAS in AJSLP \(Strand, 2020\)](#)

[Apraxia Kids Webinar Library](#)

[Apraxia Kids Article Library](#)

Apraxia Kids

**Rapid Syllable Transition Treatment
ReST**





**Clinician Manual for
Rapid Syllable
Transition Treatment
(ReST)**

ReST

Treatment framework based on PML with a focus on lexical stress patterning

Motor-Based Approach that aims to improve accuracy of speech sounds, transitions between sounds, syllables, and stress

- Applies PML
- Uses multisyllabic non-words in varying stress patterns
- Targets sounds, "beats" and smoothness





ReST & Motor Based Elements

- Incorporates PML
- Explicit focus on movement
- Focus on coarticulation
- Challenge point framework

Also-

- Targets chosen are to improve movement patterns and goal is to generalize treated targets to untreated targets
- Bypasses the linguistic system because it uses non-words




ReST-more information
<https://rest.sydney.edu.au/>

Learning to do ReST


Client Driven Learning

Three partial sessions are shown below, each demonstrating many aspects of ReST treatment including:

- The Training Phase where the concepts of sounds, beats and smoothness are explored.
- The Practice Phase where the child learns how to use the skills without the clinician's teaching.



Lachlan
Lachlan and Tricia



Mira
Mira and Pippa

PROMPT

Prompts for Restructuring Oral
Muscular Phonetic Targets

PROMPT

- Tactile-kinesthetic input for kids with speech-motor impairments
- Facial prompts are thought to provide information about place of articulation, degree of muscle contraction, coarticulation, and timing of speech movements

PROMPT & Motor Based Elements

- Focus is on movement vs sounds
- Hierarchy of speech motor control

PROMPT

Challenges:

- Research
- Financial Investment
- Incorporation of PML

In the end...



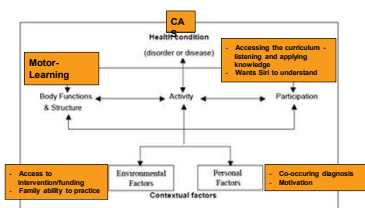
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Comorbid Challenges

More kids with CAS have co-occurring issues than not!



Comorbid Challenges: WHO-ICF

Activities and Participation

Communication

- Understanding spoken language
- Understanding written language
- Conversation/discussion


Interpersonal Interactions

- Relating to individuals
- Social relationships
- Family relationships

Learning and Applying Knowledge

- Watching/Listening
- Imitating
- Rehearsing
- Reading & Spelling
- Focusing Attention
- Problem Solving (executive)

DLD Resources



Jessica Bleasdale is a parent of a child with DLD her social media and twitter handle is @DLDiNB

RADLD YOUTUBE CHANNEL
 Do you know about Developmental Language Disorder?
 @DLDiNB speaks & shares (you'll find out about DLD) 1:12:38

RADLD VISIT WEBSITE

A walk through a lesson plan:

General ideas:

- 6-8 targets in 45 minute session
- Fewer targets = more repetitions
- Variety of targets
- Phonemic Awareness

Layers of Planning

1. Target Selection
2. Target Activities

A walk through a lesson plan:

Phonetic Repertoire

Circle all phonemes heard in single word and connected speech

Consonants	Initial	Final	Isolation
Shriberg's Early 4	p, b, m, t, d, n, k, g	h, w, r, l, s, z, ʒ, ʃ, ʒ, ʃ, ʒ, ʃ	h, w, r, l, s, z, ʒ, ʃ, ʒ, ʃ, ʒ, ʃ
Shriberg's Middle 8	f, v, θ, ð, ʃ, ʒ, ʃ, ʒ, ʃ, ʒ	h, w, r, l, s, z, ʒ, ʃ, ʒ, ʃ, ʒ, ʃ	h, w, r, l, s, z, ʒ, ʃ, ʒ, ʃ, ʒ, ʃ
Shriberg's Late 8	ʃ, ʒ, ʃ, ʒ, ʃ, ʒ, ʃ, ʒ	h, w, r, l, s, z, ʒ, ʃ, ʒ, ʃ, ʒ, ʃ	h, w, r, l, s, z, ʒ, ʃ, ʒ, ʃ, ʒ, ʃ

Vowels

Initial	Isolation
i, e, ɛ, ɜ, ɔ, ʊ, ɪ, ɛ, ɜ, ɔ, ʊ	h, w, r, l, s, z, ʒ, ʃ, ʒ, ʃ, ʒ, ʃ

Diphthongs & /R/-Controlled Vowels

Initial	Isolation
ɔɪ, ɔɛ, ɔɪ, ɛɪ, ɔɪ, ɛɪ, ɔɪ, ɛɪ	h, w, r, l, s, z, ʒ, ʃ, ʒ, ʃ, ʒ, ʃ

Syllable Shape Repertoire
CV, CVC*

Word Shape Repertoire
C, V₁-C, V₁

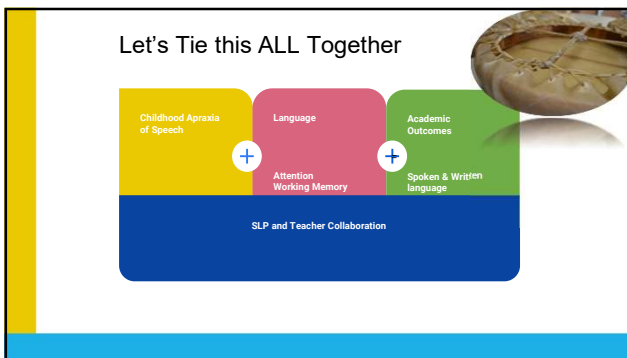
1. Target Selection

- SFL /ai/ "eye"
- V /a/ "aw" (hot); aka "dr sound"
- CV /hai/ "hi"
- VC /ʌp/ "up"
- CVC /bʌm/ "bum"
- CVCV /bʌbʌ/ "bubba" (frog)
- Word Combo /no m/ma/ "no mama"

A walk through a lesson plan:

Target Selection	Target Activities
a. SFL /ai/ "eye"	→ Sent eye balls down pool noodle
a. V /a/ "aw" (hot), aka "dr sound"	→ Puppets; flashlight
a. CV /hai/ "hi"	→ Paw Patrol powerpoint
a. VC /Ap/ "up"	→ Rocket launcher
a. CVC /bAm/ "bum"	→ Bum book; putting bums on animals
a. CVCV /bAbA/ "bubba" (frog)	→ Frog massager
a. Word Combo /no mAmA/ "no mams"	→ Finding mom in flap book






Thank you!

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