



What Therapy Should Look Like

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Disclosures and About Me

- I am a speech pathologist at The TALK Team in Fresno, CA
- I am the Volunteer Walk Coordinator for the Fresno Walk for Apraxia
- I am recognized by Apraxia Kids for Advanced Training in the Treatment of Childhood Apraxia of Speech



Objectives

- Develop an understanding of principles of motor learning and their place in speech therapy
- Determine if your child is receiving the correct therapy for childhood apraxia of speech

Principles of Motor Learning (PML)

- PMLs are the key components that have been found to help in the learning and retention of a motor skill (walking, hitting a bat, etc.)
- Because CAS is a motor speech disorder, it is important to understand PMLs
- Incorporating PMLs makes the therapy process more efficient and effective (which is what we all want!)



Three Components

- Learning (Acquisition)
 - Learning how to produce a sound/word
- Maintaining (Retention)
 - Using the sound/word independently
- Transfer (Generalization)
 - Using the sound/word in different ways
- Each principle has a purpose in one or more of these aspects



Principles of Motor Learning



Component	Description	May be best for
Amount		
High	High amounts of practice attempts (trials) per session	Learning and Retention
Low	Low amount of words practiced (targets) per session	Learning and Retention
Distribution		
Mass Practice	Within session: Practicing a low amount of targets with minimal breaks between trials/practice sets	Recent CAS research suggests this is better for learning and retention
Distributed Practice	Within session: More targets and/or more time between trials/practice sets. Ideally-distributed practice is home practice!	Retention

Component	Description	May be best for
Variability		
Constant Practice	Practice the same target in the same context (get ball, get ball, get ball)	Learning
Variable Practice	Practice different targets in different contexts (get ball, I get, ball go)	Recent CAS research suggests this may be better for learning and retention
Schedule		
Blocked Practice	Practice one target at a time	Learning
Random Practice	All targets are practiced at the same time in an unpredictable order	Retention

Component	Description	May be best for
Feedback Type		
Knowledge of Results (KR)	Direct feedback- "that was right" or "that was wrong"	Learning
Knowledge of Performance (KP)	Descriptive feedback- "You remembered to put your lips together!" or "You forgot your lips that time"	Retention
Feedback Frequency		
Constant Feedback	Feedback is given after every trial	Learning
Variable Feedback	Feedback is given intermittently	Retention
Feedback Timing		
Immediate Feedback	Given immediately after trial	Learning
Delayed Feedback	Given approximately 5 seconds after trial (allows for self-evaluation)	Retention

What does this mean?

- When your child’s therapist starts teaching a new sound/word you want to see:
 - High repetitions of the **CORRECT** production
 - Feedback: Immediate and constant with a mix of KR and KP
 - Your child’s level of sound/word production will determine the number of targets practiced as well as if mass or distributed practice is best
- Once the new sound/word is getting easier to say, you want to see:
 - High repetitions of the **CORRECT** production in multiple contexts (distributed)
 - Moving away from drill and using targets in more natural contexts (play)
 - Feedback: mix of KR and KP, mix of immediate and delayed on a variable schedule

Types of modeling



Types of cueing

- Vague Hint** • You forgot something
- Discursive Cue** • Start with your lips together
- Visual Cue** • Hand gestures/pictures
- Sound Cue** • Get that mmmm
- Tactile Cue** • Touch child’s face

Therapy should be DYNAMIC

- Therapy should look like a dance in which your child is leading and the therapist is following
- The therapist will change his/her cueing depending on what your child needs in that moment
- You should see a mixture of modeling and cueing types
- There isn't a specific system to follow, if your therapist can tell that your child needs more support, he/she might go straight to simultaneous modeling even if they were at independent production 5 minutes ago or last week

There's more than PMLs

- **PMLs are only one piece of CAS therapy**
 - Research is still trying to figure out exactly how PMLs fit into CAS therapy
- **Target selection is very important**
 - Your therapist should work with you on creating a list of words that should be focused on
 - Ideally, your therapist will work on a variety of syllable shapes (up, mama, water)
- **The focus should be on the entire word, not just a sound**
 - If your therapist is working on increasing use of a specific sound, he/she should still be focusing on the entire word
- **Don't break it up**
 - Your therapist should avoid separating sounds in a word when modeling
 - Caaaaaaat instead of c-a-t



Prosody

- Prosody is the patterns of stress or intonation- they can help us to convey our intention (sad, happy, mad, sarcastic)
- This includes syllable emphasis
 - Do we say Dinosaur or diNOSAur or dinoSAUR?
- Children with CAS often have inappropriate prosody
 - They might use even stress (monotone speech)
 - They might put pauses between words or syllables
 - They might use stress inappropriately (MY doll instead of my DOLL)
- Ideally, your therapist will begin to work on increasing variability and prosody at the beginning of therapy

Comorbidites

- A child with CAS may have additional diagnoses (articulation/phonological disorder, expressive/receptive language disorder). These need to be addressed also!
- Your therapist can tailor a program to meet all of your child's needs and will usually focus on the area that is impacting your child's speech intelligibility or communication the most. PMLs and appropriate CAS therapy can be incorporated into many types of therapy
- Sessions may focus on things other than word production- your therapist should recommend an alternative form of communication if your child has a reduced intelligible vocabulary



Some common techniques

- Dynamic Temporal and Tactile Cueing (DTTC)
- The Nuffield Dyspraxia Program
- Rapid Syllable Transition (ReST)
- Speech Motor Chaining
- Concurrent Treatment
- PROMPT
- Kaufman



How do I know it's working?

- Progress may be slow initially. Ask your therapist to point out the baby steps when you are having a hard time seeing them (trust me, it's hard to see them when you aren't the one sitting right in front of your child's mouth watching it move)
- You should see things getting a little easier for your child, even if it is just specific to production of one word
- You should start to see more flexibility in what your child can do (this may mean seeing even more errors)

Home practice is key

- Your therapist should give you homework
- If he/she doesn't, ask for it
- The true purpose of therapy is to create flexibility within your child's motor speech system AND to teach you, the parent/caregiver, how to work on speech at home
- To truly make progress, the skill needs to be practiced frequently throughout the day, every day, in all environments
- Your therapist should teach you to use the same cueing strategies that your child is familiar with
- Ask your therapist to let you practice working with your child during the speech session

Things to remember

- Correct practice is best practice
- Rule of 3 (if you hit 3 incorrect productions, take a break)
- Keep your voice- don't separate sounds or syllables
- Some days will be harder than others
- Focus on the whole movement
- Not all therapists have received proper CAS education, as your child's advocate you may need to provide the education
- Recommendations provided by ASHA (short, frequent sessions) are speaking to CAS specific therapy only. Sessions may need to be longer to accommodate functional communication work
- Correct home practice makes a big difference



Discussion Questions

- What wins has your child made in therapy?
- How do you practice speech at home?
- What could you do differently to support your child's speech skills at home?
- How much do you participate in your child's therapy sessions?
- What would make you feel more comfortable to join in?



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