Comparison of Childhood Apraxia of Speech, Dysarthria and Severe Phonological Disorder

(Some or all of these characteristics may be present. Consult with a Speech-Language Pathologist who is experienced in the diagnosis of motor speech disorders for a definitive differential diagnosis)

<table>
<thead>
<tr>
<th>Verbal Apraxia</th>
<th>Dysarthria</th>
<th>Severe Phonological Disorder</th>
</tr>
</thead>
<tbody>
<tr>
<td>No weakness, incoordination or paralysis of speech musculature</td>
<td>Decreased strength and coordination of speech musculature that leads to imprecise speech production, slurring and distortions</td>
<td>No weakness, incoordination or paralysis of speech musculature</td>
</tr>
<tr>
<td>No difficulty with involuntary motor control for chewing, swallowing, etc. unless there is also an oral apraxia</td>
<td>Difficulty with involuntary motor control for chewing, swallowing, etc. due to muscle weakness and incoordination</td>
<td>No difficulty with involuntary motor control for chewing and swallowing</td>
</tr>
<tr>
<td>Inconsistencies in articulation performance--the same word may be produced several different ways</td>
<td>Articulation may be noticeably “different” due to imprecision, but errors generally consistent</td>
<td>Consistent errors that can usually be grouped into categories (fronting, stopping, etc.)</td>
</tr>
<tr>
<td>Errors include substitutions, omissions, additions and repetitions, frequently includes simplification of word forms. Tendency for omissions in initial position. Tendency to centralize vowels to a “schwa”</td>
<td>Errors are generally distortions</td>
<td>Errors may include substitutions, omissions, distortions, etc. Omissions in final position more likely than initial position. Vowel distortions not as common.</td>
</tr>
<tr>
<td>Number of errors increases as length of word/phrase increases</td>
<td>May be less precise in connected speech than in single words</td>
<td>Errors are generally consistent as length of words/phrases increases</td>
</tr>
<tr>
<td>Well rehearsed, “automatic” speech is easiest to produce, “on demand” speech most difficult</td>
<td>No difference in how easily speech is produced based on situation</td>
<td>No difference in how easily speech is produced based on situation</td>
</tr>
<tr>
<td>Receptive language skills are usually significantly better than expressive skills</td>
<td>Typically no significant discrepancy between receptive and expressive language skills</td>
<td>Sometimes differences between receptive and expressive language skills</td>
</tr>
<tr>
<td>Rate, rhythm and stress of speech are disrupted, some groping for placement may be noted</td>
<td>Rate, rhythm and stress are disrupted in ways specifically related to the type of dysarthria (spastic, flaccid, etc.)</td>
<td>Typically no disruption of rate, rhythm or stress</td>
</tr>
<tr>
<td>Generally good control of pitch and loudness, may have limited inflectional range for speaking</td>
<td>Monotone voice, difficulty controlling pitch and loudness</td>
<td>Good control of pitch and loudness, not limited in inflectional range for speaking</td>
</tr>
<tr>
<td>Age-appropriate voice quality</td>
<td>Voice quality may be hoarse, harsh, hypernasal, etc. depending on type of dysarthria</td>
<td>Age-appropriate voice quality</td>
</tr>
</tbody>
</table>

*Compiled by Ruth Stoeckel, M.A., CCC-SLP and David Hammer, M.A., CCC-SLP
Copyright © March 2001, Childhood Apraxia of Speech Association of North America, Internet: http://www.apraxia-kids.org*
ADDITIONAL QUESTIONNAIRE FOR SUSPECTED CHILDHOOD APRAXIA

1. Did your child make lots of sounds as an infant and if so, were they typical babbling sounds like “mamama”, “dadada”, and “bababa”?

2. Does your child seem to lose words where you hear them once and not again.

3. Is your child’s speech inconsistent so that he/she might say things different ways each time?

4. Does your child have more problems in sentences than when producing single words?

5. Does your child seem to be “groping” to figure out how to move their lips, tongue, and jaw to make words?

6. Does your child have much inflection in their voice with pitch variations that sound like adult forms?

7. Does your child use any other means of communicating such as sign language, Picture Exchange Communication (PECS), or electronic communication device? If so, which ones?

8. Does your child seem to say words much better when imitating you than when trying to say words on his/her own?

9. Does your child have any “all-purpose” sounds or words that they tend to use to represent a lot of different words? If so, what are they?

10. Does your child demonstrate signs of frustration regarding his/her speech?

11. If your child already has a diagnosis of childhood apraxia or dyspraxia, who gave him/her that diagnosis and when?

12. Have you started to seek out information about apraxia, and if so, where?

13. If you think your child has apraxia, what do you observe to make you think this?

14. If you think your child does not have apraxia, what do you observe to make you think this?

15. If applicable, has your child’s progress in therapy been slow?
<table>
<thead>
<tr>
<th><strong>Positive Prognostic Indicators</strong></th>
<th><strong>Negative Prognostic Indicators</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Demonstrates adequate physical, auditory and visual attention to structured speech tasks.</td>
<td>1. Attention span is weak. Sensory issues inhibit ability to attend to speech tasks.</td>
</tr>
<tr>
<td>2. Has average or above average intelligence.</td>
<td>2. Has below average intelligence.</td>
</tr>
<tr>
<td>3. Fine motor skills are on target.</td>
<td>3. Fine motor delays are evident</td>
</tr>
<tr>
<td>4. Has no history of Ear, Nose, and Throat problems.</td>
<td>4. Past or present Ear, Nose, and Throat problems exist</td>
</tr>
<tr>
<td>5. Has “normal” oral/dental structures and no history of digital/oral habits.</td>
<td>5. Has abnormal oral/dental structures and/or history of digital/oral habits.</td>
</tr>
<tr>
<td>7. Is able to drink, chew, and swallow various textures and viscosities efficiently.</td>
<td>7. Demonstrates feeding difficulties.</td>
</tr>
<tr>
<td>8. Has no prior negative experience with speech correction.</td>
<td>8. Has had a negative experience with speech correction.</td>
</tr>
<tr>
<td>9. Does not have an excessive speech rate.</td>
<td>9. Has a rapid rate of speech.</td>
</tr>
<tr>
<td>11. Articulation excursion is not faulty.</td>
<td>11. Articulation excursion is minimal.</td>
</tr>
<tr>
<td>15. Parent practice at home is productive.</td>
<td>15. Parent practice at home is minimal or non-productive.</td>
</tr>
<tr>
<td>16. Sleeps well at night.</td>
<td>16. Shows signs of sleep deprivation.</td>
</tr>
</tbody>
</table>
THE BIG BOOK OF EXCLAMATIONS
by Teri Peterson, M.S. CCC-SLP

• The author designed this book to shape speech motor skills.
• Unlike most books, it does not have a story to read.
• Along the bottom of each page there are prompts that teach parents/caregivers how to act out the illustrations and interact using gestures, sounds, and words.
• Each illustration is filled with opportunities for:
  1. Practicing speech in conjunction with movement.
  2. Using sound effects with both short and long sounds.
  3. Using words with distinctive pitch patterns.
  4. Using words with strong emotions.
  5. Using words with early consonants.

• Once children develop foundational vocalizations, speech pathologists can then use the book to show parents how to expand on sounds and syllable structure.
• Each spread has an active “mama, dada, papa, baby, kitty, and puppy.” This helps SLP’s easily explain and model syllable expansion for parents as they watch and learn.
• Since the illustrations depict routine, daily activities (bedroom, kitchen, living room, park, & bathroom scenes), parents can generalize the sounds and syllables they are working on from the book to their everyday life.

Find The Big Book of Exclamations at http://thebigbookofexclamations.com
<table>
<thead>
<tr>
<th>CONSONANTS</th>
<th>NAME OF SOUND</th>
<th>VERBAL CUE</th>
<th>OTHER CUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>“p” sound</td>
<td>Popping sound</td>
<td>“Where’s your pop?” “You forgot your pop.”</td>
<td>Fill cheeks up with air and blow out with the sound, feeling wind on hand</td>
</tr>
<tr>
<td>“b” sound</td>
<td>Popping sound</td>
<td>“Where’s your pop?” “You forgot your pop.”</td>
<td>Fill cheeks up with air and blow out with the sound</td>
</tr>
<tr>
<td>“m” sound</td>
<td>Humming sound</td>
<td>“Close you mouth and hummmm.”</td>
<td>Lips together and hum Touch to feel vibration</td>
</tr>
<tr>
<td>“n” sound</td>
<td>Buzzing teeth or buzzing tongue sound</td>
<td>“Teeth together and buzz.”</td>
<td>Finger on clenched teeth to feel vibration</td>
</tr>
<tr>
<td>“t” sound</td>
<td>Tippy sound</td>
<td>“Use your tippy.”</td>
<td>Index finger to center of spot above upper lip</td>
</tr>
<tr>
<td>“d” sound</td>
<td>Tippy sound</td>
<td>“Use your tippy.”</td>
<td>Index finger to center of spot above upper lip</td>
</tr>
<tr>
<td>“h” sound</td>
<td>Open mouth windy sound</td>
<td>“Where’s your wind?” “I didn’t feel your wind.”</td>
<td>Open palm of hand up just in front of your mouth to feel wind</td>
</tr>
<tr>
<td>“k” sound</td>
<td>Throaty sound</td>
<td>“Where’s your throaty?”</td>
<td>Index finger pointed to throat</td>
</tr>
<tr>
<td>“g” sound</td>
<td>Throaty sound</td>
<td>“Where’s your throaty?”</td>
<td>Index finger pointed to throat</td>
</tr>
<tr>
<td>“f” sound</td>
<td>Biting lip windy sound</td>
<td>“You forgot to bite your lip.” “You forgot your wind.”</td>
<td>Bite lower lip with upper teeth and blow wind</td>
</tr>
<tr>
<td>“v” sound</td>
<td>Biting lip windy sound</td>
<td>“You forgot to bite your lip.” “You forgot your wind.”</td>
<td>Bite lower lip with upper teeth and blow wind</td>
</tr>
<tr>
<td>Initial “s” sound</td>
<td>Smiley windy sound</td>
<td>“Smile and make some wind.” “Keep those teeth together.”</td>
<td>Smile with teeth together and blow wind</td>
</tr>
<tr>
<td>Final sounds</td>
<td>Sticky sounds</td>
<td>“Where’s your sticky?”</td>
<td>Same as above for most but for “s” move forearm form left to right starting with an open hand and moving to a closed hand</td>
</tr>
<tr>
<td>“z” sound</td>
<td>Buzzing windy sound</td>
<td>“Use your buzz.”</td>
<td>Teeth together and blow wind</td>
</tr>
<tr>
<td>“sh” sound</td>
<td>Fat and fluffy sound</td>
<td>“Make it fat and fluffy.”</td>
<td>Lips out and puckered while blowing out</td>
</tr>
<tr>
<td>Sound</td>
<td>Example Description</td>
<td>Example Instructions</td>
<td>Guidance</td>
</tr>
<tr>
<td>------------</td>
<td>---------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>--------------------------------------------------------------------------</td>
</tr>
<tr>
<td>“ch” sound</td>
<td>Chomping sound</td>
<td>“I didn’t see those lips moving.” “Work your lips.”</td>
<td>Lips protruded while making chomp sound</td>
</tr>
<tr>
<td>“j” sound</td>
<td>Chomping sound</td>
<td>“I didn’t see those lips moving.” “Work your lips.”</td>
<td>Lips protruded while making chomp sound</td>
</tr>
<tr>
<td>“t” sound</td>
<td>Lifty sound or lizard sound if tongue low</td>
<td>“Open your mouth – tongue up.” “Touch the spot and drop.”</td>
<td>Mouth open, tongue up behind upper teeth, then lowered</td>
</tr>
<tr>
<td>“r” sound</td>
<td>Butterfly sound</td>
<td>“Push up on the sides and move back with your tongue.”</td>
<td>Demonstrate pushing up on sides of tongue in butterfly position</td>
</tr>
<tr>
<td>“w” sound</td>
<td>“oo” sliding sound</td>
<td>“ooo to eee sliding”</td>
<td>Start out in the ooo position with lips puckered then move to the eee sound</td>
</tr>
<tr>
<td>“y” sound</td>
<td>“ee” sliding sound</td>
<td>“eee to ooo sliding”</td>
<td>Start out in the eee position with lips spread then move to the ooo sound</td>
</tr>
<tr>
<td>“sp, st, sk, sn, sl” sounds and other consonant clusters</td>
<td>Friendly sounds</td>
<td>“You forgot your friend.”</td>
<td>With a straight index finger on table start moving finger from L to R while saying the /s/ sound then end by tapping finger on table when the “friendly” sound is added. Or move forearm with open hand form L to R while saying /s/ sound and point to other sound positions as indicated above</td>
</tr>
</tbody>
</table>
## PARENT FILL-IN FOR SOUND NAMES

<table>
<thead>
<tr>
<th>CONSONANTS</th>
<th>NAME OF SOUND</th>
<th>VERBAL CUES</th>
<th>OTHER CUES</th>
</tr>
</thead>
<tbody>
<tr>
<td>The “p” sound</td>
<td>popping sound</td>
<td>“Where’s your pop?”</td>
<td>Fill cheeks up</td>
</tr>
<tr>
<td>The “b” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “m” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “n” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “t” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “d” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The ”h” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “w” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “y” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td></td>
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<td></td>
</tr>
<tr>
<td>The “g” sound</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>The “f” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “v” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “s” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “z” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “sh” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “ch” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “j” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “l” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The “r” sound</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Multi-Sensory Therapy for CAS: Having Fun While Building Speech  
David W Hammer, MA CCC-SLP  
2009 National Conference on Childhood Apraxia of Speech;  
Sponsored by CASANA; July 9-11, 2009, St. Charles, Illinois
SONGS, TOYS AND GAMES FOR SUPRASEGMENTALS
(Pitch, Stress, Rate and Loudness)
(With thanks to Dr. Kathy Jakielski and Megan Young, Augustana College)

Songs (ages 3-6):

- Ten Little Indians [Pitch]
  - Time To Sing www.apraxia-kids.org
- Monkey Song [Pitch]
  - https://www.youtube.com/watch?v=IIiy7-rSVN8
  - Also great for vowel facilitation!
- I'm a Little Teapot [Pitch]
  - Time to Sing www.apraxia-kids.org
- Skidamarink [Pitch]
  - https://www.youtube.com/watch?v=GEzzIdOLqMM&list=PL9FDA79DC8AB4A032
- Alice the Camel has Five Humps [Stress]
  - https://www.youtube.com/watch?v=GpogrvTLc8M&list=PL53361B2D31F6929E
  - Put stress on number of Alice’s humps.
- Head, Shoulder, Knees and Toes [Rate]
  - Time To Sing www.apraxia-kids.org (Head and Tummy)
- John Jacob Jingleheimer Schmidt [Rate and Loudness]
  - https://www.youtube.com/watch?v=H_imuS5oh84
  - Increase rate each time singing the verse.
  - Increase loudness after “whenever we go out, the people always shout”.
- Itsy Bitsy Spider [Rate]
  - https://www.youtube.com/watch?v=pm-vLG36x6k
  - Increase rate each time singing the verse (slow to fast version plus gestures/signs).
  - Time To Sing www.apraxia-kids.org (Eentsy Weentsy Spider)
- Frere Jacques [Rate]
  - http://www.youtube.com/watch?v=_S5PvD9rP2g&list=PLD4337AEC7A0F0FE9
  - Increase the rate at the start of each verse.
- B-I-N-G-O [Loudness]
  - https://www.youtube.com/watch?v=9mmF8zOlh_q
  - Increase or decrease loudness when spelling out B-I-N-G-O.
  - Time to Sing www.apraxia-kids.org
- Teddy Bear [Loudness]
  - [Link](https://www.youtube.com/watch?v=LjxxHlfVT1g&list=PL9FDA79DC8AB4A032)
  - Increase or decrease loudness when giving Teddy Bear directions.

- Five Little Monkeys [Loudness]
  - [Link](https://www.youtube.com/watch?v=ZhODBFQ2-bQ&list=PLB5D53B883FF2C5C8)
  - Increase loudness on "No more monkeys jumping on the bed!"

- Pop Goes the Weasel [Loudness]
  - Time to Sing [Link](http://www.apraxia-kids.org)

- High, Low Children’s Song [Pitch]
  - [Link](https://www.youtube.com/watch?v=LCDVU0yuhDA)
  - Also can be used for younger children.

- Let It Go –Frozen Soundtrack [Pitch]
  - [Link](https://www.youtube.com/watch?v=L0MK7qz13bU)

- Hey Baby, Let’s Rock and Roll [Stress and Loudness]
  - [Link](https://www.youtube.com/watch?v=j0IjoxH4brl&list=PL53361B2D31F6929E)
  - Put stress on “hey” and the action repeated.
  - Increase or decrease loudness on “Hey baby”.

- The More We Get Together [Stress]
  - [Link](http://www.youtube.com/watch?v=IldmkrJXQ-E)
  - Put stress on “together”.

- Form Bananas [Stress, Rate, Loudness]
  - [Link](http://www.youtube.com/watch?v=lVK88X9gJZI)
  - Put stress on “banana” and “potato” (etc.).
  - Increase the rate on the final verse (Go Bananas!, etc.).
  - Increase the loudness on the final verse of each food (Go Bananas!, etc.).

- Skip To My Lou [Rate]
  - [Link](https://www.youtube.com/watch?v=LgQXhs9BWi8)
  - Exaggerate fast and slow verses.

**Songs (ages 6-10)**

- High, Low Children’s Song [Pitch]
  - [Link](https://www.youtube.com/watch?v=LCDVU0yuhDA)
  - Also can be used for younger children.

- Let It Go –Frozen Soundtrack [Pitch]
  - [Link](https://www.youtube.com/watch?v=L0MK7qz13bU)

- Hey Baby, Let’s Rock and Roll [Stress and Loudness]
  - [Link](https://www.youtube.com/watch?v=j0IjoxH4brl&list=PL53361B2D31F6929E)
  - Put stress on “hey” and the action repeated.
  - Increase or decrease loudness on “Hey baby”.

- The More We Get Together [Stress]
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- Skip To My Lou [Rate]
  - [Link](https://www.youtube.com/watch?v=LgQXhs9BWi8)
  - Exaggerate fast and slow verses.
Toys (ages 3-6)

- **First Act Mic and Amp - $19.99 [Pitch and Rate]**
  - Different colors are available for girls and boys.
  - An mp3 hookup is available.
  - Can choose songs with varied pitch and rate for children to sing along.
- **Winfun Step to Play Giant Piano Mat - $22.99 [Pitch]**
  - While stepping on ascending or descending notes, child can work on ascending and descending pitch.
- **Space Hopper Ball (ages 3-6 size) - $15.00 [Pitch]**
  - When bouncing up and down, fluctuate pitch.
- **Plan Toy Solid Wood Drum - $15.00 [Stress]**
  - Tap the drum on the stressed word.
- **KidiBeats drumset - $24.99 [Stress]**
  - Children may tap out the stress in words using this toy.
  - This toy also comes with educational songs containing numbers and letters.
- **First Act Junior Bongos - $19.99 [Stress and Loudness]**
  - The bongos may be used to experiment with loudness or to demonstrate stress.
- **Wood Xylophone - $12.99 [Stress]**
  - Use the drumsticks to mark stress in a word.
- **Meowsic Keyboard - $27.99 [Rate]**
  - Keyboard comes with a microphone and set of songs that can be adjusted by tempo so that child can sing at different rates.
- **FAO Schwarz Bear in the Box – $19.99 [Rate and Loudness]**
  - The song speeds up and slows down depending on rate at which child turns the knob.
  - The child can practice singing at a fast or slow rate
  - Instruct the child to yell “Pop!” to the accompanying song.
- **Strum & Jam Kidiband - $19.99 [Loudness]**
  - Comes with a piano, guitar, and drums.
  - Loudness may be adjusted in freestyle mode and for the twelve children songs included.
- **Pop Goes Froggio - $11.40 [Loudness]**
  - Stomp on the pump that sends froggio flying when producing a word loudly
  - Lightly step on the pump when producing quiet speech.
Toys (Ages 6-10)

- First Act Mic and Amp - $19.99 [Pitch, Rate and Loudness]
  - An mp3 hookup is available.
  - The child can practice singing at high and low pitches to songs of their choosing.
  - SLP may choose songs with varying rate for the child for the child to sing along.
  - Encourage the child to sing loudly or softly to songs of his or her choosing
- Action Figures or Dolls [Pitch]
  - SLP and child play while voicing characters with high or low pitched voices.
- Wood Xylophone - $12.99 [Pitch]
  - Can be used to model high or low pitches.
- Space Hopper Ball (ages 7-9 size) - $15.00 [Pitch and Stress]
  - When bouncing up and down fluctuate pitch, or bounce on the stressed word or syllable.
- First Act Percussion Pack - $34.99 [Stress]
  - The percussion instruments included may also be used to demonstrate concepts of loudness, stress, and rate.
- First Act Junior Bongos - $19.99 [Stress]
  - Can be used to demonstrate stress on a particular word or syllable.
- Play-Doh! [Stress]
  - Smash or squeeze the Play-Doh on the stressed word.
- First Act Discovery Monsta Jam Digital Drum Pad - $29.99 [Rate]
  - Adjustable tempo and rhythm controls
- First Act Percussion Pack - $34.99 [Rate]
  - The percussion instruments included may also be used to demonstrate concepts of loudness, stress, and rate
- Melissa and Doug Band in a Box - $19.99 [Loudness]
  - Comes with 10 different percussive instruments used to model appropriate loudness.
- Director’s Megaphone - $14.00 [Loudness]
  - Can be used as a cue to encourage loudness.
Games (ages 3-6)

- **Candyland - $14.00 [Pitch]**
  - When passing by different characters on the board game, the child must imitate what their voice would sound like (high or low pitched).

- **Chutes and Ladders - $11.99 [Pitch]**
  - When traveling up a ladder, pitch ascends.
  - When traveling down a chute, pitch descends.

- **Simon Says [Pitch]**
  - Ask the client to imitate animals or persons with high and low pitched voices etc.

- **Hoot Owl Hoot - $15.99 [Pitch, Rate and Loudness]**
  - Each time an owl moves, practice saying “Hoot!” in a high or low pitch.
  - Each time an owl moves, practice saying “Hoot! Hoot! Hoot!” slowly or more rapidly.
  - Each time an owl moves practice saying “Hoot!” softly or loudly.

- **Ants in the Pants - $9.99 [Stress]**
  - Flip ant towards the dog’s pants when saying stressed word (“The **dog** (flip) likes ants”).

- **Gamewright Hisss Card game - $14.99 [Stress and Rate]**
  - Instruct child to put stress on one “hiss” in a sequence of hisses (“hisss hisss hisss”).
  - Upon drawing a matching card, child will say “hiss hiss hiss” slowly or rapidly.

- **Count Your Chickens Board Game - $16.00 [Stress]**
  - When counting chickens, instruct the child to put stress on a particular numbers (1, 2, 3).

- **Hi Ho Cherry-O - $9.99 [Rate]**
  - Practice counting the cherries into the basket slowly or rapidly.

- **Crocodile Dentist - $9.00 [Loudness]**
  - The SLP and child can take turns pressing down the teeth in the crocodile’s mouth until it snaps down.
  - Choose a target word and increase the loudness each time the SLP or child presses down on a tooth.

- **Tomy Pop-up Pirate Game - $20.00 [Loudness]**
  - Stick the swords into the barrel until the pirate pops out of the top.
  - With each sword, increase or decrease the loudness of the target word.
Games (ages 6-10)

- **Chutes and Ladders - $11.99 [Pitch]**
  - When traveling up a ladder, pitch ascends.
  - When traveling down a chute, pitch descends.
- **Jenga - $9.99 [Pitch]**
  - Instruct child to make a sound that fluctuates his/her pitch from high to low each time he/she draws a block from the tower.
- **Don't Break the Ice - $9.99 [Pitch, Rate and Loudness]**
  - Fluctuate pitch when tapping the ice block until it falls out or until it all collapses.
  - The child will say words like “tap” at a fast or slow rate depending on how fast they are tapping the ice block.
  - Instruct the child to say “tap” softly while tapping the ice block lightly and loudly when tapping the ice block harder.
- **Uno! - $6.00 [Pitch and Loudness]**
  - Each time the color changes or a player has an “Uno!” he or she must call it out in a high- or low-pitched voice.
  - Instruct child to yell “Uno!” each time he/she has one remaining card in his/her hand.
- **Sorry! - $9.99 [Stress, Rate and Loudness]**
  - When counting spaces, instruct child to put stress on one particular number (1, 2, 3, etc.).
  - Instruct child to count the number of spaces he/she moves slowly or more rapidly.
  - Instruct child to increase or decrease the loudness when counting spaces
- **Black Jack [Stress]**
  - Put the stress on the “hit” in “hit me”.
- **Guess Who? Board Game - $30.00 [Stress]**
  - Instruct child to put the stress on the specific attribute in question ("Does she have **glasses**?").
- **Go Fish Card Game - $5.00 [Stress]**
  - Put stress on the fish being asked for ("Do you have a **blue** fish?").
- **Hot Potato Electronic Musical Passing Game - $9.99 [Rate]**
  - Increase the rate at which “hot potato” is said each time it is passed around.
- **Ker Plunk - $22.00 [Loudness]**
  - Players begin by inserting sticks through the tube and then pour marbles on top of them.
  - Players can increase or decrease the loudness of the target word with each time they pull out a stick until the marbles fall to the bottom.
**Suggested Apps** (special thanks to Pooja Aggarwal, Progressive Speech Tx)

Apraxia Ville – sound windows – cartoon avatar making sounds and window for children to make their own video of sounds

Speechprompts – targets prosody, rate, rhythm, stress, and loudness

Smarty Ears - r intensive – has an r diagnostic

Pocket SLP Articulation

VAST – video modelling of syllables, words, phrases, and sentences

NACD: National Association for Child Development Apraxia – moves from mass to distributed practice and blocked to random – nonspeech words and no phrases or sentence

Vowel Viz – biofeedback for tongue position on vowel quadrilateral – can use for vocalic /r/ - helpful to train child’s and parents’ ears

Ipractice verbs – pictures of verbs can choose verbs and tense but has verb written on corner

TalkingTom – imitates what he hears said

Icommunicate – record voice like on old language masters

Wheels on the Bus – gets child to figure out he/she has control over device

Fireworks – low level – when child touches screen, creates fireworks – can target expressions or words like “wow” and “pop”

Signing Time – has activities for kids and video of each sign more appealing to kids, smart hands – has video of each sign

Splashtop - download software onto your laptop and makes it a touchscreen – have to be online – desktop sharing, can use your software on the ipad

Iprompts – has ready-made social stories e.g. communicating without words, shows the gestures for yes/IDK, schedules – customizable

Reading Rockets for literacy

Pictello – create visual stories

VASTAutism 1 – free – can see zoom in of oral movements, you go through the list of words, can't select words, can scroll through words, phrases
QUICK FACT SHEET ON CHILDHOOD APRAXIA OF SPEECH
David W Hammer, MA CCC-SLP

(1) Definition of CAS per the American Speech-Language-Hearing Association 2007 Position Statement is:

“Childhood apraxia of speech (CAS) is a neurological childhood (pediatric) speech sound disorder in which the precision and consistency of movements underlying speech are impaired in the absence of neuromuscular deficits (e.g. abnormal reflexes, abnormal tone).”

(2) Best website: www.apraxia-kids.org

(3) Incidence: 3-5% of children with speech disorders

(4) Most children with CAS have other challenges such as sensory and fine motor deficits.

(5) Therapy must be individual and intensive at the early stages, with parent/caregiver involvement a must!

(6) No single program works for all children with apraxia.

(7) The best approaches available include a range of verbal prompts, visual prompts, and touch cueing.
(8) Many children with CAS are at high risk for reading, writing, spelling and language processing struggles.
Selected References on “Childhood Apraxia of Speech” and Speech Sound Disorders

David W. Hammer, M.A. CCC-SLP  davidh@apraxia-kids.org


Selected Therapy Resources
David W. Hammer, M.A. CCC-SLP
davidh@apraxia-kids.org

“Time to Sing” Children’s CD
'user_input': {'bullet': ['Apraxia-kids.org']}

'user_input': {'bullet': ['The Psychological Corporation at www.psycorp.com']}

“Captain Hammer & Super Sean – The Case of the Missing G” by Freiburger and Clark
'user_input': {'bullet': ['Apraxia-kids.org']}

“Do-A-Dot Markers”
'user_input': {'bullet': ['Do-A-Dot Art at www.dotart.com']}

“Build-A-Sentence”
'user_input': {'bullet': ['Amazon.com']}

“DOT Articulation” by Rachele Ellsworth
'user_input': {'bullet': ['www.speechcorner.com']}

“Easy Does It For Apraxia of Speech-Preschool” by Robin Strode and Catherine Chamberlain
'user_input': {'bullet': ['www.linguisystems.com']}

“Sign Language Resources”
'user_input': {'bullet': ['www.signingtime.com or www.signingsavvy.com']}

Heathfield Adjustable Chair with Tray
'user_input': {'bullet': ['www.disabilitysupplies.com']}

Marvel Magnet Alphabet Set – Marvel Education Company, New York, NY
'user_input': {'bullet': ['www.cptoy.com (go to Constructive Playthings not US Toys)']}

Deluxe Therapy Mirror and Kit or Speech-Teach Portable Mirror
'user_input': {'bullet': ['www.schoolhealth.com/earlychildhood']}
'user_input': {'bullet': ['www. dysphagiaplus.com']}