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Treating Dyspraxia of Speech

What is Dyspraxia of Speech?

Childhood Dyspraxia is a motor planning disorder. For reasons not yet fully understood, children with dyspraxia of speech have great difficulty planning and carrying out the precise, highly refined movements of the tongue, lips, jaw and palate that are needed for clear speech.

Dyspraxia of speech is sometimes called verbal apraxia, developmental apraxia of speech, or verbal apraxia. No matter what name is used, the most important concept is the root word "praxis." Praxis means a planned movement. To some degree or another, a child with the diagnosis of dyspraxia of speech has difficulty programming and planning speech movements. This is a specific speech disorder.

The act of speech begins with an intention to communicate. Next, an idea forms, outlining what the child wants to say. The words for the intended message are put in the correct order, using the correct grammar. Each word is comprised of a specific sequence of sounds and syllables that must also be ordered correctly. All of this information is translated from an idea about order of sounds, into a series of highly coordinated motor movements of the lips, tongue, jaw, and soft palate.

The brain must tell the muscles of these “articulators” the exact order and timing of movements so that the words in the message are properly pronounced. Finally, the muscles must work properly with enough strength, speed and muscle tone to perform the movements needed for speech.

In typically developing speech, children make word attempts and get feedback from others and from their own self- monitoring systems about how “well” the words they said matched the ones that they wanted to say. Children use this information the next time they try to say the words and so they are able to “learn from experience.” Usually once syllables and words are spoken repeatedly, the speech motor act becomes automatic. This is similar to travelling a particular route repeatedly, after a while you no longer have to think ahead and plan your journey first – you just automatically know which way to go.

These familiar speech motor plans for words are stored in the brain and can usually be recalled easily when they are needed. Children with dyspraxia of speech have difficulty in this part of speech planning. It is believed that children with dyspraxia may not be able to make or retrieve speech motor plans or that these plans are somehow faulty.

How Is Dyspraxia Different to A Speech Delay?

A true developmental delay of speech is when the child is following the "typical" pattern of childhood speech development, although at a rate slower than normal. Usually this rate is keeps pace with the child’s cognitive skills.

In typical speech/language development, the child's receptive and expressive skills grow simultaneously. What is often seen in a child with dyspraxia of speech is a wide gap between their receptive language abilities and expressive abilities. In other words, the child's ability to understand language (receptive ability) is broadly within normal limits, but his or her expressive speech is seriously behind, absent, or severely unclear.

This is an important factor and one indicator that the child may be experiencing more than "delayed" speech. In the case of such a mismatch in skill levels, the child should be assessed for the presence of a specific speech disorder such as dyspraxia. However, certain language disorders may also cause a similar pattern in a child. This gap alone is not enough to diagnose dyspraxia.

How Is Dyspraxia Diagnosed?

Because Dyspraxia of Speech is a communication disorder, the most qualified professional to provide assessment, evaluation, and diagnosis is a qualified speech and language therapist. Other professionals can help but they have not undergone the extensive study and certification to fully evaluate speech and/or language disorders.

We will take a careful history of the child’s development history and note any known medical issues or other problems. The assessment most likely will include the following:

- A complete inventory of the sounds, syllable shapes, and words a child can make or attempts to make will be noted, as well as any “mistakes” your child makes when doing so. Errors and/or distortions of sounds will be compared with what is known about normal speech development to determine if your child’s speech performance is normal or not.
- The therapist will interact with your child to get them to use their speech in order to see what happens when they are asked to repeat syllables, words, or phrases a number of times. Observations will be made about whether the length or difficulty level of words or phrases makes a differences to the accuracy with which the child says words.

- Your child's ability to both use and understand words, phrases, word endings, grammar, etc. will be assessed and compared to what is typical for their age range.
- The child's oral structures and the oral cavity will be examined to determine that they appear normal and are in good working order for speech. Some children also might be sensitive to touch around the mouth and this will be noted.
- Observations will be made about your child's respiratory system and if they seem to have enough airflow to sustain speech; how they hold their bodies; if they appear to have enough muscle strength and muscle tone for speech; if the quality of their voice seems appropriate; if their face appears symmetrical and if they seem able to move the lips, tongue, jaw and soft palate normally.
- The SLP will make note of your child's intentions to communicate and interact; engage in social interaction; listen; and respond. We will observe what other forms of communication the child makes such as pointing and gesturing.

Once we have collected enough information, we will try to determine if your child's speech and language skills are developing normally or not. If we find that your child's speech is developing normally, but it is at a slower rate than most other children then your child would be described as having a speech and/or language delay. If we has observe characteristics that do not fit with normal speech/language development, we will try to determine a differential diagnosis. A differential diagnosis is when there is enough information to state that your child's skills "fit" with a specific speech/language disorder.

At What Age Can A Child Be Diagnosed With Dyspraxia?

For many reasons children between ages 2 – 3 may be difficult to firmly diagnose with dyspraxia. However, the disorder can be suspected and early help put in place. Early intervention is very important to children with speech and language disorders.

What Kind of Help Will My Child Need?

Children with Dyspraxia will need to begin speech therapy with a speech and language therapist Exactly how often the child should have speech therapy will vary according to the individual needs of each child. Children with severely unclear or little speech and are more severely affected will require more therapy than those who have milder dyspraxia. Typically, experienced therapists will suggest that a child with moderate to severe dyspraxia of speech have 3 – 5 times a week of individual speech therapy. As a child begins to make progress in their speech, so that it is understood by others, the amount and frequency of therapy can be changed.

Principles for treating Dyspraxia

Speech therapy for a child where motor planning and programming is felt to be the major difficulty will involve a number of "key" principles:

- Principles of “motor learning” e.g. a high degree of practice and repetition, correction and feedback, slowed rate, and a focus on targeted motor placement and productions
- Increased sensory input for control of the movement sequences and sensory cueing such as visual, tactile, and kinesthetic cueing; touch cueing; verbal cueing.
- use of rhythm and melody
- focus on speech sequences versus individual sounds

Because children with dyspraxia of speech do not progress well in terms of their speech production when therapy is designed for *articulation* problems or based on language stimulation approaches alone, we use multiple methods and treatment programmes, including:

- Cued Articulation
- The Nuffield Dyspraxia Programme
- The Kaufman Speech Praxis Programme
- PROMPTs for Restructuring Oral Muscular Phonetic Targets (PROMPT) see www.promptinstitute.com for more information.

For young children the motor/sensory techniques and repetitions of words and target phrases should be woven into play activities that are fun and motivating for them. Children with dyspraxia need frequent one-on-one therapy and lots of repetition of sounds, sound sequences, and movement patterns in order to learn them and make them automatic.

Finally, it is important for parents and others to understand that many children will have other needs, above and beyond the speech practice mentioned above. Many children will also need to work on using language, such as how to put sentences together appropriately; use verb tenses; word endings, and so forth.

Will Your Child Speak Normally?

While there are no hard and fast rules, professional articles and experienced SLP’s report that most children with dyspraxia, with appropriate help, eventually learn to speak clearly. Some children may have some minor differences in their speech patterns, such as less than crisp “r”’s or slightly “off” vowels. In some children, their intonation may not be perfect or others may perceive some sort of accent. However, most children will speak in a way that others understand. A few children, despite the best efforts of all, may not develop into primarily verbal communicators. These

children will also make progress but may need augmentative or alternative methods to help them communicate.

There are a number of factors that are likely to influence progress for children with CAS. Some of these factors are:

- the severity of the problem
- The existence of other problems, such as other speech or language difficulties, poor health, attention issues, cognitive problems, etc.
- the age at which the child began appropriate intervention
- the child’s ability or opportunity to practice outside of therapy time
- the child’s intent and willingness to make speech attempts and communicate

No one can accurately predict your child’s ultimate success at becoming a verbal communicator. Learning to speak clearly is a long and challenging journey for children with dyspraxia, but they can and do make great progress with speech therapy that is appropriate to their needs.