

What is Developmental Apraxia of Speech

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◇ What is DAS or DVD?.....	2
◇ What Causes DAS?	2
◇ What are some of the main characteristics of DAS?.....	3
◇ What other areas can be affected by DAS?.....	4
◇ What can be done to correct DAS?	4
◇ What can you do at home to help your apraxic child?.....	5
◇ Will teaching my child sign language or picture communication systems make him not want to talk?.....	6

What is DAS or DVD?

DAS is a speech disorder that interferes with a child's ability to correctly pronounce sounds, syllables and words. It is the loss of ability to consistently position the articulators (face, tongue, lips, jaw) for the production of speech sounds and for sequencing those sounds into syllables or words. Generally, there is nothing wrong with the muscles themselves. The child does not have difficulty with non-speech activities performed with the muscles such as coughing, chewing or swallowing. However, the area of the brain that tells the muscles how to move and what to do to make a particular sound or series of sounds is damaged or not fully developed. This makes retrieving the "motor plan" for saying a word difficult.

As a result, even though the child knows what he wants to say, he cannot say it correctly at that particular time. Sometimes he cannot even begin. Either the wrong sound comes out, or many sounds are left out all together. At that particular time, the motor plan is not accessible. These errors are not under the child's voluntary control so he often cannot correct them, even when trying his hardest. Frequently, a child will be able to produce a sound or word at one time and not be able to say it again when he wants to. A parent may hear words when the child is playing alone or when he is angry, but when asked to say the same word, he can't. This can be very frustrating for both the child and the parents.

What Causes DAS?

DAS is a neurologically based speech disorder. It is caused by subtle brain impairment or malfunctioning. No one currently know exactly what this brain impairment is or what causes it. Theories range from supposing the impairment is a very specific small injury or difference in the speech area of the brain to saying that is a very diffuse change that is not possible to isolate.

Although some children with DAS have had specific birth or prenatal injuries or periods without oxygen, most DAS children have nothing in their birth or prenatal histories that would suggest a possible cause of the DAS. It is interesting that there are a great deal of similarities in the histories of children with DAS, however, it has not been shown that any one or any specific combination of factors is responsible for the DAS. At this time, we simply do not know what causes DAS.

What are some of the main characteristics of DAS?

For a young child with DAS, a limited speech sound repertoire is frequently the main characteristic of his speech. This simply means that the child has very few speech sounds that he can use automatically so he frequently uses a simple syllable (such as da) to stand for almost everything.

If the child has gotten to a level where he can use several different consonants and is actually talking, the main characteristic of the DAS is inconsistency. A child with DAS is likely to have inconsistent speech errors and speech capability. For instance, he may be able to say a /p/ sound at the beginning of words as long as the /p/ is followed by an /o/, yet, he may not be able to say it if followed by an /e/. Or, maybe he can only say a /p/ at the beginning of a word if the word also ends in a /p/ as in pop. Another example could be that the child can say a /p/ word just fine by itself, but if there is a /t/ word in front of it, the /p/ becomes a /t/ (so two pan is said two tan).

Perhaps he can say short single words well, but as soon as he uses two or three words in a row, he drops all the ending sounds. These inconsistencies can easily lead to confusion on the part of both the child and the parent. The child learns that he cannot trust himself to communicate his ideas well, and the parent may wonder whether the child is just being careless or lazy.

The length of a phrase as an adverse effect on articulation. Generally, the longer the utterance, the worse the speech accuracy. A child may be able to say syllables and short words fairly well but be impossible to understand in phrases or sentences.

- Apraxic children are usually better at imitating speech than at saying words spontaneously. If you ask a child to say a words right after you, he is likely to say it more accurately than if he said it without your model.
- Anxiety may affect a child's ability to speak well. For all of us, performing is more difficult than talking. Under stress, the ability to retrieve motor plans becomes more challenging. A child may be able to say a word or phrase well in a relaxed setting but, when he is "put on display" and asked to " Tell Grandma...", the plan for saying that word or phrase is not accessible, and the child fails.
- Children with DAS may also lose words. Parents frequently report that the child "used to say that, but doesn't anymore". This is another example of the motor plan for a word or phrase being unavailable to the child.

What other areas can be affected by DAS?

Children with DAS not only have difficulty retrieving the motor plans for speech, they also may experience accessing vocabulary. Between the ages of 2 yrs and 5 yrs., the number of words that a child understands increases from about 200 words to over 20,000 words. If the child has not organized these words into a "dictionary", he will have huge problems finding the words he wants to say quickly. This increases the effort of communicating.

In the young child, this problem may show up as a tendency to be aggressive with other children. If the child cannot think of words to use to enter into play with friends, he may choose to push them, hit them, or disrupt their play. In older children, difficulty finding the right words may show up as shyness or a tendency to rely on "I don't know" as a response to questions.

- Some children may choose one topic to be very good at discussing. If you stay on their topic, they sound fine, however, if you change the topic, you find them quiet and unsure of their ability to communicate.
- Many children with DAS also have difficulty learning how to put things in sequence or in the right order and then later remembering what the right order was. They already have trouble putting sounds in the right order for words. This difficulty may also be found later as they learn written language.
- Many children with DAS have problems learning to read and spell. Often their difficulty with written language is similar to the problems they had with spoken language. They cannot retrieve the words from their memory and they cannot sequence the letters into words or the words into meaningful sentences. When we work with children with DAS, we need to watch for signs of reading and writing problems and refer the children for help if those problems occur.
- In addition, a child may show the same motor planning difficulties with fine motor tasks such as cutting, coloring and writing. An Occupational Therapist can assess motor planning problems that are affecting fine motor skills.

What can be done to correct DAS?

A child who has DAS will not simply "grow out of it". Without speech therapy, the child's communication skills may improve as he grows older, but his speech will still be filled with errors and be difficult to understand. Therapy for DAS is generally intensive (2-3 times per week) and is started as soon as the disorder is identified and the child is old enough to participate in therapy (18-30 months). Therapy does not provide a "quick fix". Most apraxic children will be in therapy at least 2 years and sometimes significantly longer. However, all but the most severely Apraxic children who receive intervention will eventually be competent oral communicators. In severe cases, augmentative communication will be needed.

What can you do at home to help your apraxic child?

Probably the most helpful thing that you can do at home is make your child feel as good as possible about his speech and about himself. Accept whatever your child says and, if it is right, praise him. If it is wrong, do not say "No". The child will think that you are disagreeing with the content of his message rather than the way it was said. It is more positive to say, "Yes, that's right" then restate his message with the correct sounds. This approach serves two purposes. First, it allows you to give positive reinforcement to the child's communicative attempt and to the accuracy of his message. Second, it gives you an opportunity to provide a correct model so that he can hear the message stated correctly.

If you occasionally ask him to try to correct a word, accept whatever comes out and praise him for a good try. Remember that he does not have consistent voluntary control over his speech and may not be able to say a word correctly even though he wants to and even though he said it correctly ten minutes ago.

If you can understand your child, repeat what he has just said so that he can hear how it should sound and so that he knows that you understood him. Again, this will help him feel successful in communicating his ideas. If you are the only family member able to understand the child, don't hesitate to serve as an interpreter for the rest of the family.

After the child has been in therapy, you will be asked to help by doing some speech drills at home. Until the speech/language pathologist gives you specific instructions on what to do, avoid random speech practice at home. This usually leads to frustration for both parent and child.

When the SLP does give practice material, try to practice for a few minutes each day. The more you practice, the faster that specific "motor plan" will become habitual. It is better to practice for a few minutes each day than to practice once or twice a week for longer periods of time. If your child is reluctant to practice, try using a reward system such as a sticker chart or earning small amounts of money towards a favorite toy.

Also, avoid any power struggle situations in which you are requiring the child to say a word before he can have something he wants. In general, you want to avoid criticizing or correcting your child's speech. You also want to avoid putting the child on display.

Instead, you need to be supportive as possible. This will help create self esteem and a positive atmosphere in which your child can learn to enjoy communication. As people, we are driven to communicate with each other. If a child is unsuccessful in communicating, it can severely undermine his self-esteem. It is our job to help the child feel as successful as possible as soon as possible. If you don't understand your child, have him use gestures or point to what he wants. Don't pretend to understand your child if you don't. He needs to know that his message is important to you. Let him know you understand his frustration and use whatever means possible to help him get his message across (pictures, signs, gestures etc.)

Will teaching my child sign language or picture communication systems make him not want to talk?

The young child with DAS usually has a good understanding of language even though he does not talk. This is very frustrating for the child. One of our first tasks is to lower that frustration level so that the child can enjoy communication. We all communicate in many ways: body language, facial expression, gesture, sound effects and spoken and written words. If we view sign language as a formal set of gestures, then it is not very different from the communication we use all the time. As people, we are driven to communicate with others through talking, however, when talking is difficult to learn, learning to communicate is also difficult. This is when sign language or picture communication systems can be of great help.

Sign language provides the child a way to show others what he wants and knows. It allows him to learn the value of sharing what he knows with others. It gives him success in an area that has previously been defeating. It provides him with a tool through which to learn the value of communication.

Sign language has another significant advantage. When sign language is combined with spoken words, the signs help to cue the correct speech sounds. Children with DAS respond very well to the use of gesture cues for speech production. In the young child, sign language provides not only the gesture cues but the keys to successful communication.

Your SLP may choose to teach the child finger cues that help retrieve the manner and place of sound production rather than use signs. This has also been shown to be very successful as it assists the child in retrieving the motor plan for words. Signs can be used in conjunction with this therapy approach for frequently needed words.

Another way to help the child communicate while he is learning speech is through picture communication systems. This is especially valuable if no one in the family understands the child's spoken language. Picture boards can be set up in various places around the home to assist the child in getting his needs met. Pictures can also be used on electronic communication boards to assist the child while he is learning spoken language.

Whatever communication tool you and your therapist decide to use while the child is learning spoken language, rest assured that the child will not want to stop learning to talk. As soon as the child is able to be understood, he will want to stop using the other system. It is much easier and more flexible to use spoken language and the child will choose it above all other means of communication. The important thing for the child to know is that we value what he has to say, no matter how he says it!