

# Communication Disorders in Children

Many children will experience a temporary delay in speech and language development, but eventually catch up. Others continue to have problems with communication development. The following are common speech and language disorders found in a pediatric population:

## What is a Speech Disorder?

A speech disorder is characterized by difficulty with articulation (speech sound production), voice or fluency (the flow of speech). These are described below:

### 1. Articulation (Speech Sound) Disorders:

Articulation is the physical production of speech sounds in sequence to form spoken words. An articulation disorder is characterized by defective production of individual speech sounds. This can cause poor speech intelligibility. Articulation errors include the following:

- **Omissions:** Sounds in words and sentences may be completely omitted.  
**Example:** "I go o coo o the bu." (I go to school on the bus.)  
"I re a boo." (I read a book.)
- **Substitutions:** An incorrect (usually easier) sound may be substituted for the correct one.  
**Example: w/l** "I saw a wittle wamb."  
**t/s** "I tee the tun in the ty."  
**w/r** "I have a wed wadio."  
**d/g** "I'm a dood dirl."
- **Distortions:** An attempt is made at the correct sound but it results in a poor production.  
**Example:** A distorted /s/ sound may whistle, the air may come out the sides of the mouth causing a "slushy" sound or lateral lisp, or the tongue may be thrusting between the teeth causing a frontal lisp.



Causes of articulation disorders may include the following: cleft palate, dental abnormalities, perceptual disorders, hearing loss or oral motor dysfunction. Neurologic disorders that specifically affect articulation include the following:

- **Oral Apraxia:** Characterized by poor ability to execute voluntary movements of the tongue and lips, or difficulty combining various movements for speech sounds. As a result, speech consists of multiple inconsistent articulation errors.
- **Dysarthria:** Characterized by a paralysis, paresis or generally poor coordination of the oral musculature. This condition may result in speech that is slow, inaccurate, slurred and hypernasal.

### Indications for Concern

- The child doesn't babble using consonant sounds (particularly b, m, d, and n) by 8 or 9 months of age.
- The child uses mostly vowel sounds and gestures for communication after 18 months.
- The speech is usually unintelligible at the age of 3.
- The child frequently omits consonants in words at the age of 3.
- The speech is difficult to understand at the age of 4.
- At the age of 6, the child is still unable to produce many sounds.
- The child is omitting, substituting or distorting any sounds after the age of 7.
- The child is embarrassed or disturbed by his speech at any age.

## 2. Voice Disorders

Voice is defined as the sound that is generated from the vocal cords (phonation), and then altered when it vibrates in the oral and nasal cavities (resonance). A voice disorder is characterized by a vocal quality that is harsh, hoarse, raspy, with intermittent loss of phonation, glottal fry, or severe pitch breaks. Causes include laryngeal pathologies such as vocal nodules, papillomas, ulceration, laryngeal web, vocal cord paralysis or paresis, or respiratory disorders.

### Indications for Concern

- The voice is hoarse, harsh, breathy or of poor quality.
- The voice is always too loud or too soft.
- The pitch is inappropriate for the child's age or sex.
- Pitch breaks occur frequently.

## 3. Resonance Disorders:

Resonance determines the overall quality of the voice. It is the result of the function of the velopharyngeal valve, which sends sounds in the oral or nasal cavity as appropriate. It is also dependent on the selective enhancement of certain frequencies in the cavities of the vocal tract, based on the size and shape of these. Resonance disorders include the following:

- **Hypernasality:** Characterized by too much sound in the nasal cavity during speech. The cause is incomplete velopharyngeal valving due to a history of cleft palate, submucous cleft, a short palate, wide nasopharynx, a history of adenoidectomy, poor velar mobility, etc.
- **Hyponasality:** (Denasality): Characterized by a lack of adequate nasal resonance on nasal sounds (m, n, ng). Causes include nasal obstruction or allergies.
- **Cul-de-Sac Resonance:** Nearly a total blockage of sound in the oral, nasal or pharyngeal cavities. The voice sound muffled and low in volume as a result.

### Indications for Concern

- The voice is "nasal" (e.g., sounds hyponasal or hypernasal).
- There is audible air emission through the nose during speech.

#### 4. Fluency Disorder (Stuttering)

Fluency is the natural flow or forward movement of speech. A fluency disorder, or stuttering, is characterized by an **abnormal** number of repetitions, hesitations, prolongations, or disturbances in the rhythm or flow of speech. Associated tension may be observed in the facial area, neck, shoulders, and fists. There are many theories about some of the causes of stuttering. Most experts recognize that certain environmental reactions to normal dysfluencies can result in stuttering.

##### Indications for Concern

- The parents have expressed a concern about stuttering.
- The child has an abnormal number of repetitions, hesitations, prolongations, blocks or disruptions in the natural flow of speech.
- The child exhibits tension during speech.
- The child avoids speaking situations due to a fear of stuttering.
- The child considers himself to be someone who stutters.

#### What is a language disorder?

A language disorder is characterized by difficulty with the meaning conveyed during speech, writing or even gestures. Language disorders can include problems with the following components of language:

##### 1. Receptive Language Disorders:

The child may have difficulty understanding the words and sentence structures and seem to have poor attention to the speech of others. Therefore, he or she may have difficulty following directions and learning.

##### 2. Expressive Language Disorders:

The child may have difficulty coming up with the right words when talking or be unable to combine the words appropriately for sentences. As a result, the child may have a very limited vocabulary or use of inappropriate words. He or she may speak using short, "telegraphic" phrases and sentences or talk with faulty sentence construction.

For both types of language disorders, the main problem may be the **content** (semantics or word meaning), the **form** (grammar or syntax), or the **use** (the ability to understand and use language appropriately).

Causes of language disorders may include the following: hearing loss, mental retardation, emotional disturbance, environmental deprivation or neurological damage or dysfunction. Aphasia is an acquired language disorder resulting from CNS damage.

##### Indications for Concern

- The child does not use any single words by 16 18 months.
- At 18 months, the child cannot follow simple instructions such as "Give me your shoe," or cannot point to body parts or common objects following a verbal request.
- The child does not combine words for short utterances by the age of 2.
- The child does not communicate with complete sentences by the age of 3.

- At 3, the child echoes parts of questions or commands rather than responding appropriately. For example, when asked "What's your name?" The child responds, "Your name."
- Sentence structures are still short and noticeably defective at the age of 4.
- At 4, the child uses words incorrectly, or frequently substitutes an associative word for the intended word. For example, the child may say "cut" for "scissors" or "dog" for "cow."

#### **What are risk factors for communication disorders?**

A child may be at risk for communication disorder if there is a history of the following: cleft lip or cleft palate, craniofacial anomalies, velopharyngeal insufficiency, dental malocclusion, macroglossia, oral-motor dysfunction, neurological disease or dysfunction, brain stem injury, respirator dependency or respiratory compromise, tracheostomy, vocal fold pathology, paralysis or paresis of the vocal folds, developmental delay, psychosis, autism, prematurity or traumatic birth, and hearing loss or deafness. **Note:** Ankyloglossia (tongue-tie) rarely causes speech problems.

#### **When is the best time to start treatment?**

Early intervention is very important for children with communication disorders. Intervention is best started during the preschool years since this is a critical period of normal language learning and habit strength is not a major factor. The prerequisites for speech and language development can be evaluated even in infancy. At that age, the speech-language pathologist works with the parents on stimulating speech and language development in the home. Active treatment in the form of individual therapy is usually begun between the ages of 2 and 4.

If there is a concern about the child's communication skills at any age, this should first be discussed with the child's doctor. The doctor will likely refer the child to a speech-language pathologist for evaluation and treatment.

#### **What can parents do to help their child's development?**

Children learn speech and language skills by listening to the speech of others, and practicing as they talk to others. Because parents are the primary teachers for their child in the early years, they can help the child giving the child lots of opportunities to listen to speech and to talk. This can be done by naming pictures and objects, reading to the child and talking to the child throughout the day. Parents can give the child models of words and sentences to repeat, and also set up opportunities for the child to answer questions and talk. Listening to music and singing songs is also a great way to stimulate speech and language development while having fun with the child.

For more information, please contact the Division of Speech-Language Pathology at (513) 636-4341 or visit our website at [www.cincinnatichildrens.org/speech](http://www.cincinnatichildrens.org/speech).