



# EITI Newsletter

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## When The Words Get Stuck: Insights Into Childhood Stuttering.

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### INTRODUCTION

What do Vice President Joseph Biden, NFL running back Darren Sproles, and actors James Earl Jones and Bruce Willis have in common? They are among the approximately three million Americans who stutter.

According to the Stuttering Foundation of America, about 5% of children go through a phase of stuttering for six months or longer, however, a majority of them (about 75%) no longer stutter by the end of childhood. The remaining 1% of children continue to exhibit stuttering into late childhood and adulthood. While there is no significant difference among young children who stutter, there is a notable discrepancy between those who spontaneously recover and those who exhibit an enduring disorder. Among adult men and women who stutter, males outnumber females by about four to one (Yairi & Ambrose, 2013).

### WHAT IS STUTTERING?

By definition, stuttering is a speech disorder that is characterized by disfluencies, or interruptions in the flow of speech. Frequency and severity of disfluencies vary greatly among persons who stutter and can affect the prognosis and recommended type of treatment. People who stutter have **core stuttering behaviors** including blocks, repetitions, and prolongations. **Repetitions** are the most common type of disfluency. This manifests when the speaker appears to be “stuck” on a particular sound and then repeats the sound/syllable/word several times (e.g. tea-tea-teacher). **Blocks** are characterized by the stoppage of airflow, voicing (vibration of the vocal cords during speech sound production), or movement of the articulators (body parts involved in speech production). **Prolongations** occur when the sound or airflow continues, but the movement of the articulators is stopped (e.g. mmmmmore). These core behaviors can be accompanied by a variety of **secondary behaviors** including, but not limited to: eye contact avoidance, head movements, muscle tension, movement of the extremities, distracting sounds, facial grimacing, and interjections. These escape and avoidance behaviors are acquired, learned reactions to core behaviors, which are unique to each individual and can increase in frequency and severity over time, if not addressed. In addition, negative attitudes and emotions associated with moments of disfluency can lead to frustration, embarrassment, anxiety, fear, shame, and hostility toward listeners and can result in decreased participation in academic and social activities (Guitar, 1998).

Although a large number of children experience a period of disfluency, stuttering is often misunderstood. Many speech-language pathologists express discomfort working with this population because of their own lack of knowledge about the disorder.

There are some myths commonly associated with people who stutter:

- While stress and anxiety may aggravate stuttering, neither is considered a cause.
- Stuttering does not occur due to bad parenting. Children and parents should not be blamed for the emergence of stuttering behaviors. This is no one's fault!
- People who stutter do not have decreased intellectual abilities and are capable of achieving success in life.
- There is no easy cure for stuttering and no single method is proven to work for everyone.

### WHERE DOES STUTTERING COME FROM?

The cause of stuttering is largely unknown, however various studies suggest a genetic component may be present in at least a portion of the stuttering population. A small study of consanguineous Pakistani families (families with multiple marriages between cousins) with a family history of stuttering, found a gene mutation which appears to cause stuttering for about 10% of the family members who stutter. Although this study provides some insight into a genetic cause of stuttering, the etiology in a majority of cases is still unclear. Genetic studies continue to determine if additional gene mutations may be associated with stuttering (Kang, C., et al. 2010).

The onset of stuttering occurs in early childhood and typically emerges between two and five years of age. This coincides with a time of rapid growth in language abilities and increased linguistic complexity, as well as cognitive development. As children navigate through this stage of language development, many of them experience a period of disfluency lasting from several weeks to several months. Although some will develop a chronic stuttering disorder, most will progress through this stage and spontaneously recover. “*Developmental disfluency*,” is a part of normal development that is characterized by an increase in syllable and whole word repetitions with little interference in the child's ability to deliver the intended message. These children show no sign of secondary behaviors and have little concern or awareness of their stuttering. Disfluencies may resolve and return for short periods of time as the child goes through various stages of language learning (Guitar, 1998). It can be unclear to parents, teachers, health

professionals and even speech-language pathologists whether a developmental disfluency will spontaneously resolve or become a chronic condition. Caregivers and/or teachers are typically the first to notice a change in a child's speech pattern and are critical in the identification process.

### **RISK FACTORS FOR STUTTERING**

While it is difficult to predict with 100% certainty if a child will develop chronic stuttering, there are a few risk factors which, if present, suggest a more urgent need for further assessment by a speech language pathologist. These risk factors are:

**Family History:** As mentioned, a genetic predisposition may exist and there is an elevated risk of stuttering if a parent, sibling or other family member continues to stutter past the preschool years.

**Age of onset:** Higher risk is associated with an age of onset of 3½ years or older.

**Time since onset:** If a child experiences a period of stuttering that lasts six to twelve months or longer, it is more likely that this behavior will not spontaneously resolve without intervention.

**Gender:** Males have a greater risk of developing a chronic stuttering disorder.

**Other speech and language concerns:** Children who experience other speech production difficulties including speech sound errors, difficulty with overall intelligibility, or language delays/disorder should be referred for further assessment.

In addition, the following **patterns of disfluency** indicate a probable stuttering disorder:

- Child exhibits increasingly frequent stuttering
- Length of disfluencies is longer
- Presence of blocks and prolongations
- Moments of disfluency are accompanied by secondary behaviors
- Stuttering consistently noted across all speaking situations (more present than absent)
- Child shows signs of frustration, embarrassment or fear of speaking

(Stuttering Foundation of America)

### **ASSESSMENT OF DISFLUENCY**

Stuttering often presents mysteriously due to its variable nature. Behaviors can change based on location, speaking partner, emotional state, time of day, or the presented task. Periods of increased fluency may occur with sudden relapse that seems unexplainable.

For younger children, the goal of assessment is to determine the level of risk for the child's stuttering to become a chronic disorder. Early identification is important because younger children often present with milder stuttering behaviors and respond well to treatment. There is even the potential to eliminate stuttering before avoidance behaviors and negative thoughts and feelings emerge and complicate intervention.

In older children, assessment will focus on how their presenting factors contribute to maintenance of

stuttering, to determine the impact on academic and social development.

Assessment includes observation of the child, as well as parental report. Every attempt will be made to create a comfortable environment to encourage the child to speak freely. Speech tasks may include play, telling a story, picture description, conversation, and reading tasks. Checklists may be provided to parents in order to determine the child's level of awareness and reaction to stuttering behaviors, while older children may be asked to rate their own levels of disfluency and the emotional impact of their stuttering. In addition, teacher reports are used to assess the impact of stuttering on participation in classroom activities. Formal tests, such as the **Stuttering Severity Instrument 4 (SSI-4)**, assess the frequency, type, and duration of stuttering moments as well as the presence of concomitant behaviors during moments of disfluency, to determine overall stuttering severity. Recommendation for intervention will be based on the *risk of continued stuttering*, present overall *impact of stuttering* on the child's life (social, educational), as well as the child's *readiness to participate* in treatment (Guitar, 1998).

### **TREATMENT OF DISFLUENCY**

It is important to remember that there is no "cure" for stuttering. Complete fluency may not be possible, thus forcing children to be fluent when they are unable is likely to lead to feelings of guilt and shame, increasing possible withdrawal from speaking situations and/or increased disfluency. Speech therapy should focus on management of stuttering and it can be a long term process. Parent, family, and teacher involvement are encouraged and lead to increased success.

Appropriate treatment should address the entire impairment including core and secondary behaviors, the child's reactions, negative emotions and environmental reactions. Treatment must focus on strategies to manage and accept stuttering behaviors. Strategies will vary depending on the nature and severity of the disorder, age, level of cognitive development, and presence of coexisting disorders. There is no gold standard of treatment and procedures are determined based on individual differences (Gottwald & Starkweather, 1995).

#### **Types of Treatment: Fluency Shaping and Stuttering Modification**

Fluency shaping and stuttering modification are two broad categories of intervention often used with children who stutter. The *goal of fluency shaping therapy* is to decrease stuttered speech by replacing it with a pattern of stutter-free speech. The *goal of stuttering modification therapy* is to learn how to modify moments of disfluency to stutter in a less severe manner. Many speech language pathologists will use a combination of strategies to enhance overall communication skills.

Fluency shaping techniques focus on changing the timing or tension of speech. In the preschool population this may include the use of "turtle speech" to slow down the overall rate while maintaining natural intonation and rhythm. Changes in tension are accomplished using light contacts and easy onsets/starts. Children are taught to touch their articulators (e.g. lips, tongue) together lightly to achieve light contacts (e.g. lips barely

touch to produce /b/), and easy onsets are used to teach children to increase airflow and decrease tension to produce a softer beginning sound (e.g. increasing airflow and voicing for production of /a/) (Guitar, 1998).

Stuttering modification techniques place more focus on helping the child to *stutter in an easier manner* and also emphasize the importance of reducing discomfort and negative emotions associated with stuttering. They explore stuttering by remaining in a block, voluntary stuttering (stuttering on purpose), and identifying moments of disfluency in order to desensitize themselves to the stuttering behavior. The speech-language pathologist may also voluntary stutter during therapy sessions to increase a child's comfort and awareness. Once a child becomes aware of when and how the moment of stuttering occurs, they can work to modify the stutter by changing the tension and form of stuttering after or during a moment of disfluency (Guitar, 1998).

The *Lidcombe Program* is one example of a behavioral modification approach designed for the preschool population. Direct instruction is provided using a combination of praise for fluent speech and correction of speech following moments of disfluency. Monitoring of parental cues is required to ensure that feedback is provided appropriately. Other programs including *Demands and Capacities* (Gottwald & Starkweather, 1995), *Palin Parent-Child Interaction* (Rustin, Botterill & Kelman, 1996), *Family Centered Therapy* (Yaruss, Coleman, Hammer, 2006), and *RESTART-DCM* (Franken & Putner, 2007) focus on family centered therapy and combine indirect and direct therapy procedures. Therapy sessions for preschoolers include parent training and observation, as well as modeling of techniques (Sisskin & Ratner, 2014).

The emotional component of stuttering is monitored during treatment, and addressed directly when applicable. Throughout ongoing therapy, the speech language pathologist will encourage a child to talk about stuttering by providing a safe environment. Use of analogies and simplified language provides the child with the vocabulary needed to express his thoughts and feelings. Showing the child that it is, in fact, okay to talk about stuttering, can reduce shame and allow him to work to re-frame negative thoughts and feelings (e.g. changing from the idea that "There is something wrong with me" to "I stutter and that is ok"). A cognitive behavioral approach is often used to help children understand, alter perception, develop tolerance, and provide support surrounding stuttering behavior. Parents and teachers may also require assistance to accept the child's stuttering behaviors, develop appropriate expectations, and to learn how their actions, comments, and other behaviors affect the child's ability to communicate effectively. Making sure that members of a child's support team are educated and involved in the treatment process can help to improve outcome (Gottwald & Starkweather, 1995).

### **What can parents, teachers, and other professionals do to help?**

Consultation with the speech language pathologist can help parents and teachers learn how and when it is appropriate to promote use of learned strategies. The following are some general tips that teachers and parents can follow to help support their child who stutters:

- Do not tell the child to "slow down" or "breathe".
  - Show the child you are listening using body language and facial expression.
  - Maintain natural eye contact.
  - Do not complete phrases/sentences for the child.
  - Be patient.
  - Speak at a naturally slower pace.
  - Encourage all family members and classmates to take turns.
  - Be supportive.
  - Set aside special time to have 1:1 discussions regarding the child's needs.
- (Stuttering Foundation of America)

### **CONCLUSION**

Stuttering is a complex disorder which can affect people across the lifespan. Although a variety of treatment options exist and may be used in combination based on the needs of each individual, there is no one gold standard of treatment. Information regarding the efficacy of treatment can be difficult to obtain due to the variability among people who stutter, and more evidence is still needed regarding long-term treatment outcomes (Thomas & Howell, 2001). However, according to the American Speech-Language Hearing Association (ASHA), between 60-80% of people who have received treatment for stuttering, report an increase in fluency and improved communicative competence. Regardless of the chosen treatment method, it is important to regard a person who stutters as a person first, and to provide support that encourages them to communicate most effectively.

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