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Insurance Fact Sheet: Fluency

What is Stuttering?

Fluency can be described as the natural flow or forward movement of speech which is effortless, continuous and produced with appropriate rate and rhythm. A fluency disorder, or stuttering, is characterized by speech behaviors that may consist of tense, effortful articulations (which may inhibit the natural flow) and may be associated with negative thoughts or feelings about talking and/or communication in general. Vocal symptoms may include an abnormal number of repetitions, prolongations of sounds, blocks of airflow, or other disturbances in the rhythm or flow of speech. Signs of associated tension and struggle may also be observed in the facial area, neck, shoulders, and hands. Over 3 million children and adults in the U.S stutter (approximately 1% of the general population; approximately 2 ½% of the preschool population) and boys are three times more likely to stutter than girls (Stuttering Foundation of America, 1999). Stuttering affects individuals of all ages but typically begins in early childhood, usually between the ages of two and five (Yairi, Ambrose & Niermann, 1993). "Probability of recovery decreases sharply with age, stuttering becomes chronic for many (Wexler, 1996)."

Unlike most other types of speech disorders, stuttering is multi-dimensional in nature and is likely influenced by several factors that interact in different ways and in varying degrees for each individual over time. These factors consist of the following components **physiological** (neurological predisposition, developing motor, linguistic, social, and/or cognitive abilities), **psychological** (how an individual may react (emotional/temperament; as well as the development of attitudes/beliefs) and **environmental** (the way in which the environment may interact with the above developing skills and abilities on-going, over time). For any given child, the way in which these factors interact can be quite different and unique.

Characteristics of Stuttering

- Repetitions of whole words, typically monosyllabic of irregular tempo and rate
- Repetitions of a syllable segment in a word, typically the first syllable
- Prolongations of a sound

- Tremors, or noticeable movements in the small muscles around a child's mouth or jaw
- Alterations in pitch or loudness
- Insertion of a schwa (example: buh/buh/buh/baby)
- Avoidance or refusal by the child to talk for fear of possible stuttering
- Struggling behaviors and / or abnormal breathing patterns

What Causes Stuttering?

Most stuttering specialists concede that stuttering occurs because of an **underlying neurological dysfunction** (Ingham, Fox, Ingham, Zamarripa, Martin, Jerabek & Cotton 1996; Fox, Ingham, Ingham, Hirsch, Dowsn, Martin, Jerabek, Glass & Lancaster, 1996). Additionally, stuttering has long been acknowledged as having a **genetic etiology**, meaning the transmission of specific genes make children susceptible to this speech disorder (Andrews & Harris, 1964; Cox, 1988; Ambrose, Cox, & Yairi, 1997; Yairi, Ambrose, & Cox, 1996, Drayna, 2002). One study found that approximately 50% of persons who stutter have a family history of stuttering (Felsenfeld, 1998). Further, a number of studies have been conducted recently, which support the premise that a neurological dysfunction is responsible for stuttering (Bloodstein, 1995; Boberg, 1993; Caruso, 1991). These studies demonstrate that people who stutter perform more poorly on a variety of speech motor tasks including fluency. This generalized disability is indicative of a breakdown in the area of the brain responsible for motor speech performance.

Experts also believe that this central neurological dysfunction can be heightened or minimized by a variety of environmental and personality variables (Smith, 1990, Starkweather, Gottwald, & Halfond, 1990). Time pressure, performance demands, and sensitivity to the reactions of others are examples of variables that may exacerbate a stuttering problem that may have originally been caused by neurological dysfunction. Although stuttering is commonly perceived as a mental or personality disorder, research provides compelling evidence that children who stutter are not any different than their peers in terms of intellectual, academic or social functioning. ***"What is important to remember is that all evidence and research point to the fact that children-who- stutter are, as a group, no less intellectually, academically and emotionally well-functioning than their peers. They are not, by definition, nervous, anxious, unhappy, unintelligent, or anything other than children who have trouble speaking. As a group, they manifest no significant psychological or social differences from their normally fluent peers, although their own and others' reactions to their disfluency may eventually create such problems" (Rind and Rind). Further, "It is widely believed today that the emotional components of the stuttering problem, which can be so strong and pervasive by adulthood, generally are a result rather than the cause of the disfluency"*** (Wexler, 1996).

Assessment and Evaluation Considerations

Given the young age at which stuttering often begins to manifest, it would be safe to assert that children who demonstrate such speech breakdowns will not have fully developed their speech and language skills to a level equivalent to that of an adult. For them, language may have been developing normally until such time as the onset of stuttering began to emerge. As Watkins (1999) stated, ***"Their language skills are well within the normal range for their age as these functions have been developing quite normally."*** At this point, interruption in the normal process of speech and language development may occur. As stuttering develops, hesitation, anxiety, fear and embarrassment may begin to emerge, rendering the child unwilling or reticent to speak or participate in speech-related activities. Treatment then, for this group would be geared towards restoring the normal process of development through the reduction/elimination of the reactive behavior and/or reinstatement of previously developed patterns of speech. While a proportion of children who demonstrate signs of early stuttering will recover spontaneously, there are other subgroups of children who will not gain fluent speech without intense therapy. Key characteristics and symptoms that a speech language pathologist will assess during an evaluation include the onset and development of the stuttering, the development of speech and language skills to that point, how advanced the stuttering has become, the presence of any associated secondary mannerisms, and the family history.

Appropriate Treatment for Stuttering

Considerable research documents the positive influence of speech therapy on reducing stuttering frequency and significantly improving communication abilities (Conture, 1996; Ricciardelli, Hunter, & Rogers, 1989). Furthermore, **studies indicate that children, who receive speech therapy soon after stuttering appears, improve much faster and more significantly** (Yairi et al., 1993). Treatment effectiveness studies of children indicate an average of 61% reduction in stuttering frequency (Conture & Guitar, 1993). If left untreated, the child's stuttering disorder can exacerbate and have a significantly negative impact on the child's continued development of communication skills as well as the social and emotional aspects of his life. Disturbances in those areas may subsequently lead to other, additional services at a later time.

Children who stutter respond best to treatment that considers each individual child and his family.

- **Intensive therapy** should begin as soon as the disorder is identified. To make significant progress, children who stutter usually require individualized, one-on-one therapy sessions.
- **Consistent and frequent speech therapy sessions** are recommended. The intensity and duration of each session will depend on

the child. Weekly or biweekly therapy sessions are usually necessary. Regression will occur if therapy is discontinued for a long period of time.

- **Parent involvement** is critical for the child's progress. Parents need to observe and even participate in therapy sessions and regularly discuss the child's progress with the speech pathologist. The speech pathologist can provide the parents supplemental exercises and activities to reinforce therapy goals at home.

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