**FLUENCY DISORDERS**

“Fluency” refers to speech that is smooth or flowing. Fluent speech means that words and sounds are connected in a way that sounds natural and un-interrupted. The absence of this smooth connectedness is termed disfluency. All of us experience disfluency from time to time as we hesitate, get tongue tied, or mispronounce a sound and repeat ourselves to correct it. Disfluency becomes a disorder when it happens frequently enough to interfere with communication. Stuttering and clumping are both fluency disorders.

**STUTTERING**

Stuttering is considered a neurological speech disorder that affects the speaker’s ability to physically produce smooth speech. It is characterized by interruptions, repetitions, pauses/blocks, prolongations, and interjections that cause the flow of speech to be interrupted or disfluent. Sometimes the term stuttering is used interchangeably with stammering. Many people who stutter explain that they know what they want to say, but are unable to produce it in a smooth manner. This results in great frustration and embarrassment on the part of the speaker.

I will never forget a simple homework assignment given during my disfluency class in college. We were required to stutter a certain number of times in public situations then write a paper about our experience. I was surprised at the strong emotions I felt ranging from reluctance to speak to resentment at my listeners’ reactions to my speech. What wisdom there was in assigning this task because I know I am a more empathetic therapist for having completed it.

People who stutter will often employ strategies in an effort to work around the stuttering behavior, lessen the severity, or avoid stuttering altogether. These strategies may include, but are not limited to, the following: avoiding speech altogether, avoiding situations where they have experienced stuttering in the past, using filler words such as “um, uh, so, well”, physical manifestations of struggle such as facial expressions and body or head movements.

**WHAT CAUSES STUTTERING?**

We do not know the cause of stuttering. What we do know is that there is a strong genetic correlation. Of adults who stutter, approximately 60 to 70% of them have a family history of stuttering. In addition, children with other speech and language problems or developmental delays are more likely to stutter. Males are four times more likely than females to stutter. There are some who believe that stuttering can be caused by a psychologically or neurologically traumatic event, but this is a controversial topic within the profession. If this were deemed to be the case then treatment would fall under the expertise of mental health experts rather than a speech therapist.

No stuttering gene has been found and there is currently no pharmaceutical treatment for the disorder, but both are being researched. People who stutter are no more likely to have psychological, emotional, or cognitive problems than those who do not. Stress and pressure do seem to exacerbate the problem for those who already stutter.
It is interesting to note that there are many famous and highly successful individuals who did/do stutter. This has been a recent topic of interest due to the film “The King’s Speech” which informed us that King George VI stuttered and showed us some of the strategies that were employed to aid his fluency. Other famous stutterers include Winston Churchill, James Earl Jones, Tiger Woods, and Joe Biden. Some even speculate that Moses stuttered (Exodus 4:10).

As with other speech/language disorders there is no known cure for stuttering, and there is no generally accepted best treatment. A speech therapist should evaluate each client as an individual and explore therapy techniques that are most useful to that individual.

WHEN TO SEEK TREATMENT

Up to 5% of children between the ages of 2 to 5 stutter. Most of these children are considered to have normal developmental disfluency which will spontaneously resolve before late childhood. For this reason, speech therapists often recommend that a parent monitor their young child over time rather than obtaining speech therapy services right away. When approached by a parent of a 2 or 3 year old who stutters I ask many questions of the parents to better understand the severity of stuttering and time of onset. Most often the stuttering behaviors are mild, and I will recommend some strategies that parents can employ at home. Then I will request a follow up in 6 months time. The follow up will help me determine if the stuttering is improving or worsening and let me make a more confident recommendation.

In cases where the childhood stuttering is severe or lasts longer than a period of several months I will recommend therapy. It can be a difficult call to make when I know that stuttering will resolve for 80% of these children, but I don’t want to allow the other 20% to continue on a difficult path. As with any speech/language disorder, early intervention is best. I also believe that parents usually know best. If they feel that intervention is needed despite the considerations mentioned above I will accommodate them. Also, if the child seems aware of, and concerned about, the disfluency I believe therapy is warranted.

Approximately 1% of the population will continue to stutter into adolescence and adulthood. In America that results in approximately 3 million adults who stutter. Any older child, adolescent, or adult who stutters should seek treatment.

HOW TO HELP A CHILD WHO STUTTERS

There are things that parents, teachers, and other listeners can do to ease the burden of stuttering for the child they interact with. Notice that all of these strategies focus on behaviors of the listener, not the speaker. They are all attempts to ease pressure on the child whether it be time pressure, emotional pressure, or social pressure.

Give him the time he needs to speak: A parent of a child who stutters needs to give their child full attention when they speak and non-verbally communicate the message, “Take all the time that you need.” Let your child know that you are paying attention to the message he is conveying rather than the
way that it is spoken. This will ease some pressure on the child and allow him to accomplish his goal of communicating rather than being overcome with frustration and embarrassment.

Model slow, smooth speech: Pressure is taken off of your child when he realizes that a slower speech rate is acceptable and even preferable to the frantic pace we often use. This does not mean that you must speak unusually slow. Simply take it down a notch in speed to model a relaxed but normal pace.

Avoid interrupting and critiquing his speech: Try to create a communication environment where people are not talking over each other, interrupting each other, or giving tips such as “slow down” or “try again” to the child who stutters.

Limit questions: As parents we often revert to a conversational style of questioning our children in order to obtain information. It is especially tempting to do this with a child who stutters because it can be difficult to wait for him to get his message out. Let him finish his turn then try to vary your responses with things such as repeating what he said to show that you understand, clarifying what he said to make sure you got the whole message, and commenting on content.

COMMON THERAPY TECHNIQUES

A typical evaluation will begin with a history and interview with the parent/guardian. The therapist’s intent is to rule out other speech and language deficits, determine the time of onset of stuttering, determine if there is a family history component, explore client/family attitudes and emotions related to stuttering, gain an understanding of situations that exacerbate the problem, and find out if any other treatments or techniques have been tried in the past. As with any speech evaluation the therapist may also screen hearing, language, and oral anatomy.

The major evaluation component is a speech sample. This means the therapist makes a recording of the client’s conversational speech in order to analyze the number and types of disfluency that are present. A video recording is more useful than an audio recording, and a spontaneous, natural speaking situation is more useful than contrived speaking situations. The therapist may also include samples of reading aloud, speaking under pressure, choral reading (reading aloud with someone else), or singing. It takes a great deal of time to transcribe the speech samples and mark the occurrences of stuttering behavior. I favor the Systematic Disfluency Analysis (Campbell and Hill, 1987) taught in my college disfluency course. There are codes for each type of disfluency, types of secondary behaviors noted, and how many repetitions or how long each block lasted. I also like to take note of the client’s speech rate and calculate how many instances of disfluency there are per 100 words.

Disfluencies are divided into two categories—more typical and less typical. A speaker who uses fewer and/or more typical disfluencies is usually deemed less severe than a person who uses more and/or less typical disfluencies. A person who produces disfluencies only a few times per 100 words is considered mild. Each type of disfluency is described below.

TYPICAL DISFLUENCIES

- Hesitation: a pause or break in the flow (e.g. “I’m going to (pause) school.”)
• Interjections: words or fillers not necessary to the flow of speech (e.g. “The girl is, like, nice.”) or (“It will be, uh, tomorrow.”)
• Revisions: a change in the original wording while still conveying the same message (e.g. “I need to go to the st-st-st . . . I need to go to the market today.”)
• Phrase repetitions: several words repeated (e.g. “This is a—this is a problem.”)
• Whole word repetitions: a single word repeated (e.g. “I-I-I want to go with you.”)

NON-TYPICAL DISFLUENCIES

• Sound/syllable repetitions (also called part word repetitions): only a part of the word is repeated (e.g. “Look at the buh-buh-buh-baby.”)
• Prolongations: a sound is abnormally held out (e.g. “Sssssssssometimes I like to sleep in.”)
• Blocks: silent fixations/prolongations of articulatory postures or noticeable and unusually long pauses at unusual locations (e.g. “May I have a piece (several second pause) of pie?”)
• Any of the above categories when accompanied by decidedly greater than average duration, effort, tension, or struggle.

THERAPY TECHNIQUES

After a therapist has determined the severity of stuttering she will develop an intervention plan. This is where great variability may be found between therapists because there is no generally accepted best treatment. Therefore, I will describe what I consider to be a comprehensive approach to treatment.

I like to try several common therapy techniques briefly with the client before they leave the evaluation appointment. This gives me an idea which techniques show potential for improvement right away. I focus on these techniques first while teaching and trying other techniques until I feel we have a small set of techniques to pull from in any speaking situation. The bulk of therapy focuses on learning the techniques and practicing them in increasingly difficult and lengthy contexts. It is important to make sure that the practice sessions eventually take place outside of the therapy room. For example, taking a client out to order lunch at a restaurant, making phone calls, introducing themselves to someone new, speaking in front of a group, asking questions during a demonstration, etc.

I also address the emotional and social aspects of stuttering with older children, adolescents, and adults. It will take time to establish fluency, and sometimes our goal of complete fluency is not met. It’s important to help clients develop an understanding of the disorder, healthy attitudes toward it, responses to teasing, and explanations for people who ask questions about their speech. The intent is to release some of the emotionality involved in speaking and allow them to concentrate on techniques for improvement. It is often helpful to include parents in this stage of treatment due to the fact that children are adept at picking up on the attitudes and feelings of their parents. Appropriate referrals can be made if the client seems to need more involved assistance in these areas.

Some common therapy techniques follow. New theories and strategies are always being developed so this is by no means a comprehensive list of techniques. It simply provides some examples of strategies a therapist may employ. As with any intervention the client is taught to use techniques in a hierarchy from
shorter to longer utterances. You will notice that many techniques overlap or are similar in nature. Many techniques focus on the timing and tension involved in speech. They are simply taught in different ways depending on which technique resonates with a particular client or is easier for a particular client to use.

Delayed auditory feedback (DAF): A device and earphones are used to play back the client’s speech with a slight delay forcing the client to slow down. Although this device is effective it is not a long term strategy due to the unnatural speech that results, the cognitive demand it creates, and the required dependency on an electronic device.

Progressive relaxation: This is a technique used in psychology as well. The goal is to teach the client how to physically relax before speaking situations thus raising the threshold of physiological stress and breakdown. This technique involves full and relaxed breathing, visualizing oneself in a peaceful environment, and relaxing muscle groups progressively throughout the body.

Phonation on exhalation: The goal of this technique is to provide continuity of airflow. The client learns to begin exhaling inaudibly before starting to speak in order to prevent an abrupt start and keep airflow continuous throughout the utterance.

Continuous airflow: The client is taught to keep the air moving through the entire utterance. This technique sounds very breathy at first. The continuous airflow is intended to reduce tension and increase smoothness.

Easy onset: This technique decreases complete closure of the vocal folds thus softening the physiological act of speaking. The client is taught to start each utterance with a “softer” feel to reduce tension. Sometimes teaching begins with whispering then voicing is gradually added.

Light contacts: The client is taught to keep the contacts between teeth, lips, and tongue gentle thus reducing tension during speech.

Prolongation: The client is taught to lengthen the time it takes to produce each syllable or “stretch out” their speech. This has a similar intent to the previous techniques in that continuous airflow seems to increase fluency.

Rate reduction: The client is taught to slow the rate of their speech so that fewer words are spoken in a particular time frame.

Self monitoring: Some clients respond best to monitoring their own speech for stuttering behaviors, and it may automatically cause them to speak more slowly.

Desensitization: This technique helps a clients become gradually less threatened by a particular speaking mode or situation. For example, a client who has extreme difficulty/fear of speaking on the phone would be taken through a series of experiences ranging from just holding a phone, to dialing it, to saying hello, etc. until they have greatly overcome their fear with successful experiences.
As mentioned above it is important to address the client’s attitudes, feelings, and responses to others. Some of the techniques used to help in this process include disclosure (the client learns to tell people that he stutters thus decreasing some of the emotional pressure to speak fluently), purposeful stuttering (the client purposely stutters to accept the fact that he stutters, become desensitized, and prove to himself that there really is nothing to fear), role playing feared situations, discussions of attitudes and feelings, acceptance, reducing avoidance, mental imagery, affirmation training, positive self-talk, and assertion of control over speaking.

OUTCOME

Outcomes will be as varied as the individuals we treat. The majority of adults I have met who report that they stuttered in the past demonstrate speech that is mostly fluent. With my trained ear I can usually pick out mild disfluency and their use of certain techniques that a regular listener would not notice. Although the use of techniques may become easier or second nature over time, a person who stutters rarely describes himself as cured. Rather, he reports that he has learned tools that, when employed, help him be more fluent.

CLUTTERING

Cluttering is a largely unknown disorder that presents much like stuttering at first glance, and the two disorders can co-occur. Because of the many facets involved, cluttering is being viewed more and more as a collection of learning disorders rather than an isolated speech deficit.

Cluttering involves excessive breaks in the normal flow of speech that seem to result from a rapid pace, mispronunciation, disorganized speech planning, mistimed pauses, repetition of words or phrases in an effort to make speech more clear, or simply being unsure of what one wants to say. A person who clutterers often presents as unaware and unconcerned by his disordered speech.

A person who clutterers demonstrates more of the typical disfluencies discussed in the stuttering section (revisions, pauses, interjections). He may show improvement when asked to self monitor by slowing down or paying more attention to his speech. He demonstrates little or no physical struggle or secondary behaviors. He may even have sloppy handwriting resulting from language formulation struggles.

By contrast, the person who stutters typically knows exactly what he wants to say and how to formulate it, but he is unable to produce it in a fluent manner. He is acutely aware of and disturbed by his stuttering. And, in his effort to overcome the stutter he may exhibit physical struggle or secondary behaviors.

What causes cluttering?

As with stuttering, there is no single, known cause of cluttering, but there is a genetic correlation. Conditions such as distractibility, hyperactivity, attention deficits, auditory perceptual difficulties, and
learning disabilities not related to intelligence are often seen in individuals who clutter. Prescription drugs, illegal drugs, and alcohol may cause cluttering as a side effect.

HOW TO HELP A CHILD WHO CLUTTERS

Model slow, smooth speech: This does not mean that you must speak unusually slow. Simply take it down a notch in speed to model a relaxed but normal pace. The intent is to model the type of speech you want your child to use.

Encourage monitoring: In contrast to stuttering, you want your child to pay attention to the speech rate he uses and the clarity of his message. It’s important to be direct but positive by using cues such as, “That was a little too fast for me to understand. Can you repeat it a little bit slower for me?” or “I heard you say ‘eh-phant’. Did you mean to say ‘elephant’? Let’s try that again.”

Focus on content: Make your child aware of the times he leaves key information out or uses confusing language formulation, “I don’t understand what that means. Do you mean . . ?’. Give him the correct model of how to formulate the sentence and encourage him to repeat it.

Focus on mispronounced words: Due to a fast rate of speech it is common for a child who clutters to leave out sounds or syllables that are unstressed. Bring his attention to the way he pronounced it and encourage him to correct it. This is a good place to use humor to soften the fact that you are pointing out a mistake. “I don’t know what a tram-line is, so I don’t know if you can jump on it! Maybe you would like to jump on the tramPOline!”

Teach correct phrasing: Misplaced or mistimed pauses are common in cluttering. Help your child with concepts such as short pauses between words in a list, pauses to create emphasis, pauses to create suspense, appropriate ways to group words/concepts within a phrase, and appropriate placement for pauses when formulation time is needed. In addition, teach him when and where pauses are not appropriate. While working on specific skills such as this you can turn it into a game. For example, choose a sentence from a book or board game. One person reads the sentence inserting inappropriate pauses and the other person must point out the errors.

COMMON THERAPY TECHNIQUES

As with all speech related techniques we work from short, structured speech to longer, more spontaneous utterances. Initial tasks may involve simple answers to open-ended questions and progress to descriptions or stories. The point is to teach self-monitoring which becomes more difficult the longer you must maintain it within an utterance. The most important goal of techniques is to teach the person who clutters to pay attention to—or monitor—his or her speech and do anything that makes it easier to remember to do so.

Rate: There are various ways to focus on rate. A common approach is to use finger tapping for each syllable being pronounced which requires increased concentration and results in slowed speech. Metronomes or making lines on a piece of paper can be used in a similar way. Some of the techniques used for stuttering such as continuous airflow and prolongation help slow rate of speech as well.
Pauses and syllable stress: These were discussed in the “How To Help A Child Who Clutters” section, but a speech therapist can address both of these areas in a much more comprehensive way.

Language Formulation: Every speech therapist is well versed in language therapy. A speech sample and formal language testing will reveal areas of need.

Attitudes and Feelings: With cluttering a therapist attempts to increase sensitivity to, and awareness of, disfluency so the client can use techniques and make corrections. Discussions of listener perceptions, attention to breakdowns in communication, and even finding ways to get unbiased feedback from listeners can all be important avenues to more fluent speech. (Note that this is in direct opposition to the way we go about addressing attitudes and feelings with a client who stutters.)

Listening to recorded speech and analyzing it together can be helpful in all areas.

OUTCOME

Outcomes will be as varied as the individuals we treat. If cluttering has been caused by medication, addiction, or other medical causes it may resolve as the causes are treated. Otherwise, progress relies to a great extent on the client’s awareness that there is a problem. Improvement coincides with the extent that the person who clutters becomes better at monitoring his speech. Intervention for learning disabilities as well as strategies to improve language/speech formulation, attention, and thought organization will result in great gains.
CHECK FOR UNDERSTANDING: FLUENCY

What causes stuttering and cluttering?

If your preschooler began to stutter, how concerned would you be, and why?

What percentage of adults in America stutter?

Describe how stuttering and cluttering are different.

List two things you can change about your own behavior in order to help a child who stutters.

List two things you can change about your own behavior in order to help a child who clutters.