Working With Children who Stutter: Comprehensive Assessment and Treatment

Craig Coleman, M.A., CCC-SLP, BRS-FD
Clinical Coordinator, Children’s Hospital of Pittsburgh
Co-Director, Stuttering Center of Western PA
What is Stuttering?
So, What is Stuttering?

• Interruption in the forward flow of speech that may be accompanied by physical tension, secondary behaviors, or negative reactions or decreased communication skills. The disorder has affective, behavioral, and cognitive components (ABC)
Disfluency is...

• A disruption in the forward flow of speech
  – All people have disfluencies, but not all people stutter
Types of Stuttering

- Cluttering
- "Developmental"
- Neurogenic
- Psychogenic
Stuttering Myths...

• School-Age Children can be “cured”
• The only goal of treatment should be to eliminate stuttering
• Stuttering is caused by being nervous
• It is a good idea to tell people to “slow down” when they stutter
• Changing words is a good practice to reduce stuttering
• Stuttering is “normal” for young children
Stuttering Facts...

- Boys stutter 3-4 times as much as girls do at school-age level (pre-k ratio is 1:1)
- Stuttering is “caused” by a number of factors
  - Genetics, Anatomy and Physiology, Environment, Temperament, Linguistic and Motor Factors, etc.
- Pre-school children can “outgrow” disfluency, not stuttering
- We can identify risk factors for young children, but we do not have reliable predictors
- About 1% of adults stutter
Prevalence

• Prevalence relates to how widespread a disorder is in the current population
• Approximately 1% of the adult population stutters
Incidence

• Number of people who stuttered at some point in their lives

• This is estimated to be approximately 5%

• What does the higher level of incidence tell us?
Age of Onset

- Stuttering typically develops between the ages of 2-5
- Initially, there is often great fluctuation of fluency in children, meaning that parents may have difficulty determining if an evaluation is needed
- Children who develop stuttering later are at great risk for chronic stuttering
The ABC’s

• Affective: Feelings, attitudes, emotions
• Behavioral: Actions (Avoidance, tension, struggle); Stuttering
• Cognitive: Thought-processes, self-evaluation
Types of Stuttering

• Repetitions
  – Sound/Syllable
  – Word
  – Phrase
• Prolongations
• Blocks
• Interjections
• Revisions
Theoretical Background

• Early theories of stuttering were based on:
  – Oral-erotic gratification
  – Psychotic Disorder
  – Tic Disorder
  – Laryngeal Spasms
  – Mini Convulsions
  – Perseverative Motor Response
  – Repressed Hostility
Current Theories

• Most theories today suggest a complex interaction between linguistic development and motoric production skills, combined with the influences of the child’s personality and multiple influences of the child’s social and communicative environment.
Why Do People Stutter?
Genetics: Role in Stuttering

• We know that there is a genetic component of stuttering. We do not yet know enough to know exactly what specific genes are consistently altered or if there is a genetic component for everyone
Clinical Implications

• Genetic implications should be discussed
• May ease the burden for some people who think they have caused stuttering
• May increase feelings of guilt for some if their family history is positive for stuttering
• Discussion on genetics has the potential to alter viewpoint on stuttering from a disorder of emotion to a “medical” disorder
• Be aware of family history and understand that it is a powerful risk factor for young children who stutter
Clinical Case

• A 4 y.o. presents with a strong family history of stuttering on mother’s side. Mother is very emotional and worried that her genes have caused her child to stutter
  – How do you handle this situation?
Neurophysiology

• Adult studies have found:
  – Reduced or abnormal activity in the auditory association areas
  – Increased activity in the right frontal and left cerebellar regions
  – Abnormal timing between primary motor and premotor regions in left hemisphere
  – Increased activity in the left putamen, ventral thalamus, and inferior anterior cingulate
Clinical Implications

• Neurophysiology also should be routinely discussed, not because we know for sure if that particular child has a certain neurological profile, but to help educate people on causes of stuttering

• This can really help families and PWS to see that stuttering is a physiological disorder, not emotional, or voluntary
Clinical Case

• A parent of 3 y.o. you are evaluating is convinced that the child must have a neurological disorder because their stuttering started abruptly. Parent states “Everything was fine and one morning he just woke up and couldn’t get a word out.”
Environment

• Stuttering tends not to be any more prevalent in children who grow up in abusive or neglectful homes

• While environment likely does not cause a child to start stuttering, it can have a significant impact on the reactions
  – Allergies analogy
Creating a Positive Environment

- Modeling both targeted speech patterns AND positive reactions to stuttering
- Reducing demands
- Reducing time pressure
- Focus on content, not just manner
- Turn-taking
- Let go of perfection!
Clinical Case

• A parent states that they are concerned because their child is around another boy who stutters are preschool. Prior to this, their child was not stuttering. They are concerned that their child is learning stuttering from the other child at school.
Temperament

• Again, while likely not a cause of stuttering, a child’s personality can play a role in how he responds to stuttering
  – Perfectionism
  – High sensitivity
  – Intense personality
  – Competitive
  – Reacts strongly
Preschool Child: Evaluation

• Purpose: To determine IF the child needs treatment. Is he likely to recover without treatment?
Parent Interview

• How long has child been stuttering?
• Has stuttering changed over time?
• What types of stuttering is the child exhibiting?
• How much is the child stuttering? Is it improving or getting worse?
• Does the child have any tension when stuttering?
• Does the child seem concerned?
• How are others reacting?
• Is there a family history of stuttering?
• Does the child have any other speech/language issues?
More Parent Interview

• Are there any other medical concerns?
• How does the child interact with others? Are his interactions impacted on by his stuttering?
• Is the child in preschool/daycare?
• Who else is involved in the child’s care on a regular basis?
Obtaining Speech Samples

• Have the child begin the assessment by playing with parents for a period of time
  – Examine the child’s fluency (disfluency count)
  – Examine the parents’ interactions

• Clinician interacts with the child
  – Try to gauge fluency in various communication contexts (less pressure vs. more pressure)
  – Begin to determine the child’s awareness and response to his stuttering
Other Factors to Consider

• May need to assess other speech/language areas

• Compare fluency during the assessment with what parents usually see at home
Making Sound Clinical Decisions

• Need to evaluate several factors:
  – Family History, gender, other speech/language skills, time since onset, reactions, overall communication
  – Types of disfluencies, physical tension, secondary behaviors
Options for Treatment

• May begin treatment with 6-session parent/child treatment program
  – More sessions may be recommended
• May monitor fluency over 3 more months and re-evaluate
Case Study:

• CASE STUDY: Jack is a 3 y.o. child who is exhibiting some speech disfluencies. You see him for an evaluation and have the following results:
  – Disfluency rate = 6%
  – No physical tension or secondary behaviors
  – Jack’s father stutters
  – Jack has been stuttering for 9 months
  – Jack is a male
  – Jack’s parents (particularly his father) are very worried that Jack will stutter long-term

• Would you recommend treatment for this child? Why or Why not?
Setting the Stage for Treatment

• Begin the process of individualizing the treatment plan for the child
• Begin educating and counseling the parents on stuttering
• Help parents identify resources for information (National Stuttering Association, Stuttering Foundation of America, Stuttering Center of Western PA)
Goals of Treatment

• The overall goal of treatment for preschool children who stutter is to eliminate stuttering while supporting the child’s language development.

• This treatment program focuses on one component of this overall goal... *parental facilitation of the child’s fluency* in real-world situations.
What is Indirect Treatment?

• Involves making changes in environment, rather than making any changes to the child’s speech
• Stuttering is not talked about with the child
• Very popular through the 1980’s, especially when diagnosogenic theory was thought to be true
Does it Work?

• Despite decades of use, there is **no** published data to support the use of **only** indirect treatment with young children who stutter!

• This doesn’t mean that it is not effective, but when there is no data, the pendulum often...swings...to....
Direct Treatment for Everyone?

• Direct treatment involves more specific activities involving the child that target improving fluency or changing stuttering.

• With the data compiled by the Lidcombe Program, direct treatment has become more popular in the last 2 decades, but many of these approaches are *operant*, not direct treatment.
Time to Choose Sides...

• The debate between those who support indirect treatment and those that support direct treatment has been intense...but is it really a necessary debate?
So Many Choices....

• Indirect
  – Child is not aware of, or frustrated by, his stuttering
  – Child exhibits tension free stuttering without secondary behaviors

• Direct
  – Child is aware of, and/or frustrated by, his stuttering
  – Child exhibits physical tension or secondary behaviors associated with his stuttering
Common Misconceptions

• Parents misperceive that “Direct” means that they are not actively involved in the treatment.

• Parents incorrectly think that they may not need education and counseling in direct treatment.
So, How Do We Treat These Kids?

- Begin with short-term indirect treatment
- Progress to direct treatment if needed
Parent/Child Treatment Program

• 6 sessions of parent training once per week for children ages 2 through 6

• Depending on progress:
  1. Monitor fluency over 3 more months and re-evaluate
  2. Begin direct treatment
Rationale for Parent Training

• Presents an alternative to “treatment / no treatment” binary options
  – Useful for children who may meet some of the risk factors for stuttering
  – Allows access to the child over a period of several weeks
  – May be used as sole form of treatment, or beginning stage of more direct treatment

• Program is minimal in terms of cost and clinician time

• All children may not need to advance to direct treatment
General Structure of Treatment

• Treatment consists of:
  – **Two parent-child training sessions** for parental counseling and overview of treatment
  – **Four parent-child modeling sessions** when parents are taught modifications

• Combines aspects of both indirect and direct treatment methods
  – Treatment plans are highly individualized
Goal for Session 1: “Stuttering 101”

- What is stuttering? (discuss theories and causes, teach about different types of disfluencies, answer parent’s questions, give literature)
- Provide an overview of the treatment process and outlook for the future
- Help parents gain an understanding of their role in treatment
- Parents complete Stressor Inventory
“Bucket” Analogy

Factors

- Factors interact
- Cannot distinguish influence of individual factors once they are in the bucket
Home Charting

• Increase parents’ awareness of
  – Situational factors that affect fluency
  – Their reactions to their child’s stuttering

• Helps parents focus their energy on helping the child rather than worrying

• Gives opportunity to assess parents’ commitment to treatment early in the therapeutic process
Goals for Session # 2

• Additional opportunity for counseling to address parents’ concerns
• Further explore interpersonal stressors (when applicable)
• Begin the process of modifying communicative stressors
• Introduce next phase of treatment: parent/child modeling
Fluency Enhancing Strategies

• Reducing parents’ communication rates
• Reducing time pressures
• Reducing demand for talking
• Providing supportive communicative environment
• Addressing negative reactions
Wireless Microphone System
Goals for Session # 3

• Train parents to use **Easy Talking**
  – Slower than parents’ habitual rate, but not *too* slow, choppy, or robot-like
  – Introduce *phrased speech* as a preferred way to reduce speaking rate
  – Explain that the goal for the parents’ speaking rate is *somewhere in between* the rate they will practice in treatment and the rate they used before treatment
Tips for Session 3

• Explain that goal is *not* to use this reduced communication rate all the time, but to have it as a tool and use it *consistently* in intervals.

• Help parents understand the need to address time pressure.
Model and Practice

- Clinician models **Easy Talking** with the child while parents observe
- One parent interacts with child while receiving on-line feedback
- Second parent interacts with child while receiving on-line feedback
- Discuss observations and importance of reviewing videotape at home
Goals for Session 4

• Session has same structure as #3
  • Clinician models **Modified Questioning** with the child while parents observe
  • One parent interacts with child while receiving on-line feedback
  • Second parent interacts with child while receiving on-line feedback
• Discuss observations and importance of reviewing videotape at home
Modified Questioning

• I wonder...
• I think...
• I bet...
• I guess...
• Maybe...
• It looks like...
• Let’s see if...
• Why don’t we try...
Goals for Session 5

• Train parents to use **recasting/ rephrasing strategy**
  – Child can hear what he or she said in an easier, more relaxed way
  – Child knows that parents have heard what he or she said
  – Gives parents the opportunity to provide a good language/articulation model

• Session has same structure as #3, #4
Goals for Session 6

• Help parents incorporate all strategies into their interactions with child
  – Provide a summary of all techniques used in treatment thus far
  – Discuss need to follow through with techniques in home practice
  – Discuss plan for future treatment as necessary
Follow-Up

• Phone contacts to monitor progress
  – Parents’ use of strategies
  – Child’s response to strategies
  – Changes in child’s fluency

• Maximum 3 months before reassessment
  – Parents may opt for refresher sessions prior to three-month timeframe

• May move right into fluency group or individual therapy
How to Talk about Stuttering

• Each child will differ in how they “view” stuttering
• Some children may be more sensitive
• Maintain encouragement and reinforce their desire to communicate
• Avoid negative words (e.g., “That was a bad one. You are having a bad day.”)
Every Parent Should Know...

• Stuttering is highly variable at this stage
• Progress should be measured on many levels:
  – Number of disfluencies
  – Physical Tension
  – Avoidance
  – More prolonged periods of disfluency
  – Stuttering becoming more situation-specific
More Direct Treatment

• Teaching “Turtle Talk”
  – Comparisons to “Rabbit, “Kangaroo,” “Snake”

• Hard vs. Easy “Bumps”
  – Targets physical tension

• Easy Starts
Case Study Breakout 2

• You are seeing Alex (age 5) for treatment. Alex has gone through the parent training program and it is now time for more direct treatment. You have the following info:
  – Parents have adapted well to strategies and are using them.
  – There is still a lot of competition for talking time, particularly with his sister, Mallory.
  – Alex continues to exhibit rapid rate of speech.
  – Significant physical tension is noted during disfluencies, along with some negative reactions.

• What is your treatment plan for Alex and what goals would you set?
Purpose of School-Age Assessment

- For school-age and adolescent children, the main purpose of the evaluation is determining if the child is READY for treatment.
Assessment Procedures

• Many of the assessment procedures are the same as for Pre-K children, except:
  – Child needs to be interviewed to determine:
    • Child’s readiness for treatment
    • Any differences in parent/child beliefs and reports
    • Child’s previous experiences in treatment
    • Child’s emotional response to disfluency
    • Child’s ability to use fluency strategies
ABC Assessment

• Affective and Cognitive domains can be evaluated using indirect methods or OASES

• Behavioral
  – Disfluency Counts
  – Secondary behaviors
  – Types of stuttering

• Remember, the behavioral domain is the most variable—sometimes from situation to situation. It’s also the easiest to change.
Who Cares About Attitudes and Emotions?

- Stuttering may be associated with a variety of attitudes and emotions for school-age and adolescent children.
- Overcoming negative attitudes and emotions toward speaking should be one of the central goals in treatment.
Factors in Determining if Treatment is Indicated

• Does the child want treatment?
• What are the child’s expectations for treatment?
• Can the clinician give the child and parents what they want?
• What are the primary goals of the child and parents?
• Is the child ready to make changes?
**Case Study Breakout 3**

- **CASE STUDY:** Meredith is a 14 y.o. child who you are evaluating. You see her for an evaluation and have the following results:
  - Disfluency rate = 14%
  - Significant physical tension and secondary behaviors (eye-blinking and head-nodding)
  - Meredith’s mother and father want Meredith to be seen for treatment and would like her stuttering to be cured.
  - Meredith does not want to be seen for treatment and thinks that therapy will be “boring.”
  - You find that Meredith avoids speaking situations and activities because of her stuttering.
  - After some counseling, Meredith agrees that you might not be that lame after all, and admits she might need help.

- Would you recommend treatment for this child? Why or Why not? If so, what would you tell Meredith and her parents that the goals are for treatment?
Introducing the Treatment Process

• Child and Parents need to be made aware of several things early on:
  – Stuttering will likely not be cured
  – Goals are to reduce stuttering, reduce tension, increase knowledge of stuttering, increase communication skills, reduce negative reactions to stuttering, help child educate others
  – Parents will need to not only focus on fluency, but many other factors (Help them learn the ABCs)
Measuring Goals

• Progress is not measured only in terms of number of disfluencies
  – Write goals that reflect the entire disorder

• Children may be relieved, but parents may need help coming to terms with all objectives and goals of treatment
  – Acceptance that stuttering will not simply disappear
Common Misconceptions

• Only number of disfluencies can be measured
• Reduction of disfluencies is the only goal
• Criteria used in articulation/phonology can be applied to stuttering (80% fluent speech)
• Affective responses will improve on their own, as the child’s fluency improves
Appropriate Goals

• Goals should address all aspects of the disorder, not just the number of disfluencies

• Goals should be geared toward increasing the overall communication skills of the person who stutters
  – Is it better to speak freely and stutter or avoid situations/words that may be problematic?

• Target the “quantity” AND “quality” of stuttering

• Goals should be individualized
Goals to Address Education

• Children need to be educated about stuttering (Empowerment)
• Education helps the child deal with stuttering long-term rather than getting a “quick fix”
• Helps the child teach others, such as their peers, about stuttering
Sample Goals-Education

• Johnny will increase his knowledge about stuttering by passing 3 quizzes on basic stuttering facts.
• Johnny will educate 2 friends about his stuttering treatment techniques.
• Johnny will give a presentation to his family members, peers, or teachers on stuttering.
• Johnny will participate in periodic stuttering trivia contests that are held with other children who stutter.
• Johnny will be able to identify and explain the process of producing speech and the anatomical structures involved in this process through use of drawings and other illustrations.
Goals to Address “Quality” of Stuttering

• These goals should target decreased physical tension during stuttering
• Kids can learn that they sometimes can’t control “if” they stutter, but they can control “how” they stutter
• Goals here should also target reduction of secondary behaviors
• These are often stuttering modification techniques
Sample Goals-Quality of Stuttering

• Johnny will demonstrate the ability to reduce physical tension during stuttering using the “easing out” technique, for 50% of disfluencies during various tasks.
• Johnny will use cancellation and pull-out techniques for 75% of disfluencies in a structured conversational task.
• Johnny will be able to correctly identify location of physical tension during 80% of stuttering episodes in a structured task.
• Johnny will decrease the use of any secondary behaviors associated with his stuttering to less than 10% of disfluencies.
Goals to Address “Quantity” of Stuttering

- These goals are speech modification techniques
- They target reduction of the number of disfluencies
- Important to note that “quantity” and “quality” are not exclusive goals—one often ties in with the other
- Goals should be viewed in terms of reduction, not how often children can speak fluently
Sample Goals-Quantity of Stuttering

• Johnny will demonstrate the ability to reduce the number of disfluencies in his speech by using easy starts 85% of the time in a structured conversation.
• Johnny will decrease the number of disfluencies in a structured conversational task by 15%.
• Johnny will demonstrate the ability to reduce the number of disfluencies in his speech by reducing rate of communication by 20%.
Goals for Targeting Overall Communication

- These are the most important goals because they target communication
- Helping the child become a more effective communicator is the primary goal of treatment
- Goals should heavily target avoidance or negative reactions to stuttering
Sample Goals-Overall Communication

• Johnny will decrease avoidance behaviors associated with his stuttering by entering 3 specific situations where he previously avoided stuttering.
• Johnny will demonstrate desensitization to stuttering by using 5 pseudostutters during a conversation in the classroom.
• Johnny will increase participation in educational and social situations, as noted on a weekly basis by his parents and teachers.
• Johnny will use correct posture and eye contact 85% of the time in conversational speech with the clinician.
Targeting Education

• Education leads to empowerment
• Helps children educate others and takes the “mystery” out of stuttering
  – Identifying and drawing speech structures
  – Discussing what happens when you stutter
  – Types of stuttering
  – Famous People who Stutter
  – Stuttering Facts—TRIVIA!
Targeting Reduced Tension / Secondary Behaviors

• Tension and secondary behaviors are a learned reaction. They often result from negative reactions toward stuttering
  – Desensitization
  – Stuttering Modification
  – Regaining control
Targeting Increased Fluency

• Don’t place too many of your eggs in this basket—it can be the most variable target
• RELAPSE is not really a word
• Toolbox
  – Speech Modification
Targeting Negative Reactions / Teasing

• Desensitization and education are critical
• Role-playing
• Opportunity to face situations that cause fear
Breakout

• Practice all speech modification and stuttering modification techniques
The Great Debate

• Have your students participate in debates with their peers--or with you
• You can pretend that you are debating with the child to see who would make a better Class President of their school
The “winner” of the debate is decided by a points system, which rewards one point for each of the following:

- appropriate eye contact
- speech modification or stuttering modification strategies (e.g., easy starts, pausing and phrasing, or even voluntary stuttering)
- the content of the response.
• Each participant in the debate is given their own turn to answer questions. This gives them a chance to talk without being interrupted. In addition to allowing the child to work on several objectives in a natural context, this activity also promotes an awareness of time pressure and turn-taking.
Pick Your Team

- Children pick five to six players from professional sports teams that they want to include on their team.
- They get to select their team name and make uniforms.
- Following the selection of players, the child is told to pretend that each person on his team now stutters.
• The child must come up with a list of team “rules” to facilitate communication on a team of players who stutter

• Helps children verbalize their beliefs about stuttering

• Helps them learn appropriate behavior when interacting with those who stutter
Sample Team Rules

• Don’t tease others who are stuttering
• If someone is teasing you, tell a coach
• Use your speech tools
• Maintain eye contact
• Say what you want, even if you stutter
• Have team meetings to learn about stuttering
• Help people on the team if they are being teased by someone else
Stuttering Football

- Helps children learn the facts about stuttering
- Children can play against others who stutter or against their parents
• Each player starts at the goal line and tries to make it 100 yards to the other end zone to score.
• Each person takes turns selecting the number of yards they want to go for.
• The higher number of yards, the harder the question they are asked by their opponents!
• If they get the question right, they get to move up that many yards
• If they get the question wrong, they do not advance and the other team gets their turn!
• You can use this activity with a group of kids by dividing them into teams
• They can discuss the questions they will ask (and determine how much each question is worth)