Comprehensive Evaluation of Stuttering

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I. Purpose

A. To provide an overview of the **goals** and **procedures** of assessment for children and adults who stutter
   1. To discuss factors that may indicate an increased ***risk*** for chronic stuttering in early childhood
   2. To discuss factors contributing to an individual's ***readiness*** for treatment across the lifespan

B. To explore the links between assessment and goal-setting to ensure that each client receives **comprehensive, individualized treatment**

II. Where Do We Start? *What is the goal of assessment?*

A. The goals of the diagnostic evaluation are to…
   1. …determine whether a person should be enrolled in treatment for a given condition…
   2. …plan the nature of that treatment…

B. Age Matters! For stuttering, the answers to these questions (whether a person should be enrolled in therapy and what the nature of that therapy should be) differ depending upon the person's **age**!
   1. Preschool children and older individuals differ in terms of their **risk** for developing chronic stuttering and the **role** they will play in treatment

C. The specific goals of assessment for preschool children are **different** from the specific goals of assessment for the school-age child, adolescents, and adults (Some of the procedures may be the same, but the reason we apply those procedures differs.)

III. *How Do We Know If A Person Is Actually Stuttering?*

A. Regardless of age, the first question we need to answer is *whether the person is actually stuttering*
   1. To answer this, we need a definition of stuttering so we know what to look for
   2. Numerous definitions have been offered over the years, and this has contributed to clinicians' confusion about the diagnosis and treatment of the disorder

B. What Is Stuttering? It can be defined as both a speech behavior and as a speech disorder
   1. **Behavior:** A specific type of disruption in the forward flow of speech ("speech disfluency")
   2. **Disorder:** A *communication* problem typically (but not always) characterized by the production of certain types of speech disfluencies
   3. People can produce *disfluencies* without *stuttering* and without having a *disorder* (Indeed, all people are disfluent to some extent)

C. What Are Stuttering Behaviors?!?

1. "Stuttering" typically refers to **certain types** of speech disfluencies (e.g., sound or syllable repetitions, prolongations, blocks)
   a) Typical" or "non-stuttered" disfluencies
      - Phrase Repetitions: "I want- I want that"
      - Interjections "I want…uh…that"
      - Revisions "I want- I *need* that"
   b) Atypical or "stuttered" speech disfluencies
      - Part-word repetitions "I w-w-want that"
      - Whole word repetitions "I-I-I-I want that"
      - Prolongations "I wwwwwant that"
      - Blocks "I w----ant that"
2. Stuttering behaviors may also be accompanied by tension or struggle, but not always
3. Stuttering is often accompanied by a speaker's feeling that he cannot continue speaking even though he knows exactly what he wants to say
   a) Often referred to as a feeling of a ***"loss of control"*** (Perkins, 1990)
   b) We must recognize the speaker's perception when trying to identify stuttered events

D. So…Is This Pearson Stuttering?

1. It is relatively easy to determine whether a young child is exhibiting stuttering *behaviors*. We do this by counting the disfluencies that the child exhibits. We also **gather information from parents** and others about those behaviors in other settings.
2. Note that for older speakers, "what you see is not always what you get…"

IV. How do we count the stuttering behaviors?

A. There are several basic measures of disfluencies:

1. **Frequency of Disfluencies**. How often disfluencies occur in a sample; Typically represented as the percentage (out of 100) of disfluent words or syllables.
2. **Types of Disfluencies**. Helps distinguish "normal" interruptions from "stuttered" interruptions; Provides indication of the development of the disorder (especially in preschool children)
3. **Duration of Disfluencies**. The number of seconds a repetition, prolongation, or block lasts or the number of iterations in a repetition (e.g., "li-li-li-like" contains 3 stuttered and 1 fluent iterations)
4. **Severity of Disfluencies**. Describes the physical behaviors during stuttering (e.g., tension, struggle).
   a) Severity measures combine several aspects of the behavior into a single number or score. In doing so, you lose some of the detail in the data you collected, but severity ratings are widely used.
   b) Often obtained through measures such as the *Stuttering Severity Instrument* (SSI; Riley, 2009) or the (*Test of Childhood* Stuttering (TOCS; Gillam, Logan, & Pearson, 2009).

B. Real-Time Analysis: ***Quickly*** and reliably obtain the frequency and types of disfluencies

1. Watch a speech sample (live or from a videotape) and keep track of whether each word or syllable was produced fluently or disfluently. Count the disfluencies to obtain your data.
   a) Make sure your sample is large enough to be representative of the client's speech

C. Count Sheet: To facilitate data collection, you can use a **count sheet** (Conture, 2001; Yaruss, 1998)
   1. The sheet contains a series of blank lines representing the words or syllables produced by the client
   2. A tally section is also included to facilitate tabulation of different types of disfluencies
   3. Count sheets can be designed to follow the coding conventions used in any clinic)
      a) Use a dot or a dash to indicate a fluent word; Use abbreviations to identify the types of disfluencies that occur (using one of the various categorization schemes that were mentioned)
      b) This takes practice, but ultimately you will be able to identify the types of disfluencies (To begin, you can mark disfluencies with an "X" (or use "S" for stuttered and "N" for normal))
   4. The biggest concern about real-time analysis is "keeping up" with the child
      a) Children can speak quite quickly, and real-time analysis requires rapid judgments
      b) Still, stuttering reduces overall speaking rate and this actually makes it easier for you to keep up once you get good at making stuttering judgments
   5. For more information: www.MedBridgeEducation.com/scott-yaruss

D. With practice, you can learn to make reliable judgments of the overall frequency of disfluencies in a sample. Still, it is not entirely straightforward because ***stuttering Varies***
   1. We cannot simply base our decisions on measures taken in just one speaking situation
   2. We also need to consider different **situations**, different **tasks**, and reports from the speaker about the **variability** of stuttering
   3. Sometimes, you may not see people actually stutter during the evaluation, but that does not mean that they are not stuttering (This is particularly true for "covert" stuttering)

V. What's the purpose of the evaluation?

A. For very young children, the question "***Is this child stuttering?***" isn't as important as you think…
   1. The parent would not have brought the child in if she hadn't had some reason to be concerned about the child's speech, AND preschool children can still recover even if they stutter severely *(and…children who stutter mildly may still be at serious risk!)*
   2. **Initial Severity Does Not Predict Chronicity**

B. The more important question is…**Is This Child Likely to Continue Stuttering?** because ***most*** **Preschool Children Recover from Stuttering**

   1. Studies show that as many as 75-80% of preschool children who stutter will recover
      a) The majority of these children will recover within the first 6 to 12 months
      b) Recovery is still observed up to 2, 3, and even 4 years post-onset
   2. This recovery can be *aided* (with the help of treatment) or *unaided* (without any intervention at all)
   3. This is good because we want children to recover, but it's bad because it makes our job harder (There is no single factor that we can point to that absolutely differentiates children who will recover from children who will persist)

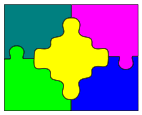
C. For very young children who stutter, the primary goal of the diagnostic evaluation is *to determine whether the child is at risk for continuing to stutter*
   1. If the child is at **high risk**, then treatment is definitely indicated
   2. If the child is at **low risk**, then we may not need to be as urgent in our intervention, though I rarely send families home empty-handed!

VI. Components of the Evaluation for Very Young Children

A. Recent research has sought to determine what **risk factors** make it more or less likely that a child will recover from stuttering. These risk factors can be divided into two broad categories:

1. What's going on *within the child?* (***Etiologic*** factors that create disfluencies
2. What's going on *within the child's environment?* (***Contributing*** factors that exacerbate disfluencies)

B. Looking at Etiology -- Stuttering arises due to an interaction among several factors that are affected by both the child's **genes** and the child's **environment**



1. ***Language Skills*** for formulating messages
2. ***Motor Skills*** for producing rapid and precise speech
3. ***Temperament*** for reacting to disruptions in speech
4. *An interaction among factors contributes to the likelihood that the child will produce speech disfluencies and react to them*

C. What Risk Factors contribute to the likelihood that a child will continue stuttering?

1. Family history of stuttering
2. Preponderance of "stuttered" types of disfluencies
3. Time since onset > X months
4. Mismatch between the child's language and motor skills
5. Child is aware of or concerned about disfluencies
6. Child is highly reactive to mistakes or disfluencies
7. Parental reactions are negative or fearful
8. Child has concomitant speech/language disorders
9. Others? Research is ongoing…

D. How does all this relate to the diagnostic evaluation? To gain an full understanding of these risk factors, our evaluation will include:

1. **Parent Interview**: Family history, confirmation of behaviors in other settings, temperament, development of stuttering
2. **Observation of Child**: Surface behaviors of stuttering in clinical setting, reactivity and regulation
3. **Speech/Language/Motor/Temperament Testing**: Language/Motor Mismatch, Reactive Temperament, Presence of Concomitant Disorders

E. To Treat or Not To Treat…There is (still) a *significant* debate about when to recommend therapy for preschool children

1. Many preschoolers recover on their own, so some prefer to "wait and see."
   a) I am not comfortable with this because I don't want children to fall through the cracks
2. Because there is no simple way to determine who will "outgrow" stuttering…
   a) I prefer to help families that want help, even if it seems that the stuttering might ultimately resolve
   b) Of course, this does not mean that all children receive full, formal therapy…

F. Summary of the Evaluation. When evaluating very young children who stutter, remember…

1. Determining whether they stutter is *easy* (and not particularly interesting); determining whether they are likely to *continue* stuttering is important, for that is what helps you decide if therapy is indicated
2. The evaluation is based on finding **risk factors**
   a) **Etiologic factors** (within the child)
   b) **Contributing factors** (within the environment)

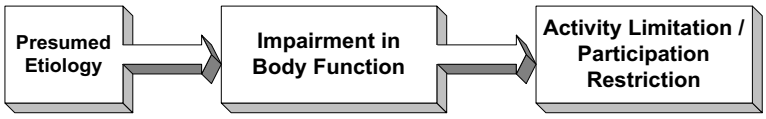
VII. What about Older Children, Adolescents, and Adults

A. Older Speakers Have Different Needs.

1. For older speakers who stutter, the question of whether or not they will recover from stuttering is no longer very interesting. (They didn't.)
2. Now, the assessment must be based on a more comprehensive understanding of the **speaker's experience of stuttering**.
3. Most Important Fact: "Stuttering is more than just stuttering"

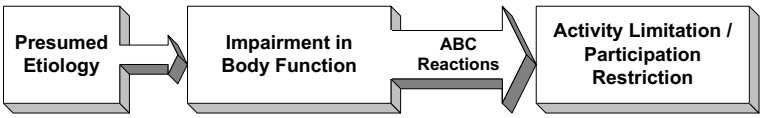
B. *Int'l Classification of Functioning, Disability & Health* (World Health Organization, ICF 2001).

1. A classification systems for understanding the broad nature of the stuttering disorder
   a) **Body Function & Structure**: major physiological/psychological functions of the body
   b) **Activities and Participation**: major areas of people's daily lives
2. *Impairments* in Body Function and Structure can lead to limitations in a person's ability to perform activities or restrictions in the person's ability to participate in life



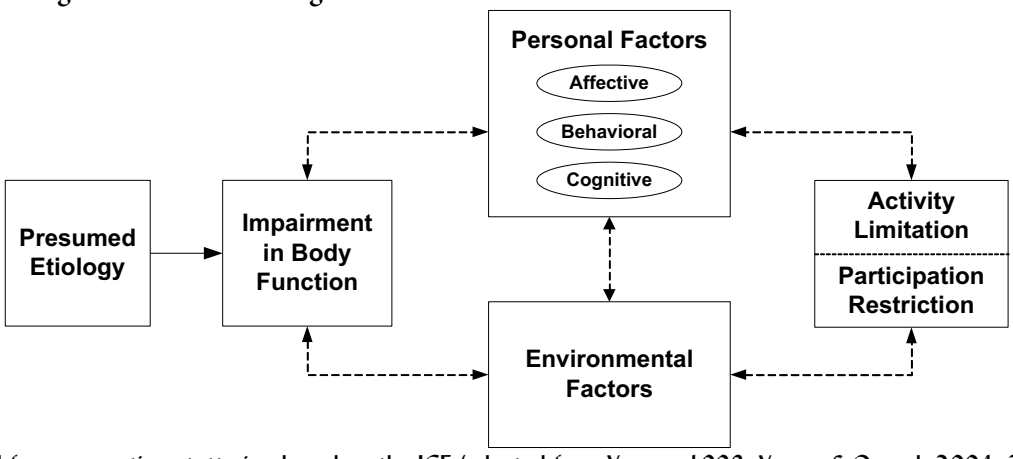
C. The Role of **Reactions**

1. In stuttering, the link between **impairment** and the resulting negative consequences is largely mediated by the speaker's ***reactions*** to stuttering
   a) **Affective**: Feelings, attitudes, emotions
   b) **Behavioral**: Actions (Avoidance, tension, struggle)
   c) **Cognitive**: Thought-processes, self-evaluation



   d) Finally, the reactions of those in the speaker's ***environment*** also play an important role

D. Considering the *Entire* Stuttering Disorder

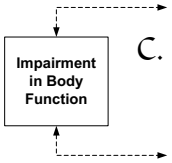


Model for representing stuttering based on the ICF (adapted from Yaruss, 1998; Yaruss & Quesal, 2004, 2006)

VIII. Evaluating the *Entire* Disorder

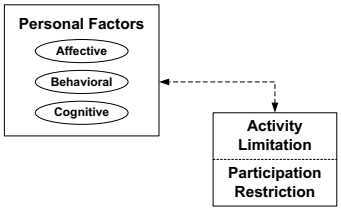
A. Since stuttering is so broad-based, we must assess several levels during an evaluation
   1. **Etiology**: speech and language development, oral-motor development, and temperament
   2. **Impairment**: Observable characteristics of stuttering
   3. **Child's Reactions**: Affective, Behavioral, Cognitive
   4. **Environmental Reactions**: Communication model / Reactions of those in the child's environment
   5. **Activity Limitation/Participation Restriction**: Impact of stuttering on child's life

B. Evaluating Speech, Language, Oral-Motor Development and Temperament
   1. For Younger Children: Multiple factors contribute to the *development* of stuttering, so we examine them to estimate the child's risk for continuing to stutter
   2. For Older Children, Adolescents, and Adults: These factors can contribute to the *maintenance* of stuttering and negatively impact communication
   3. ALSO…children who stutter are at greater risk for concomitant communication disorders that may need to be addressed in treatment



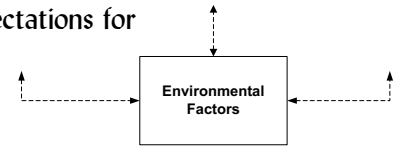
C. Evaluating Observable Characteristics
   1. Common measures include **frequency** of disfluencies, **type** of disfluency, & **severity**
   2. Stuttering behaviors are *highly* variable
      a) People may not <u>stutter at all</u> in some situations b) Collect speech samples in multiple situations
   3. **What you see is not always what you get**! As children grow older, and as stuttering progresses, the observable characteristics tell less about the child's experience of the disorder

D. Evaluating People's Reactions / Impact of Stuttering



   1. For years, the field has had few instruments for assessing the broader consequences of stuttering
      a) *Communication attitudes* scales are available for adults, and some are also available for school-age children
      b) Although these tell us something about the speaker's reactions to stuttering, they do not tell us about the *overall impact* of stuttering on the child's life
   2. These can be documented through portfolio-based assessment, observation, and interview (Fortunately, IDEA (starting with '97 Part B) allows us to do this!)

E. Evaluating Environmental Factors
   1. For YOUNGER children…The speech/language model contributes to the demands placed on the child to communicate, so we evaluate these demands to see if changes can be made that may facilitate the child's fluency (*The environment does not CAUSE stuttering!*)
   2. For OLDER children adolescents, and adults, we are interested in the expectations for achieving "perfect" fluency, whether the speaker is being bullied, what specific situations make communication harder for the speaker at school/work or social situations



F. Protocols for Assessing Reactions, Environment, and Adverse Impact
   1. The *Behavioral Assessment Battery* (BAB; Brutten & Vanryckeghem, 2006) assesses communication attitudes and speech behaviors in different situations.

2. The *Overall Assessment of the Speaker's Experience of Stuttering* (OASES; Yaruss, Coleman, & Quesal, in prep) follows the ICF model to assess the <u>entire</u> disorder.
   a) A comprehensive tool for measuring the overall impact of stuttering (not just surface behavior).
   b) It includes sections for assessing ABC reactions, as well as functional communication and quality of life

G. *Overall Assessment of the Speaker's Experience of Stuttering* (OASES; Yaruss and colleagues, 2016)
   1. A set of instruments for assessing the overall impact of stuttering on the speaker's life
      a) General Information about Stuttering
      b) Affective, Behavioral, and Cognitive <u>Reactions</u>
      c) <u>Communication</u> in Daily Situations
      d) Impact of Stuttering on Overall <u>Quality of Life</u>
   2. 3 age groups: OASES-S for school-age children ages 7-12 and OASES-T for teenagers ages 13-17; OASES-A for adults ages 18 and above
   3. Results in an **impact** score that tells how much stuttering is affecting the person's life
   4. Available from Stuttering Therapy Resources at *www.StutteringTherapyResources.com*

Making Diagnostic Decisions

1. For YOUNGER children…Recommendation is based *mostly* on an estimation of the child's risk for continuing to stutter
2. For OLDER children, adolescents, and adults…The mere fact that a person stutters does not mean he necessarily needs to be treatment *at that time*
   a) Our recommendation for treatment should be based on the child's ***readiness***
   b) Is stuttering affecting his life at present? Are there negative educational, social, vocational consequences?

I. Who Needs Treatment? Of course, treatment is a good thing!
   1. He could probably benefit from treatment
   2. The parents *want him* to be in treatment
   3. BUT, that doesn't mean that he's ready to *benefit* from treatment

J. Have you ever had a child in treatment *forever?*
   1. What does he learn from that? Nothing good. 2. He's a failure… Treatment is useless…

K. Timing is Everything
   1. We want to help the client *make progress* in improving his speech and communication
      a) There are some times in a person's life when he's just not ready to make progress
   2. Would he rather stutter? No, but:
      a) Maybe he doesn't experience negative impact at that point in his life.
      b) Maybe modifying his speech is just too hard.
      c) Maybe he's in denial. You can't force somebody out of denial no matter how hard you try!

L. Readiness is the Key (The client will make the most progress when he is *ready* to change)
   1. What makes him ready?
      a) When the negative impact of stuttering is great. (That is, when the pain of staying the same is high.)
      b) When he sees that he <u>*can*</u> make changes. (That is, when the pain of change is minimal.)
   2. To help with readiness, we will need to lay a solid foundation for the speaker's success
      a) We also need to help parents and others understand the value of providing treatment at the right time
      b) (to do this… we need to consider the entire disorder in treatment, not just evaluation)

IX. Summary of Diagnostic Goals for Older Children

A. When evaluating older speakers who stutter, remember, ***stuttering is more than just stuttering***

B. To evaluate the *entire* disorder, consider these questions

1. What etiological factors may contribute to stuttering? *(remember…stuttering is built in)*
2. What are the observable stuttering behaviors? *(remember…what you see is not always what you get)*
3. What are the speaker's (affective, behavioral, cognitive) reactions; other people's reactions (environmental factors) *(remember…reactions mediate the experience of negative impact)*
4. What is the overall impact of stuttering on the child's life (Social, educational, vocational activities) *(remember…the impact of stuttering is the key to motivation)*

X. Overall summary

A. When evaluating people who stutter, remember the specific goals of the evaluation

1. For younger children, assess **risk factors** to determine the likelihood that the child will continue to stutter
   a) If the child is at high risk for continuing to stutter, recommend treatment; if not, monitor
2. For older speakers, assess **adverse impact** to determine the child's readiness for treatment
   a) If the speaker is experiencing adverse impact, he will be more ready for treatment; if not, help him get ready

Some of the Presenter's Recent Relevant Papers on Stuttering

Reardon-Reeves, N.A., & Yaruss, J.S. (2013). *School-Age stuttering therapy: A practical guide*. McKinney, TX: Stuttering Therapy Resources, Inc.

Yaruss, J.S. (1997). Clinical measurement of stuttering behaviors. *Contemporary Issues in Comm. Science & Dis., 24,* 33-44.

Yaruss, J.S. (1998). Describing the consequences of disorders: Stuttering and the International Classification of Impairments, Disabilities, and Handicaps. *Journal of Speech, Language, and Hearing Research, 49,* 249-257.

Yaruss, J.S. (1998). Real-time analysis of speech fluency: Procedures and reliability training. *American Journal of Speech-Language Pathology, 7(2),* 25-37.

Yaruss, J.S., & Quesal, R.W. (2004). Stuttering and the International Classification of Functioning, Disability, and Health (ICF): An update. *Journal of Communication Disorders, 37,* 35-52.

Yaruss, J.S., & Quesal, R.W. (2016). Overall *Assessment of the Speaker's Experience of Stuttering (OASES).* McKinney, TX: Stuttering Therapy Resources, Inc.

Yaruss, J.S., & Reardon-Reeves, N.A. (2017). *Early childhood stuttering therapy: A practical guide*. McKinney, TX: Stuttering Therapy Resources, Inc.

Other Helpful Resources and References

(Note: This is just a selection. There are *many* resources available to help clinicians improve their confidence in helping people who stutter)

Brutten, G., & Vanryckeghem, M., (2006). *The Behavior Assessment Battery for school-aged children who stutter.* San Diego, CA: Plural Publishers.

Gillam, R., Logan, K., & Pearson, N. (2009). *TOCS: Test of Childhood Stuttering*. Austin, TX: Pro-Ed.

Riley, G. (2009). *Stuttering Severity Instrument for Children and Adults* (4th ed.). Austin, TX: Pro-Ed.

