Working With Children Who Stutter
Accounting For Comorbid Disorders

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The Children's Hospital of Philadelphia
Center for Childhood Communication
What I hear

I'd love to try but I'm not sure if intervention would do any good. The stuttering is the least of her problems.

I am at a loss with a kid I just evaluated. He is 10 with diagnoses of anxiety, TS, and epilepsy in addition to severe stuttering. What should I do?

My son has Autism and stutters on the last word in the sentence. His therapists has never seen that before. Have you?

My 15 year old boy stutters with ADHD. He never remembers to use his speech techniques and he refuses to practice at home.
<table>
<thead>
<tr>
<th>Linked with Disfluencies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prader-Willi Syndrome</strong></td>
</tr>
<tr>
<td><strong>Down’s Syndrome</strong></td>
</tr>
<tr>
<td><strong>Expressive/receptive Language Disorder</strong></td>
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<tr>
<td><strong>Phonological Disorder</strong></td>
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<tr>
<td><strong>Asperger’s Syndrome</strong></td>
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<tr>
<td><strong>Intellectual Disability</strong></td>
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<tr>
<td><strong>Turner Syndrome</strong></td>
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<tr>
<td><strong>Auditory Processing</strong></td>
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<tr>
<td><strong>Attention Deficit - Hyperactivity Disorder</strong></td>
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<tr>
<td><strong>Fragile X</strong></td>
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<tr>
<td><strong>Neurofibromatosis</strong></td>
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<tr>
<td><strong>Autism Spectrum Disorder</strong></td>
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<tr>
<td><strong>Acquired Neurological Disorders</strong></td>
</tr>
<tr>
<td><strong>Prader-Willi Syndrome</strong></td>
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<tr>
<td><strong>Tourette Syndrome</strong></td>
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</tbody>
</table>
But our lady said it was stuttering...not fluency or disfluency!
# Differential Diagnosis

<table>
<thead>
<tr>
<th></th>
<th>Typical Disfluencies</th>
<th>Stuttering</th>
<th>Atypical Disfluencies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type of Behavior</strong></td>
<td>• Whole-word &amp; phrase reps</td>
<td>• Whole &amp; part word reps</td>
<td>• Whole or part word reps</td>
</tr>
<tr>
<td></td>
<td>• Sentence Revs.</td>
<td>• Prolongations</td>
<td>• Sound prolongations</td>
</tr>
<tr>
<td></td>
<td>• Interjections/Fillers</td>
<td>• Blocks</td>
<td>• Sound insertions</td>
</tr>
<tr>
<td><strong>Location of Behavior</strong></td>
<td>• Primarily between words</td>
<td>• Within words</td>
<td>• Medial or final position</td>
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<tr>
<td></td>
<td></td>
<td>• Typically initial position</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Tendency to cluster</td>
<td></td>
</tr>
<tr>
<td><strong>Frequency</strong></td>
<td>• &lt; 10% of Syllables</td>
<td>• &gt; 4% of syll.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• 2x as disfluent</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Noticed &gt;10%</td>
<td></td>
</tr>
<tr>
<td><strong>Duration</strong></td>
<td>• 1-2 Repetitions</td>
<td>• 3 &lt; Reps</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Truncated pauses between reps</td>
<td></td>
</tr>
<tr>
<td><strong>Reactions</strong></td>
<td>• Typically no reactions &amp; min. awareness</td>
<td>• Secondary behs</td>
<td>• Typically no reactions &amp; min. awareness</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Avoidances</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Fears/Anxiety</td>
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</tbody>
</table>
Clinical Questions

- What characteristics does the child present with that appear to be negatively impacting his ability or desire to communicate?
- How do these characteristics impact the therapy process?
- What can be done to minimize the impact?
Subclinical behaviors are detectable but not at the clinical level to warrant a diagnosis

- Not high enough to meet diagnostic criterion
- May still impact functioning
- May still need to be addressed
Increased Reactivity → Decreased Self-Regulation

- Less able to shift attention away from emotion-triggering stimuli
- Reduced ability to self-monitor
- Less efficient in attention regulation

← Less able to inhibit or adapt response style

← More impulsive and less attentive & focused

All linked to increased stuttering

Donaher, & Richels, 2012; Eggers et al., 2010; Eggers, DeNil, & Van den Bergh, 2010; Karrass et al. 2006; Alm, 2014; Conture et al., 2013
<table>
<thead>
<tr>
<th>Result in Disfluencies</th>
<th>Exacerbate Stuttering</th>
<th>Impact Fluency Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Whole-word reps</td>
<td>• Increased rate</td>
<td>• Struggles to retain information</td>
</tr>
<tr>
<td>• Phrase-reps</td>
<td>• Longer utterances</td>
<td>• Reduced ability to monitor &amp; appraise performance</td>
</tr>
<tr>
<td>• Revisions</td>
<td>• Impulsivity</td>
<td>• All/nothing thinking</td>
</tr>
<tr>
<td>• Fillers</td>
<td>• Inflexible thoughts</td>
<td>• Not following through</td>
</tr>
<tr>
<td>• Part word reps</td>
<td>• Social concerns</td>
<td>• Forgetful</td>
</tr>
<tr>
<td>• Prolongations</td>
<td>• High reactivity</td>
<td></td>
</tr>
<tr>
<td>• Blocks</td>
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</tr>
</tbody>
</table>
Problem solve ways to do things differently including modifying speaking or stuttering

Increase awareness of thoughts, feelings & behaviors leading up to, during & after the stuttering moment

Team learns from each other about speech production, stuttering & people who stutter

Evaluate performance, decide whether changes improved the ability or desire to communicate more effectively

Understand

Observe

Adjust

Appraise
Common Roadblocks - Attention

- Child does not appear to be listening or comprehending what is being said
- Child gets distracted from monitoring spontaneous performance
- Child appears disengaged
- Child forgets to do home assignments

Focus
✓ Attending
✓ Distractibility
✓ Memory
✓ Organization
✓ Listening
Accommodations - Attention

- Repeat directions/information and ask the child to repeat them back
- Start monitoring “externally to internally” and along a hierarchy
- Incorporate topics that are interesting & motivating to the client
- Require daily charting as part of the assignment
- Establish rules for parental reminders
Common Roadblocks - Behavioral

- Self-regulation
- Energy
- Emotionality
- Excessive talking
- Impulsivity
- Anxiety
- Impulse control

- Child struggles to sit still or remain in chair
- Child frequently interrupts others
- Child “won’t” use techniques
- Child is anxious about interacting with anyone
Accommodations - Behavioral

- Shorter work periods with breaks between
- Built in rewards to motivate
- Behavior contracts
- Focus on increasing communicative effectiveness with functional outcomes
- Discuss the difference between technique and skill
Technique
The way to perform a task

Skill
Proficiency of performing with minimum effort and maximum certainty that is developed through training or experience

Ability
An individual’s potential or capacity for acquiring a skill based on inherited, individual traits that underlie learning
Common Roadblocks - Cognitive

- Following directions
- Retention
- Planning
- Concentration
- Problem solving
- Inflexible thinking

- Child is not following the activity or appears unaware of what to do
- Inconsistent performance or quickly forgets things
- Child struggles with analyzing situations
Accommodations - Cognitive

- Clear & concise directions
- Use visual reminders
- Model, model, model
- Role play with analysis
- Clear and concrete goals
Identify specific characteristics that are concerning

Create a system to review and monitor performance and adjust as needed

Determine positive target behaviors based on identified concerns
Conclusions

• Concomitant issues can negatively impact one’s ability and/or desire to communicate effectively

• Disfluency patterns are common with various concomitant issues but that does not mean that stuttering is
  • Therapists must consider the nature of the disfluency to individualize intervention

• Subsets of CWS demonstrate elevated characteristics of inattention, impulse control and/or hyperactivity-impulsivity
  • Individual characteristics must be taken into account for treatment purposes
Thank You!

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