New Research Directions and Intervention Strategies with Children Who Stutter

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AVERAGE ONSET OF STUTTERING ~34 MOS.

Photo retrieved from:
http://www.cdc.gov/ncbddd/childdevelopment/positiveparenting/preschoolers.html
Stuttering Recovery

75% or more of children who begin to stutter will recover

Stuttering by Sex

Affects more males than females

Near Onset: 1.5 : 1
Childhood: 3 : 1
Adults: ~4 : 1
RECENT FINDINGS
in studies with children who stutter

CWS had reduced gray matter volume in both left and right IFG compared to CWNS (Beal et al., 2012).

Resting state and DTI analyses reveal regional white matter anomalies and attenuated connectivity in CWS in tracts interconnecting speech auditory-motor networks: IFG, PMC, M1, MTG/STG (Chang et al., 2013; 2015).

CWS show abnormal developmental trajectories of white matter tracts overlying IFG and in gray matter volume of left IFG (Beal et al., 2015; Chang et al., 2015).

Beal et al., 2012
Chang et al., 2015
To date, there are few functional neuroimaging studies in CWS.

Earlier functional neuroimaging studies were nearly all with AWS and relied upon less natural speaking tasks.

The goal of this research is to examine the activation of neural regions involved in speech production and implicated in the pathophysiology of stuttering using fNIRS.
A GENERAL INTRODUCTION TO OPTICAL IMAGING

- Optical changes accompany physiological states in the body
- Similar to fMRI, fNIRS provides an indirect measure of brain activity that relies upon brain hemodynamics.
- Neural activity produces changes in blood oxygenation, which can be detected with near-infrared light.
- Oxygenated Hb and Deoxygenated Hb hemoglobin are strong absorbers of NIR light.
HEMODYNAMIC RESPONSE FUNCTION (HRF)

- Increases in neural activity result in increased glucose and O$_2$ consumption.

- An initial deoxygenation of tissue is followed by increased regional cerebral blood flow (rCBF) to the area producing increased concentrations of oxyHb, and decreased concentrations of deoxyHb.

Gervain, et al., 2011
Data were recorded from 18 fNIRS channels. There were 9 channels over the left hemisphere and 9 channels over homologous right hemisphere regions.

CHANNEL ROIs

Channels 1-5 record over IFG, Channels 6-7 over STG, and Channels 8-9 over premotor cortex.
EXPERIMENT 1 PARTICIPANTS

16 CWS
- 7-11 years (mean = 9.1 years)
- 13 boys
- Diagnosed as CWS by SLP
- Severity determined with SSI-3

16 CWNS
- 7-11 years (mean = 9.2 years)
- 11 boys
- Right-handed
- Normal hearing
- English first and primary language
- Negative history for learning disabilities or other developmental disorders
- No medication considered to affect neural activity
- Refrain from caffeine
- Negative history of concussion or other significant head injury
- Pass sp/lang screeners
EXPERIMENT 1: HEMODYNAMIC RESULTS

We examined average concentrations in the 3-8 s post-stimulus onset window of oxyHb and deoxyHb.

For oxyHb for the Talk trials, the hemisphere, channel, and group main effects were not significant ($p > 0.05$).

- There was a significant hemisphere X channel X group interaction $F(5.9,123.90) = 4.6, p < 0.01$.

For deoxyHb, for the Talk trials, the hemisphere, channel, and group main effects were not significant ($p > 0.05$).

- There was a significant hemisphere X channel X group interaction $F(3.8,80.7) = 2.7, p =0.04$.

Average Oxy (±0.15 µM)

CONTROL
dConc (µM)

STUTT
dConc (µM)

STUTT vs CONTROL
t-map (p < 0.05)

EXPERIMENT 1: SUMMARY OF FINDINGS

- CWS and CWNS had distinctly different hemodynamic responses during speech production. These differences were most pronounced in left hemisphere channels.
- While CWNS produced canonical responses over L-dIFG and L-PMC, CWS exhibited deactivation in these same channels.
- Deactivation in the CWS could signify 1. Suppression or 2. Compensation.

- These findings extend the feasibility of using fNIRS to study cortical activity during speech and indicate its potential as a tool to examine perception/production deficits associated with other speech and language disorders.
EXPERIMENT 2: CAN FNIRS FEATURES BE USED TO CLASSIFY CWS AND CWNS?

Findings from Experiment 1 may indicate dysfunctional organization of speech planning and production processes associated with stuttering.

Using Machine Learning (ML) algorithms and feature extraction principles, can additional information from fNIRS signals (collected in Exp 1) classify CWS and CWNS?

What are the most critical features with the highest discriminative power?

Future direction is to discover novel neurophysiological biomarkers of stuttering in young children near onset

EXPERIMENT 2: RESULTS

Overall the most promising phase of the trial was “talk” and source was Oxy-Hb.

A feature set from left hemisphere channels 1-9 yielded highest accuracy.

Highest discriminating power from left hemisphere channels 1, 4, and 5

Accuracy = 87.5%

Correctly classified as either a CWS/CWNS

Incorrectly classified

CONFUSION MATRIX

SENSITIVITY 81%

CORRECTLY CLASSIFIED CWS

INCORRECTLY CLASSIFIED CWS

SPECIFICITY 94%

INCORRECTLY CLASSIFIED CWNS

CORRECTLY CLASSIFIED CWNS
NEUROSTIMULATION THERAPIES FOR STUTTERING

fNIRS, PET, and fMRI studies revealing hypoactivation in adults who stutter, provide theoretical rationale for neuronal stimulation therapies.

TMS-Transcranial magnetic stimulation uses magnetic pulses to produce current in nearby neurons

tDCS-Transcranial direct current stimulation increase/decrease cortical excitability through depolarization or hyperpolarization

PBM-Photobiomodulation uses red or near-infrared light to stimulate neurons. It has been used in Parkinson’s, Alzheimer’s, major depression, and stroke.
Shining light on the head:
Photobiomodulation for brain disorders

“Electric Jolt to the Brain Helps Stop Stutters!”

“Prepping my brain for lecture on Saturday with “LT.””

“HOPE Laser Institute Laser therapy helps children with learning disabilities. Hear testimonials from people with diabetes, depression, concussion…”
Sometimes I Stutter Video

I spend a lot of time alone.

I have trouble talking to other kids.

Other times the words come out bumpy and broken.

That’s why I like drawing.

It often makes me feel sad when I stutter or people tease me about the way I talk.

It’s the way you deal with it!
OBSERVABLE AND NON-OBSERVABLE

- I love working with people who stutter! My clients challenge me every session to change how I think and understand stuttering. They are the experts!

- Stuttering is a complex disorder which affects people in a variety of ways.
  - We can observe that people who stutter show disruptions in the flow of their speech (stuttering).
  - But, usually there are non-observable factors which influence our clients as well.

- Today we are going to think about a treatment approach for school-age children who stutter.
  - We will think about the observable and non-observable aspects of stuttering.
  - We will learn why these observable and non-observable aspects are important for a well-balanced therapy experience.
  - We will discuss strategies for addressing these aspects in therapy.
ABC OF STUTTERING

A – Affective Components: Feelings About Stuttering
• Ex. shame, fear, isolation, anxiety
• Ex. courage, perseverance, spontaneity

B – Behavioral Components: What Stuttering looks like, sounds like, feels like
• Ex. Sound repetitions, Blocks, Prolongations, Secondary Behaviors, Tension
• Ex. Effective strategies (tools that may sound like slides, pausing and phrasing, self-disclosure)

C – Cognitive Components: Thoughts and Attitudes about Stuttering
• Ex. “I can’t ____ because I stutter.” “People will think ______ if I stutter.”
• Ex. “I can communicate effectively.” “I manage stuttering well.”
STUTTERING ICEBERG

• Tip of the Iceberg:
  • Observable aspects of stuttering
  • Observable effects of stuttering
    • Ex. isolation, decreased communication
  • B – Behavior

• Below the Surface:
  • Non-observable aspects of stuttering
  • A – Affective
  • C – Cognitive

The relative size of these components can change depending on the individual!
## MODERATE STUTTERING

### Tip of the Iceberg
**Observable**

<table>
<thead>
<tr>
<th>B – Behavioral</th>
</tr>
</thead>
<tbody>
<tr>
<td>Moderate Dysfluencies</td>
</tr>
<tr>
<td>Tension</td>
</tr>
<tr>
<td>Secondary Behaviors</td>
</tr>
</tbody>
</table>

### Below the Surface
**Non-Observable**

<table>
<thead>
<tr>
<th>A – Affective</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fear, Shame, Anxiety, Guilt</td>
</tr>
<tr>
<td>Loneliness</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>C – Cognitive</th>
</tr>
</thead>
<tbody>
<tr>
<td>I can’t ___ or people will think ___.</td>
</tr>
<tr>
<td>I’m not any good at talking.</td>
</tr>
<tr>
<td>If I stutter, _____ will happen.</td>
</tr>
<tr>
<td>I can’t get into ___ school or have ___ job because I stutter.</td>
</tr>
</tbody>
</table>
COVERT STUTTERING

**Tip of the Iceberg**

**Observable**
- Very little observable stuttering
- Small dysfluencies
- Circumlocution
- Avoidance

**B – Behavioral**
- Intense fear of stuttering
- Dread
- Anxiety
- Isolation
- Low self-esteem/worth
- Shame

**A – Affective**
- What if they find out?
- I can’t do that...
- I need to quit ______.
- How can I get out of this?
- I’m a failure. I can’t let them see.

**C – Cognitive**

**Below the Surface**

**Non-Observable**

**Tip of the Iceberg**

**Observable**
- Very little observable stuttering
- Small dysfluencies
- Circumlocution
- Avoidance

**B – Behavioral**
- Intense fear of stuttering
- Dread
- Anxiety
- Isolation
- Low self-esteem/worth
- Shame

**A – Affective**
- What if they find out?
- I can’t do that...
- I need to quit ______.
- How can I get out of this?
- I’m a failure. I can’t let them see.

**C – Cognitive**

**Below the Surface**

**Non-Observable**
STUTTERING’S POTENTIAL ACADEMIC IMPACT

• Can interfere with academic evaluation when measured by class participation
• Can interfere with valid assessment of oral reading abilities
• Can interfere with valid assessment of oral language skills and/or delivery of presentations
• Services to CWS are warranted if stuttering adversely affects educational performance in:
  • Academic settings, including classrooms
  • Extracurricular activities
  • Non-academic activities including bus, recess, lunch, interacting with peer
TEACHER INTERVIEW

• Remember you are the expert! Ask specific questions to gain the information you need about affect, behavior, and cognition

• Sample question topics:
  • Child’s verbal participation and performance in classroom
    • Is it spontaneous? Is it voluntary?
  • Academics
    • Is this child reaching his/her full academic potential? Why/why not?
  • Teasing & social interactions
  • Provide information for the teacher about your stuttering intervention and tips/techniques for working with a child who stutters
    • Ex. provide pause time, do not finish sentences/thoughts, mediate student interactions to allow positive communication for all students
8 tips for teachers

1. Don’t tell the student to “slow down” or “just relax.”
2. Don’t complete words for the child or talk for him or her.
3. Help all members of the class learn to take turns talking and listening. All students — and especially those who stutter — find it much easier to talk when there are few interruptions, and they have the listener’s attention.
4. Expect the same quality and quantity of work from the student who stutters as the one who doesn’t.
5. Speak with the student in an unhurried way, pausing frequently.
6. Convey that you are listening to the content of the message, not how it is said.
7. Have a one-on-one conversation with the student who stutters about needed accommodations in the classroom. Respect the student’s needs, but do not be enabling.
8. Don’t make stuttering something to be ashamed of. Talk about stuttering just like any other matter.

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Illustration by Amy L. Dech

A Nonprofit Organization
Since 1947—Helping Those Who Stutter

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ABC OF STUTTERING

- **Affective:** Feelings About Stuttering
- **Behavioral**
- **Cognitive**
A - AFFECTIVE

• How can we treat affective aspects of stuttering?
  • **Counseling**: Discuss, acknowledge, and validate emotions related to stuttering
    • Ex. “Stuttering sucks.” “I hate stuttering.” “I wish my stuttering would go away forever.” “I feel like my stuttering made me a failure today.”
  • **Desensitization**: Observe, experience, and experiment with stuttering
    • Ex. “What would happen if you stuttered in ___ situation? I’ll try it and let’s watch what happens. Do you want to try?” “Let’s try to make some silly stutters together.” “Watch me choose to stutter when I speak with your teacher.”
  • **Avoidance Reduction**: Take risks, go on the offensive, and make choices about stuttering, Define success!
    • Ex. “I’m going to talk with my teacher about my assignment. I will feel successful if I get ask my question and get an answer, regardless of stuttering.”
SOME TOOLS FOR TREATMENT

• Helpful tools and techniques for therapy in this area:
  • Cognitive Behavioral Therapy
  • Hierarchy of Situations
  • Overall Assessment of Speaker’s Experience Stuttering

• These tools can help us identify targets for avoidance reduction and ensure that we are challenging students in therapy without creating more fear and anxiety, or setting them up for failure
COGNITIVE BEHAVIOR THERAPY (CBT)

This therapy focuses on how thoughts can influence behavior and providing clients with the power to assess and modify thoughts that are unhelpful.

• Challenge irrational thoughts with logic
  • e.g., Everyone in the classroom was listening to me stutter
  • Logical questions: What evidence do I have for/against the thought? What would change if I gave up the thought? What would I tell a friend who had the thought?

• Get expectations in line with reality by testing
  • e.g., When I stutter I make everyone feel uncomfortable.
  • Experiments: Let’s stutter on purpose with the secretaries in the office and watch for signs that they feel uncomfortable. What would we see? I’ll go first and you watch.

(Menzies, Onslow, Packman, & O’Brien, 2009)
HIERARCHY OF SITUATIONS

• Have the student identify situations where he/she is comfortable and without fear of stuttering (level 1), then rank situations where he/she feels greater anxiety and fear when speaking (up to level 6)

• Helps assess what level to start working on new skills

• The hierarchy can focus on school including academics and extracurricular activities
  • Keep in mind that communicating in school at all could be high on the hierarchy. Family/home may need to be included to get levels 1-3
Hierarchy Example

Hierarchy of Situations

1. Parents
   - Authority: Teachers, Principal
   - Classmates
   - Best Friend
   - New People
   - Presentations

Other Situations to Consider:
- Answering a question in class
- Raising a hand in class
- Explaining a problem on the board
- Ordering food in the cafeteria
- Participating in group work/negotiating/compromising
- Bullying situations/conflict resolution
- Responding to questions about stuttering
- Using the phone
- Transitioning to a new school/grade
- Speaking with a coach
- Speaking with siblings
- Speaking with extended family
- Speaking on the morning announcements
- Participating in assemblies
- Participating in school plays or theatrical events
- Show and Tell
- Communication during sports/physical team activities or under time pressure
OASES

• Provides an impact rating of stuttering in the following areas:
  • General Information
  • Child’s reactions to stuttering
  • Communication in Daily Situations
  • Quality of Life
  • Overall Score

• Answers to questions may help you identify thoughts that a child has about their stuttering.

• Also provides a measure for progress monitoring.
  • If therapy includes all aspects of stuttering there could be a decrease in the impact scores
GOAL WRITING THOUGHTS

• Including affect in goals can be challenging when it needs to be measurable and last an academic year

• However, it is essential that the goals we write reflect a positive and healthy view of stuttering.

• Children and adults who stutter cannot (but will struggle to, if we expect it) use tools 90% of the time.
  • It is exhausting!
  • A focus on fluency does not allow a healthy attitude about stuttering or communication.
  • A child can be fluent 100% of the time if they don’t speak at all
GOAL WRITING THOUGHTS

• Think about:
  • Effective communication
  • How the child will feel if they cannot obtain the goal we set before them
  • How the child will feel if they realize we take data on every dysfluency they have
  • What message are the goals we write sending our students who stutter?
    • “I haven’t made any progress with my stuttering this year.”
    • “My SLP says that the tools should work but they don’t. They are too hard to remember.”
    • “I give up with speech tools and therapy. I want to quit because this isn’t helping me.”
GOAL WRITING

• How can we add the affective component of stuttering into our goals?

• Goals focusing on tools for stuttering management can have an affective component:
  • Ex. Jane will **choose** at least 2 **tools for stuttering management** (ex. easy onset, light contact, pull out, voluntary stuttering, etc.) and **attempt** each in at least 5 academic situations moving from 30% accuracy to 50% accuracy in the next academic year.
    • Hierarchy: Speech room, with 1 peer, in the hallway, speaking with a group of friends, speaking with the teacher, raising a hand in class, giving a presentation, speaking on the announcements

• Goals focusing on affect can also include multiple tools:
  • Ex. Jane will participate in **5 cognitive behavioral experiments** over the academic year to reduce the impact of stuttering on her life from severe to moderate as measured by the OASES.
    • CBT steps: identify a thought, discuss the validity of the thought, discuss ways to test the thought, discuss how tools for stuttering management can be used to manage the thought, role-play scenarios where the thought impacts communication
WHAT ABOUT GROUP THERAPY?

• It is often not possible to have a group of children who stutter that are similar in age.

• It is more likely students who stutter will be paired with children with other communication disorders.

• Consider goals and activities, not necessarily diagnosis
  • Ex. Pair a student who stutters with a language client. Use science vocabulary to give short presentations. This will allow the language client to learn and use vocabulary and your student who stutters to desensitize to short presentations.
ABC OF STUTTERING

• Affective

• Behavioral: What stuttering looks like, sounds like, feels like

• Cognitive
BEHAVIORAL: TOOLS FOR MANAGING STUTTERING

• Therapy goals likely to be quite different from those for preschool children
  • Goals for younger children often focused on achieving fluent speech

• School-age children represent the ~20% of children who have not recovered from stuttering
  • Since recovery is much less likely, goals are focused on managing stuttering and being an effective communicator
# Tools for Stuttering Management

## How to Think About It:
- Easier Speech

## When to Use It:
- **Before Stuttering**
  - Easy Onsets
  - Light Contact
  - Pausing
  - Voluntary Stuttering

- **During and After Stuttering**
  - Cancellations
  - Pullouts

- **As Needed**
  - Turn-taking
  - Handling Time Pressure
  - Eye Contact
  - Posture and Gestures

## Tools:
- Easy Onsets
- Light Contact
- Pausing
- Voluntary Stuttering
- Cancellations
- Pullouts
- Turn-taking
- Handling Time Pressure
- Eye Contact
- Posture and Gestures

## Fluency Enhancing
- Easier Speech

## Stuttering Modification
- Easier stuttering

## Effective Communication
- Social & Nonverbal skills
EASY ONSET/LIGHT CONTACT

- Slower, physically relaxed speech
- Talking with decreased muscle tension
- Initiate smooth airflow (light contact) and voicing (easy onset)
- Gradual onset of voicing rather than hard glottal attack
- Use for transitions between voiced and voiceless sounds, at the beginning of phrases, and at phrase boundaries

Try These:
Unvoiced: popcorn, tiger, car
Voiced: river, baby, date, goat, I

Tips:
- Think about place, manner, and voicing. Where is the tension? How do I modify the phonetics to keep the speech moving forward?
- Stops are usually the most challenging for people who stutter. Modify the stop using a light contact/easy onset to make it flow more like a fricative.
- Remember that affricates contain stop sounds!!
PAUSING/PHRASING

• Overall slower rate of speech
• Fewer words/syllables per minute
• Should sound smooth and connected, not choppy; adequate breath support
• Enhances fluency by:
  • Stretching sounds & syllables
  • Combining stretched sounds with appropriate phrasing and pausing

Try These:
- First we ate dinner, then we went to the movies.
- I ordered one large strawberry milkshake and six hamburgers with extra cheese.

Tips: Think about punctuation. Also think of packaging ideas using phrasing: (I have two dogs)(who are black labs)(and they love swimming).
VOLUNTARY STUTTERING

• Client stutters on purpose, choosing when & how

• Purpose:
  • Can use to teach any aspect of changing/varying stuttering (ex. pullouts)
  • Assists in building awareness
  • Decreases fear and avoidance; is a means of self-disclosure
  • Desensitizes CWS to listener reactions

• How to teach this tool:
  • Begin at single word level with un-feared words/sounds (words they don’t usually stutter on)
  • Use first in comfortable, relaxed situations
  • Voluntary stuttering should mimic the clients’ stuttering

Try These:
- M-m-my name is….
- Sssometimes, I like to g-g-go riding.

Tips: This can be challenging motorically and emotionally for people who stutter. Be sure you can demonstrate calmly and efficiently. You must be prepared to give examples.
SAMPLE GOAL FOR INCREASED FLUENCY

• The student will choose and implement a tool for stuttering management (ex. easy onset, light contact, pausing and phrasing) in a structured task moving from 3 uses to 10 uses in 5 minutes.
  • Can add cognitive and affective components to this goal (ex. add an unfamiliar listener during the task)
# TOOLS FOR STUTTERING MANAGEMENT

## How to Think About It:

<table>
<thead>
<tr>
<th>Fluency Enhancing</th>
<th>Stuttering Modification</th>
<th>Effective Communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easier Speech</td>
<td>Easier stuttering</td>
<td>Social &amp; Nonverbal skills</td>
</tr>
</tbody>
</table>

## When to Use It:

<table>
<thead>
<tr>
<th>Tools:</th>
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<tr>
<td></td>
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<td>During and After Stuttering</td>
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<tr>
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<td>• Voluntary Stuttering</td>
<td></td>
<td>• Posture and Gestures</td>
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STUTTERING MODIFICATION TOOLS

- Start with awareness and identification
- Distinguish tense vs. relaxed speech movements
- Child learns he/she has some control over the way he/she stutters
- CWS need to be familiar with their own stuttering behaviors so they can take responsibility for modifying them

From Conture (2001):

Using Time to Gradually Change/Release Tension

<table>
<thead>
<tr>
<th>Time</th>
<th>Physical Tension</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Very Tense</td>
</tr>
<tr>
<td>1-4 seconds later</td>
<td>Loosening Up</td>
</tr>
<tr>
<td></td>
<td>Appropriately Relaxed</td>
</tr>
</tbody>
</table>

Diagram showing the transition from very tense to appropriately relaxed over a period of 1-4 seconds using time as a tool for gradual change/release of tension.
PULLOUTS

• *During* moment of stuttering
• Hold onto moment and tolerate it
• Focus on where tension is located and where movement is stopped
• Change the stutter by slowly reducing tension and moving ahead slowly (“forward moving speech”)
• Reinforces looser way of stuttering
  • Use when client feels blocked
  • Start teaching using voluntary stuttering at single word level

**Try These:**
Bilabial Plosive: Pull  Alveolar Plosive: Don’t  Velar Plosive: Go

**Tips:** Start with tension/block at the place of articulation and slowly release the tension, moving into the rest of the word.
CANCELLATIONS

• Use *after* stuttered word
• Client pauses for a moment to reduce tension and plan changes
• Produce word again with appropriate changes (e.g., lighter contact at lips for /st/; easier onset for /o/, etc.)
• Client learns how to cancel out or replace hard stuttering with looser, easier, more controlled stuttering
  • Discourages avoidance, increases efficiency
  • Builds confidence, increases awareness of stuttering

Try These:
Alveolar Plosive: *Talk*  
Fricative/Plosive Cluster: *Stutter*

**Tips:** Start with repetitions, ease out of them, finish the word, repeat

**Challenge:** Start with a block, ease out of the tension, finish the word, repeat
SAMPLE GOAL FOR MODIFYING STUTTERING

• The student will modify physical tension during stuttering moments using pullouts or cancellations moving from 2 to 8 times during a 5 minute conversation.

  • Tools may be used on pseudostuttering initially.
  • Add affective/cognitive components (ex. Practice tools in 3 different locations)
**KEEP IN MIND**

• With children who stutter, remember that using tools for stuttering management is a **choice** and takes **a lot** of effort.

• It is possible and realistic for a child to stutter AND be an effective communicator in the academic setting. They will likely need help with desensitization and self-advocacy to achieve this.
# Tools for Stuttering Management

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## Tools:
- Easy Onsets
- Light Contact
- Pausing
- Voluntary Stuttering

## Fluency Enhancing
- Easier Speech

## Stuttering Modification
- Easier stuttering

## Effective Communication
- Social & Nonverbal skills
SAMPLE GOAL FOR IMPROVING OVERALL COMMUNICATION SKILLS

• Student will complete 3 classroom presentations on selected topics during an academic year, using good eye contact, posture, and volume, while communicating all the information he/she intended to present.

• Student and clinician will videotape a rehearsal of each presentation and evaluate effective and ineffective aspects.

• Student will create a classroom presentation to educate peers about stuttering and to reduce instances of teasing at school.
ABC OF STUTTERING

• Affective

• Behavioral

• Cognitive:
  Thoughts and
  Attitudes about
  Stuttering
THOUGHTS AFFECT FEELINGS AND BEHAVIORS

• How does the child who stutters think about himself/herself?
• How do others (teachers, peers, family) think about the student?
• What do they know about stuttering?
• Can the CWS respond to questions like “Why do you talk like that?”

• Change negative thoughts to positive ones
• Increase self-confidence & self-esteem
STRATEGIES TO ADDRESS ATTITUDES & FEELINGS ABOUT STUTTERING

• Research and learn about famous people who stutter
• Teach family members & friends about stuttering
• Create a classroom presentation about stuttering
• Interaction with other people who stutter
  • Friends: The National Association of Young People Who Stutter
• Reduce avoidance behaviors (say what you want to say)
  • Use situation hierarchy to gradually increase communicative challenges
Make a video to teach your family and others about stuttering! You are the experts!
What is stuttering?

Not talking when you want to.
Getting stuck on a sound.
Talking that is not smooth.
Making a sound or word repeat.
Dragging out a sound.

Why do kids stutter?
No one is exactly sure, but sometimes the parts of the speech machine forget what to do.
It’s not the kids’ fault if they stutter!

1. Brain
2. Teeth
3. Mouth
4. Voice Box
5. Lungs
6. Diaphragm

How does stuttering make kids feel?

Some kids feel angry
Some kids feel sad
Some kids feel frustrated
Some kids feel embarrassed
Some kids feel embarrassed

How would you feel if you couldn’t say what you wanted to say?

(Write how you would feel and draw in your face to the right.)

How do kids who stutter make talking easier?

They might learn to...
- Keep good eye contact
- Move easily and smoothly into words
  ho---iday
- Get stuck in an easier way
  I - like that
- Talk about their feelings and thoughts about stuttering

Focus on Fluency
Kristin Chmela
How can you help friends who stutter?
Circle the helpful ones and cross out the ones that would not be helpful.

- tease them
- don’t laugh at them
- tell them I have listening time
- let them say the word
- stop them while they’re talking
- be a good friend
- copy their speech
- don’t interrupt
- keep eye contact with them
- stick up for them
- tell them it’s okay to stutter
- finish their words
- laugh about stuttering
Write a letter to the Stuttering Foundation’s newsletter. They will publish it and you may be a star at your school!
To help CWS minimize bullying:

1. Teach them about stuttering
2. Teach them about bullying
3. Help them think differently about stuttering
   • Increase self-esteem and desensitize them to stuttering
4. Help them develop appropriately assertive responses
   • Simple matter of fact statements
   • Role play in therapy
5. Help children educate their peers about stuttering and bullying
6. Teach parents, teachers, and other adults about stuttering & bullying so they can support the child who stutters
• Keep in mind that stuttering may be the scariest & hardest thing in their lives

• Incorporate components from A B C for well-rounded therapy which addresses managing stuttering and developing positive self-esteem as a communicator and as a stutterer

• Tools are a choice. Allow the students to choose tools or to voluntary/fake stutter for desensitization and avoidance reduction.

• Refer to stuttering as chronic or ongoing condition that requires management (similar to diabetes or asthma)
Resources for working with school-age children who stutter
The School-Age Child Who Stutters: Working Effectively with Attitudes and Emotions

... A WORKBOOK

by Kristin A. Chmela and Nina Reardon
Lisa Scott, Editor

Minimizing Bullying for Children Who Stutter:
A Workbook for Teachers and Administrators

William P. Murphy, MA
Robert W. Quesal, PhD
Nina Reardon-Reeves, MS
J. Scott Yaruss, PhD

Stuttering Therapy Resources
Autobiographical novel about an eleven-year-old boy who stutters.
American girl doll of the year in 2017
Resources to share with parents, teachers, & students

• Stuttering Foundation  www.stutteringhelp.org

• National Stuttering Association  www.westutter.org

• Friends: The National Association of Young People Who Stutter  www.friendswhostutter.org

• American Speech Language Hearing Association  www.asha.org

• StutterTalk podcast  www.stuttertalk.com

• Stuttering Therapy Resources  www.stutteringtherapyresources.com

• Cognitive Behavioral Therapy Review Article  (Menzies et al., 2009 Journal of Fluency Disorders)  www.sciencedirect.com/science/article/pii/S0094730X09000710
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