Treating Stuttering in Georgia Schools

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Speaker Disclosure Information

- Financial disclosures or relationships:
  - None

- Non-financial disclosures or relationships:
  - The first author has published several reviews and research reports about the stuttering treatment approaches to be discussed in this presentation.
  - This presentation focuses on stuttering treatment approaches shown in the research literature to reduce stuttered speech and does not attempt to discuss all options for stuttering treatment.

A note from the presenters

- If you are looking at these slides before our presentation, we wanted to be sure to explain that our presentation will include much more than us just standing there reading you all these words! We prepared these slides so you'd have the details if you need them. At the actual presentation, we will have some example videos, and opportunities for questions and discussion, and chances to practice if these approaches are new to you, and photos of Nina's great dog and Anne's wonderful kids, and all sorts of fun things.
- If you are looking at these slides after our presentation, please feel free to email us with any questions: abothe@uga.edu or nsantus@uga.edu

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Treating stuttering in the public school setting can be complicated, but it can also be positive and successful.

1. This session will present recent research from the University of Georgia about relationships between stuttering treatment approaches and obtained treatment outcomes as reported by 43 clinicians in six Georgia counties.

2. Treatment methods best supported in the research literature will then be discussed, with emphasis on

3. how those methods can be used effectively in the special context of the public schools.

Public School SLPs' Intervention Approaches with Stuttering

- Participants: All 43 SLPs in six school districts in northern Georgia who were currently practicing as SLPs with active caseloads
- Method: Four-page survey, 15 questions
  - (a) caseload, discharge goals, success in meeting those goals, and therapy techniques used;
  - (b) whether respondents had "learned about" or "used" seven specific possible treatment approaches for children who stutter; and
  - (c) demographic information and comfort level with stuttering.

Public School SLPs' Intervention Approaches with Stuttering

- **Respondents were…**
  - **…well educated…**
    - *26 master's, 16 Ed.S., 1 Ph.D.*
    - *36/43 had taken a full course in stuttering*
  - **…and relatively experienced…**
    - *13 had practiced for 6-10 years; 11 for 6-20 years*
    - *38 had been in the schools for 5 years or more*

...but had relatively few students who stutter.

- Current caseload
  - 55% of respondents: 1-2 students who stutter
  - 25% of respondents: 0

- Total experience
  - 30% of respondents: 1-5 students who stutter
  - 46% of respondents: 6-11
  - 20% of respondents: 12 or more

Goals: What do you want your students who stutter to obtain before discharge?

- Ranged from 75%, 80%, 90%, 92%, 94%, 95% fluent in school environment and/or across various settings
- Less than 3-5% dysfluent
- 85% fluent at conversational level
- No more than 3 stuttering events in classroom
- Know and use fluency techniques
- Proud and confident in their speech
- Fluent speech during structured speech practice
- i.d. fluency vs. nonfluency, decrease secondaries, self monitor, solve fluency problems, participate actively in class and with peers

Does it work? Percentage of students who meet the goal you set

- 23% of respondents said 80% or more of students who stutter meet their goals.

- More than half of respondents said that only 50-75% of students who stutter meet their goals.

- Almost 20% of respondents said that *less than half of their students who stutter meet their goals.*

Approaches: How do you work toward that goal? Specific approaches/therapy techniques you incorporate in your fluency treatment?

- Easy onset, soft contact
- Turtle talk
- Rise and fall
- Voice on
- Pull-outs, Cancellations
- Fluency shaping and modification
- Prolonged speech
- Time-out technique
- Lidcombe Program

- DAF
- GILCU
- Color Me Fluent
- Easy Does It
- Breathing techniques
- Melodic intonation
- Relaxation techniques
- Education/awareness
- Pacing Board, Metronome
- Choral Reading

How do you feel about all this?

"Very uncomfortable": 5%
"Not comfortable": 35%
"Somewhat comfortable": 44%
"Very comfortable": 16%

- We also found...

Limited use of approaches known to work with young children

	I learned about this in my master's program	I learned about this at a continuing education event	I have used this with a child who stutters	I am using this this year
Gradual Increase in Length and Complexity of Utterance (GILCU)	53.5	20.9	53.5	30.2
Extended Length of Utterance (ELU)	51.2	14	32.6	23.3
Lidcombe program	32.6	18.6	16.3	2.3
Response contingencies (reinforcers and corrections)	58.1	37.2	51.2	25.6
smooth or prolonged speech; fluency shaping	86.0	53.5	93.0	65.1
change parents' speech or behaviors; indirect treatment	67.4	55.8	69.8	30.2
change child's attitudes about speech/stuttering	72.1	48.8	76.7	53.5

High use of treatments known to work in adults and older adolescents but not supported for young children

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High use of treatments that the research literature does not support

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Based on that, we come to… Part Two!

- Options for stuttering treatment that seem to be less used in Georgia schools and that also are well supported in the stuttering research literature
  - A. **Response contingencies**
  - B. **Controlled utterance length**
  - C. **Prolonged speech** for adolescents
  and also:
  - D. Taking charge of the **infrastructure** within which any of these is used

A. Response contingencies

- Reinforce fluent speech
  - For example: Shaw and Shrum (1972)
    - reinforced 5-s or 10-s fluent periods
    - token reinforcement with back-up reinforcer (Hot Wheels)
    - Four 20-min sessions: BL → Tx → Reversal → Tx (ABCB)
    - clear effects for three 9-year-old children
  - Well replicated in many later studies

A. Response contingencies

- Consequate stuttering
  - Original famous data: Martin, Kuhl, and Haroldson (1972)
    - Puppet stage went dark for 10 s when child stuttered
    - 20-min sessions: BL → Tx → Withdrawal (ABA)
    - Clear, generalized, and maintained effects for two boys, aged 3.5 and 4.5
  - Many replications since then with real clinicians and parents

Practicalities: How do I reinforce fluent speech?

- It can be unstructured:
  - During any age-appropriate activity, talk and play with the child and reinforce naturally occurring fluent times or utterances
  - Use a pleasant, straightforward tone of voice
    - Same as praising correct productions at the conversational level in articulation, voice, or naturalistic language feedback
  - Just to get started, try saying anything specific that comes naturally to you
    - "That was so smooth, good for you" or "That sounded nice that time" or "No bumps! Good job" or "Cool, your talking didn't get stuck there"

Practicalities: How do I consequate a stutter?

▸ This can also be unstructured: Just play and talk, and interrupt the beginning of the child's stutters
▸ When the child stutters, say or do anything that feels natural and comfortable and that communicates to her that she should stop doing it that way (remember, it's just like artic)
  ◦ Any one, or a combination:
    ▪ Stop: "Oops, hold on"
    ▪ Name as reminder: "Mary…"
    ▪ Label: "That was bumpy"
    ▪ Model: "the TRAIN…"
    ▪ Nonverbal: hold up a hand

Goals for a response contingencies approach

• By [4 weeks], child will display [25% of baseline %SS] with the treatment provider in the treatment setting.
• By [16 weeks], child will display [10% of baseline %SS] with [relevant conversational partner] in [relevant setting].

Debriefing…

◦ seems rude/inappropriate/unnatural to interrupt the child that way; I can't respond to what she is saying
◦ what if she shuts down, won't talk, hates it, gets upset?
◦ won't this make her stuttering worse?
◦ what if she starts over again and stutters on the same word?
◦ what if she stutters so much that all you can say is "stop, stop, don't, don't, and don't do that either"?

So you can say you learned about it at a CEU event:

• You have now HEARD OF the Lidcombe Program, unlike 78% of SLPS (Tellis, Bressler, & Emerick, 2008)
• It's mostly parent-administered response contingencies, with some other important details
• It's the single best researched treatment approach for preschoolers, also shown to be effective for school-age clients, but requires some creativity if you are working *in* schools

• http://sydney.edu.au/health-sciences/asrc/treatment/children.shtml

B. Controlled utterance length

• GILCU: Gradual Increase in Length and Complexity of Utterance (Ryan, 1974, 2001)
• ELU: Extended Length of Utterance (Costello, 1983, 2004)
• Basically, it's artic or errorless learning
  • Begin with very short utterances, which will (should!) be fluent
  • Gradually increase utterance length as phase/stage pass criteria are met; decrease utterance length if you haven't increased it in a while

Practicalities: Reinforce fluent speech, and correct stutters, while controlling and then systematically increasing utterance length

• GILCU/ELU are very structured
  • Control the speaking situation: Have the child produce utterance lengths that she can do fluently (e.g., 2 words or 5 seconds)
  • Gradually increase utterance length contingent on success; follow a protocol or create your own steps
  • Within this structure
    ▪ Praise (some) correct productions
    ▪ Say "oops" or "uh-oh" (etc.) contingent on any stutters
    ▪ Aim for 10 in a row; restart your count if child stutters
    ▪ Move up to the next level if 10 consecutive responses are correct

Evidence about GILCU/ELU

- 13 studies/reports
  - 8 experiments, 5 descriptive
- ages 6-45 years, mostly approx. 4-9
- pretreatment: 5-17 SW/M or %SS
- posttreatment: 1 SW/M, 2%SS
- 47/52 individuals show clear reductions to close to zero with many treatment times measured in weeks

(Davidow, Crowe, & Bothe, 2004)

Goals for GILCU/ELU

- By [4 weeks], the child will produce 10 consecutive [length] utterances with 100% accuracy with the clinician in the clinical environment.
- By [16 weeks], the child will produce 3 consecutive 5-minute conversational speech samples with [relevant listener in relevant setting] with zero stuttering and speech naturalness of at least 3 on a 9 point scale (where 1 is highly natural).

C. Prolonged Speech

- By any other name, we mean something like
  - Easy onset, gentle onset, shallow intensity slope
  - Continuous phonation, extra voicing
  - Soft articulators
  - Words connected
  - Exaggerated emphasis on phrasing
  - Slow, extended, smoothed, prolonged
- We do NOT mean
  - unnatural breathing patterns
  - prevoicing exhalation
  - making turtle puppets, running like racehorses, or playing smooth snake games

Evidence for prolonged speech: Changes in both speech and nonspeech variables

- Andrews, Guitar, & Howie (1980) meta-analysis
  - effect sizes for speech and nonspeech variables of over 2.0 at 6 months posttreatment
- Boberg and Kully (1994)
  - 20%SS pretreatment, 1.29%SS posttreatment
  - "I am able to speak normally without thinking about controlling speech": 50% almost always, 46% sometimes, at 12 mos posttreatment
  - "I feel like a normal speaker": 36% almost always, 54% sometimes, at 12 mos posttreatment
- Bothe et al. (2006) systematic review
  - ~120 participants in more than 10 studies, met speech and SEC criteria immediately posttreatment and at 6 month follow-up

Practicalities: How to teach prolonged speech

- Despite the list of elements, teach it as one speech pattern
  - Research evidence is best for overall approaches
  - Neuromotor plasticity literature suggests that teaching different components might be teaching two new skills in competition with each other, which is not the goal at all
  - Like almost any other skill: model it, explain just enough if you need to, arrange for lots of client practice, and give the client feedback about her attempts

Practicalities: How to teach prolonged speech

- Model and feedback
- Start very slow and exaggerated, do lots of stutterfree practice in multiple conditions at that rate, then increase rate and naturalness
  - Example rate and naturalness stages:
    - 30-60-90-120 SPM then 5-4-3 naturalness
  - Example conditions within each rate:
    - Monologues, conversations, phone conversations
  - Example practice within each condition:
    - Phrases, 3 x 1-min, 3 x 3-min

Goals for prolonged speech

- Client will produce 10 consecutive stutterfree 3-word phrases at 30 SPM, using all features of exaggerated prolonged speech, with clinician
- Client will produce 3 consecutive stutterfree 3-minute speech samples at 60 SPM, while speaking with familiar persons on the telephone
- Client will produce 3 consecutive 1-minute monologues that are stutterfree and assigned a naturalness rating of 5 or better by the clinician, with other group members as listeners

Goals for prolonged speech

- By [16 weeks], client will use stutterfree speech with minimal remaining elements of prolonged speech in 75% of classroom conversation opportunities for 3 consecutive days, as measured by classroom teacher observation and client self-judgments
- By [16 weeks], client will use stutterfree speech self-rated at naturalness of 2 in three different 10-minute conversations in home or school settings without clinician present, as measured by clinician from audio recording made by client

D. *Approaches* and *Infrastructure*

- We've been talking about the approach (technique, treatment, etc.):
  - response contingencies, including controlling utterance length, or prolonged speech

D. *Approaches* and *Infrastructure*

- The infrastructure, or context, matters, too
- Arrange for as many of these as possible:
  - intensive schedule
  - self-management and/or parental involvement
  - errorless learning ("perfect practice")
  - practice in multiple settings, with multiple people
  - response contingent progression of steps
  - a focus on speech and speech naturalness
  - an expectation of success

D. *Approaches* and *Infrastructure*

- In other words: The piano lesson model!
  - Use the time you do have to check in and make assignments
  - The student is responsible for doing lots of good practice on her own and is expected to be better next time you see her

D. *Approaches* and *Infrastructure*

And also, Nina's favorite soapbox:
Who is in charge of scheduling YOUR therapy?
- Obviously there are constraints, but take charge of everything that your students need you to take charge of, if you possibly can, and use those variables to HELP you

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(oh, yes: teen-agers...)

- The research literature is very limited, but what does exist shows, essentially, that adolescents can be treated successfully with methods we think of as for children or with those we think of as for adults.
  - Complications with this age group are obvious but not specific to stuttering
  - Advantages include the many pleasures of working with young adults who have found that they are ready to work on their speech, for whatever reason – this can be a very rewarding time

Which brings us to...

- 3. Getting even better at all this in the public schools in Georgia
  - What can UGA do for you?
  - How can we do it together?

Thanks for spending a couple hours with us!

- We hope this material gave you some useful ideas for stuttering treatment options.
- Please contact us if you'd like to work with us!
  - abothe@uga.edu and nsantus@uga.edu