
Using Response Contingencies in Evidence-Based Treatments for Children's Stuttering

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PART ONE

The evidence base: A quick review of the research literature for children's stuttering treatment
(and think about the basic options for directly addressing any behavior)

Direct approach "1a": Reinforce (increase) the desired behavior

In our case, reinforce fluent speech

- Shaw and Shrum (1972)
 - reinforced 5-s or 10-s fluent periods or stutters
 - token reinforcement with back-up reinforcer (Hot Wheels)
 - 4, 20-min sessions: BL → Tx → Reversal → Tx (ABCB)
 - clear effects for 3 children

Direct approach "1b": Do something to decrease the undesired behavior

Some of the research literature uses the word "punish," which is technically correct but has unfortunate connotations. It just means to do something that decreases the likelihood of a behavior reoccurring. Feel free to substitute "to correct" or "untrain" or "work with" or "direct feedback for" or any other phrase that makes you feel better. None of this is about being at all punitive to a child.

- 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 both children
- Costello (1975)
 - "Stop" and look away for 10 s
 - clear within-session ABA and across-session clinical effects for 3 adolescents/adults

Direct approach “1c”: Combine reinforcement and punishment

- Why do we do both?
- Much research from many areas shows that the punishers are the important part, but the reinforcers make the clinician feel good; other programs emphasize the need for reinforcers

Onslow and colleagues’ Lidcombe Program is the most visible current example of combining reinforcers and punishers for children’s stuttering, with the most research support

- Parent-administered treatment
- During 10-min parent-child conversations (formal treatment time) and during short periods during daily life activities
- The treatment:
 - Stutter-free utterances earn praise + tangible reinforcers (including token reinforcement)
 - Stutters are “noted” by the parent and fluent repetition of the stuttered word is required + response cost procedures

Lidcombe Program’s basic supporting evidence is quite good, as far as demonstrating that the package is often effective and efficient at reducing children’s stuttering

Direct approach #2: Initial practice with motorically or cognitively simpler units or at simpler levels

- **Gradual Increase in Length and Complexity of Utterance** (Ryan, 1974, 2001)
- **Extended Length of Utterance** (Costello, 1983, 2004)
- Very programmed; parallels to errorless learning

Evidence about GILCU/ELU (Davidow, Crowe, & Bothe, 2004)

- 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

A recent comprehensive systematic review of the stuttering treatment literature found that the only approach to stuttering treatment for preschool children that met outcomes criteria, from studies of preschool children that met a “trial quality” criterion, was response contingencies (Bothe et al., 2006).

PART TWO

Direct positive reinforcement for fluency: Suggestions, evidence, and practice

A. Practice providing reinforcers for fluent speech

Unstructured approach

- ▶ During any age-appropriate activity, talk and play with the child and reinforce naturally occurring fluent utterances
 - from Shaw and Shrum: 5-10 s of fluent speech
- ▶ 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”

Concerns raised about reinforcing children’s nonstuttered speech include

- seems rude/inappropriate/unnatural to interrupt the child that way; I can’t respond to what he is saying
- aren’t you implying to the child that something is wrong with him, by praising part of what he does?
- you’ll be reinforcing short utterances; we are teaching the child to use only short utterances
- what if the child never produces a whole nonstuttered utterance or does not go 5 whole seconds without stuttering?
 - We discussed in the workshop that the first two of these concerns really should not be problems for any reasonable clinician, and the research literature clearly disproves the third. The solution to the last one, if it is a problem, is to create opportunities for success; structure an errorless-learning type environment; and/or work at a simpler level and increase as the child passes specific steps or phases

B. Practice reinforcing fluent speech while systematically increasing utterance length

Structured format

- Control the speaking situation: Have the child produce utterance lengths that she can do fluently
- Gradually increase utterance length contingent on success; follow the GILCU or ELU protocol

PART THREE

“Punishers,” corrections, or just saying “oops”: Direct feedback about children’s stutters

Practice providing direct corrective feedback for stuttering

Remember that the evidence shows that many different consequences for stuttering can lead to a reduction in stuttering: The puppet stage goes dark; adult says “stop”; parent says “That was bumpy, try it again”

- There is no single necessary phrase; overcorrecting is not necessary; the specific words don’t matter (and it doesn’t even have to be words)
- The thing that seems to cause a reduction in children’s stuttering is some occurrence immediately contingent on the beginning of the child’s stutter

An unstructured approach: Just play and talk

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 – it's still just like artic...

- Any one, or a combination:
 - ▶ Stop: "Oops, hold on"
 - ▶ Name as reminder: "Mary..."
 - ▶ Label: "That was bumpy"
 - ▶ Model: "the TRAIN..."
 - ▶ hold up a hand, look away, raise an eyebrow...

Many concerns have been raised; are you thinking any of this?

- seems rude/inappropriate/unnatural to interrupt the child that way; I can't respond to what he is saying
- what if he shuts down, won't talk, hates it, gets upset
- what if he stutters so much that all you can say is "stop, stop, don't, don't, and don't do that either"?
 - ▶ Again, we addressed these during the workshop, and they really shouldn't be problems.
 - ▶ There is clear evidence in the research literature that the appropriate solution to the last one is to start by providing consequences only for the more severe stutters or even just for "some" stutters
 - ▶ Or, fall back on errorless learning; structure the situation using controlled utterance lengths (ELU/GILCU programs; Onslow and colleagues' Lidcombe research)

PART FOUR

Data collection, response contingent frameworks, evidence-based additives, and the EBP framework

This can (and arguably should) all be placed within the context of an evidence-based practice approach.

Step 1: Your PICO question

For a preschooler whose stuttering is characterized by _____ ,
will _____
or a response-contingent approach
be more effective and efficient at achieving _____ ?

Steps 2 and 3: Find and evaluate the research evidence

systematic reviews (e.g., Bothe et al., 2006)
Onslow and colleagues' (1990 and later) current research; Lidcombe Program evidence
original research (e.g., Martin et al., 1972)

Step 4: Combine the high-quality research evidence with the client's and the family's values, preferences, goals, or complaints...

I want my 4 year old to stop stuttering. Her dad is getting frustrated with her, and I'm afraid she's going to get teased when she starts kindergarten next year.
I want... ?

...with your clinical experience, expertise, and circumstances...

the one thing that may still be missing is a way to measure outcomes

- Treatment data need to be directly related to the specified outcome
 - Measure stuttering, speech rate, speech naturalness
 - <http://sms.id.ucsb.edu/>
 - during a 3-minute sample at the end of the last session each week, or from a recording from home, or some other way
 - Or measure progression through a sequence of steps
 - Or measure parents' concerns on a 5- or 7-point scale

...to make a decision about the next course of action.

Use the PICO question as a statement:

- *For a child like yours, the research suggests that a treatment called "response contingencies" is the most likely to effectively reduce stuttering and reduce the likelihood of being teased within about 3 months. I suggest this approach, but what questions do you have?*

On recruiting parents to provide response contingencies for children's stuttering

- They are more likely to than you might think!
 - ▶ Think about correcting for "please" and "yes, ma'am"
- To be done **during** life, not *in addition to* life
 - ▶ occasionally, 5-10 minutes, once or twice a day, during an activity that would be happening anyway: getting dressed, car time, etc.
- Most parents in our studies and in our clinics have been as accurate as we would have been, and have an even better sense of their own child's limitations – and want to help

Step 5: Evaluate.

Data will show you if the child is progressing toward your desired outcome.

- What if she's not?
 - ▶ evidence-based changes might add
 - ▶ more structure, more formality
 - ▶ shorter utterances, an ELU framework
 - ▶ more feedback more often, a more intensive schedule
 - ▶ earlier feedback (when each stutter starts)
 - ▶ more salient feedback (10-s time out instead of just oops)
 - ▶ easy onset or other prolonged-speech features
- Think of it all in terms of a PICO question
 - ▶ For a child with these characteristics, is what I'm doing or something else most likely to achieve my desired outcome?

BOTTOM LINE: Where did we end up today?

- Response contingencies won't cure everyone. A few children who stutter will continue to struggle to be able to produce consistently fluent speech.
- It is clear from the research evidence, however, and from many clinicians' and families' experiences, that most children who stutter can be helped within approximately 3-4 months by essentially any variation on immediate contingencies for their stuttering.

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