Establishing long-term fluency goals when working with adults who stutter

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Disclosure

Dr. Kim Bauerly has no relevant financial or nonfinancial relationships to disclose.

Dr. Robert Kroll is the co-author of the Fluency Plus Program and therefore has a nonfinancial relationship with the treatment program described in this presentation.
Agenda

• Treatment outcome data from the Fluency Plus Program
• Self evaluation of fluency effort (SEFE)
• Development of realistic expectations for fluency treatment
• Incorporating maintenance into the treatment program
Motor learning in adults who stutter: Predictors to treatment outcome

Objective:
To investigate the extent to which individual differences in performance on a speech and nonspeech sequence motor task is associated with differences in stuttering treatment outcome.
Participants

• 22 PWS between 16 and 45 years of age ($M = 28.3$, S.D. = 8.8)
• Onset of stuttering in childhood
• None of the participants had participated in stuttering treatment within the past 2 years
• Scores on the SSI-3 were in the very mild (6), mild (6), moderate (8), or severe (2) range
• Self reported negative history of neurological, psychiatric, motor or speech/language disorders
Fluency Plus Program

A 3 week intensive treatment program. Treatment objectives are to gain control over speech muscle movements by learning fluency enhancing techniques such as stretch syllable and gentle onset. Clients gain the ability to use their newly learned fluency skills in all relevant speech contexts through transfer tasks and cognitive restructuring tasks focused on addressing individual’s attitudes, beliefs, and feelings.
Treatment outcome measures

a) **Stuttering Severity**: Percent syllables stuttered were assessed during conversation and reading.

b) **Overall Assessment of the Speakers Experience with Stuttering (OASES)**: This is a 100 question standardized test that collects a wide range of information about the speaker including the speaker’s reactions to stuttering and the impact of stuttering on the speaker’s quality of life (Yaruss, 2006).

c) **Self Evaluation of Fluency Effort (SEFE)**: This is a questionnaire of 25 speaking situations, measured on a 1-7 point self rating scale, assessing the speaker’s effort required to use their fluency skills in everyday situations.
Qualitative measures

Practice Log

1. On average, how many times a week did you practice?”
   0  1  2  3  4  5  6  >7

2. On average, how long in minutes were your practice sessions
   5  10  15  20  25  30  35  >40

3. How useful do you feel your fluency skills are in speaking situations?
   1  2  3  4  5  6  7
   “useful” “not useful”
## Procedure

<table>
<thead>
<tr>
<th>Pre-Treatment</th>
<th>Post-Treatment</th>
<th>Month 1 – Month 6</th>
<th>Six-Month Follow Up</th>
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</thead>
<tbody>
<tr>
<td>% Syllable Stuttered</td>
<td>% Syllable Stuttered</td>
<td>Practice log</td>
<td>% Syllable Stuttered</td>
</tr>
<tr>
<td>OASES</td>
<td>OASES</td>
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<td>OASES</td>
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<tr>
<td>SEFE</td>
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<td>SEFE</td>
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</tbody>
</table>
Was treatment successful?

Pre-treatment to post treatment = $t = 5.216, p < .01$

to follow-up = $t = 5.725, p < .01$
Was treatment successful?

Pretreatment to post treatment: $t = .4607, p < .01$
to follow up: $t = 3.52, p < .01$

Mean OASES Scores

- General Information
- Reactions
- Communications in Daily Situations
- Quality of Life

Pre-Treatment | Post-Treatment | Follow-Up
Was treatment successful?

Post treatment to follow up: $t = 1.264$, $p = .221$
Qualitative Measures

Average Number of Times Per Week PWS Practiced

Month

Number of times

1 2 3 4 5 6
Length of Practice Sessions

Month

Length (minutes)
Self-reported Ratings of How Useful PWS' Fluency Skills are in Speaking Situations

Ratings of 1 (not at all) to 7 (extremely useful)

Month

1 2 3 4 5 6
Practice Log: General comments section

1. Difficulty transferring their newly learned fluency skills to everyday speaking situations
   “I start off using my new fluency skills but quickly start speaking in my old pattern”

2. General discomfort using ‘New Normal’ in conversation
   “Speaking in ‘New Normal’ feels alien to me”
In summary…

- PWS continued to require a high degree of effort after six months of practice.

- PWS reported difficulty transferring their fluency skills into everyday situations.

- Misleading to measure treatment success based on percent syllable stuttered and self-reported perceptions and attitudes alone.
Self-evaluation of fluency effort: A useful tool for measuring treatment outcome

Bothe et al. (2009) reported:

Self reported ratings of speaking effort were relatively stable across similar fluency enhancing conditions, suggesting good reliability.

Speech effort ratings were statistically independent from other treatment outcome measures suggesting a validly interpretable measure of fluency.
Criteria for treatment to be considered successful include (Bloodstein & Bernstein Ratner, 2008):

1. Reduction of stuttering frequency
2. Improved perceptions and attitudes associated with one’s own speech behavior
3. Decrease in the “necessity to monitor their speech”
   - Fluency can hardly be thought of as normal to the speaker if it requires constant effort to maintain
Is automaticity of a fluency skill a reasonable treatment goal?

“Stuttering is a chronic disorder and many adults can only remain fluent by dint of constant effort” – Andrews, 1984

“The ability to keep the new pattern of speaking going during conversation requires constant strain and vigilance” – Sheehan, 1984

“Fluency skills should be taught as an option to use when needed, rather than as a standard manner of speaking to avoid stuttering altogether” – Starkweather, 1984
Develop realistic expectations

• Prepare the client for success
• Most adults can maintain fluency in some speaking situations but show an increase in stuttering when speaking in a more high stress speaking situation
  – actively monitor the use of their fluency targets  or
  – be comfortable with acceptable stuttering
Case study

Brian is 37 years old and has been stuttering since he was 4. He exhibited 8% stuttering severity in conversation pre-treatment, 1% post treatment and 2% at a 6 month follow-up visit. Although he reported near fluency in most speaking situations, he reported that he is “not comfortable using New Normal all of the time” and that “it is very difficult to continually monitor my speech when speaking to some people”.

What should treatment focus on at this point?
Case study

Taylor is a 25 year old male who has been stuttering since he was 3. He exhibited 5% stuttering severity in conversation pre-treatment and <1% at post-treatment and at a 6 month follow up visit. He reported that using his fluency skills was relatively easy in all speaking situations. He reported to feel more comfortable speaking in situations that were once very difficult.

Do we terminate treatment at this point?
Why maintenance is important

- Fluency skills are not easily learned and take months if not years to master
- Some individuals may be able to use their newly learned fluency skills in a more effortless way but require long term practice
- Motor learning studies show that complex skills can easily be forgotten and must be practiced in order to be maintained
Maintenance

Definition:

The continuation of the therapy program as the involvement of the clinician is gradually decreased.

Fluency maintenance is a long, gradual process of consolidation and stabilization of skills, and maturing of expectations by both the client and the therapist.
When does the maintenance process begin?

• When the client can reliably transfer newly acquired speech skills in a variety of extra clinical situations

• When the stuttering mentality is replaced by a speech communication mentality
What is the clinician’s role in maintenance?

- To provide on-going professional evaluative feedback during follow-up sessions
- To monitor practice schedules
- To ensure that correct skills are being practiced for appropriate lengths of time
- To deal with psychological and behavioural issues as they arise
Maintenance Practice Strategies

- Shaping
- Structured transfer
- Spontaneous transfer
- Target review
**Maintenance**
Your Home Program

At this point in therapy, your sessions in the clinic will become less frequent. It is now your job to ensure that you do not forget what you have learned. Your clinician will be available to help you out, but you are most responsible for your fluency.

This is an example of a home program. Your clinician will review this with you and then you should be able to develop a home program which suits you.

### Sample Daily Practice Schedule

<table>
<thead>
<tr>
<th>1. SHAPING</th>
<th>- 20 minutes each morning followed by 5 to 10 minutes of monitored conversation. Remember to evaluate your performance.</th>
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<tbody>
<tr>
<td>2. STRUCTURED PRACTICE</td>
<td>- complete 1 transfer record sheet of short to medium length phone calls, taped and evaluated or - tape a monologue at the end of the day evaluating your speech for that day and discussing any thoughts about speech that have occurred to you. Play back the taped monologue and listen for achievement of targets.</td>
</tr>
<tr>
<td>3. SPONTANEOUS PRACTICE</td>
<td>- monitor speech during all incoming and outgoing telephone conversations or - monitor speech during all meals</td>
</tr>
<tr>
<td>4. REVIEW</td>
<td>- spend 15 minutes reviewing the materials in your manual or - choose a section you feel you need extra work on and do some of the practice exercises</td>
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</tbody>
</table>
What are some of the challenges during maintenance?

1. Acceptance of modified speech pattern
2. Constructive analysis of error patterns including objective weighting of successes and failures
3. Willingness to continually plus actively monitor speech
4. Contingency plans to deal with anxiety and/or cognitive demands of the dual speech process
5. Acceptance of role and responsibility of fluent speech
6. Acceptance of responsibility for the clinical process
7. Possible alteration of perceived situational speech difficulty
8. Attitudinal and psychological changes
When is maintenance complete?

• When speech is no longer considered an issue

• Observed confidence and comfort level for communication

• Frequency and severity of disfluencies are minimal
Thank you!

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