Holistic Treatment

- Stuttering does not exist in a vacuum.
- "You can't treat the head and hope the heart will follow." – Dr. Robert Logan
- Changing speech behaviors cannot be done without addressing the emotional components of stuttering.

Goals of Treatment

- Speech:
  - Reduce frequency of stuttering
  - Reduce the abnormality of stuttering
  - Increase communication abilities

- Emotions:
  - Reduce negative feelings, thoughts, and attitudes
  - Reduce avoidance
  - Increase knowledge
  - Create fluency-facilitating environment

Two Main Approaches for Addressing Speech

- **Fluency-enhancing techniques** (Simultaneous use)
  - Easy onset of phonation
  - Slowed rate
  - Continuous phonation

- **Stuttering modification**
  - Preparatory set
  - Pull-outs/ slides
  - Cancellations

Fluency-Enhancing vs. Stuttering Modification

Fluency Enhancing Techniques	Stuttering Modification
Goal: Speak more fluently by eliminating opportunities for stuttering events to arise	Goal: Stuttering more fluently by modifying stuttering events to increase the "flow" of speech
Alter 100% of speech	Alter stuttering events only
Can be taught directly or picked up through modeling	Must be taught directly
Easy for young patients and parents to learn	Difficult for young patients and parents to learn
Patients often complain about speech sounding less natural	Perceptually, most observers will notice that the patient stutters

Fluency Enhancing Techniques: Easy Onset

- Start a stream of air through the vocal folds before beginning phonation.
- Gradually make the audible /h/ more subtle and quiet without sacrificing fluency.
- Cues:
  - Use a whispered "h" to begin your utterances
  - Don't talk at the top of your air
  - Start with the /h/ sound

Fluency Enhancing Techniques: Slowed Rate

- Most people speak at 4-5 words per second.
- Yairi recommends that the speech of preschoolers be reduced to 1-2 words per second in the beginning stages of therapy.
- Start at a very slow rate. Gradually increase rate to a rate that sounds more natural that does not sacrifice the patient's fluency.

Fluency Enhancing Techniques:
Continuous Phonation

- A little bit of a misnomer, because we produce voiceless consonants.
- More like "continuous stream of airflow through the vocal folds."
- Cues:
  - Hand on the throat to monitor the "voice motor"
  - Running a hand across a table, taking animals across a bridge, making a line with a crayon, etc.
  - "Keep your voice on like you're singing."
  - "Don't leave spaces between your words."
  - "Don't chop up your words."
  - Contrast with choppy speech

Stuttering Modification

- **Preparatory set:** Employ fluency-enhancing techniques when you begin to anticipate an upcoming dysfluency. (Before)
- **Pull-out/ Slide:** Employ fluency-enhancing techniques during a dysfluency, taking voluntary control during the involuntary tension of a stuttering event. (During)
- **Cancellation:** After a dysfluency (or cutting a dysfluency short), say the word again using fluency-enhancing techniques. (After)

Teaching Stuttering Modification

- **Explore the Stuttering:** Start with pseudo stuttering. Instruct the client to try to re-create the exact tension and movements that happen during stuttering events. It's helpful to describe and determine the loci of the tension.
- **Key concept:** Even though the stuttering event is involuntary, one can still create a new motor plan to take voluntary control of those muscles with the "spared" parts of the brain.

Teaching Stuttering Modification: Continued

- **Tension and Release**: Have the client pseudo stutter, doing his/her best to re-create the stuttering event then voluntarily release the tension and relax the speech muscles.
- **Cancellations:** Using reading passages, pre-select words on which to pseudo stutter. During these stuttering events, re-create the tension then practice releasing it, then saying the word over using fluency-enhancing techniques. Some real stuttering events will hopefully arise. Use these as good practice controlling the tension of real dysfluencies.

Stuttering Modification: Continued

- **Slides (Pull-outs):** Again, pre-select words on which to pseudo stutter. In the middle of the stuttering event, release the tension and finish the word fluently with easy onset into the next sounds, slowed rate, and continuous phonation. The best practice comes from when real stuttering events arise.

Stuttering Modification: Continued

- **Preparatory Set:** Have the client pre-select words in which he/she thinks that they would typically stutter from a passage. Instruct the client to build up tension in anticipation of these words then employing fluency-enhancing techniques just before arriving at the word to avoid the stuttering event.

False Fluency

- Beware of "false fluency" from increased comfort level. Make sure that you are rewarding your patient for using techniques, not just speaking fluently.

- Many clients leave therapy without any skills in fluency-enhancing techniques because they were not using them in therapy.

Hierarchy (persistent)

- Fluency-enhancing methods and stuttering modification should be taught and mastered in a hierarchy of speaking situations that tax the patient's *limbic* system.

- Example hierarchy:
  - Reading
  - Conversation with examiner
  - Conversation with unfamiliar listener
  - Asking strangers for directions
  - Ordering food
  - Giving a short speech in front of a small group
  - Making phone calls to familiar listeners
  - Making phone calls to unfamiliar listeners
  - Giving a longer speech in front of a larger group

Hierarchy (potential recovery)

- Fluency-enhancing methods should be taught and mastered in a hierarchy of speaking situations that tax the patient's *language* system.

- Example hierarchy:
  - Single words
  - Two-word utterances
  - Carrier phrases (last word changes-- "I see a ___." "The monkey is ___.")
  - Rote phrases (same things over and over-- "I rolled a five. It's your turn.")
  - Self-creates sentences (Prompt, "Tell me something about _____.")
  - Story-telling (imitatively, then with less support)
  - Conversation (fading cues and modeling)

Setting Goals

- What goal/s will most impact the speaker's effectiveness as a communicator?

- With what goal(s) can the client expect to be the most effective?

- What goal(s) are most appropriate to the client's individual background & needs?

Data Collection

- Quantify
  - Use of techniques******
  - Stuttering events/fluency
    - Recommended for pre-post testing with persistent clients
    - Recommended in monthly intervals to track non-persistent clients
  - Knowledge
  - Cues and self-monitoring

Data Collection: Use of Techniques

- Percentage of times that techniques were used
  - Number of utterances in which techniques were employed vs. not used
  - Number of dysfluencies that were modified vs. not modified

Data Collection: Stuttering vs. Fluency

- **Per utterance**
  - Make a mark for each utterance (during the whole session or during a sampling) of if an utterance contained a dysfluency or was produced fluently.
- **Syllable counts**
  - Cannot reasonably do this for all speech during a therapy session
  - Can use a set speech sample (e.g. "Tell me about the last movie that you watched").
  - Can take a sampling of a set number of minutes or syllables from a speech sample.

<u>Example Treatment Plans</u>

<u>Long Term Goals:</u>

- Reduce the amount of Stuttering-Like Disfluencies (SLDs) exhibited by the patient in effort to achieve recovery before 3 years status post stuttering onset by achieving a fluency level of <1% dysfluent syllables for a 3-month period, marking the end of treatment. Baseline dysfluency in conversation: 18% dysfluent syllables.
- Increase patient's use of fluency-shaping in a variety of functional speaking tasks.
- Decrease the tension and struggle of stuttering moments.
- Decrease avoidance of specific feared words or speaking situations.

Fluency-shaping strategies will be employed to achieve reduced stuttering:

- **Slow rate of speech** (prolonged speech): The patient will prolong his duration of sounds in syllables and words, and phrasing; using increased duration of pauses between phrases, sentences, and speaking turns.
- **Continuous phonation**: The patient will 'keep his voice on' between words as if singing throughout connected speech.
- **Easy onset** when initiating speech: The patient will begin utterances with a small, whispered /h/ sound with the first word of a sentence or phrase.

- **<u>Short-term Goals:</u>**
  - The patient will demonstrate recall of fluency enhancing techniques, stuttering etiology, factors that compound stuttering severity, and fluency inducing conditions with 100% accuracy.
    - The patient will be given recall cues to remember the three fluency-shaping strategies with 100% accuracy.
    - The recall cues will be faded, and the patient will recall the three fluency-shaping strategies without assistance with 100% accuracy.
  - The patient will demonstrate the accurate use of all three fluency enhancing techniques (slowed rate, easy onset, continuous phonation) while participating in increasingly linguistically difficult tasks from naming, to using carrier phrases, to simple phrases in turn-taking, reading, defining multiple meaning words, telling stories, to spontaneous conversation with 100% accuracy.
    - Given modeling and instruction about the use of slowed rate, easy onset, and continuous phonation, the patient will demonstrate their simultaneous use in two-word phrases with 100% accuracy.
    - Given modeling and instruction and demonstration for the use of fluency-enhancing techniques (slowed rate, easy onset, and continuous phonation), the patient will demonstrate their simultaneous use in carrier phrases with 100% accuracy.
    - Given modeling and instruction and demonstration for the use of fluency-enhancing techniques (slowed rate, easy onset, and continuous phonation), the patient will demonstrate their simultaneous use in simple self-created sentences with 100% accuracy.

- Given modeling and instruction and demonstration for the use of fluency-enhancing techniques (slowed rate, easy onset, and continuous phonation), the patient will demonstrate their simultaneous use during rote simple, spontaneous sentences with 100% accuracy.
- Given modeling and instruction and demonstration for the use of fluency-enhancing techniques (slowed rate, easy onset, and continuous phonation), the patient will demonstrate their simultaneous use during spontaneous sentences (with a few seconds time to formulate his thoughts) with 100% accuracy.

- **Long Term Goals:**
- The client will use the Successful Stuttering Management Program (SSMP) techniques including preparatory set, slides, and cancellations to modify 100% of stuttering events and secondary characteristics in all functional communication situations and environments to attain maximum fluency.
- The patient will demonstrate the accurate use of all three fluency enhancing techniques (slowed rate, easy onset, continuous phonation) while participating in increasingly linguistically difficult tasks from naming, to using carrier phrases, to simple phrases in turn-taking, reading, defining multiple meaning words, telling stories, to spontaneous conversation with 100% accuracy.
- **Short-Term Goals:**

  - Given modeling and verbal instruction, the client will demonstrate the accurate use of cancellations during 100% of pseudo blocks while participating in increasingly linguistically difficult tasks from reading, to defining multiple meaning words, to telling stories.
  - Given modeling and verbal instruction, the client will demonstrate the accurate use of slides during 100% of pseudo blocks while participating in increasingly linguistically difficult tasks from reading, to defining multiple meaning words, to telling stories.
  - Given modeling and verbal instruction, the client will demonstrate the accurate use of preparatory set during 100% of fake blocks while participating in increasingly linguistically difficult tasks from reading, to defining multiple meaning words, to telling stories.
  - Given modeling and verbal instruction, the client will demonstrate the accurate use of all three SSMP techniques during spontaneous, real dysfluencies on 100% of stuttering events while participating in increasingly linguistically difficult tasks from reading, to defining multiple meaning words, to telling stories.
  - Given modeling and verbal instruction, the client will use SSMP techniques to modify 100% stuttering events in increasingly stressful communication situations, as reported by the patient and patient's family, including: conversations with unfamiliar listeners, reading passages out loud, ordering food in restaurants, talking on the phone or similar device, class presentations, and job interviews.
    - Use SSMP techniques to modify 100% of stuttering events for spontaneous dysfluencies while reading passages out loud.
    - Use SSMP techniques to modify 100% of stuttering events for spontaneous dysfluencies when ordering at a coffee shop.
    - USE SSMP techniques to modify 100% of stuttering events for spontaneous dysfluencies while giving short speeches to a small group of unfamiliar listeners.
    - Use SSMP techniques to modify 100% of stuttering events for spontaneous dysfluencies during short phone calls (1-5 minutes) with unfamiliar listeners.
    - Use SSMP techniques to modify 100% of stuttering events for spontaneous dysfluencies during long phone calls (5-15 minutes) with unfamiliar listeners.
    - Use SSMP techniques to modify 100% of stuttering events for spontaneous dysfluencies during story-telling discourse with the clinician.
    - Use SSMP techniques to modify 100% of stuttering events for spontaneous dysfluencies while answering mock job interview questions.