

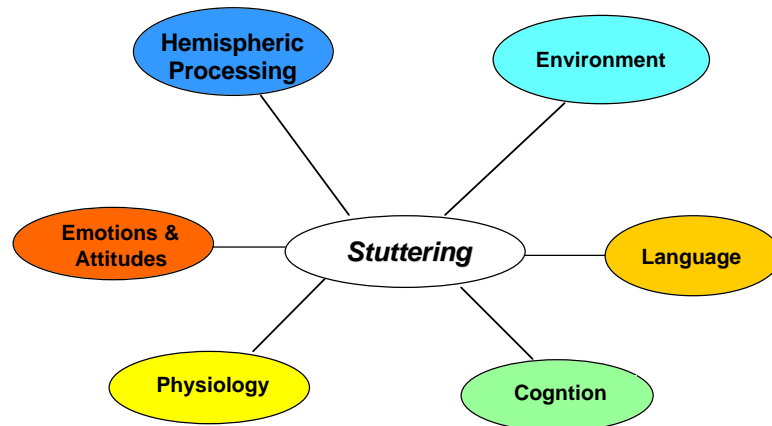
The Assessment and Treatment of Children Who Stutter: Assumptions and Perspectives

- The goal of this conference is to validate what you know about the assessment and treatment of stuttering and, to give you additional practical ideas and perspectives about working with children who stutter.
- Decisions about what to do in stuttering therapy are based on a number of factors. Many issues need to be addressed as they arise. Changes in the therapy plan might be necessary, even from one session to the next.
- Many of you are probably on the right track but you may not be sure of your final destination.
- This purpose of my presentation is to discuss a few questions/decisions that I think need to be asked and made when developing and implementing a treatment program.

Introduction to Assessment and Treatment of Stuttering: Theoretical Perspectives

- In the past, most clinicians approached assessment and treatment from a unidimensional perspective.
- This perspective suggests that there are number of individual factors which contribute to stuttering. Some factors appear to have more influence than others.
- One problem with a unidimensional perspective is that assessment and treatment evolve from the dimension(s) selected.

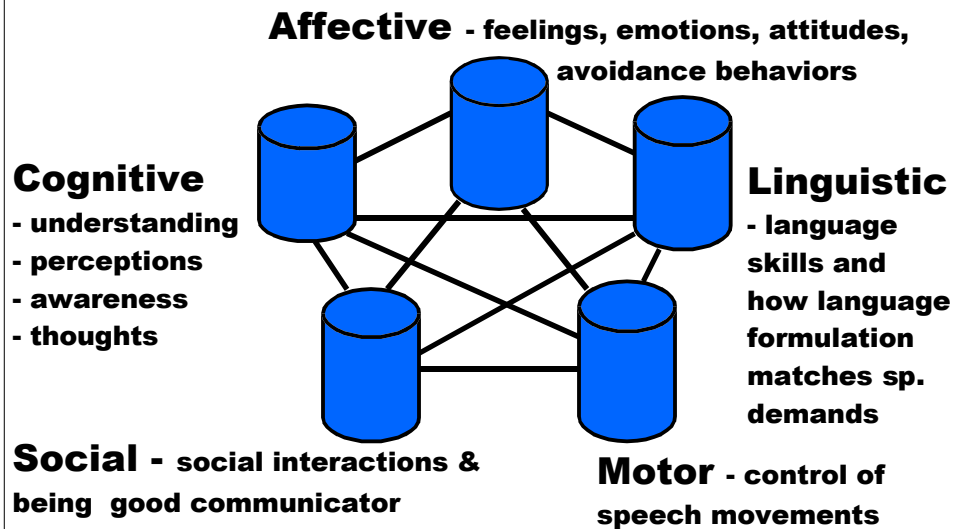
A Unidimensional Model of Stuttering



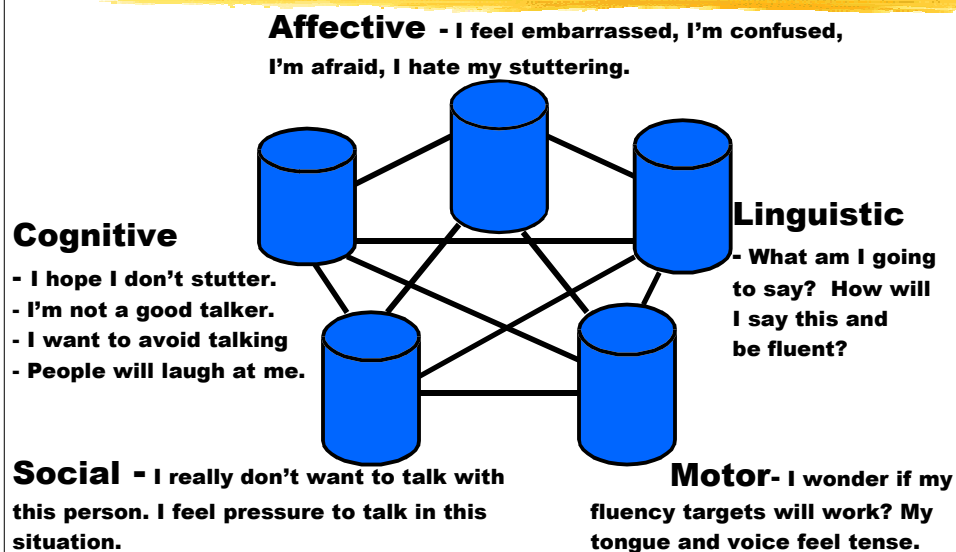
Stuttering is a Multidimensional Process

- During the last two decades, there has been a shift from a *unidimensional* to a *multidimensional* perspective.
- Stuttering can be considered a dynamic *interaction* of five factors: *Cognitive, Affective, Linguistic, Motor, and Social* factors (CALMS) (Norris et al. , 1998; Smith, 1999).
- The CALMS factors can be unique for each child who stutters and can serve as a guide for assessment and treatment (Susca and Healey, 2000).
- This concept is similar to the Demands and Capacities model of stuttering (Starkweather & Givens-Ackerman, 1987). The model suggests that stuttering occurs when there is a mismatch between the self-imposed or environmental speaking demands and the child's capacity or capacities for fluency in the speaking situation.

A Multidimensional Model of Stuttering



An Example of How the CALMS Factors Interact During a Speaking Situation



Research on Differentiating Between Normally-Nonfluent and Disfluent Children

- Dr. Ehud Yairi and his colleagues at the University of Illinois have provided the profession with valuable information about the differentiation of children who are and are not showing signs of persistent stuttering.
- A sample of recent studies by this research group:
 - Yairi, Ambrose, Paden, and Throneburg (1996)
 - Ambrose and Yairi (1999)
 - Paden, Yairi, and Ambrose (1999)
 - Watkins, Yairi, and Ambrose (1999)
 - Yairi and Ambrose (1999)
 - Ezrati-Vinacour, Platsky, and Yairi (2001)

Assessment of Preschool Disfluent Children

- Core elements of the evaluation:
 - 1. Obtain a large sample of speech during interactive play.
 - Frequency, type, duration of stuttering, evidence of secondary coping behaviors, speech rate, language level, and phonological abilities.
 - 2. Assess parent-child interaction.
 - 3. Conduct parent interview
 - History of the child's disfluencies, family history of stuttering, child's awareness, and parent concerns.
 - 4. Use Stuttering Prediction Instrument (SPI) and Stuttering Severity Instrument-3 (SSI-3) as a guide to diagnosis.

Predictive Factors of Preschool Children Who Will Have Persistent Stuttering

- If stuttering begins BEFORE age 3, there is a 70% chance the child will recover within 3-6 months after onset. AFTER age 3, stuttering will usually persist.
- Some children may recover from stuttering up to 3 years after onset.
- Children who recover from stuttering show a steady decline in the frequency of stuttering within the first year after onset.
- Children who persist show a sharp increase in stuttering in the first 6 months, followed by a decline, followed by a stable frequency pattern for the next two years.

Additional Risk Factors

- The child is a male (males persist more than females).
- The child has a family history of persist stuttering (severity is NOT related to family history).
- Higher risk if stuttering begins around 3 1/2.
- The child has been disfluent for more than a year.
- Child is aware of his/her fluency problem as evidenced by some action or statement.

Risk Factors (continued)

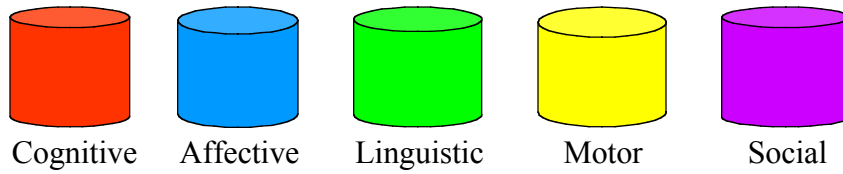
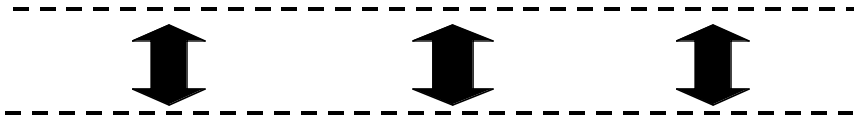
- Dominant features of the Stutter-Like Disfluencies (SLDs) are part-word repetitions, single syllable word repetitions, and disrhythmic phonations: sound prolongations, broken words). Frequency and extent of SLDs.
- Weighted score based on ave. freq. in 100 syllables:
 - $[(PW + SS) RU] + (2 \times DP)$
 - e.g., $[(2.5 + 1) \times 2] + (2 \times 1.5) = [7 + 3] = 10$ (see handout)
 - Ambrose and Yairi (1999) show that any weighted score 4 or higher is indicative of beginning stuttering. Children who had weighted scores below 4 were typical of normally-fluent children.

Risk Factors (continued)

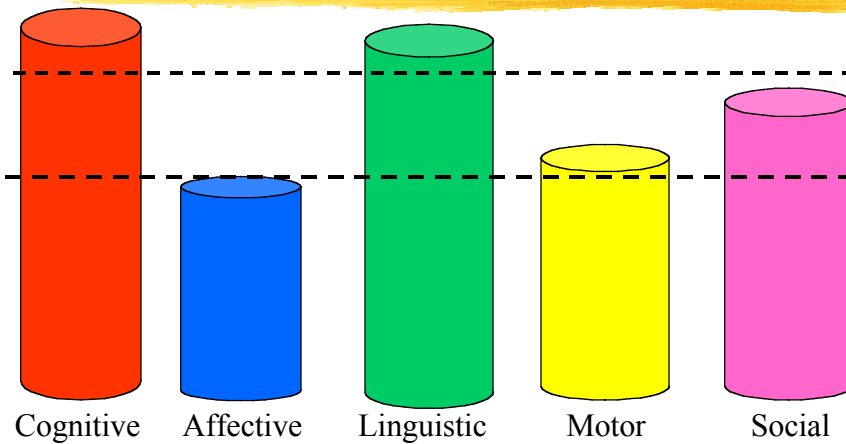
- During the production of a part-word repetition, there are:
 - ✓ usually 2 or more units repeated.
 - ✓ irregular patterns to the repeated units.
 - ✓ fast tempo to the repeated units (short inter-unit pause times).
- Child shows signs of tension and struggle.
- Child shows poor language & phonological skills.
- SPI score 18+, SSI-3 score 16+, sound prolongations 30%+, and total disfluencies 10%+.

Hypothetical Conceptualization

Above Dotted Line = Normal Condition
Between Dotted Line = Borderline Condition
Below Dotted Line = Abnormal Condition



Stephanie: Preschool Child Who Stutters



Treatment Decisions

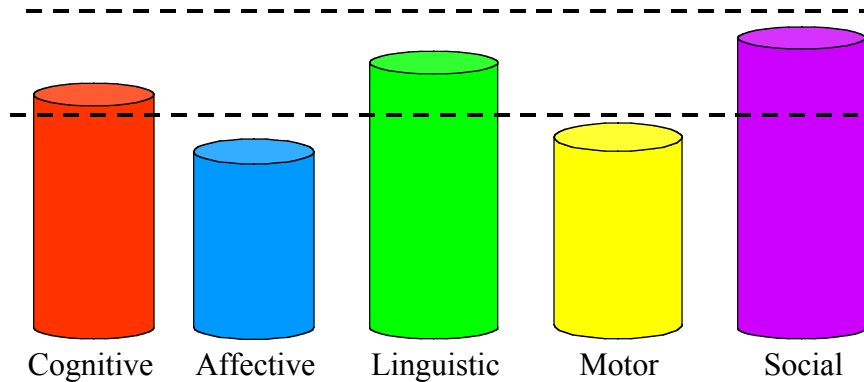
■ *Direct or Indirect therapy?*

- Indirect= Parent counseling and training.
- Direct= Working directly on the disfluent speech and counseling/training the parents.
- Direct therapy is usually warranted when:
 - ✓ A. Child has had a long period of consistent disfluent speech and shows some degree of struggle and tension.
 - ✓ B. Child has negative reactions to talking.
 - ✓ C. Parents are willing to be part of the treatment program.

Assessment of School-Age Children Who Stutter

- Fluency problem has persisted for some time. Determine if child verifies as a fluency disorder.
- “Core” elements of an assessment:
 - 1. Obtain stuttering frequency data in several settings.
 - 2. Rate severity and note the type and duration of stuttering.
 - 3. Note secondary coping behaviors.
 - 4. Explore all aspects of the child’s CALMS profile.
 - 5. Clarify child and parent expectations about treatment.
 - 6. Determine past treatment history--failures and successes.

Cory: School-Age Child Who Stutters



Questions and Decisions Related To Treating Children Who Stutter

(Adapted from Healey, Scott, and Ellis (1995))

- ✓ 1. How will I treat children who stutter?
- ✓ 2. How will I know if therapy is successful?
- ✓ 3. What factors will influence therapy outcome?
- ✓ 4. What should I focus on in therapy?
- ✓ 5. How will I structure therapy using an integrated approach?
- ✓ 6. How will I document treatment outcome?
- ✓ 7. Why is my client making slow or limited progress?

Decision 1: How will I treat children who stutter?

| Self Evaluation:

- | Past training and experience with the disorder.**
- | Availability of a specialist to call for advice.**

| Treatment Philosophy & Beliefs



| Treatment adopted



| Treatment Goals



| Treatment Outcome/ measures of success

Decision 2: How will I know if therapy is successful?

- ✓ There are many different ways to define “successful therapy.”**
 - ✓ A. Client has achieved 100% fluency in all speaking situations.**
 - ✓ B. Client shows a reduction of “X %” of stuttering for “X” minutes of speaking without increasing other undesirable speaking behaviors.**
 - ✓ C. Client has been able to change severe stuttering into mild stuttering.**

Defining Success

- ✓ D. Negative reactions, emotions and attitudes have been reduced. Child's beliefs and thought patterns have lead to less avoidance and increased acceptance of stuttering.
- ✓ E. Child has improved language skills which has facilitated improved fluency.
- ✓ F. Parents have become more comfortable, patient, and less critical of their child's stuttering.
- ✓ G. Child has improved his self-monitoring and self-directed use of speech strategies that improve fluency.
- ✓ H. Child perceives and experiences being more relaxed about stuttering and in a little more control of his speech.

Decision 3: What factors might influence the outcome of therapy?

- Child's willingness, interest, and motivation to be involved in therapy.
- Impact of concomitant speech/lang. disorders. (see Arndt & Healey, 2001)
- Treatment "burnout" for adolescents.
- Parent involvement.
- Teacher's willingness to assist in the classroom.

Decision 4: What should I focus on in therapy?

■ Most school-age children who stutter need to improve:

- ✓ 1. How they think about themselves and what do they know about their stuttering (**Cognitive**).
- ✓ 2. How they feel about themselves and stuttering (**Affective**).
- ✓ 3. How they formulate messages as speech demands become more difficult (**Linguistic**).
- ✓ 4. How they manage the speech process (**Motor**).
- ✓ 5. How stuttering impacts interactions with various people in various situations (**Social**).

Treatment Objectives

■ **Cognition Component: Thoughts, Awareness, Knowledge, Understanding, and Perceptions:**

- ✓ Increase positive thoughts and perceptions about stuttering?
- ✓ Increase awareness of stuttering and fluency.
- ✓ Focus on attention on how variations of fluency and stuttering sound and feel.
 - Poor self-monitoring: Is it a lack of awareness or denial in identifying moments of stuttering?
- ✓ Increase understanding and knowledge of the components of fluency and stuttering.
- ✓ Explore the child's reactions to and perceptions of listeners to the stuttering.

Cognitive Component (Con't)

- ✓ Focus on positive aspects of child's speech. Help child achieve a feeling that he/she is can be successful.
- ✓ Increase focus on what child CAN DO instead of what he CAN'T DO. Confidence comes from making positive changes and not feeling helpless.
- ✓ Help child believe that stuttering is under his/her control.
 - Explore what may contribute to a feeling of being out of control or having a loss of control of speech.
 - What does the child believe "causes" his/her stuttering?

Treatment Objectives

- **Affective Component: Feelings & Attitudes**
 - ✓ Create an understanding of emotional reactions to stuttering. How is the stuttering related to how they feel about themselves?
 - ✓ Explore worries, concerns and anxieties about talking.
 - ✓ Use voluntary stuttering to learn how the child stutters. Have child teach you hard vs. easy stutters.
 - ✓ Normalize feelings, emotions, and attitudes about stuttering. Create a "safe house" for talking.
 - Desensitization and "De-awfulizing" stuttering
 - It's OK to stutter, It's OK to fail, It's OK to feel bad about stuttering.

Treatment Objectives

■ **Linguistic Component: Language Formulation, Discourse, and Semantics**

- ✓ Discover linguistic contexts that assist greater control over speech (oral reading vs. spontaneous speech).
- ✓ Support responses with contextualized speech contexts and then move to decontextualized speaking tasks. Also, increase the flexibility in language use through changes in semantic complexity.

(Scott Trautman, Healey, and Norris, 1999 and the SDS Model - Norris and Hoffman, 1993)

Linguistic Component (con't)

- ✓ Find a level where success can take place and then gradually move to a more difficult linguistic level. Across sessions, build on success but also challenge the child to managing speech at higher levels of language use.
- ✓ Note how the level of fluency and language formulation proficiency change as the situational, discourse, and semantic levels change.

Treatment Objectives

■ *Motor Component: Improvement in the Motor Control of Speech Movements*

- ✓ Teach the mechanics of fluency and stuttering. “*Speech Physiology 101*”
 - ✓ **THE 3 D’s** (Shapiro, 1999)
 - ✓ **Discuss** (explain) how fluency and stuttering are produced.
 - ✓ Repeat explanations often. Have child put into own words.
 - ✓ **Demonstrate** (show) what happens during fluency and stuttering.
 - ✓ **Drill** (practice) skills that promote fluency. When a stuttered moment occurs, have child explore what needs to change.
 - ✓ NOT THE SAME AS DRILL FOR SKILL

Motor Component (Con’t)

- ✓ Decide which fluency shaping and/ or stuttering treatment techniques seem best for the child. Use “tool box” analogy.
- ✓ Teach fluency enhancing skills that match the disruptions in the child’s speech system (*e.g., easy onsets for phonatory disruptions; slower sp. rates for better control of sp. movements, etc.*).
- ✓ Teach pullouts, light articulatory contacts, and cancellations as an alternative strategy when fluency skills don’t work.
- ✓ Focus on how and why techniques make talking easier. **RESPECT CHILD’S CHOICE OF STRATEGIES.**
- ✓ Vary performance of strategy - extreme to minimal use.

Treatment Objectives

■ **Social Component: Pragmatics of Social Interactions**

- ✓ Use theme-centered, high interest topics to create realistic speech interactions during therapy (dinosaurs, pets, sports, dance, family, hobbies, etc.)
- ✓ Discuss features of effective communication (Dodge, 2000)
 - ✓ A. Being a good listener and maintaining eye contact.
 - ✓ B. Not interrupting someone else who is talking.
 - ✓ C. Gets in and out of conversations smoothly.
 - ✓ D. Knowing how and when to take conversational turns.
 - ✓ E. Being willing to talk to anyone at anytime, anywhere.

Social Component (Con't)

- ✓ Move systematically through easy to difficult speaking situations.
- ✓ Help the child become more comfortable using speech strategies.
- ✓ Help create positive communicative interactions with the family.
- ✓ Reduce the impact of “fluency disruptors” (time pressure, people interrupting, loss of listener, etc).
- ✓ Develop brief homework assignments.

Decision 5: How will I structure therapy using an integrated approach?

- The structure therapy will vary and the need to be flexible will dictate which path(s) to follow.
- Think of therapy as occurring in stages or phases.
- There are times that the focus of treatment will be on one process more than another but try to be as integrative as possible during each session.

Decision 6: How will I document treatment outcome?

- ✓ The type of data or measures collected depends on the goals of therapy.
 - ✓ Clinician needs to decide how often data will be collected.
- ✓ **Fluency Portfolio**
(See *Kratcoski, 1998*)
A collection of both quantitative and qualitative data regarding *symptoms, functional outcomes, general perceptions, and communicative competence.*

What could I include in my client's Fluency Portfolio?

✓ **Examples** of quantitative data (*Symptoms*):
(Refer to Ingham & Riley, 1998; Blood & Conture, 1998)

- ✓ The frequency of stuttering in several contexts.
- ✓ The types of stuttering produced, reduction in number and form over time.
- ✓ Number of times ___ behaviors are exhibited.
- ✓ Number of times client self monitors and corrects a disfluent moment without prompting.
- ✓ Likert-type ratings to document changes in behaviors.
- ✓ Changes in stuttering severity (SSI-3).

Qualitative data for the Fluency Portfolio

✓ Qualitative data on: (*Functional outcomes, perceptions, and Communicative Competence*)

✓ Scores on scales (CAT), summary of comments and observations across sessions, and improvements as indicated on the multidimensional treatment checklist (see handout).

Examples:

- Comments from child, parents and teachers about successes and failures - logged & dated.
- Child's verbal explanations of concepts learned in therapy.
- Products of therapy such as drawings, graphic organizers, ratings of performance, etc.
- Observation of changes in the child's reaction to his/her stuttering across sessions and while the child talks with a variety of communicative partners.

Decision 7: Why is my client making slow or limited progress?

Client

Lacks motivation

Doesn't self-monitor

Fears failure & stuttering

Parents

Don't get involved

Expect too much fluency

Focus too much neg. attention on speech

Clinician

Approach doesn't meet child's needs

Focuses too much on techniques

Not enough time spent on emotions of stuttering

Final Thoughts

- ✓ **Approach therapy as a dynamic, multidimensional process. Many factors interact to maintain the disorder and multiple factors need to be addressed in therapy.**
- ✓ **There isn't one approach that will work for all children who stutter. Tailor the therapy to the needs of the child through decision making and problem solving.**
- ✓ **Children who stutter need to see that they should not hide from their stuttering, that it's OK to stutter, and with time and effort, they can learn to talk in an easier way.**
- ✓ **The ultimate treatment goal is to help a child believe, feel, and talk in a way that's comfortable for him/herself.**