Disclosure Statement

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Speaker Disclosure
Financial: Amy Clark receives salary compensation for her role with the PROMPT Institute. Partial financial support for attending the conference was provided by Apraxia Kids.

Nonfinancial: Member of the Professional Advisory Council of Apraxia Kids for which she receives no compensation.

Learning Objectives

- Identify movement patterns and treatment priorities as they apply to the System Analysis Observation (SAO) and Motor Speech Hierarchy (MSH)
- List and explain levels of PROMPT, mass/distributed practice, reciprocal turn-taking and repetitive predictable play routines
- Understand how evidence-based PROMPT research is linked to clinical practice
The PROMPT Institute Vision

The PROMPT Institute Vision is to have PROMPT readily available to every person, in every country, who has potential to benefit from it.

PROMPT Institute Mission

We are a non-profit organization with the following primary objectives:

• Provide education for SLPs, parents, general public
• Develop, participate in and fund research
• Provide workshop scholarships for underserved populations
• Provide treatment grants for those unable to pay

What is PROMPT?

• P – Prompts for
• R – Restructuring
• O – Oral
• M – Muscular
• P – Phonetic
• T – Targets
PROMPT is used with:
Children with:

- Phonological delays
- Developmental delays
- Dysarthria
- Childhood Apraxia of Speech
- Motor Speech Disorders
- Hearing impairment
- Autism Spectrum Disorders
- Fluency disorders
- Difficulty acquiring foreign language sounds systems

PROMPT is...

**Philosophy**

**Approach**

**System**

**Technique**

PROMPT Conceptual Framework
### Physical-Sensory Domain

<table>
<thead>
<tr>
<th>Areas to observe</th>
<th>General Assessment Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skeletal Structure</td>
<td>How does your client’s skeletal structure and muscular development impact movement?</td>
</tr>
<tr>
<td>Sensation</td>
<td>What is the status of the neuromuscular system?</td>
</tr>
<tr>
<td>Neuromuscular Integrity</td>
<td>What factors impact global motor and speech motor control?</td>
</tr>
</tbody>
</table>

### Cognitive-Linguistic Domain

<table>
<thead>
<tr>
<th>Areas to observe</th>
<th>General Assessment Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perception; sensation; discrimination; recognition</td>
<td>How does your client process information and interact with the environment to learn?</td>
</tr>
<tr>
<td>Concept Formation</td>
<td>How does the environment need to be structured for learning?</td>
</tr>
<tr>
<td></td>
<td>What modifications are necessary for the client to learn?</td>
</tr>
</tbody>
</table>

### Social-Emotional Domain

<table>
<thead>
<tr>
<th>Areas to observe</th>
<th>General Assessment Questions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpersonal Interactions</td>
<td>How does your client express their needs and wants?</td>
</tr>
<tr>
<td>Trust</td>
<td>What communicative functions does your client exhibit?</td>
</tr>
<tr>
<td></td>
<td>How does your client use significant others to aid in the acquisition of knowledge</td>
</tr>
</tbody>
</table>
PROMPT Tenets

• Restructuring should alternate focus among all domains

• Communication may be disrupted by a breakdown in any or all three domains

• The ultimate goal is to achieve a state of equilibrium across domains to the highest level attainable

PROMPT Assessment

• Caregiver Interview

• Global Domain Evaluation ~ Holistic

• System Analysis Observation (SAO)

• Motor Speech Hierarchy (MSH)

PROMPT Assessment

• Inclusive: brings caregivers into the assessment process

• Strengths and Weaknesses in each domain are carefully identified

• Motor rather than strictly auditory or developmental model

• Bottom Up Motor Assessment
Movement Patterns to Observe on the SAO

- **Jaw:** Mandibular Control
- **Lips:** Labial-Facial Control
- **Tongue:** Lingual Control
PROMPT as a System

Complete SAO  Transfer to MSH  3 Motor Speech Priorities

PROMPT Treatment

• Work on Stages/Planes of Movement Rather than single Phonemes

• Work across three stages at once with varying priorities
PROMPT Treatment

• Focus on All Domains
• Treatment is Always Functional
• PROMPTS Faded When Appropriate

PROMPT Treatment

• Functional Lexicon that Matches Specific Motor Level
• Structured activities spotlighting the targeted domain for the child to be available for learning

PROMPT Treatment

• Emphasis on vowels and diphthongs
• “Speech through speech”, no oral-motor
• Close proximity to client and tactile cueing
• All treatment is functional and interactive
Choose a Functional Lexicon

- Based on Motor Speech Hierarchy
- Emphasis on the movement of vowels
- Create motor phoneme links that are appropriate for the client’s motor system
- Functional words that can be embedded into activities

Uses of PROMPT

- Cognitive Linguistic
- Physical Sensory
- Social Emotional
  - Perception
  - Sensation
  - Motor Analysis
  - Recognition
  - Construction
  - Interpersonal Interaction

Key Features of Treatment

- Levels of PROMPT
- Online Shaping
- Mass/Distributed Practice
- Reciprocal Turn-Taking
- Repetitive Predictable Play Routines
Summary: What to Expect

- Holistic – addressing all of the domains
- Inclusive – bringing caregivers/families into the treatment process
- Motor rather than strictly auditory or developmental model
- “Speech through speech”, no oral-motor
- Proximity to client and tactile cueing
- New motor skills
- All treatment is functional and interactive

Levels of PROMPT

- Surface
- Complex
- Syllable
- Parameter

Ryan & Lilly: Parameter PROMPTs

Ryan: 3 Years Old
- Establish a lower mandibular boundary
- Improve mid-line jaw control

Lilly: 4 Years Old
- Improve rounding
- Improve jaw grading
Garrett AKA “Rascal” 3 Years Old

- Born Full Without Complications
- Hearing WNL, No HX of Ear Infections
- HX of Pacifier Use & Thumb Sucking

PROMPT
Conceptual Framework

Client

Social Emotional
Interpersonal Interaction
Trust

Motor Speech Hierarchy
Priority #1: Mandibular Control

- Achieve an appropriate lower mandibular boundary
- Develop the ability to produce an open to close and close open close in the vertical plane of movement
- Increase degrees of freedom ~ Stop clenching pattern

/m/, /p/, /b/, /æ/, /a/

Priority #2: Labial-Facial Control

- Develop Rounding
- Develop Retraction
- Develop medial 1/3 lip contact
- Achieve Symmetrical movement

/i/, /u/, /o/, /m/, /p/, /b/

Priority #3: Lingual Control

- Develop Anterior Lingual Contraction
- NOTE Garrett will first achieve anterior lingual movements through jaw

/d/, /t/, /n/
Case Study #2: Holly

- 4 Year-Old
- Chromosome 8 Deletion
- Hypotonic
- Plagiocephaly
- Scoliosis
- Significant gross and fine motor impairments
- Left sensorineural hearing loss

Priority #1: Phonatory Control

- Establish the ability to turn voice on for communicative intent
- Establish ability to produce nasal /m/
  /a/ for on, off, up
  /m/ for me, mo/more, mom
Priority #2: Mandibular Control

- Maintain ability to maintain voicing through jaw movements
- Establish ability to move from close to open
- Establish ability to move from open to close

Priority #3: Tone

- Postural Pre-tuning
- High arousal activities
- Co-Tx with PT
- Optimize positioning

PROMPT Research

Current PROMPT Evidence Pyramid
13+ studies; 135+ subjects; $2+ million
**Speech Intelligibility**

- **Speech Intelligibility Measures**
  - Performance on single word testing is a poor indicator of speech intelligibility
  - Motor control (planning & sequencing) is more indicative
  - PROMPT focuses on the underlying motor control


**Kinematic Study**

- Movement changes in response to PROMPT Therapy
- Single-subject multiple baseline across participants: Children with CP
- Improvement in movement resulted in significantly improved speech perception


**Cortical Thickness**

- Cortical Thickness in Children Receiving Intensive Therapy for Apraxia of Speech
  - MRI results showed children with CAS had thicker LSMG
  - After PROMPT Therapy, sig. thinning of Left Posterior Superior Temporal Gyrus (Wernicke’s Area)
  - 1st study to show experience-related structural plasticity after therapy for speech sound disorders
  - Why Wernicke’s area? Possible role in Auditory-Motor phonemic representation

VOT and PROMPT

- Significant changes in VOT compared to controls.
- Normalized VOT after PROMPT Therapy which focused on Mandibular control
- Mandibular functioning impacts coordination between phonation and articulation


Current Research

Randomized Controlled Trial
- 44 participants
- Randomly selected
- Control group
- Group receiving PROMPT
- Does PROMPT group exhibit significant change vs. controls

Random Control Trial – Efficacy Study Results
University of Toronto at ASHA Convention 2018

PROMPT intervention is a clinically effective treatment approach for children with severe Speech Sound Disorders:

- Significant change in:
  - Oro-Motor Control Skills
  - Articulation
  - Speech Severity (PCC)
  - Word-Level Speech Intelligibility
- 10 weeks of therapy may be inadequate for
  - Changes in Sentence level intelligibility (BIT)
  - Functional communication (FOCUS)
- Non-target variables in therapy do not change
  - Oro-Motor Sequencing
  - Phonological processes.
Want to Learn More?

• Visit PROMPTinstitute.org
• Read evidence-based research
• Find a PROMPT Trained Therapist
• Register for the Introduction to PROMPT: Technique Course

PROMPT Levels of Training

THANK YOU!

You are welcome to contact me:
amyc@promptinstitute.com