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The Changing Landscape of Sensory-Based Speech Teaching Using Tactile Cueing Techniques.

**MARSHALLA**  
SPEECH & LANGUAGE

**Renee Roy Hill** MS, CCC-SLP, CLC  
Certified: Orofacial Myofunctional Disorders (2019, #329-C-19, IAOM)

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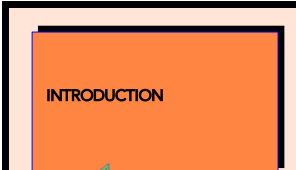

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**MARSHALLA**  
SPEECH & LANGUAGE

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**OUR FOUNDER PAM MARSHALLA**

Pam founded the Oral Motor Institute in 2007. She was a strong advocate of correct oral placement and how to achieve it which explains why her techniques were so successful.




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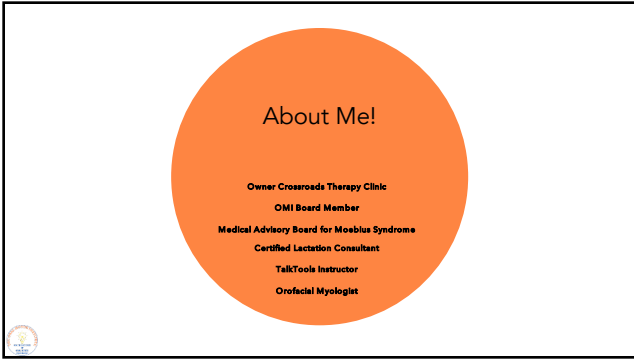
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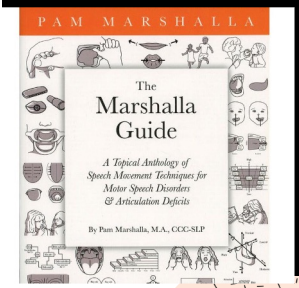
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**OMI MISSION STATEMENT**

The Oral Motor Institute's Mission is to support the specialty of oral-motor based therapy approaches that enhance the development of the orofacial complex and the functions of respiration, sleep, feeding, swallowing and speech.

**The OMI**

- Educates the multi-disciplinary team that assesses and treats oral motor dysfunction throughout the lifespan.
- Advocates for an increased scientific understanding of oral motor assessment and treatment.
- Supports the integrity of oral motor sciences by providing access to research.
- Endorses public safety through assessment and treatment of oral motor disorders within licensure guidelines and professional scope of practice.



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**THE OMI'S VISION**

The OMI's vision is to inspire others to accept, embrace, respect, and advocate for the existing and evolving evidence-based practices, which supports the validity of oral motor assessment and therapy.



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**THE OMI'S AREAS OF FOCUS**

**Ethics**

We endorse public safety through assessment and treatment of oral motor disorders within licensure guidelines and professional scope of practice.

**Education**

We educate the multi-disciplinary team that assesses and treats oral motor dysfunction throughout the lifespan.

**Evidence**

Supports the integrity of oral motor sciences by providing access to research.

**Advocacy**

Advocates for an increased scientific understanding of oral motor assessment and treatment.



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**OMI BOARD OF DIRECTORS**

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- Kaitlyn Shrum, Social Media Director
- Mary Billings, Secretary




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Renee Roy Hill  
FINANCIAL DISCLOSURES

Owner:  
Crossroads Therapy  
Clinic  
New Braunfels, TX

Author & Consultant:  
TalkTools



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**NON-FINANCIAL DISCLOSURES**

OMI Board Member

Member: ASHA, TSHA

Medical Advisory Board Member  
Moebius Foundation



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Course Overview

- Introductory Course
- Focus on sensory-based and tactile cueing approaches for speech
- Emphasis on movement, perception, and motor speech

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LEARNER OBJECTIVES

- Licensed professionals will describe at least three cueing systems used to facilitate speech production
- Licensed professionals will match cueing strategies to client profiles with motor speech disorders
- Licensed professionals will explain the role of oral perception in speech development

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Clinical Foundations of This Course

Speech is rooted in movement, not just language

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Oral-motor function influences: Speech-Feeding-Airway

↓

This course focuses on Perception-Movement-Speech

↓

Our role is to identify the *true level of breakdown*

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**PART 1: Teaching Speech Movements with Cues**

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**THE ORAL MOTOR INSTITUTE**  
FOR THE SCIENCE OF ORAL MOTOR TREATMENT

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**Why Cueing Systems Exist**

Traditional auditory-verbal approaches are not sufficient for all learners

Motor speech disorders require movement-based teaching

Cueing bridges perception → movement → speech

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**A Sensory Based Approach to Achieving Motor Function**

**Questions to ask:**

Is the client aware of the articulator used for the target sound?

Can the client move the articulator used for the target sound?

Do the produce the movement with a normal and compensatory movement pattern?

Can the client produce the target sound?

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### Historical Perspective on Cueing

Clinician-developed vs. formally taught systems

Limited research but extensive clinical use

Integration of multiple cueing strategies in practice

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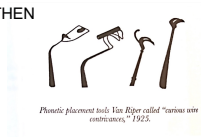
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### QUOTE:

“For centuries, speech correctionists have used diagrams, applicators, and instruments to ensure appropriate tongue, jaw, and lip placement. These phonetic placement methods are indispensable tools in the speech correctionist’s kit... Every available device should be used to make the student understand clearly what positions of tongue, jaw, and lips are to be assumed”. (Van Riper, 1954, p. 236-8) (The Marshalla Guide)

#### THEN



#### NOW



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### Pam Marshalla’s Clinical Perspective

Quote: “An adequate perception of the mouth and its movement capabilities is necessary to develop mature speech.”

Emphasis on oral awareness and movement exploration

Foundation for sensory-based teaching

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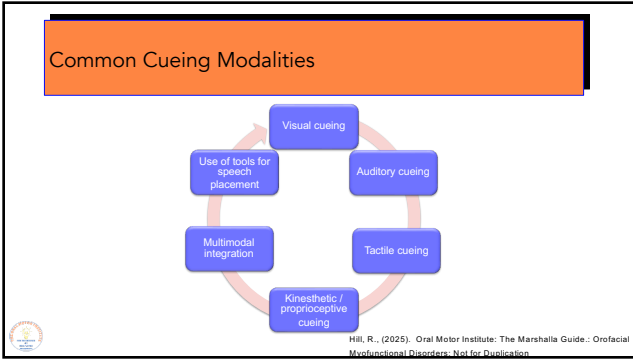
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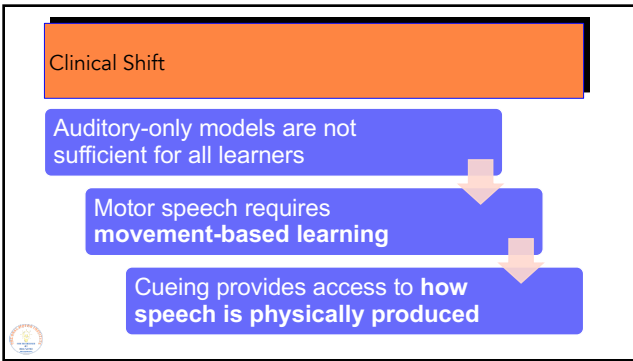
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**PART 2: Principles of Speech Movement Learning**

**MARSHALLA**  
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**Speech as a Motor Skill**

- Speech = learned motor behavior
- Requires planning, execution, and feedback
- Differences between linguistic vs. motor errors

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**Linguistic Speech Errors**

**CORE CHARACTERISTICS**

- Errors reflect phonological rule patterns
- Difficulty lies in **sound selection, organization, or contrast**
- Motor execution is **INTACT**

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**Common Features**

- Consistent error patterns
  - Fronting, stopping, final consonant deletion
- Errors are predictable
- Child can often imitate sounds in isolation
- Improved accuracy with auditory and visual models
- Errors change with linguistic context (word position, syllable structure)

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**What You'll See Clinically**

- Clear oral-motor movements
- Good imitation with a model
- Errors increase with: longer words, complex phonological rules
- Speech may be highly intelligible in familiar contexts

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**What Helps**

- Auditory discrimination
- Phonological contrast therapy
- Minimal pairs
- Visual cues (mirrors, mouth pictures)
- Linguistic feedback ("That changes the meaning")

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**Matching Teaching Method to Speech Need**

- Why one cue does not fit all
- Importance of individual motor profiles
- Clinical decision-making framework

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**Speech is a Movement Skill**

- Speech requires planning, execution, and feedback
- Errors may reflect motor breakdown—not language
- Accuracy must come before speed
- Practice must be intentional and structured



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**Motor Speech Errors**

**CORE CHARACTERISTICS**

- Breakdown in **planning, programming, or execution**
- Inconsistent errors across attempts
- Difficulty sequencing movements

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**Common Features**

- Inconsistent productions of the same word
- Groping or visible effort
- Vowel distortions
- Prosodic abnormalities
- Difficulty transitioning between sounds or syllables

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**What You'll See Clinically**

- Child may say it "right once" but not again
- Errors increase with: Increased length and speed
- Limited benefit from auditory-only cues
- Poor carryover without movement support

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**Clinical Shift**

Auditory-only models are not sufficient for all learners

Motor speech requires **movement-based learning**

Cueing provides access to **how speech is physically produced**

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**What Helps**

- Tactile cueing
- Kinesthetic input
- Slowed rate
- Repetitive practice of accurate movement patterns
- Motor learning principles (blocked practice → variability)

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### Recognizing Motor Speech Patterns

Inconsistent productions across attempts

Difficulty sequencing movements

Limited response to auditory-only cues

Requires movement-based intervention



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### Linguistic vs. Motor Speech Errors

FEATURE	LINGUISTIC ERROR	MOTOR SPEECH ERROR
Consistency	Predictable	Variable
Primary Breakdown	Sound System	Movement Planning/Execution
Imitation	Strong	Often Limited
Response to Auditory Cues	High	Low
Benefit from Tactile Cues	Minimal	Significant
Carryover	Fast	Slow, Requires Practice

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### Is it a Linguistic or Motor Speech Error?

Yes

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Are errors consistent and predictable?

Does the child imitate sounds accurately?

Does the child respond best to auditory / visual models?

Linguistic Error

Breakdown is in sound system

No

Are errors variable and inconsistent?


Does the child struggle to imitate sounds?

Do errors increase with longer / faster speech?

Motor Speech Error

Breakdown is in movement planning / execution

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**Your Clinical Filter**

- Can they **feel** the movement?
- Can they **initiate** the movement?
- Can they **control** the movement?
- Can they **sequence** the movement?

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**Key Motor Learning Principles**

- Repetition and intensity
- Accuracy before speed
- Feedback timing and type
- Practice variability

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**Motor Speech Disorders Overview**

- Dysarthria
- Childhood Apraxia of Speech
- Severe articulation disorders with motor components
- When traditional articulation therapy breaks down

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**Clinical Decision- Making**

- Linguistic vs. motor errors require different approaches
- Cueing type should match the breakdown
- One strategy does not fit all clients
- Assessment drives treatment selection



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**Motor Learning Drives Change**

- Repetition builds pathways
- Accuracy before speed
- Feedback timing matters
- Practice must evolve (blocked v. variable)



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**PART 3: Oral Perception & Speech Movement Learning**

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### What is Oral Perception?

**1**

Somatosensory input from lips, tongue, jaw

**2**

Relationship between perception and movement accuracy

**3**

Role in speech acquisition

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### What the Research Tells Us About Somatosensory Input in Speech

**Ito et al. (2009)**  
*Proceedings of the National Academy of Sciences*

- Altered facial tactile input
- Auditory signal remained unchanged
- Perception of phonemes shifted
- Somatosensory input influences speech perception

**Grigos et al. (2015)**  
*Journal of Speech, Language, and Hearing Research*

- Children with CAS showed:
  - Increased movement variability
  - Reduced articulatory stability
  - Difficulty scaling movement complexity
- Motor instability, not just "wrong sounds"

**Clinical Insight**

- Speech perception integrates touch.
- Motor speech disorders involve unstable movement control.
- Tactile cueing may support sensorimotor integration

Tactile cueing is neurologically plausible — not merely compensatory.  
Hill, R., (2025). Oral Motor Institute: The Marshalla Guide : Orofacial Myofunctional Disorders: Not for Duplication

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### Integration of Speech Perception & Production

Perception + Production

Sound

Touch + Movement

Ah ha!

Tactile cueing may directly engage a neural pathway integral to both perception and motor control.  
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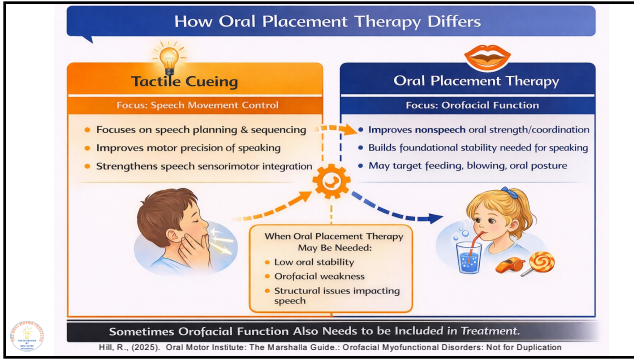
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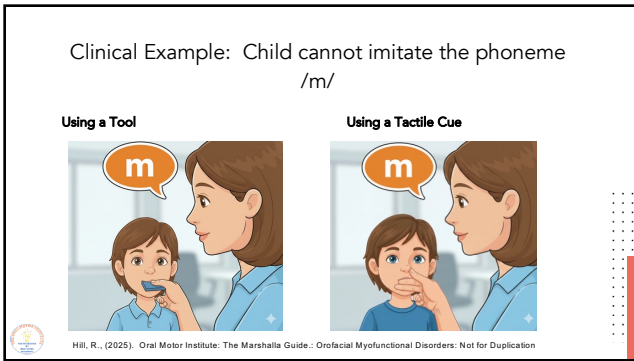
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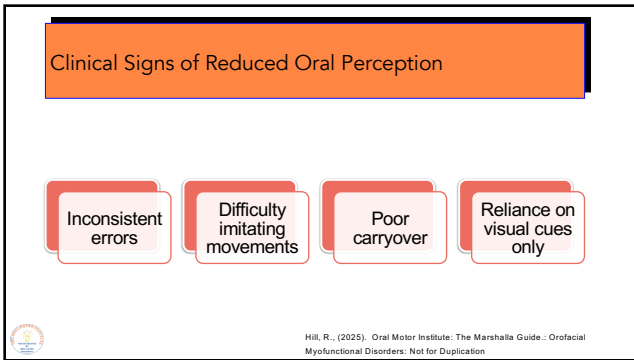
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**You Can't Say What You Can't Feel**

Oral perception is the foundation of speech movement

Movement is the foundation of speech

Inconsistent speech reflects inconsistent awareness

Tactile cueing builds the system-not just the sound

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**PART 4: Teaching Movement Through Tactile Cues**

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**What is Tactile Cuing?**

Direct touch to guide movement

External feedback to internalize motor plans

Temporary scaffolding, not permanent prompting

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**The Motokinesthetic Method**

- One of the earliest formal speech movement systems
- Origins and philosophy
- Use of tactile-kinesthetic input

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**Other Contemporary Tactile Cueing Approaches**

- DTTC
- Contemporary tactile cuing methods
- Oral placement-based techniques

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**Integral Stimulation:**  
**"Watch Me. Listen to Me. Say It With Me."**

- Auditory-visual imitation model
- Whole word/phrase repetition
- Emphasis on accurate modeling
- Limited physical cueing

**BUILDS MOVEMENT THROUGH STRUCTURED IMITATION**

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**Dynamic Temporal & Tactile Cueing (DTTC):  
Adding Structure to Motor Learning**

- Hierarchical cueing levels
- Slowed rate → natural rate
- Tactile input integrated
- High repetition intensity

STABILIZES MOTOR PLANNING THROUGH STRUCTURED FEEDBACK  
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**Contemporary Tactile Cueing Models:  
Expanding Sensorimotor Integration**

- Direct articulator guidance
- Somatosensory input emphasized
- Focus on movement trajectory
- Cueing for instability

DIRECTLY ENGAGES SOMATOSENSORY PATHWAYS IN SPEECH PRODUCTION  
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**Oral Placement Approach  
Tool-Based & Tool-Fading Framework**

- Facilitate speech movement **with a tool**
- Facilitate speech movement **without a tool**
- Produce speech sound **with tool/hand cue**
- Produce speech sound **without the tool/hand cue**

TARGETS MOVEMENT CONSISTENCY BOTH WITH AND WITHOUT TOOLS  
Hill, R., (2025). Oral Motor Institute: The Marshalla Guide : Orofacial Myofunctional Disorders: Not for Duplication

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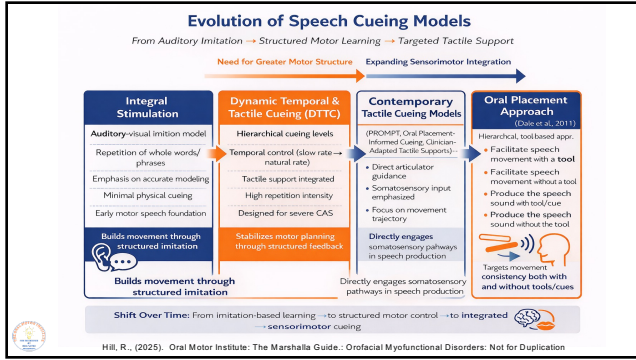
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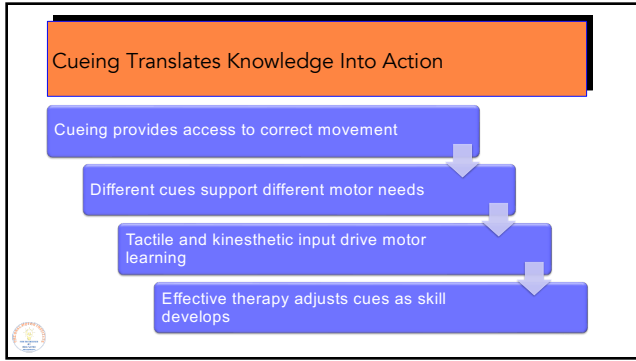
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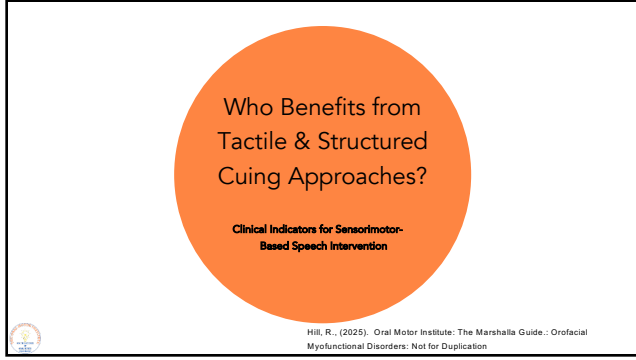
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**Clients Who Do NOT Progress with Auditory-Visual Cueing Alone**

- Minimal improvement with modeling
- Inconsistent productions across attempts
- Difficulty imitating even simple CV structures
- High effort, visible groping

**WHEN IMITATION FAILS, MOVEMENT MAY BE THE BREAKDOWN**  
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**Childhood Apraxia of Speech (CAS)**

- Inconsistent errors
- Vowel distortions
- Disrupted coarticulatory transitions
- Prosodic abnormalities

**MOTOR PLANNING STABILITY OFTEN REQUIRES EXTERNAL MOVEMENT SUPPORT**  
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**Severe Phonetic Distortions with Motor Features**

- Persistent distortion (e.g., /r/, sibilants)
- Good phonological awareness
- Poor carryover despite drill
- Difficulty achieving precise articulatory placement

**PRECISION PROBLEMS MAY REFLECT SENSORY MOTOR MAPPING DEFICITS**  
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**Reduced Oral Perception or Awareness**

- Limited awareness of lip/jaw/tongue positioning
- Difficulty identifying articulator placement
- Reliance on visual cues only
- Poor internal feedback

IF THE CLIENT CANNOT FEEL THE MOVEMENT, THEY CANNOT STABILIZE IT

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**Co-Occurring Myofunctional or Structural Factors**

- Limited lip closure
- Jaw instability
- Tongue resting posture differences
- Airflow misdirection

STRUCTURAL FORM CAN INFLUENCE SPEECH FUNCTION

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**Who May NOT Require Tactile Cueing?**

- Predictable phonological rule patterns
- Strong imitation skills
- Rapid progress with modeling
- Consistent productions that are normal substitutions

MATCH THE CUEING STRATEGY WITH THE BREAKDOWN

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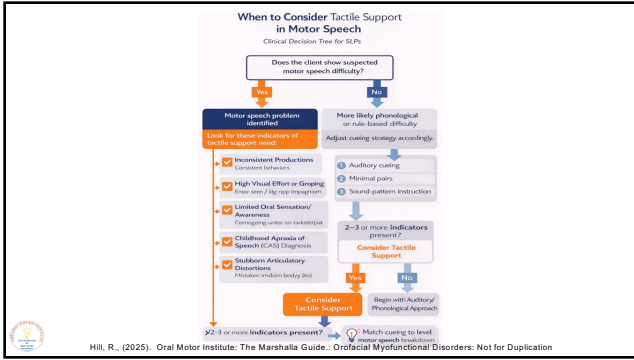
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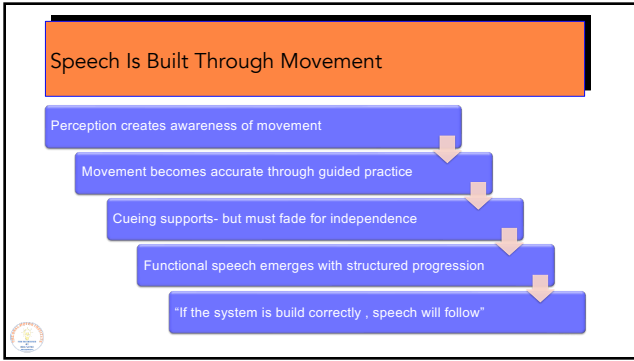
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**KEY TAKEAWAYS**  
**CONCLUSIONS**  
**Q&A**

**MARSHALLA**  
SPEECH & LANGUAGE

**THE ORAL MOTOR INSTITUTE**  
FOR THE SCIENCE OF ORAL MOTOR TREATMENT

Hill, R., (2025). Oral Motor Institute: The Marshalla Guide.: Orofacial Myofunctional Disorders: Not for Duplication

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### Key Takeaways

Speech Is Movement	Motor instability requires motor-informed intervention.
Not All Errors Are Linguistic	Consistent patterns → phonological. Inconsistent effortful productions → motor.
Tactile Cueing Is Purposeful	Used to stabilize movement — not to replace it.
Structure Drives Consistency	Hierarchy, repetition, and fading build independence.
Tools Facilitate Independence — Defines Mastery	Support → fade → internalize.

MATCH THE CUE TO MOTOR BREAKDOWN!

Hill, R., (2025). Oral Motor Institute: The Marshalla Guide : Orofacial Myofunctional Disorders: Not for Duplication

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### SPEAKER CONTACT INFORMATION



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### JOIN THE OMI!

The Oral Motor Institute's Mission is to support the specialty of oral -motor based therapy approaches that enhance the development of the orofacial complex and the functions of respiration, sleep, feeding, swallowing and speech.

[www.oralmotorinstitute.org](http://www.oralmotorinstitute.org)



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