





Mary Billings, MS,CCC-SLP

Certified: Orofacial Myofunctional  
Disorders (2009, #152)



# The Orofacial Myofunctional Component in Diagnostics and Treatment of Speech Movement Patterns

The Marshalla Guide: Section 18



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# Learner Objectives

1. Licensed professional will define an orofacial myofunctional disorder

2. Licensed professional will identify the primary functions of the orofacial complex

3. Licensed professional will name 5 functional systems of the orofacial complex

4. Licensed professional will explain how the principles of PNF effect motor changes and name 3 PNF treatment methods.



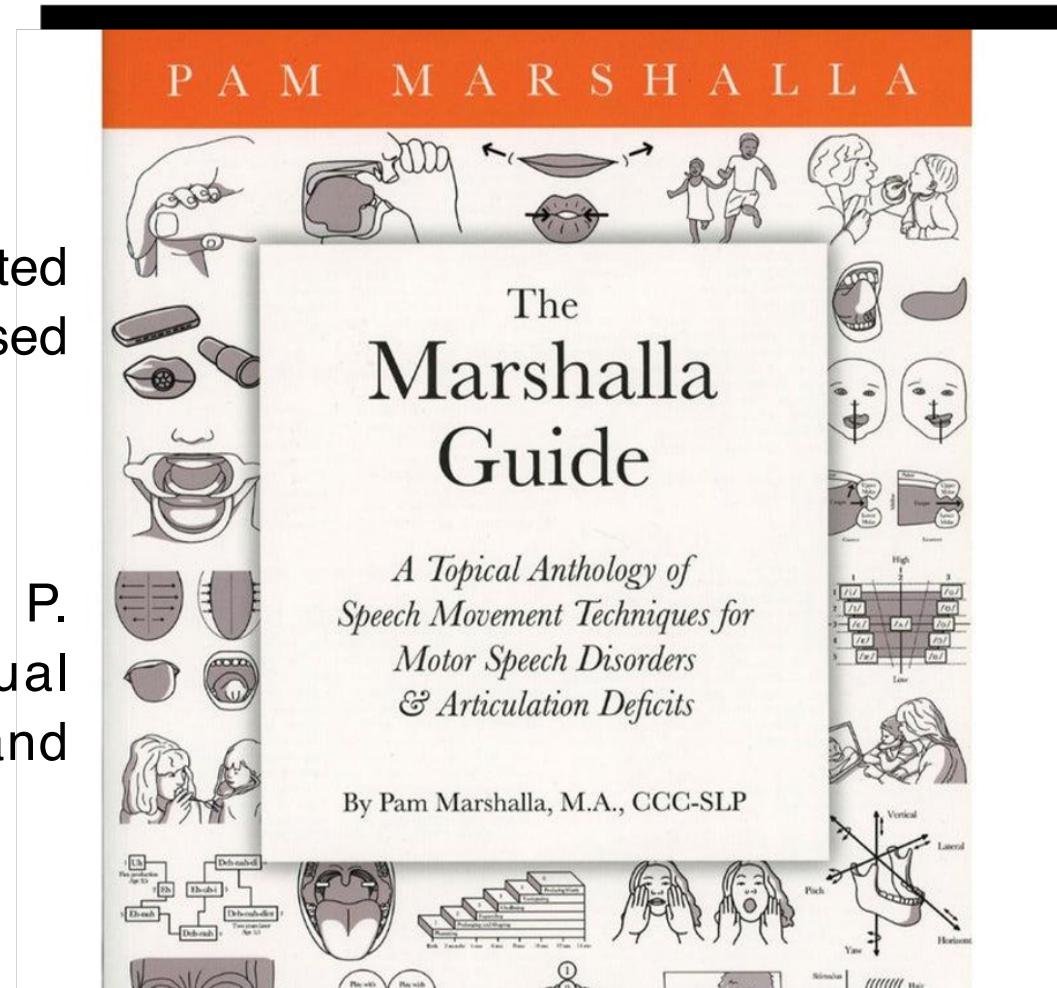
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Last Name, First Initial & Marshalla, P. (year). Title in lower case. Virtual Presentation. Marshalla Speech and Language.

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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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# 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 OMIs' 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 therapeutic approaches.



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# THE OMI'S AREAS OF FOCUS

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## Ethics

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

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## Education

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

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## Evidence

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

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## Advocacy

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

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# OMI BOARD OF DIRECTORS

- Robyn Merkel Walsh - Chair
- Barbara Taylor - Treasurer
- Mary Billings - Secretary



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# Mary Billings, MS,CCC-SLP

## Financial Disclosures

Owner: Billings Speech Pathology Services, LLC; a private practice in the greater Kansas City metropolitan area

Owner: Elevated Therapeutics, LLC; continuing education learning platform FunctionFocus Academy and all intellectual property associated



# Mary Billings, MS,CCC-SLP

## NonFinancial Disclosures

No honorarium

Member: Board of Directors: Oral Motor Institute

Past-President of International Association of Orofacial Myology

Lifetime Member: American Speech Language Hearing Association

Member: American Academy of Private Practitioners Speech Pathology & Audiology



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# The Orofacial Myofunctional Component in Diagnostics and Treatment of Speech Movement Patterns

The Marshalla Guide: Section 18



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# Pam Marshalla's Truisms

(2007, Marshalla Apraxia Seminar, Overland Park, KS)

**Marshalla:** "You're in private practice? What do you do?"

**SLP:** "I work with tongue thrust."

**Marshalla:** "Oh! Are you an Orofacial Myologist?"

**SLP:** "I'm a SLP who works with tongue thrust"

**Marshalla:** "Oh, I guess you think you know what you are doing!"



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# Pam Marshalla's Truisms

(2008, IAOM Convention, Philadelphia, PA)

**Marshalla:**

“Did you all know that there is a war going on?”

Not the one in Iraq! It's the war against Oral Motor and I'm here to debunk it!”



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# Pam Marshalla's Truisms

(2009, Oral Motor Institute - Monologues)

**Marshalla:**

“All speech requires movement!

Movement of the jaw, lips and tongue! One cannot speak without moving the articulators. We have the literature!”



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# Pam Marshalla's Truisms

(2013, IAOM Convention, Washington, DC)

## Marshalla:

“The war on oral motor is OVER! We won! We have the evidenced research to prove it and I’m here to share it”



# Pam Marshalla's Truisms

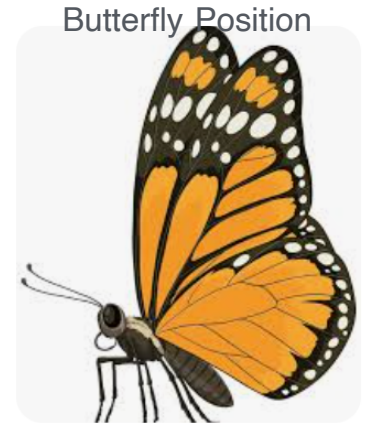
(2013, IAOM Convention, Washington, DC)

## Marshalla:

“The tongue requires proper oral positioning to develop proper speech. The tongue requires both anterior and lateral stabilization to ensure proper speech enunciation patterns develop. ( Otherwise known as the ‘Butterfly position’)

Stabilizing the tongue laterally makes it work like a fulcrum. That lateral position secures the tongue so the rest of the blade and tip can move adequately to produce sounds clearly.

Calm down, everyone! So much chatter! This is not a religion! It's a school of thought: one that we are well acquainted with but know more SLP's should learn.”



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# Pam Marshalla's Truisms

(2013, IAOM Convention, Washington, DC)

Conversation with another attendee

**SLP:** “ How did you figure all this stuff out? It’s amazing and makes so much sense!”

**Marshalla:** “Well I love my bathtub. I’d run the water, pour a glass of wine, climb in with my hand mirror and practice positional distortions. After that, I’d figure out what muscles I used to create it both right and wrong. It’s not rocket science. Anyone can do it!”



# Pam Marshalla's Truisms

(2014, IAOM Convention, Calgary, Alberta, Canada)

Conversation with another expert:

**SME:** “The function of the oral mechanism (breathing and swallowing) is primary. Therefore, the functions of speech, voice, & prosody are overlaying or secondary functions.”

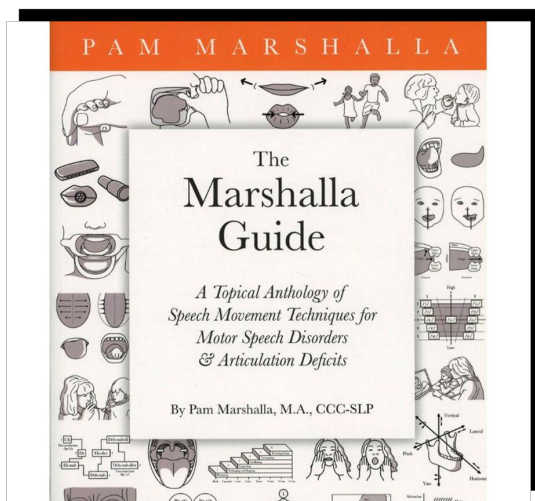
**Marshalla:** (Sat quietly for a minute and then replied): ““Why aren't you shouting that every time you speak?”





Pam was a fearless leader who fought ignorance with both humor, knowledge, and voracious research. She was diagnosed with AML in August of 2014 and fought valiantly.

Despite her vast knowledge, Pam never completed training or certification in orofacial myofunctional disorders. She loved lecturing to us as a group and never turned down an opportunity because she said “You all really ‘get it!’”

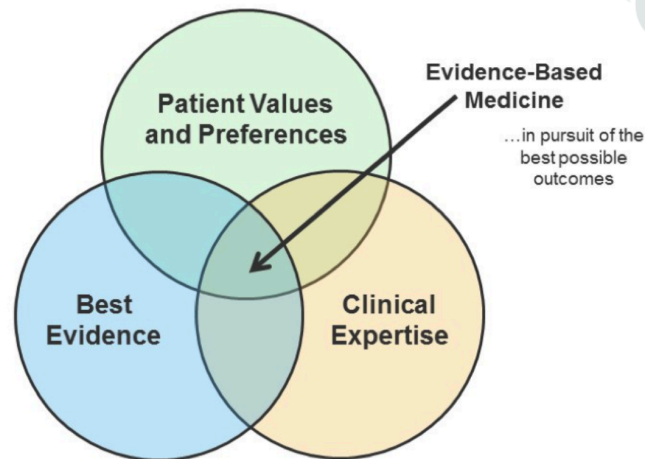


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# Evidence Based Practice Contradictions

## Components of Evidence-Based Medicine



## How Other Disciplines View EBP:

- Patient Values & Preferences
- Clinical Expertise of Practitioner
- Best Evidence

## Leads to Best Possible Outcomes

<https://www.healthcatalyst.com/5-reasons-practice-evidence-based-medicine-is-hot-topic>

Evidence Based Practice is created by ALL 3 areas



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Critical Appraisal Skills Programme (CASP) Critical Appraisal Skills Programme (CASP)

downloadable checklists to help navigate different types of studies

*"Is The Research You Are Reading Good, Bad Or Indifferent? We Need Critical Appraisal Skills More Than Ever, To Make That Judgement. This Is Why You Need The Critical Appraisal Skills Programme To Help You Make Sense Of The Evidence."*

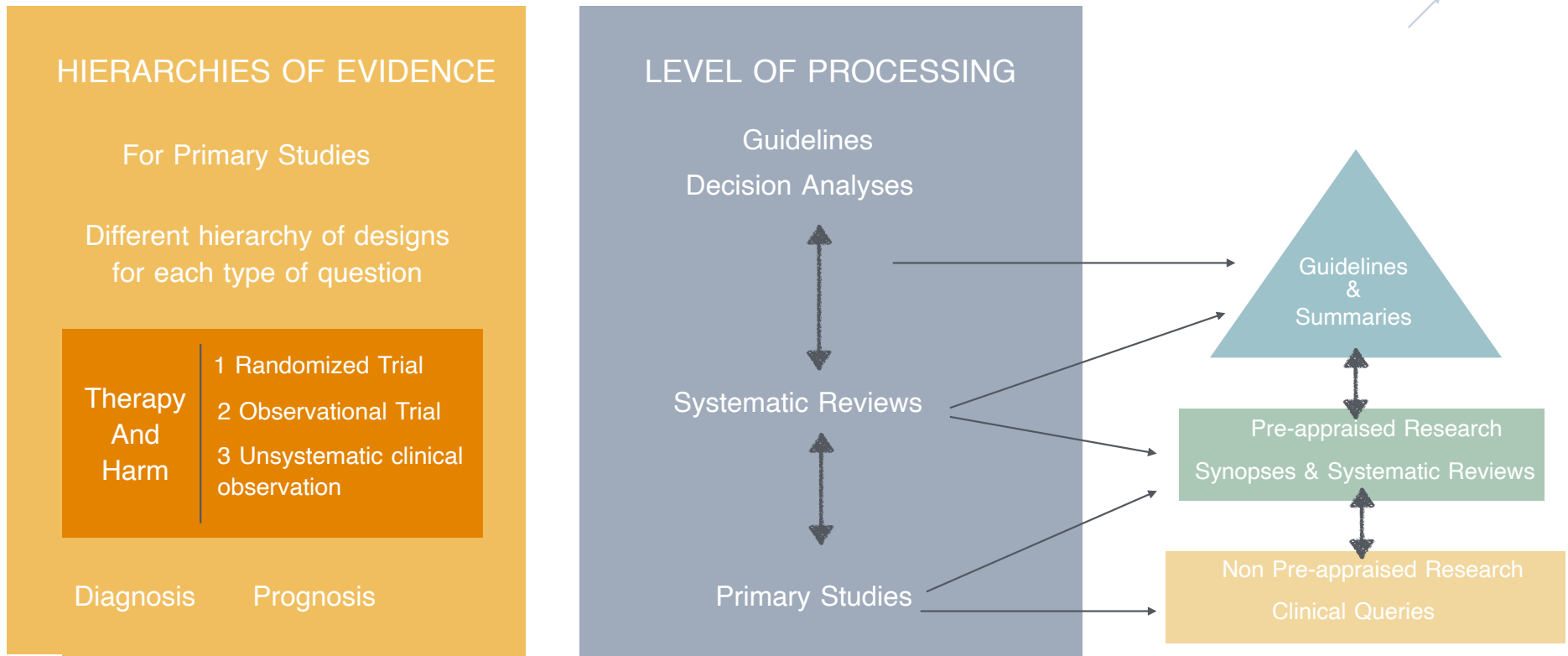
- Professor Sir Muir Gray

[www.casp-uk.net](http://www.casp-uk.net)



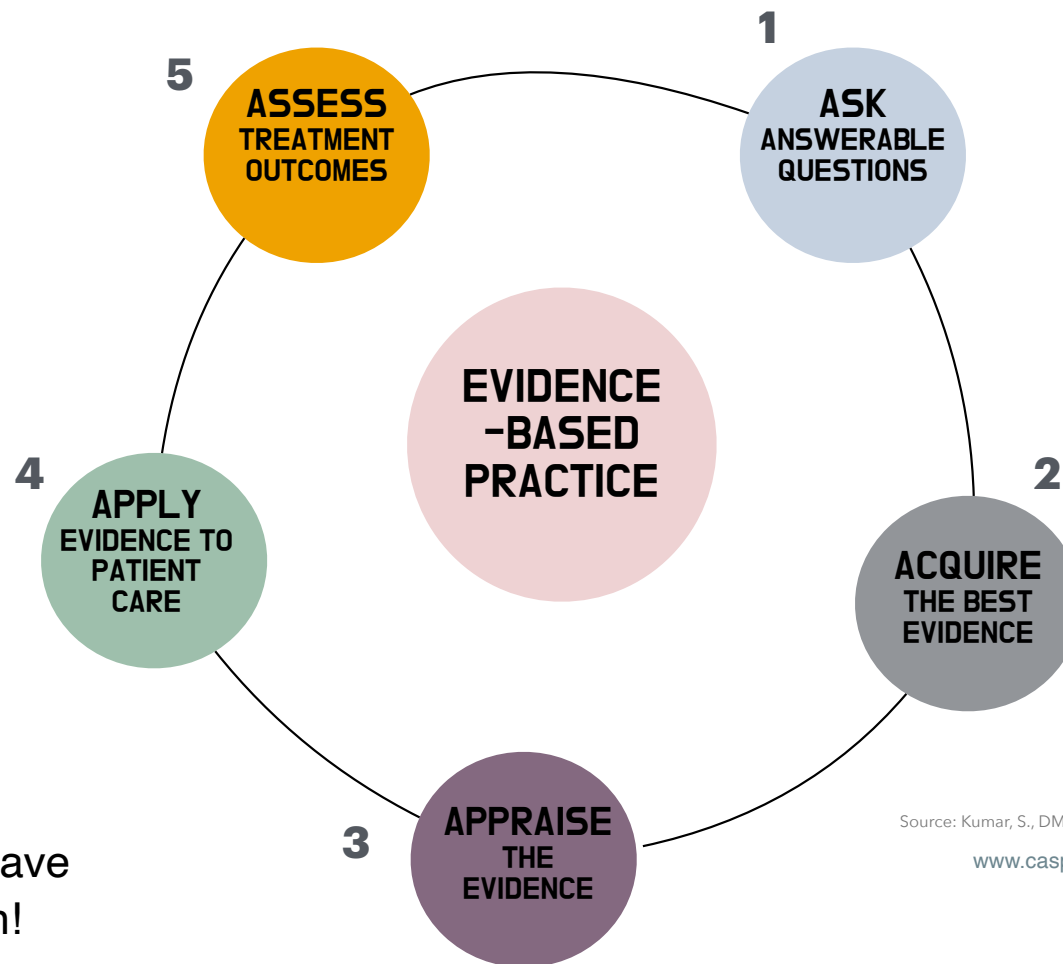
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# Evidence Based Practice: How Do We Get There?



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# EVIDENCE BASE PROCESS




Source: Kumar, S., DMD, MDSc., MS, 2020

[www.casp.uk.net](http://www.casp.uk.net)

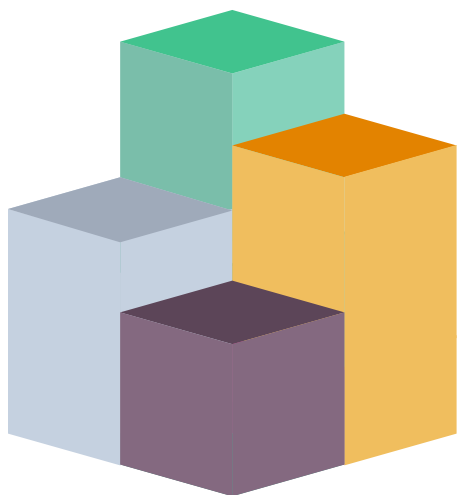
This Seems To Have  
Been Forgotten!

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## OROFACIAL MYOFUNCTIONAL DISORDERS



- **Oral Motor Institute**

- ASHA Practice Portal Reference List
  - Systematic Review of Literature

- **Oromyofunctional Study Group (FB)**

- Dropbox folders full of research:  
(Airway, OSA, Chewing, Dysphagia, Craniofacial Abstracts, Oral Phase)

- **Research Studies**

- International Journal of Orofacial Myology (IJOM)
  - Pub-Med Literature Review

- **Textbooks**

- Sacomanno, S., Paskay, L. New Trends in Myofunctional Therapy., 2020
  - Gatto, K. Understanding the Orofacial Complex., 2016
  - Hanson, M., Barrett, R. Fundamentals of Orofacial Myology, 1988

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# Establishing Evidence Is A Process



In the absence of Evidence Based Practice (EBP) research we can build efficacy by establishing standard protocols that look at:

- specific measurements
- specific muscle functions
- identify specific etiologies
- use specific protocols that provide data



# Evidence Based Practice Contradictions

## ASHA's Map



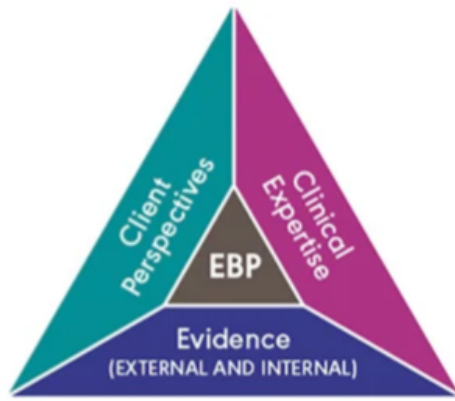
Why is this image so skewed compared to other disciplines?



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# Evidence Based Practice

## Visual Misinterpretation



- 3 separate divisions (no overlap)

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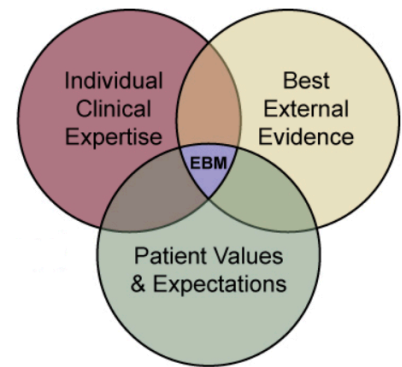
- EBP becomes the “keystone” from  
This equates to 0/research/0 i/ntervention

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- This graphic is a gross distortion of the theories and principles of EBP

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- This misperception leads to unnecessary professional animus and conflict



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# Speech Is Movement!



Stetson, 1928

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Marshalla (2019) “The Integrated patterns used for chewing and swallowing could be useful in stimulating the jaw, lips, and tongue function for speech.”

Van Riper (1947) “Learn to recognize the tongue movements as part of some familiar biological movements such as chewing, swallowing, coughing. Practice these basic activities.”

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# The Scope of Orofacial Myofunctional Disorders

Orofacial Myofunctional Disorders (OMD's) are disorders of the oral and oropharyngeal complex. They are associated with the complex movements of the systems and their resultant impact on the functions of respiration, mastication, bolus formation and transit, oral resting postures and speech patterns of the tongue, jaw and lips. Orofacial myofunctional disorders are multifactorial in nature. They are often the consequence of a series of events, lack of, or interruption of developmental milestones at critical periods that result in oral dysfunction, craniofacial growth changes, and resultant malocclusion. Orofacial myofunctional disorders can and do occur/develop over the course of a lifespan.”

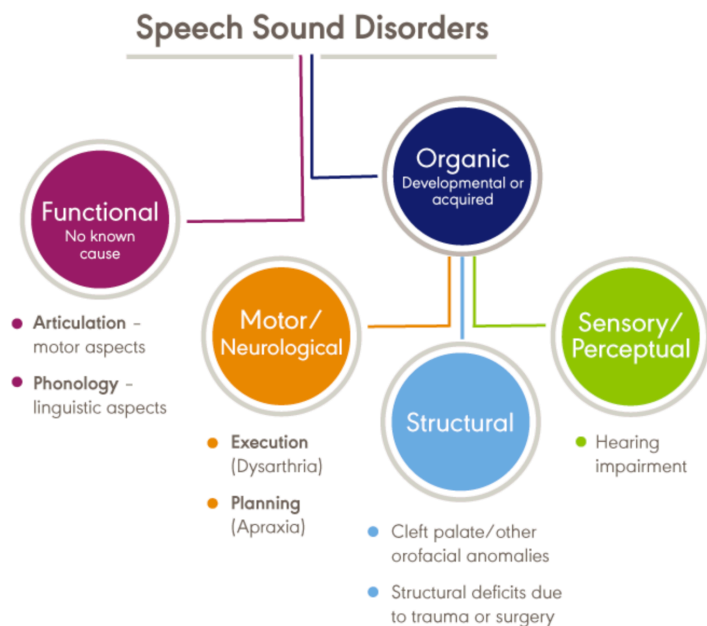
Billings, Mary (2017)

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# End the Debate!

## Structural Motor-Functional System



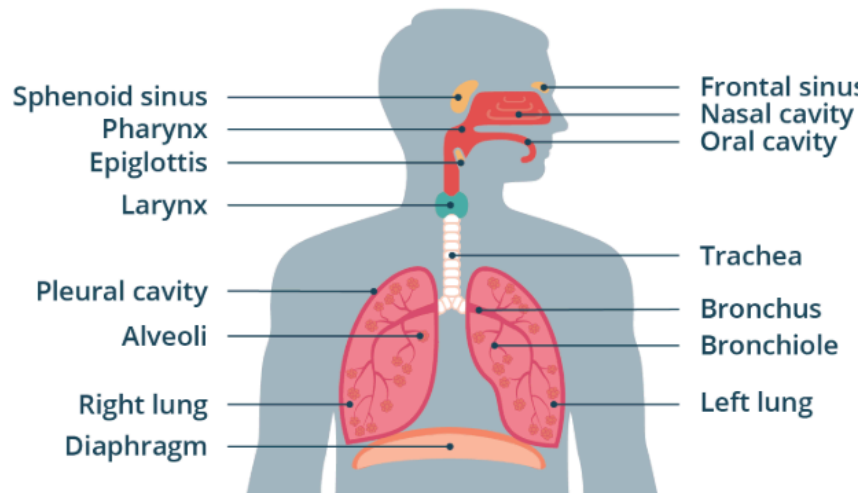
### Orofacial Complex: What Part is **Not** Involved In Speech?

- Bones
- Muscle
- Hard & Soft Tissues
- Connective Tissue
- Organs
- Respiratory
- Jaw
- Lips/Cheeks
- Tongue
- Swallow

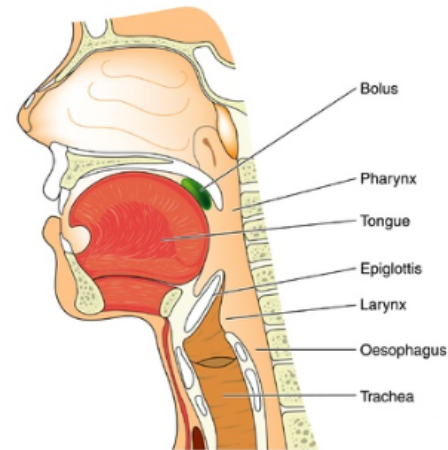
An intact structure with normal functional movement should therefore produce typical normal speech sounds

# The Primary Functions of Orofacial Complex

## Breathing



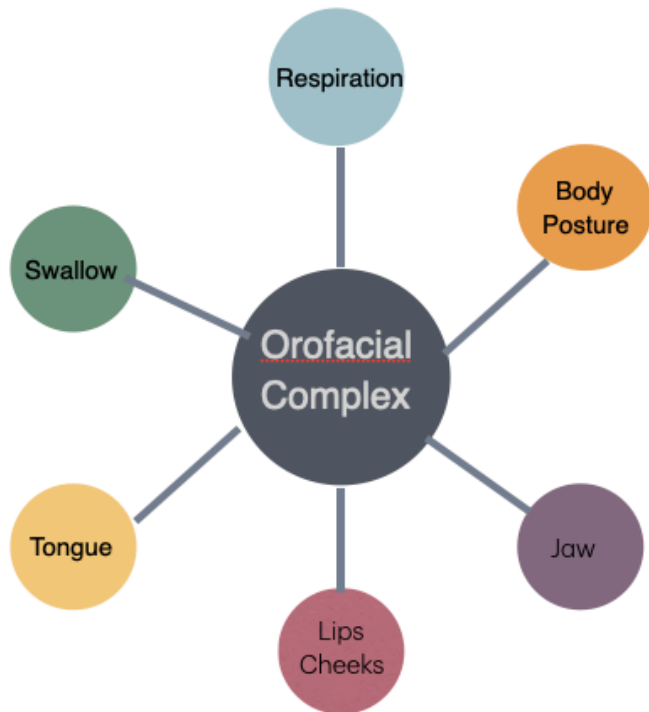
## Swallowing



Interconnected - Impactful

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# The Interconnectivity of the Orofacial Complex



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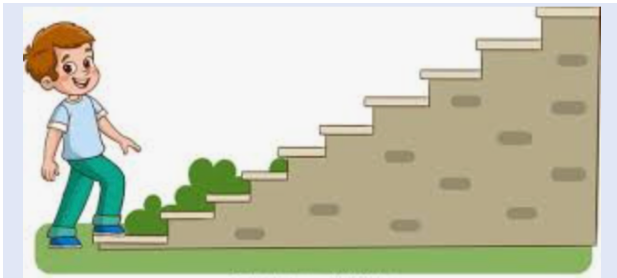


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# The Foundation of Functional Systems



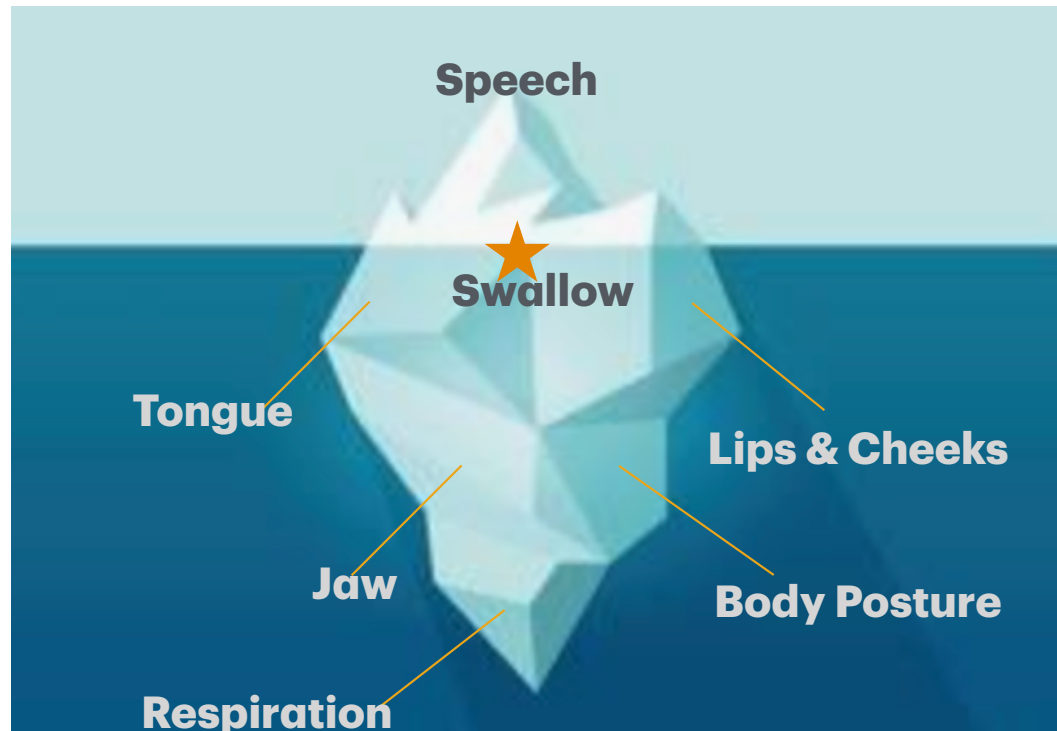
- 1 **Respiration** is the foundation of the orofacial complex
- 2 The **Posture** of the body offers strength and support
- 3 The **Jaw** provides stability
- 4 The **Lips & Cheeks** are the boundaries
- 5 The **Tongue** provides control
- 6 The **Swallow** provides organization and safety

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# Speech is the Tip of the Iceberg



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# Airway

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# Respiration



## Airway Structure

Nasopharynx, maxillary structure functional obstruction (allergies, adenoids, tonsils)



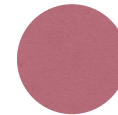
## Postural Impact

Mechanics: Diaphragmatic breathing; head position, jaw position



## Breathing Mechanics

Nasal versus mouth; abdominal versus diaphragmatic



## Soft Palate

Elevation/retraction



## Tongue

Hyoid position; soft palate position; fascia; accessory muscle overactivation



## Sleep Breathing

Apnea, upper airway resistance





# Body Posture

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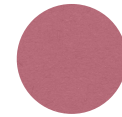


# Body Posture



## Body Symmetry

Position in space



## Rotation

Flexibility



## Balance

Reflexes



## Flexion

Contraction



## Extension

Cranial position



## General Mobility

Kinesthesia





# Jaw

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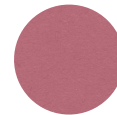


# Jaw Position & Movement



## Temporomandibular System

Disc



## Oral Habits

Thumb, fingers; pacifiers, cups, fingernails



## Jaw Position

Prognathic, retrognathic; open



## Muscles of Mastication

Masseters, pterygoids, temporalis



## Dental Occlusion

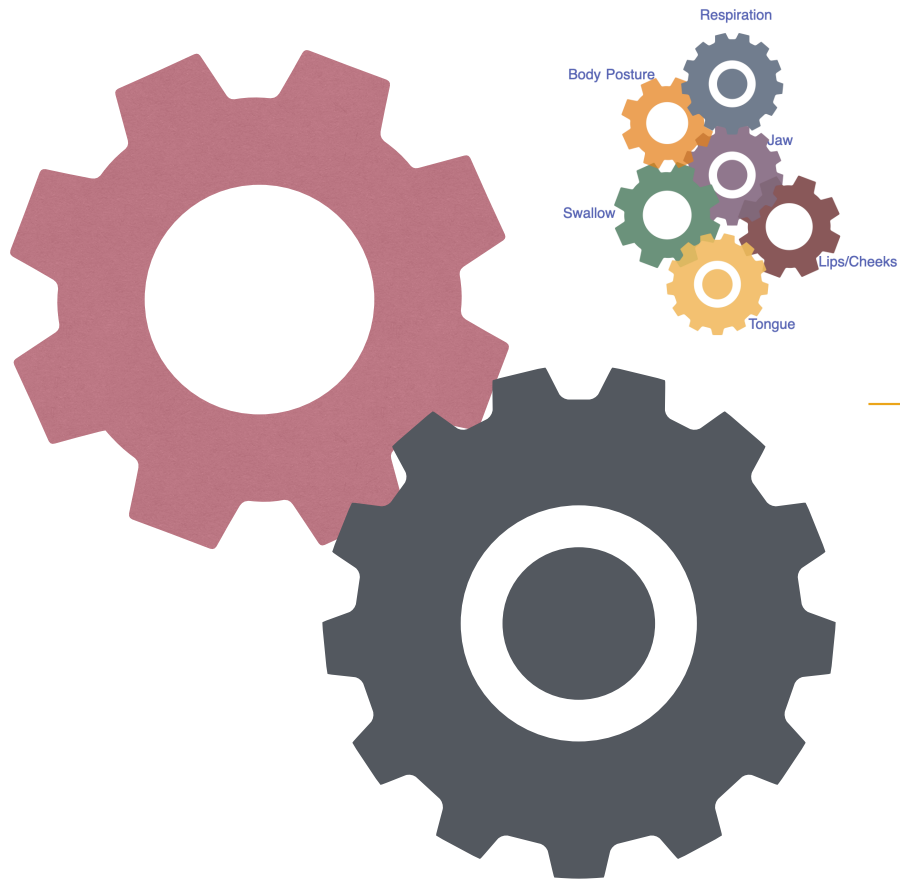
Cross bite, overbite,



## Developmental Chew Patterns

Munch, diagonal, circular, rotary





# Lips/Cheeks

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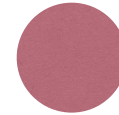


# Lips & Cheek Position & Movement



## Structure & Symmetry

Cleft, lip tie



## Sensory Impact

Proprioception



## Tonicity

Flaccid



## General Mobility

Facial muscles; coordination



## Compression

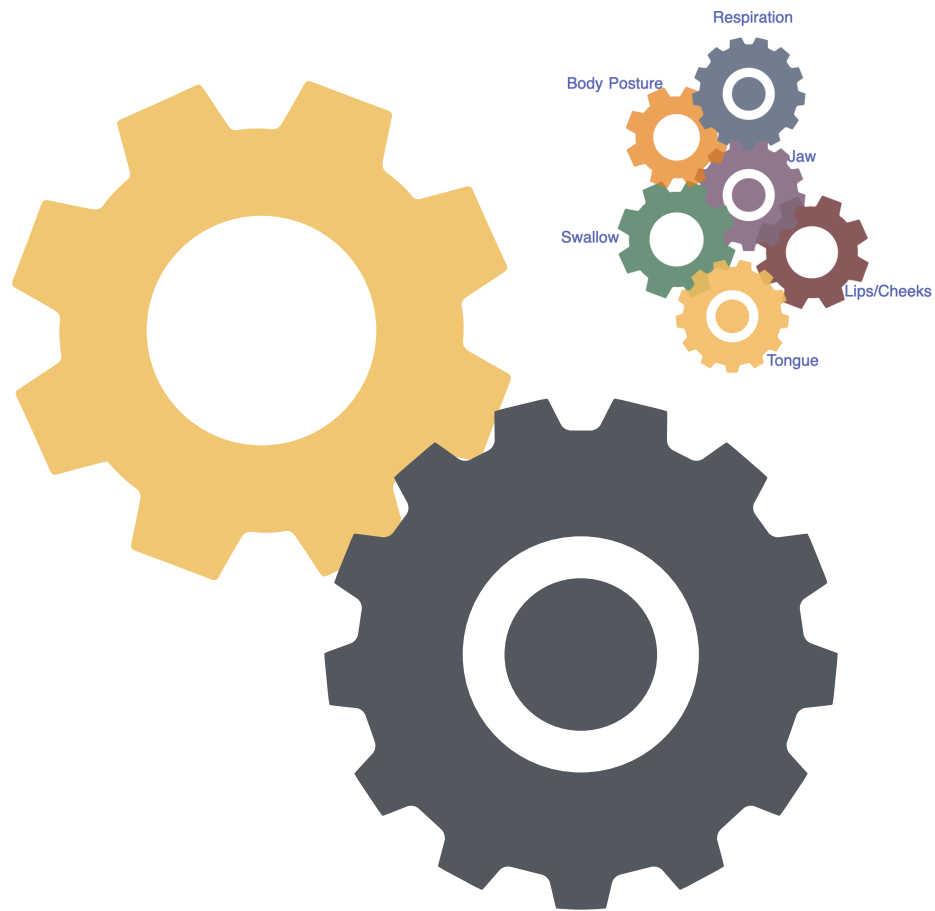
Intraoral pressure



## Food/liquid bolus control

Control





# Tongue

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# Tongue



## Structure & Symmetry

Macroglossia, tongue tie, cranial nerve



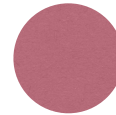
## Tonicity & Control

Tremors, extension



## Occlusion

Class I, II, III



## Sensory Impact

Taste, texture, proprioception



## General Mobility

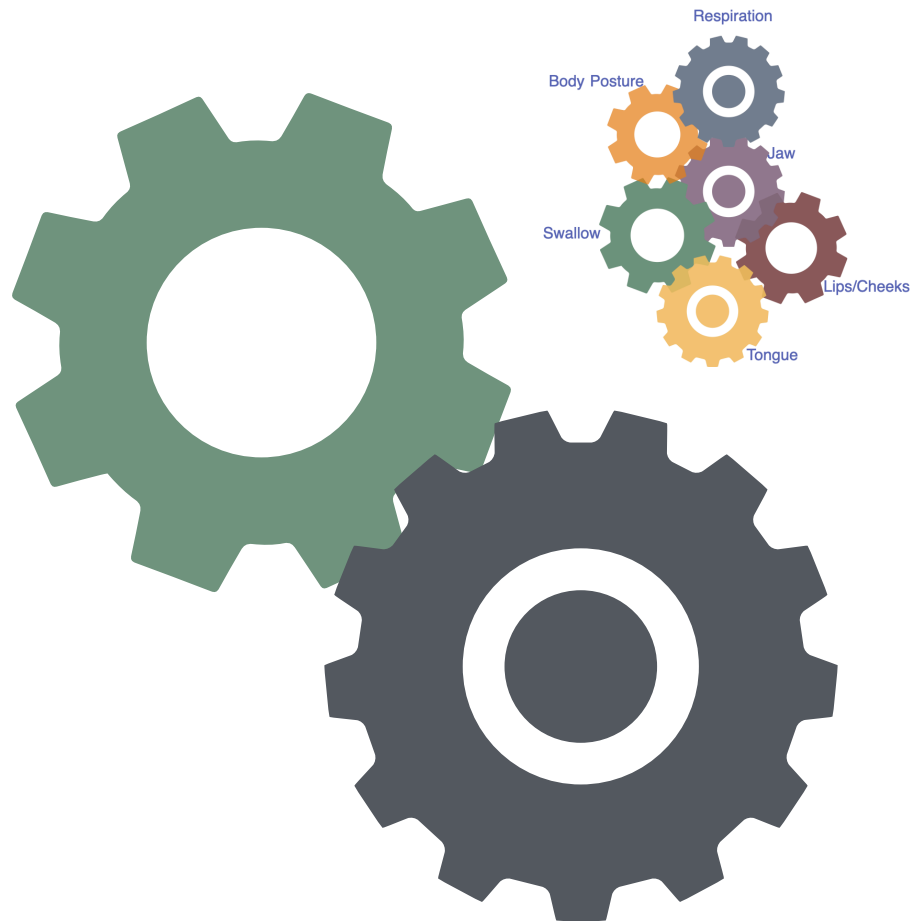
Coordination



## Food/liquid bolus control & transit

Stabilization, lateral elevation, seal





# Swallow

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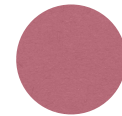


# Swallow



## Structure & Oral Symmetry

Maxilla; mandible



## Sensory

Taste, texture, proprioception



## Postural Support

Lip seal, jaw position, head



## Coordination

Chew patterns



## Bolus Collection

Intraoral pressure, lateral elevation; lingual seal

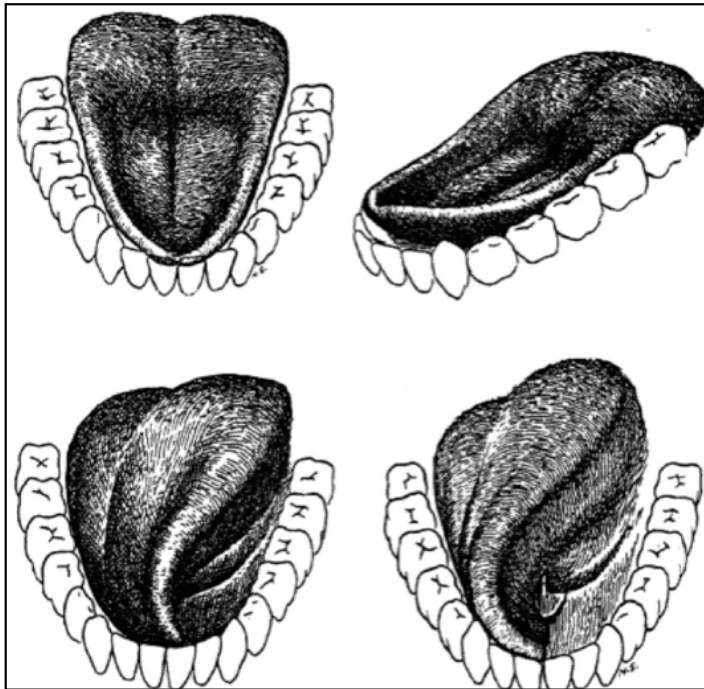


## SSB/Stability/Oral Transit

Lingual stability/seal; onset, breath support

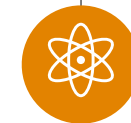


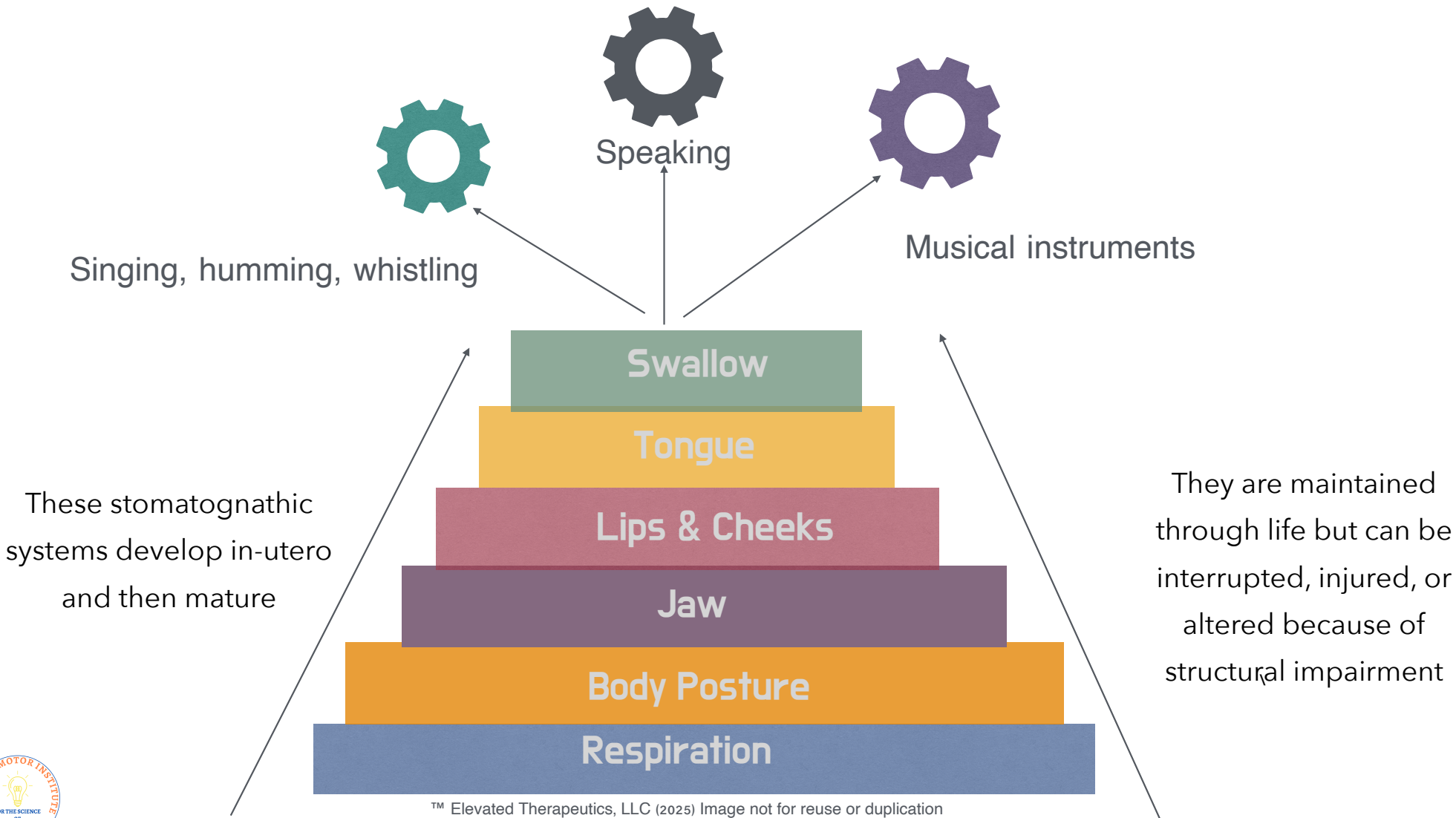
# Lingual Movements: The Tongue is a Spatula



Hiemae, K.M., Palmer, J.B. (2003)

- Elevation
- Depression
- Lateralization
- Narrowing
- Cupping
- Dissociated movement
- Suction



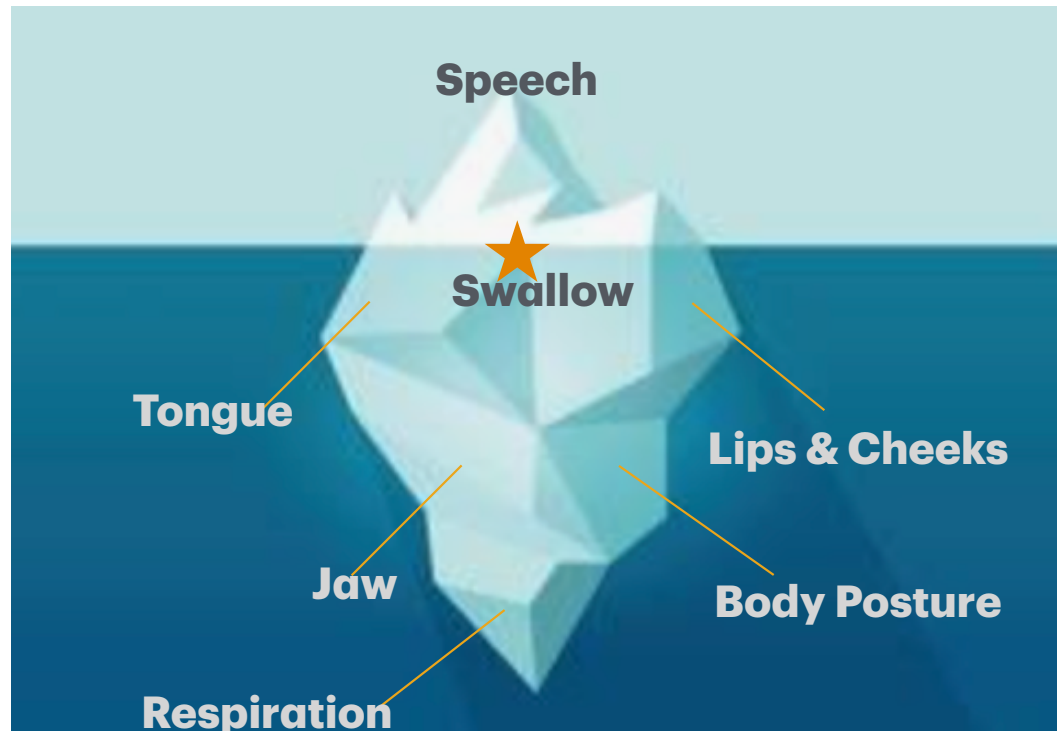


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# Speech is the Tip of the Iceberg



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# Speech is Movement

This is definitely Evidence-Based

 **Structural Integrity  
Breath Support**

 **Lip/Cheek Movement**

 **Head/Neck Support**

 **Lingual Stability/Coordination**

 **Jaw Position/Mobility**

 **Proprioception/kinesethesa**



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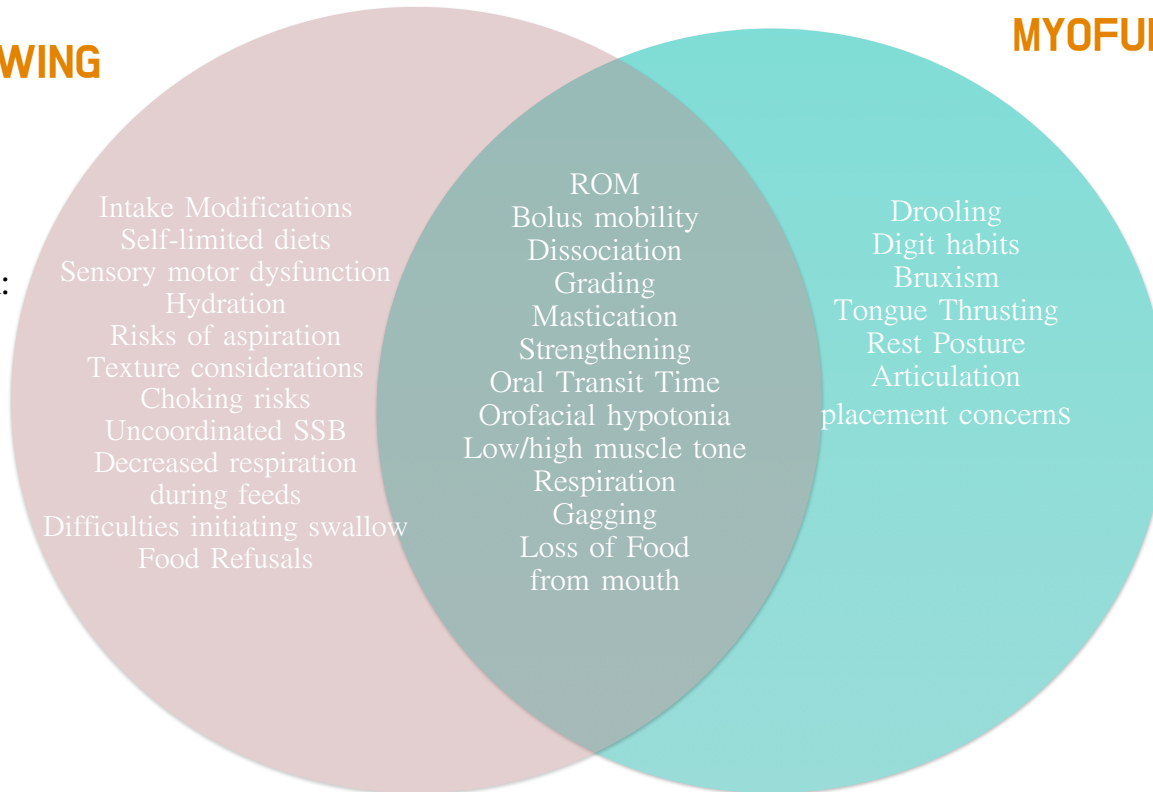
# Significant Overlap

## FEEDING & SWALLOWING

## MYOFUNCTIONAL DISORDERS

**Prevalence:**

Special Needs Population:  
Up to 80%  
Typical Population  
25-45%



**Prevalence:**

Increased incidence co-occur in individuals with feeding disorders

Merkel-Walsh, R (2020) Int. J. Orofac. Myol. Myofunct. Ther.2020, 46(1), 22-36;

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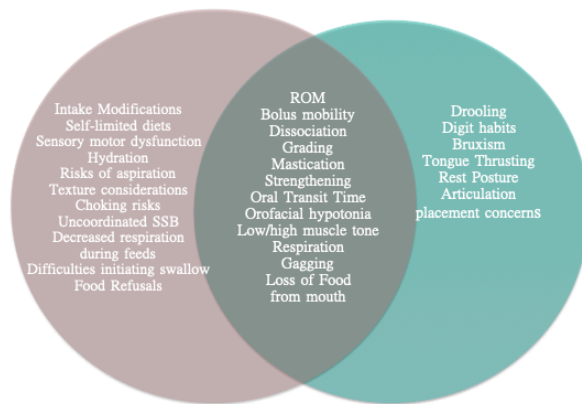


# Approaching Treatment



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# Orofacial Myofunctional Versus Feeding Therapy



Source: Billings, M., D'Onofrio, L., Gatto, K., Merkel-Walsh, R., Archimbault, N, 2019

Even though there is overlap there is a major difference between the neuromuscular facilitation approach used to treat Orofacial Myofunctional Disorders versus the approaches used in traditional feeding therapy.

Feeding skills develop through age 3. Therefore traditional OMD therapy cannot be effectively applied to this population. Rather a traditional feeding therapy approach is more appropriate

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



# So What About Orofacial Myofunctional Therapy

## Treat Underlying Orofacial Myofunctional Disorders



- Understand the structures
- Understand the anatomy & physiology of movement
- Develop clear clinical diagnostics
- Identify the systems where breakdown occurs
- Apply the principles of neuromuscular facilitation (muscle memory) to changing atypical patterns
- Eliminate extraneous compensatory movements and replacing with typical patterns
- Habituate those patterns over time

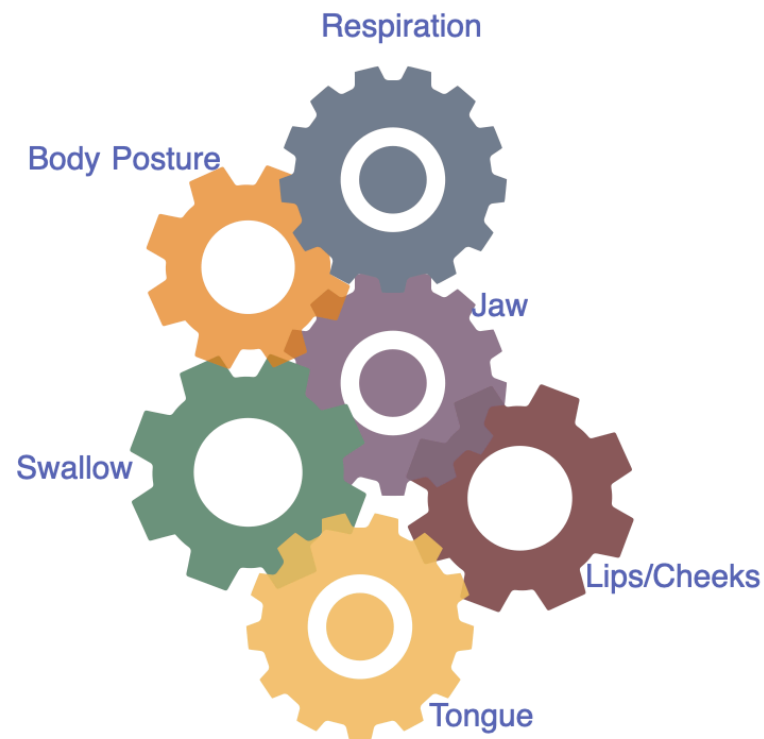


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# OMD Myths

## It's NOT the Same as Feeding Therapy

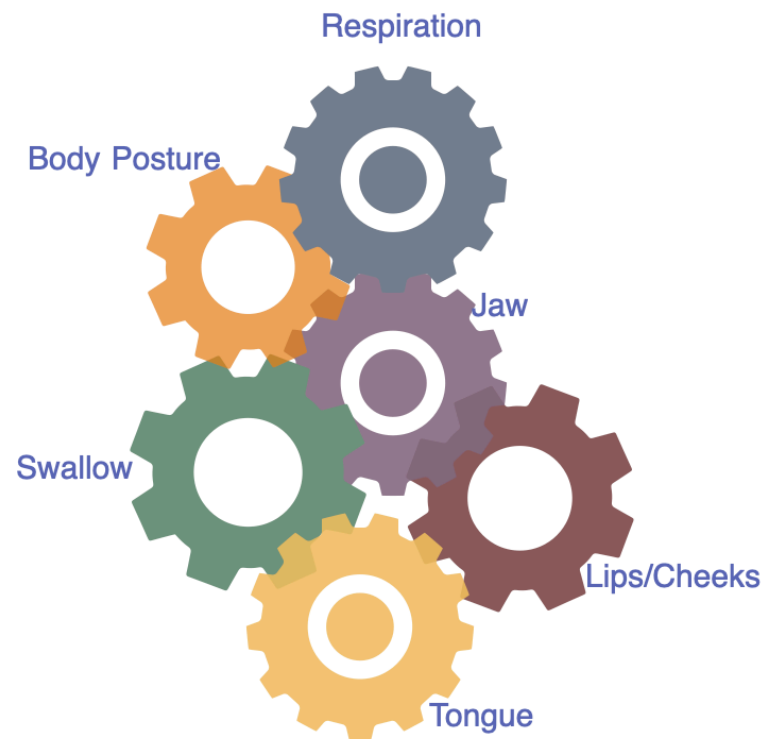


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# OMD Myths

## It's NOT Just Lip Seal

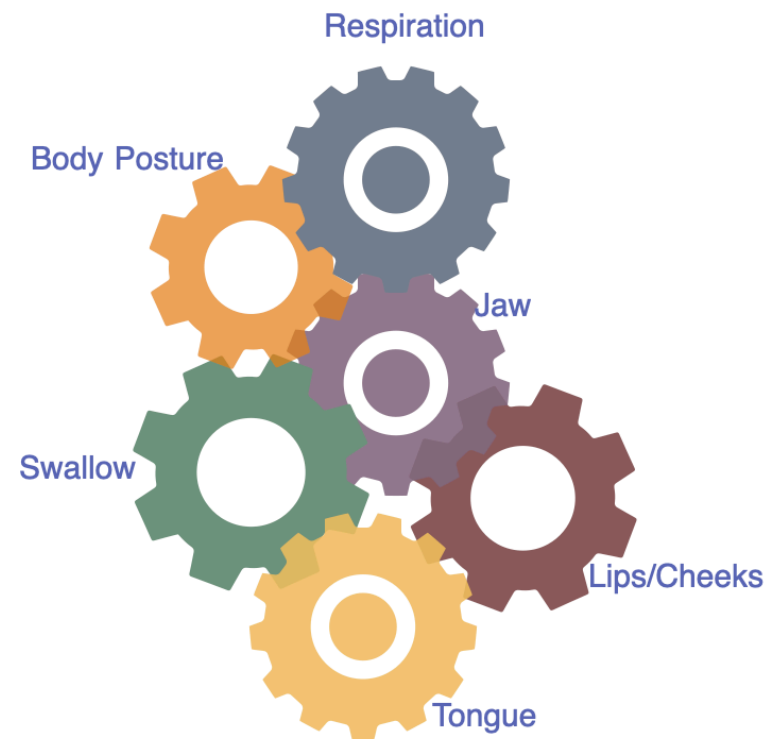


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# OMD Myths

## It's NOT Just Tongue Tie

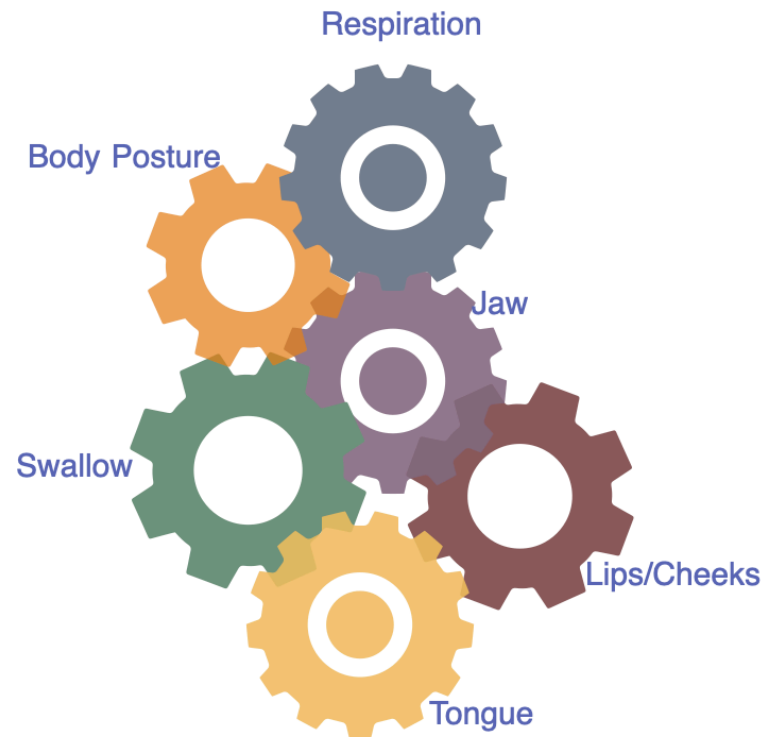


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# OMD Myths

## It's NOT Just Jaw Movement

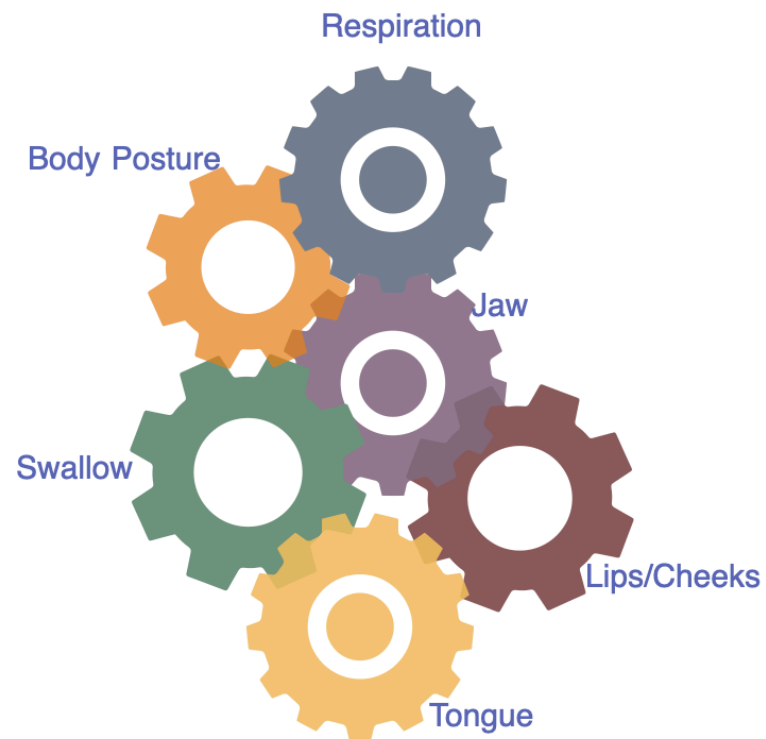


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# OMD Myths

## It's NOT Just Dental Alignment



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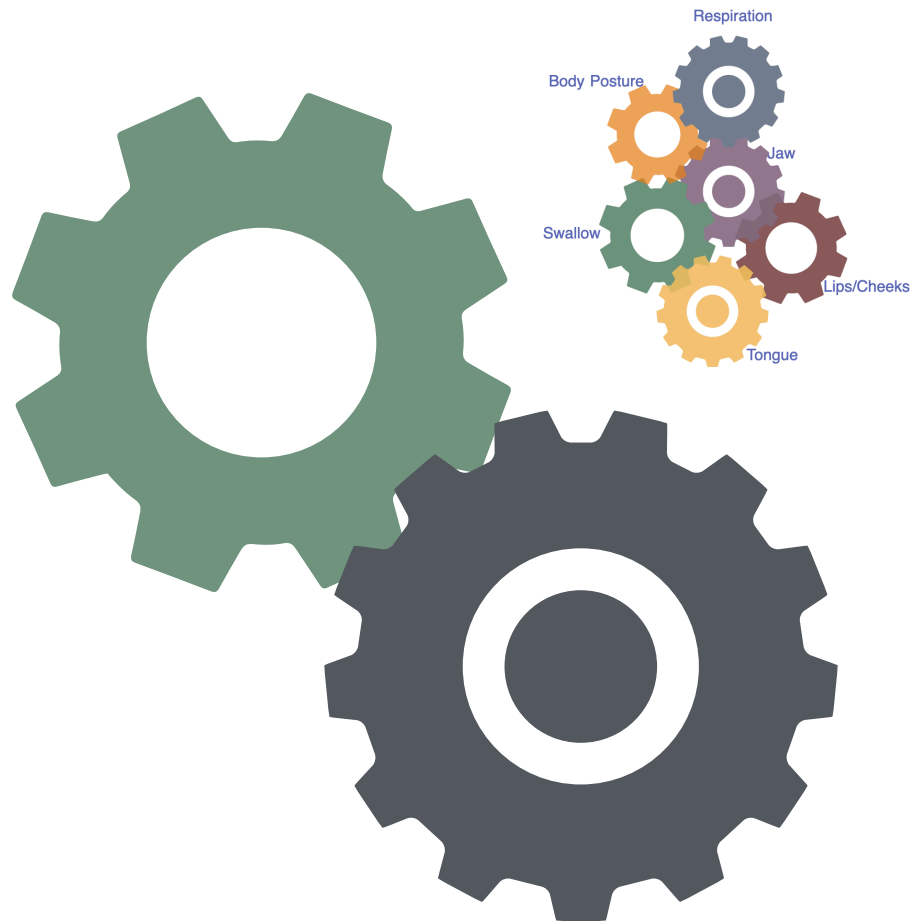
# Treatment Summary

1. Appropriate oral rest while not eating
2. Appropriate seating position
3. Quiet mouth between bites
4. Bring food to the mouth at midline
5. Bite with incisors
6. Take appropriate bite size
7. Transfer food from midline to 1 side
8. Transfer food side to side
9. Drink from cup appropriately
10. Teach continuous drinking
11. Drink with straw appropriately
12. Chew in a rotary fashion
13. Masticate thoroughly
14. Maintain lip closure while chewing/swallowing

# Treatment Summary

15. Keep tongue back & away from front teeth
16. Gather food with the tongue
17. Gather food by moving the lips and cheeks
18. Gather food & liquid by suctioning
19. Form the bolus
20. Cradle the bolus
21. Elevate the aw to initiate swallow
22. Stabilize the tongue at back-lateral margin
23. Elevate tongue tip to alveolar ridge
24. Lift the bolus
25. Engaging a stripping action
26. Become aware of swallow reflex
27. Notice unswallowed food particles
28. Return to normal oral rest position





# Swallow

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# It's a Complex System of Interconnectivity



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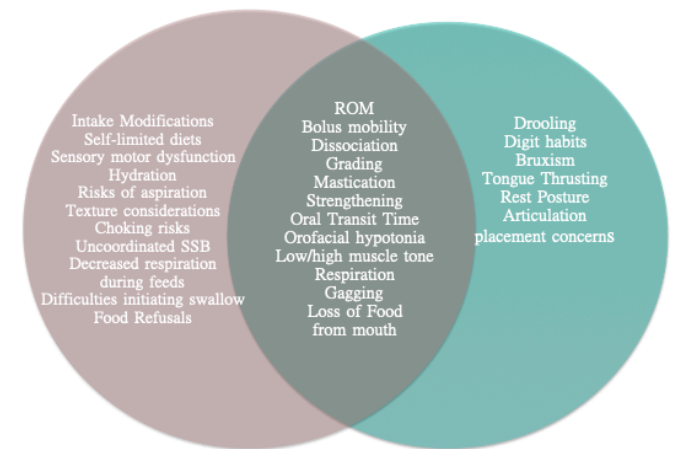
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# Successful Therapy

Requires the ability to follow directions and use controlled repetitive actions

Passive range of motion will not facilitate muscle memory only stretching



[Merkel-Walsh, R \(2020\) Int. J. Orofac. Myol. Myofunct. Ther.2020, 46\(1\), 22-36;](#)

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# Proprioceptive Neuromuscular Facilitation (PNF) Approach

- Developed over 75 years ago and is Evidence-based
- Relies on tenets of building “muscle memory”
- Approach excites the muscle proprioceptors (sensory, motor, muscles, tendons, bones, and joints) to produce a desired movement
- Incorporates the physiological rules of motor learning
- Focuses on various types of contractions: isotonic, isometric, eccentric



# Proprioceptive Neuromuscular Facilitation (PNF) Approach

- Emphasizes function outcomes
- Uses techniques to facilitate and enhance coordinated muscle activity
- Relies on developmental postures
- Transitions to facilitate and enhance coordinated muscle activity
- Uses synergistic patterns of movement
- Includes motor learning principles to promote skilled motor behavior

Fisher, Patricia, appt. "Proprioceptive Neuromuscular Facilitation", Extend the Connection, Oct. 2025.

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



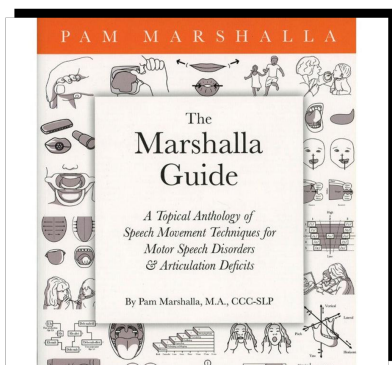
# (PNF) Tenets

- Based on premise that sensory input is often distorted for patients
  - That distortion leaves the patient with inadequate information with which to respond
- PNF cannot restore synaptic connection but uses alternate pathways
  - This allows for true patient's potential of change rather than presumptions
- Each patient has untapped potential for change and improvement

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## Conclusions

The science behind orofacial myofunctional disorders has expanded significantly in the 10 years since we lost Pam

However, the basic premises, theories, science and treatment applications behind her work in the Marshalla Guide remain sound

Why have so many professionals become so obdurate and oppositional to education that's been foundational to our profession for over 80 years?

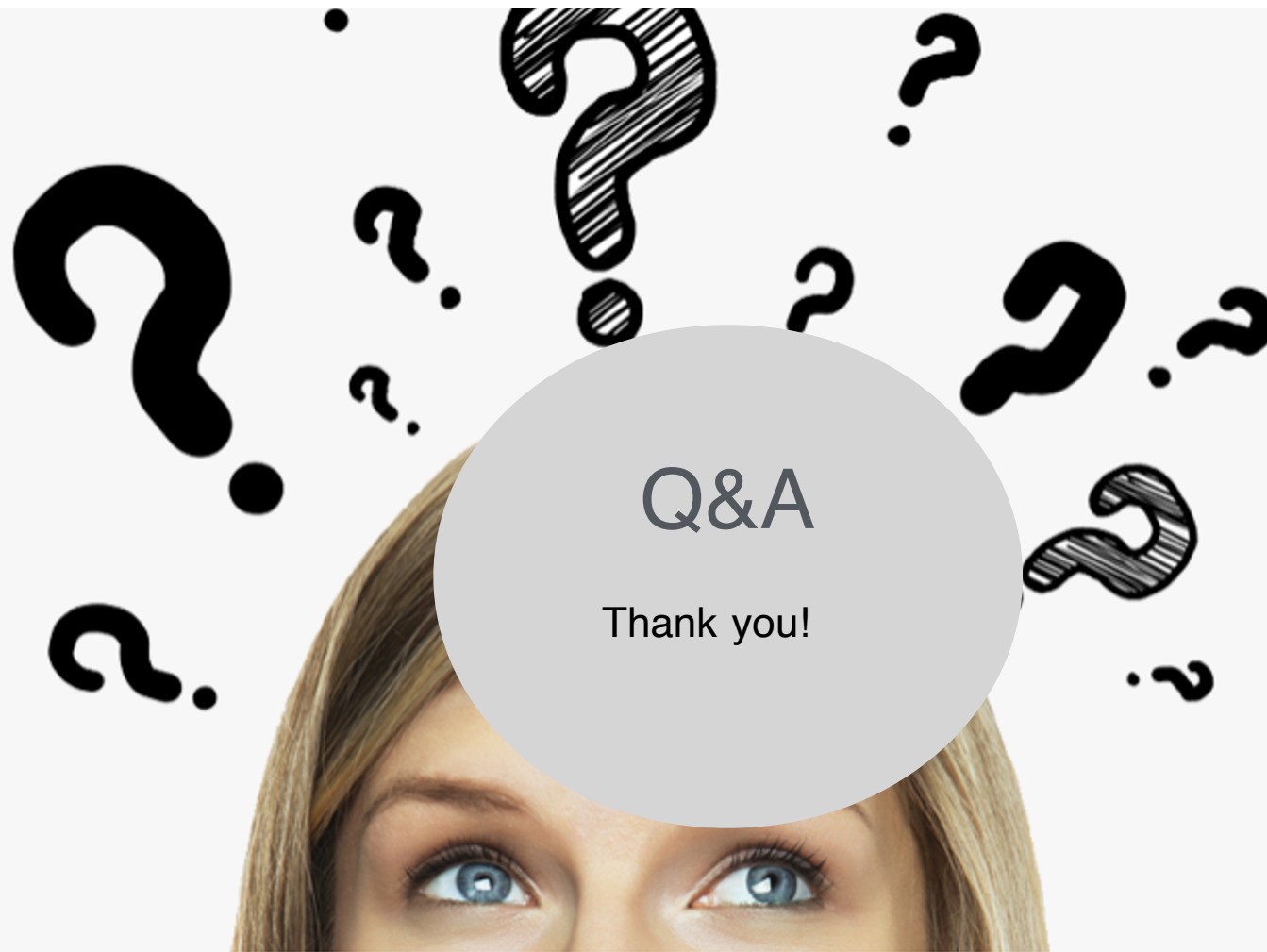
Or is it in fact opposition to these physiological tenets or a carefully curated algorithm that brings exposure and notoriety rather than true education?

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“True leaders don't create followers.....they create more leaders!”



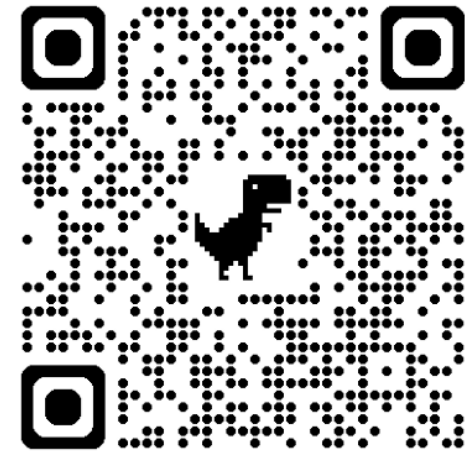


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# JOIN THE OMI

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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# SPEAKER CONTACT INFORMATION



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