

AMPLIFYING OUTCOMES

MYOFUNCTIONAL THERAPY ACROSS
DENTISTRY SPECIALTIES

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WHO AM I?

Karese Laguerre CRDH, MAS

- Registered Dental Hygienist in NJ and FL
- Owner of The Myo Spot, an international myofunctional therapy practice serving clients globally
- KOL in sleep and oral function
- Author of *Accomplished: How to Sleep Better Eliminate Burnout and Execute Goals*
- President of the International Association of Airway Hygienists
- Foremost leader in public awareness of OMT with over 85 media and podcast features



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HAVE YOU EVER HAD THIS PATIENT IN YOUR CHAIR?

Gaggy

Anxious

Crowded teeth

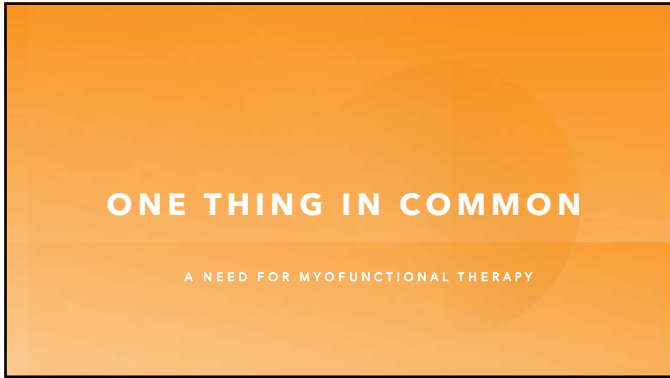
Hyperactive

Tired

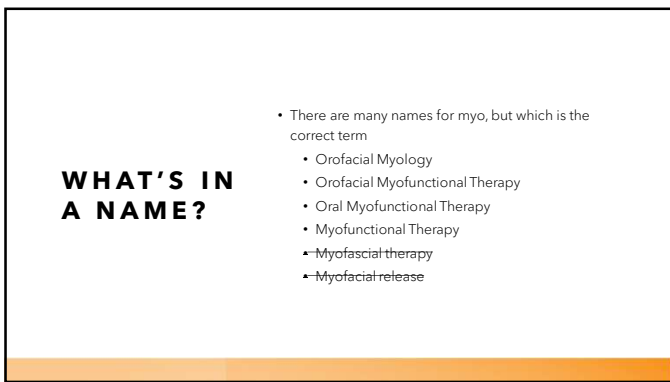
With thumb or pacifier in mouth

Mouth breathing

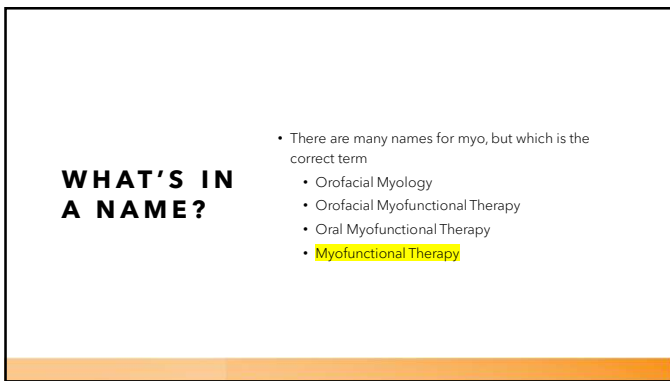
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OSA-OMT-OMG!

- COM® • Certified Orofacial Myologist
- QOM® • Qualified Orofacial Myologist
- MAS™ • Myofunctional Airway Specialist
- AOMT-C® • Certified Orofacial Myofunctional Therapist
- CMT™ • Certified Myofunctional Therapist

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BACK TO BASICS

A PROFESSION BY MANY NAMES AND TITLES



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HISTORY

- Myofunctional therapy was termed by B.E. Lisher with regards to the works of Dr. Alfred Rogers, a prominent orthodontist that studied under Angle.
 - Well educated and well respected, he served as director at Harvard-Forsyth's School of Orthodontia and president of the NY Society of Orthodontics
 - Authored more than 50 articles on muscle training
 - In 1918 wrote a paper that stated that facial exercises and muscle training alone could correct malocclusion
- "The orthodontic profession has accepted that to expect case stability using fixed appliances without fitting permanent retainers is both impractical and unrealistic." - Chris Farrell, BDS

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**HISTORY
1940 -
PRESENT**

- 1957 Speech Language Pathologists invited to study under orthodontist Dr. Walter Staub who lectured about the powers of the tongue and the "perverse" swallow.
- William Zickefoose SLP- founder and first president of the International Association of Orofacial Myology
- Richard Barrett- SLP- co founder of IAOM
 - Together increased the number of therapists in the field through education and professional association
- 1970s Marge Snow RDH, MA
 - Taught hygienists in Kalamazoo Valley CC myofunctional therapy
 - Developed course called "Preventive and Interceptive Orthodontic" based on the premise that dental hygienists see children at an early age and can detect, refer, or treat maladaptive habits." The rest is history.

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WHO DOES MYOFUNCTIONAL THERAPY?

Dentists and Dental Hygienists

Speech Language Pathologists

Occupational Therapist

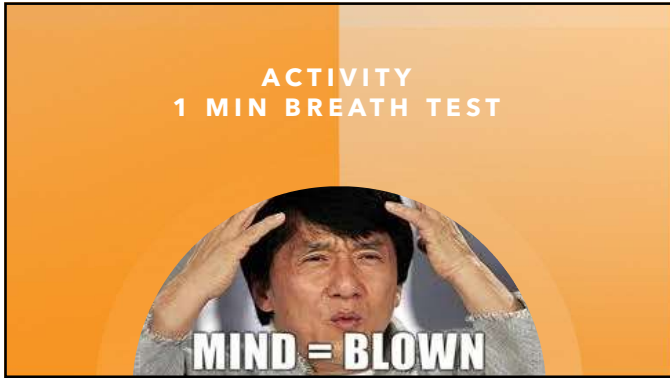
Physical Therapists

Registered Nurses

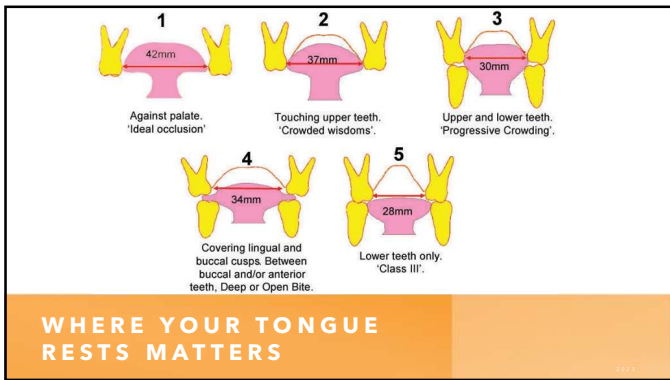
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WHERE YOUR TONGUE RESTS MATTERS

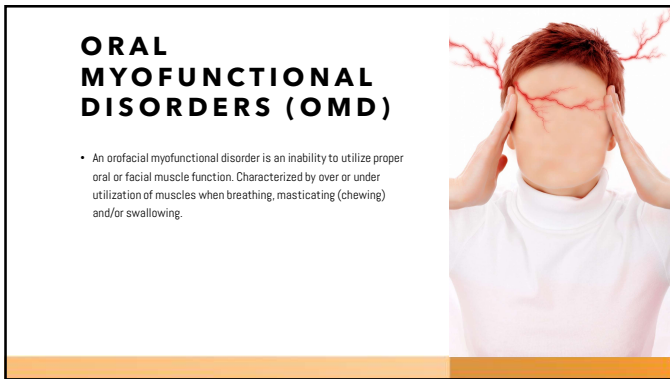
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THIS MANIFESTS AS

Tight musculature	Lip incompetence	Unilateral mastication
Parafunctional habits	Tongue Thrust	TMJ dysfunction


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POSSIBLE HEALTH IMPACTS OF OMDs

- Speech disorders
 - Lisp
 - Articulation problems
- Gastrointestinal problems
 - Aerophagia
 - Reflux
- Sleep breathing disorders
 - Obstructive Sleep Apnea
 - Upper Airway Resistance Syndrome
 - Non-restorative sleep (restless sleep)
- Psychological disorders
 - Anxiety
 - Depression
- Orofacial Pain

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YOU MAY WONDER



HOW DID WE GET HERE?

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WHAT IS EPIGENETICS?

AND HOW DOES IT RELATE TO CHILD DEVELOPMENT?

EPIGENETICS


- Nutritive and Non-nutritive factors impact
 - Oral rest posture
 - Oral function
- Oral function and soft tissue pressures impact the bone development of the craniofacial structure and position of the dentition

"Epigenetics" is an emerging area of scientific research that shows how environmental influences—children's experiences—actually affect the expression of their genes.



This means the old idea that genes are "set in stone" has been disproven. Nature vs. Nurture is no longer a debate. It's nearly always both!

During development, the DNA that makes up our genes accumulates chemical marks that determine how much or little of the genes is expressed. This collection of chemical marks is known as the "epigenome." The different experiences children have rearrange those chemical marks. This explains why genetically identical twins can exhibit different behaviors, skills, health, and achievement.




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INFLUENCING FACTORS

Nature	Nurture
<ul style="list-style-type: none"> Genetics Pregnancy & Birth Tethered oral tissues Muscle tone Observed/learned habits Environment Climate/ Allergies 	<ul style="list-style-type: none"> Breastfeeding Bottle feeding Sippy cup use Pacifier use Thumb sucking duration Chewing habits Mouth breathing Diet/ Allergies


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DENTAL AND DEVELOPMENTAL CHANGES

- *Oral respiration associated with obstruction of the nasal airway is a common finding among patients seeking orthodontic treatment. The primate experiments reported here are part of a series designed to test some of the current hypotheses regarding the relationship between mouth breathing and dental malocclusions, that is, between deviations in orofacial muscle recruitment and jaw morphogenesis. Mouth-breathing was developed in the animals of this experiment by obstruction of the nasal passages with silicon nose plugs. The experiments showed that the monkeys adapted to nasal obstruction in different ways. In general, the experimental animals maintained an open mouth. Some increased the oral airway rhythmically, while others maintained the mandible in a lower position with or without protruding the tongue. All experimental animals gradually acquired a facial appearance and dental occlusion different from those of the control animals.

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DENTAL AND DEVELOPMENTAL CHANGES

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MYO DEFINED

Ultimately there is no universal name or description for myofunctional therapy

↓


Words to avoid

Muscle tone	Physical therapy
-------------	------------------

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WORDS I USE TO DEFINE MYO

- Works with the muscles below the eyes and above the shoulders
- Specialized personal training to strengthen these muscles and train them to work properly for better breathing, chewing and swallowing



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MYO IS A COMMITMENT



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GOALS

Proper Oral Resting Posture

- Nothing else is guaranteed

Tongue Up

Lips Closed

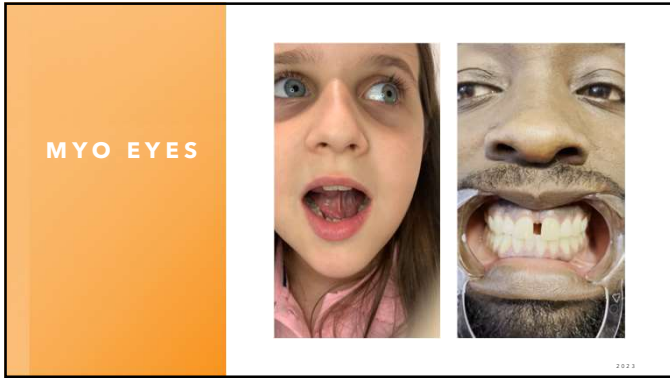
Nasal Breathing

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WHAT DOES MYO LOOK LIKE?



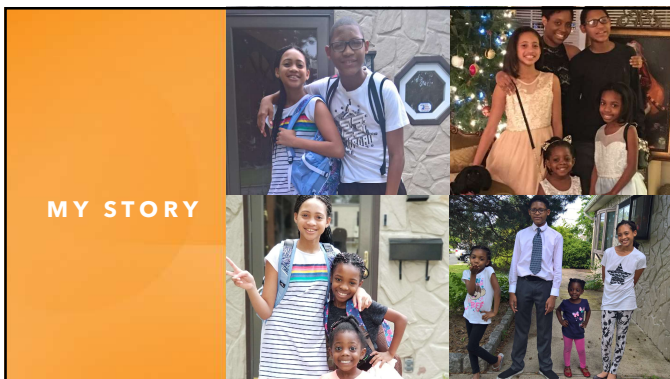
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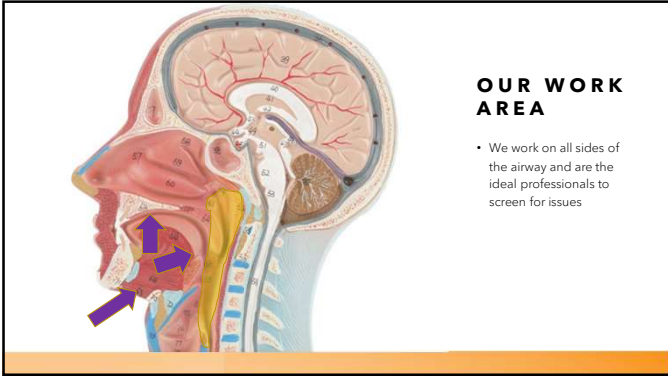
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OMT &
ORTHO

Reduce Relapse

Increase Stability

Eliminate Habits

Improve Timelines

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OMT & RELAPSE

- 76 subjects: 27 OMT & Ortho, 49 Ortho with Relapse
- Evaluated 2 months through 23 years after removal of fixed appliances
- 27: 0.5mm relapse, 49: 3.4mm relapse
- Conclusion: "OMT in conjunction with orthodontic treatment was highly effective in maintaining closure of anterior open bites compared with orthodontic treatment alone.

ORIGINAL ARTICLE

Relapse of anterior open bites treated with orthodontic appliances with and without orofacial myofunctional therapy

Julien Imbricatore¹ and Boris Gossel^{2*}

Abstract

Objectives Closure of anterior open bites using orthodontic appliances is an effective treatment for orthodontic and orthognathic disorders. The aim of this study was to evaluate the relapse of anterior open bites treated with orthodontic appliances with and without orofacial myofunctional therapy (OMT). The subjects consisted of 76 patients who had closed their anterior open bites with orthodontic appliances (49) or with orthodontic appliances and OMT (27). The subjects were evaluated 2 months to 23 years after removal of the appliances. The subjects were divided into two groups: OMT (n = 27) and Ortho (n = 49). The subjects were evaluated for relapse of anterior open bites, stability of orthodontic appliances, and occlusal contact.

Results The OMT group showed a significantly lower relapse rate compared with the Ortho group (P < 0.05). The subjects in the OMT group also showed a significantly higher stability rate compared with the Ortho group (P < 0.05). The subjects in the OMT group also showed a significantly higher occlusal contact rate compared with the Ortho group (P < 0.05).

Conclusion OMT in conjunction with orthodontic treatment was highly effective in maintaining closure of anterior open bites compared with orthodontic treatment alone.

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IS IT RELAPSE?

ORIGINAL ARTICLE

Teeth movement 12 years after orthodontic treatment with and without retainer: relapse or usual changes?

Sven Ahlström¹, Lena Eriksson¹ and Göran Andersson¹

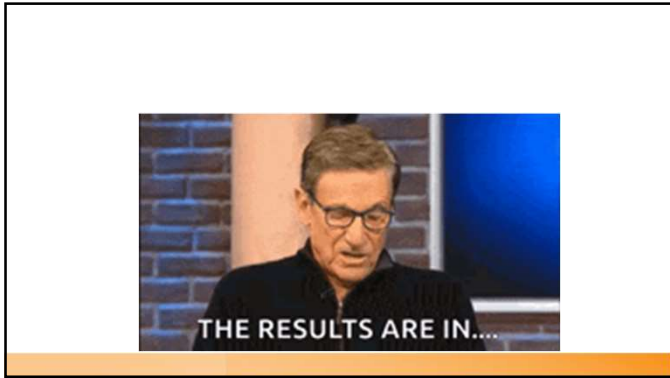
Abstract

Objectives The aim of this study was to evaluate the relapse of orthodontic treatment with and without retainers. The subjects consisted of 22 patients who had orthodontic treatment with and without retainers. The subjects were evaluated 12 years after removal of the appliances. The subjects were divided into two groups: with retainers (n = 11) and without retainers (n = 11). The subjects were evaluated for relapse of orthodontic treatment, stability of orthodontic appliances, and occlusal contact.

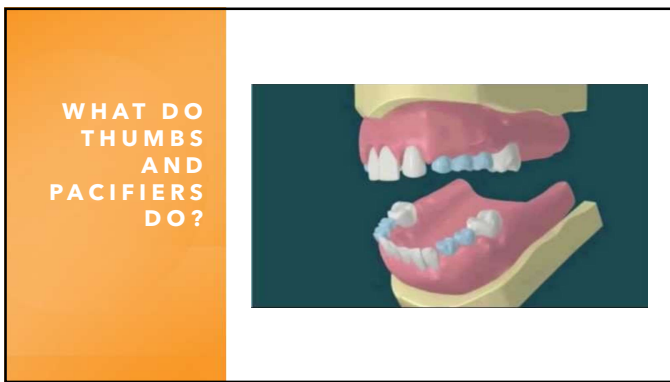
Results The subjects in the with retainers group showed a significantly lower relapse rate compared with the without retainers group (P < 0.05). The subjects in the with retainers group also showed a significantly higher stability rate compared with the without retainers group (P < 0.05). The subjects in the with retainers group also showed a significantly higher occlusal contact rate compared with the without retainers group (P < 0.05).

Conclusion Orthodontic treatment with retainers was highly effective in maintaining closure of anterior open bites compared with orthodontic treatment alone.

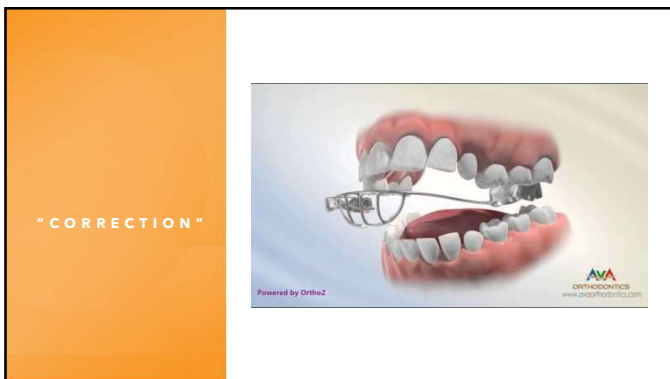
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Early growth guidance

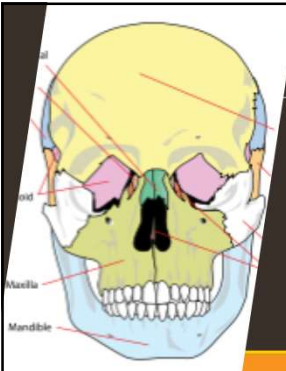
C. Guilleminault

- Pioneer and researcher of pediatric OSA
- Discovered pediatric OSA in 1976
- Craniofacial growth alterations responsible according to research
- Early intervention (~2 - 4 y.o.) could prevent and eliminate OSA
- Researched extensively on myofunctional therapy and believed firmly in its contributions to normalizing orofacial function



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The case for early intervention



By age 4-6 years old
50-65% of craniofacial growth is completed

By age 7-8 years old
70-80% of craniofacial growth is completed


By age 12
90-95% of craniofacial growth is completed

By age 20
Mandibular upward and forward growth completes craniofacial growth

Labels: Maxilla, Mandible

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GENERAL DENTISTRY



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ORTHO & GEN DEN

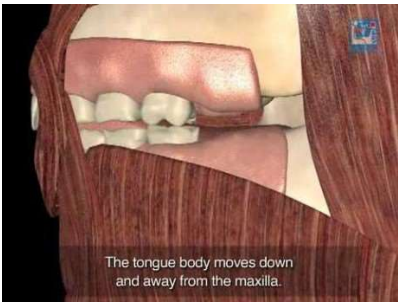
TMD

Hyperactive Gag

Bruxism

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REVERSE SWALLOW



The tongue body moves down and away from the maxilla.

49

TMJ DISORDERS

REHABILITATIVE MEDICINE

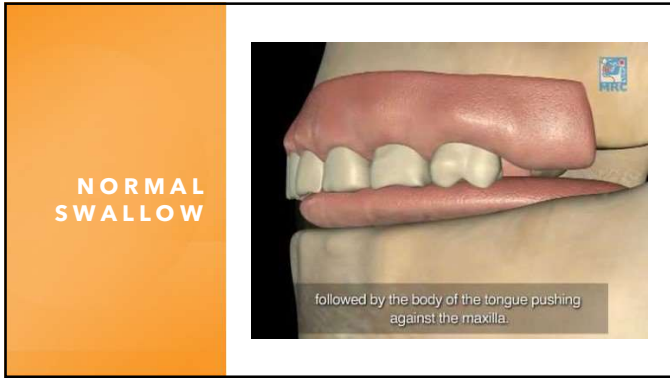
Effects of Orofacial Myofunctional Therapy on Temporomandibular Disorders

Claudia Maria de Freitas, Ph.D., Melissa de Oliveira Medeiros, M.S., Marco Antonio Moreira Rodrigues da Silva, Ph.D.

ABSTRACT: The objectives of the current study were to analyze the effects of orofacial myofunctional therapy (OMT) on the treatment of patients with associated articular and muscle TMDs according to the Research Diagnostic Criteria (RDC/TMD), were randomized into two groups: 1) those treated with OMT (T) group, 2) with an occlusal splint (OS) group, and 3) untreated control group with TMD (C). The subjects with no TMD represented the asymptomatic group (AS). All subjects had a clinical examination and were interviewed to determine history's indexes (D and AI), the frequency and severity of signs and symptoms, and functional dysfunction and evaluation. During the diagnostic phase, there were significant differences between groups T and AS. There were no significant differences between group T and OS and between OS groups T and AS. There were no significant differences between group T and OS and OS groups. During the final phase, groups T and OS presented significant improvement. Concerning the RDC/TMD, there were no significant differences between groups T and AS regarding the number of TMJ joints classified as AS, the severity of muscular pain and TMJ pain, the frequency of headache and the mandible and masticatory dysfunction. The group T obtained significantly from the OS group for the larger lateral gap (bilaterally from the AC) group. OMT favored a significant reduction in pain sensitivity to palpation of all muscles (bilateral and for the TMJs), an increased measure of mandibular range of motion, reduced history's D and AI scores, reduced frequency and severity of signs and symptoms, and increased scores to occlusal dysfunction conditions.

• "OMT aims at equilibrium of the functions according to the occlusal condition and to the condition of the TMJs themselves, and the subjects who follow the therapy program learn to control their movements and to avoid joint clicking and pain without negative compensations and start to recognize the factors triggering the symptoms and to avoid and/or control them as all the procedures regarding the objectives related to TMD and the way to carry them out are explained to them during therapy."

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NORMAL SWALLOW

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BRUXISM & MYO

“Our work seems to indicate that myofunctional therapy can be used alone as a treatment strategy to reduce facial pain, episodes of clenching and facial hypertonic muscle imbalances. The analysis of pain perception according to the NPIS, has clear clinical significance. The improvement resulting from the myofunctional therapy has also a psychological impact in patients with chronic pain; the significant reduction of pain with which these patients have long lived with, is a definite clinical outcome.”

Int J Dent Res. 2017; 18(7): 939-939
 Published online 2017 Oct 26. doi: 10.32922/ijdr.2017.1807.939
 Treatment of chronic pain associated with bruxism through Myofunctional therapy
 Gabriela Almeida¹, Carolina Martins², Evoni Duarte³, Fabia Salgado⁴, Cleonice Brito de Moraes⁵, Luciana Faria⁶, and Roberto Lima⁷
 1. Universidade - Universidade - Copyright and License Information - PINGC/Unicamp

Abstract

Temporomandibular disorders such as bruxism may cause painful clinical reactions and even may lead to chronic facial pain. A combination of therapeutic strategies that are usually undertaken by dentists and physiotherapists to reduce bruxism episodes and consequently pain, are myofunctional therapy, pharmacological treatment, intracanal interventions and behavioral treatments. The aim of this work was to investigate if myofunctional therapy alone can be useful therapy for the reduction of chronic facial pain. 24 patients, 9 males and 15 females, age ranging between 29 and 45, were treated with a myofunctional therapy for 9 weeks. Each patient was evaluated through a numeric pain intensity scale ranging from 0 to 10 and the number of bruxism episodes. Two pre-treatment were also recorded: electromyographic examinations of the temporalis, masseter, pterygoid and digastric muscles were performed to evaluate muscle activation. Each patient was treated before (T0) and after (T1) the treatment period. Pain intensity decreased from T0 to T1 (2.00±0.50 vs. 1.75±0.25, respectively, p<0.05). The number of bruxism episodes also significantly decreased between T0 and T1 (24 vs. 5, p<0.05). Electromyographic assessment showed a decrease in the mean activity of the masseter muscle (T0: 1.00±0.13 vs. T1: 0.40±0.20, p<0.05) and a reduction of the electric activity of the temporalis and digastric muscles during episodes of the bruxism (T0: 167.76±16.30 vs. T1: 148.44±14.40, p<0.05 and T0: 58.87±6.38 μV vs. T1: 21.79±7.44 μV, p<0.05, respectively). Myofunctional therapy could be used to reduce facial pain in a combination of therapeutic strategies.

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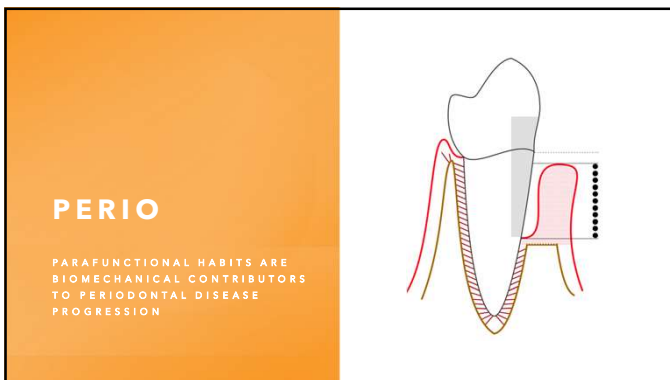
DENTAL IMPLICATIONS

- Damage to tooth structure or restorations
 - Chipping
 - Fracture
- Temporomandibular disorder
 - Pain
 - Discomfort
- Gingival recession
- Sensitivity
- Vertical bony defects/ Periodontal disease progression

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ACTIVITY



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TONGUE MUSCLES-INTRINSIC

- **Superior longitudinal**
 - Anterior and lateral cupping
 - In connection with inferior longitudinal retracts from protrusion
- **Inferior longitudinal**
 - Shorten and Thicken
- **Transverse**
 - Elongation and protrusion
- **Vertical**
 - Flatten and Broaden

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TONGUE MUSCLES-EXTRINSIC

- **Genioglossus (tongue body and hyoid)**
 - Protracts and depresses
- **Hyoglossus (lateral tongue and hyoid)**
 - Retracts and depresses
- **Styloglossus (styloid process and inferior longitudinal)**
 - Elevation and retraction
- **Palatoglossus (palatine aponeurosis and posterior lateral tongue)**
 - Elevates posterior tongue

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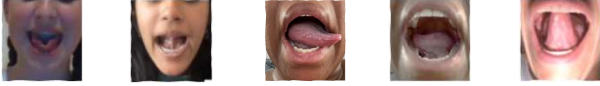
LINGUAL MECHANICS
MUSCULAR HYDROSTAT



2022

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LINGUAL FUNCTION FOR ORAL HEALTH



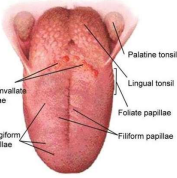
Cupping Suction Lateralization Retraction Elevation

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ORAL CLEANSING



Papillae of Tongue



Circumvallate papillae Fungiform papillae Filiform papillae Foliate papillae Lingual tonsil Palatine tonsil

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LINGUAL FUNCTION DURING MASTICATION



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COSMETIC DENTISTRY



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**ACTIVITY
PARAFUNCTIONAL
HABITS**



65

PARAFUNCTIONAL HABITS

Bruxism	Thumb or digit sucking	Object sucking	Non nutritive chewing
Lip sucking	Lip licking	Lip biting	Mouth breathing
	Nail biting	Tongue Thrusting	

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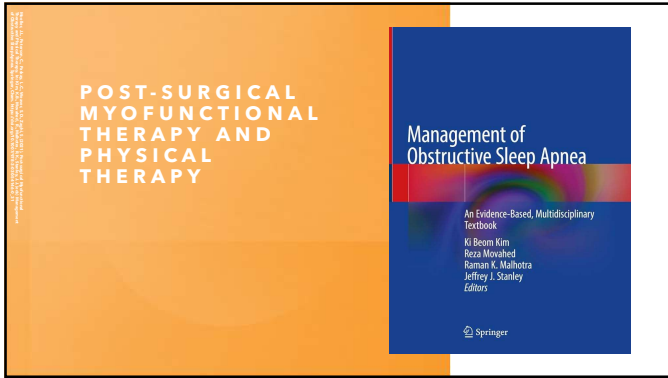
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OMT & OMFS

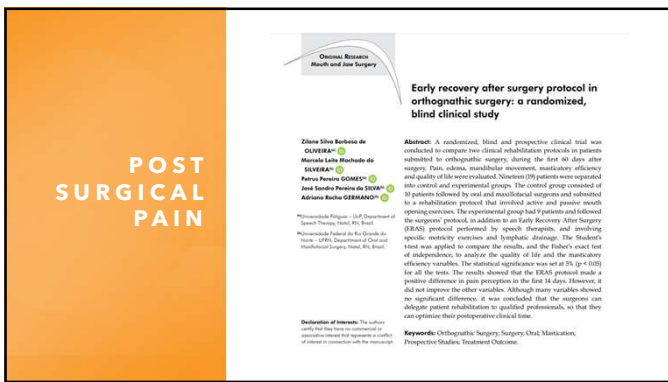
Pre & Post Surgical Support

Airway/Sleep Cases

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MYO FOR SDB

**Myofunctional Therapy
A Novel Treatment of Pediatric
Sleep-Disordered Breathing**

Dr. L. Mueller, D.M.D.¹,
LUCY CONROY, M.D., M.S.,
MICHAEL T. GIBB, D.D.S., M.D.²

KEYWORDS
• Myofunctional • Sleep • Breathing • Nasal • Tongue • Posture • Neuroplasticity • Assessment

KEY POINTS

- Orofacial myofunctional therapy (OMT) is a noninvasive option for the treatment of sleep-disordered breathing (SDB) in children.
- OMT has the potential to become an important alternative to other available noninvasive treatment modalities.
- Early identification and correction of orofacial dysfunction are recommended as early as the first visit of the child.
- Retraining the tongue and pharynx does not always change the breathing pattern from oral to nasal. If the habit of mouth breathing has not been corrected.
- Myofunctional therapy uses a series of supervised techniques to promote self-awareness and posture habits and to prevent the dysfunction that characterizes pediatric SDB.

INTRODUCTION

Orofacial myofunctional therapy (OMT) is defined as the treatment of dysfunction of the muscles of the face and mouth, with the purpose of correcting the orofacial function, such as chewing and swallow-
ing. Myofunctional therapy is an adjunctive noninvasive treatment of temporomandibular joint dysfunction (TMJ).

In the last few years, myofunctional therapy has also been considered as a potentially important component of the multidisciplinary treatment of

- “Myofunctional therapy revolves around the principle of improving a function through repetition, metacognition, and awareness. For example, the tongue is repositioned and trained to contact the palate comfortably, thus providing the natural negative pressure (suction) that keeps the tongue, and especially the genioglossus, in the proper position during sleep.”

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GENIOGLOSSUS

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COLLABORATIVE CARE

- Can be anywhere in the orthodontic treatment plan
 - Pre-treatment
 - Oral Surgery
 - Extraction
 - In treatment
 - Oral Surgery
 - Chain
 - Phase III - in youth
 - Prosthodontist


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- **Integrating OMT into Dental Practice (15 minutes)**
- **Overcoming Barriers:** Addressing common concerns and challenges.
- **Patient Education:** Strategies for educating patients about OMT.
- **Collaboration with Specialists:** Building relationships with myofunctional therapists.
- **Financial Considerations:** Discussing potential revenue streams and ROI.
- **Continuing Education:** Emphasizing the importance of ongoing training.


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REAL BENEFITS

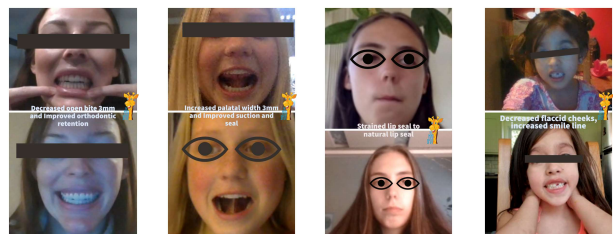
TRANSFORMING SMILES



HELPING PEOPLE



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Decreased open bite 3mm and improved esthetic retention

Increased palatal width 3mm and improved retention in seat

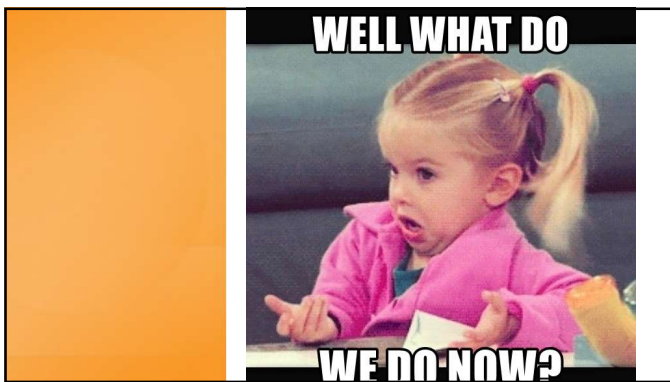
Strained lip seal to natural lip seal

Decreased flaccid cheeks, increased smile line

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DEVELOPMENTAL SIGNS OF IMPACT

- _____ Sunken eyes
- _____ Flaccid cheeks
- _____ Narrow vaulted palate
- _____ Long facial growth
- _____ Scalloped tongue
- _____ Crowded teeth
- _____ Malocclusion
- _____ Retruded mandible
- _____ Facial asymmetry
- _____ "Pinched" nostrils
- _____ Tempromandibular disorder

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MED HISTORY & BEHAVIORAL SIGNS OF IMPACT

- Hypertension
- Acid Reflux
- ADHD
- Aerophagia
- TMD
- Obstructive Sleep Apnea
- Digestive Issues -Constipation -Diarrhea
- Anxiety - Depression

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BROOMS
Myofunctional Airway Screener

SIMPLE SCREENER

B	Bruxism/ Occlusal Wear	Yes	No
R	espiration	Audible	WNL
O	rally defensive	Yes	No
O	pen mouth posture	Yes	No
M	axillary transverse width	Narrow	WNL
S	trained mentals	Yes	No

A sweeping generalization of patients that is not definitive, but easy to incorporate in a clinical hygiene appointment, to identify patients who need myofunctional referral. Two or more "marked" on the first column requires referral for...

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BROOMS: Systematic screening for oral myofunctional disorders

Integrating Myofunctional Therapy Training into Your Dental Practice with BROOM Screening

Myofunctional Therapy Training Using BROOM Screening

BROOMS PUBLISHED

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BROOMS	
 Bruxism	Yes/No
 Respiration	Audible/ WNL
 Orally Defensive	Yes/No
 Open Mouth Posture	Yes/No
 Maxillary Transverse Width	Narrow/ WNL
 Strained Mentalis	Yes/No


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WHERE ARE THE MYOS?

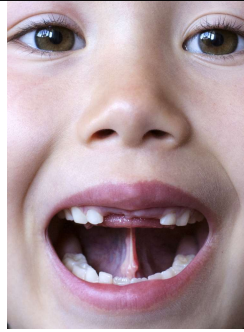
- Directories
 - Myofunctionaltherapists.com; IAOM;
 - Orofacialmyology.com; IAAH
- Social Media
- Google
- In the reflection ;)



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IN CONCLUSION...

Myofunctional therapy is an adjunctive modality that supports traditional dental and dental sleep medicine treatment goals. Referring to a myofunctional therapist or adding this service to your office can improve patient outcomes and treatment timelines.



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WHEN IT
COMES TO
MYO...

SO EXCITED!!!



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RDH & TEAM



DDS/DMD

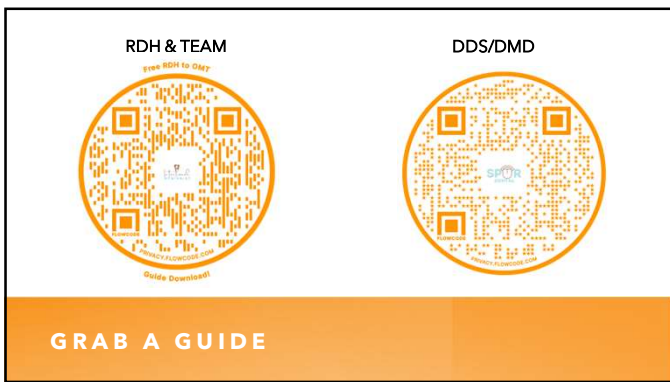


GRAB A GUIDE

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