

Orofacial Myofunctional Disorders

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What are Orofacial myofunctional disorders (OMD)?

Abnormal resting postures of the orofacial musculature

- Forward interdental rest posture of the tongue
- Forward rest position of the tongue against the maxillary incisors
- Mouth-open, lips-apart posture

Atypical chewing and swallowing patterns/"tongue thrust" pattern

- Tongue thrusting forward or laterally during chewing
- Tongue thrusting forward or laterally at swallow

Speech errors due to tongue thrust

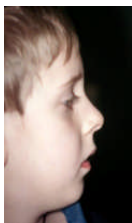
- Sounds like /s/, /z/, "sh", "zh", "ch" and "j" are distorted
- Sounds /t/, /d/, /n/, and /l/ may be produced incorrectly



Defining "Tongue Thrust"

- When in resting position, the anterior or lateral portions of the tongue contact more than 1/2 of the surface of either the upper or lower incisors, cuspid or bicuspid or protrude between them.
OR
- When during the moving or swallowing of any 2 of these 3 media (liquids, solids, saliva) there is an observable increase of (1) force, (2) degree of protrusion, or (3) amount of surface. (Hanson and Mason, 2003)

OMD Consequences



- Over time, dental malocclusion, cosmetic problems, and even changes in jaw growth and position are observed in some patients with OMD's. Changes that can result from a chronic open mouth rest posture:
- Downward and backward growth of the lower face (rather than downward and forward)
- Increased vertical height of the face
- Retruded chin
- Flaccid lips

What causes OMD?

Factors that may prohibit the development of a mature or adult swallowing pattern:

- Anatomical challenges (short or tight frenum, highly arched or narrow palate, large tongue)
- Thumb, finger, tongue or prolonged pacifier sucking, lip and fingernail biting, lip biting, teeth clenching or grinding
- Allergies
- Family heredity
- Enlarged tonsils and adenoids



Who is on the "Myofunctional Team"?

- Dentist
- Orthodontist
- Parents
- Patient
- Physician (otolaryngologist, allergist, oral surgeon)
- Orofacial myologist and/or a speech-language pathologist (SLP)

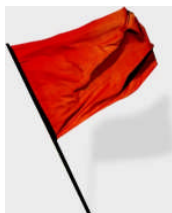


Goals/benefits of OMD Therapy

- Reinforce and establish a resting posture of the tongue away from the teeth, against the hard palate
- Establish appropriate oral, lingual, and facial muscle patterns that promote correct gestures for chewing, swallowing and speech production.
- Retrain oral, lingual, and facial muscles to facilitate correct resting posture of tongue, lips, and jaw
- Establish mature swallowing patterns
- Prevent relapses after orthodontic treatment
- Improve nasal breathing patterns
- Eliminate open-mouth posture
- Eliminate digit-sucking behaviors to facilitate normal growth of the palatal arch

Warning Signs

- Current or previous thumb, finger, tongue or pacifier use
- Open Mouth rest posture
- Open bite
- Lisping when saying /s/ sound
- Enlarged tonsils
- Short lingual frenum
- History of allergies or sinus issues



HALTTS Screening Protocol

- HALTTS Orofacial Myofunctional Screening Protocol
 - Habits
 - Airway
 - Lips
 - Tongue
 - Teeth
 - Speech

Habits

- Sucking Habits: Thumb-sucking, Finger-sucking, Tongue-sucking, Extended Pacifier Use, High Frequency and Extended “Sippy Cup” use
- Parafunctional Habits: Nail biting, Cuticle Biting, Lip Biting, Lip Picking, Teeth Grinding, Teeth Clenching

Airway

- Asthma
- Allergies
- Sleep Apnea
- Snoring
- Chronic Upper Respiratory Infections
- Sinus Problem
- Tonsils/Adenoids
- Poor Nasal Hygiene

Lips



- Lip Incompetency
- Lips apart posture at rest
- “flaccid” upper lip
- Lower lip overcompensates for weaker upper lip resulting in overwork of the mentalis muscle

Tongue



- Resting position: Where is the tongue when it is at rest??
- Is there enough room: look at the size of the tongue in relation to the oral cavity (shape of palate, width of palate)
- Mobility: Check the frenum. Is it restricted or short?

Teeth: Bite/Occlusion Pattern

- Open Bite
- Crossbite
- Overbite
- Overjet
- Underbite

Teeth/Bite Pattern: Open Bite



Anterior open bite:

- upper and lower incisors fail to meet when the mouth is closed.
- molars are occluded

Crossbite



- tooth (or teeth) has a more buccal or lingual position (that is, the tooth is either closer to the cheek or to the tongue) than its corresponding antagonist tooth in the upper or lower position.

Overbite/Deepbite



- front upper incisor and canine teeth project over the lower.
- Also called *vertical overlap*.

Underbite



- The lower incisor teeth overlap the upper
- Can create a jutting chin

How do OMDs affect the SLP?

- SLP Anxiety: “I’ve done everything possible to deal with this sound, why is it not improving?”
- SLP Frustration: “He can do it in therapy, but can’t carry it over out of the session.”

OMDs and Speech

- lispers are often lispers because of anterior tongue thrust.
- lateral sibilants are often distorted because of lateral tongue thrust.
- /r/ production can be affected due to low resting tongue, postural instability, etc.

Articulation Disorder vs. OMD

- Able to achieve success at the single word level, but unable to sustain in connected speech.
- Sibilants are difficult to correct even after extended treatment
- When articulation disorder is in combination with a positive history of a sucking habit, anterior open bite, mouth breathing, enlarged tonsils, narrow palate, restricted frenum
- When you can see the tongue “pushing forward” during speech

Adding an orofacial myofunctional perspective to the SLP evaluation

- During the Oral Mechanism exam check lip, tongue and jaw rest position
- Add questions about habits (sucking, parafunctional) to your case history.
- Add questions about respiration and upper respiratory history (asthma, sinus infections, snoring, etc.)
- Increase awareness of the function of the tongue with relation to the hard palate (what does the bite look like, palate size and shape, and the relationship to the tongue position)
- Look at how sounds are produced: Is the /l/ produced linguodentally? Is the /s/ produced with the tip down? They may sound ok but still be compensatory and thrust driven.

How to support myofunctional therapy during traditional speech therapy

Review appropriate resting position during each session:

- Tongue on “spot”, along the incisive papilla on the alveolar ridge, say /n/ to find (“in”)
- Lips closed (most of the time) but relaxed
- Breathing through the nose
- Teeth are close but not touching (freeway space)

Any Questions?



Links to Websites

- <http://www.ada.org> - American Dental Association
- <http://www.asha.org> - American Speech-Language-Hearing Association
- <http://www.adha.org> - American Dental Hygienist's Association
- <http://www.iaom.com> – International Association of Orofacial Myology
- <http://www.amchp.org/>- Assoc. of maternal & child health programs
- <http://www.mchb.hrsa.gov/> - US Dept of Health and Human Services

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