

What is Orofacial Myology?

Orofacial myology is a specialized professional discipline that evaluates and treats a variety of oral and facial (orofacial) muscles, (myo-) postural and functional disorders and oral habits that may disrupt normal dental development and also create cosmetic problems. The principles involved with the evaluation and treatment of orofacial Myofunctional disorders are based upon dental science tenets; however, orofacial Myofunctional therapy is not dental treatment.

Myofunctional therapy can be basically described as correcting an oro-facial muscular unbalance, including correction of the position of the tongue at rest and during swallowing. Specific treatments involve establishing and stabilizing normal rest position of the tongue and lips, eliminating deviate (abnormal) oral habits and correcting swallowing patterns when tongue thrusting is involved. Improvements in appearance are observed during and following therapy.

What are Myofunctional disorders and how are they corrected?

An oral Myofunctional disorder includes a variety of oral habits, postures and functional activities that may open the normal dental bite or may lead to deformation of the dental arches.

- Thumb and finger sucking



- an open-mouth posture with lips apart



- a forward rest posture of the tongue

- Tongue thrusting during speaking and swallowing

Above mentioned oral habits characterize Myofunctional disorders. Such disorders can lead to a disruption of normal dental development in both children and adults. The consequence of postural and functional variations involving the lips and tongue are associated with dental malocclusion, cosmetic problems, and deformities in the growth of the dental arches.



How Prevalent Are Orofacial Myofunctional Disorders (OMD)?

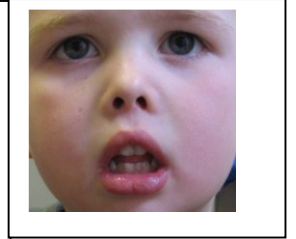
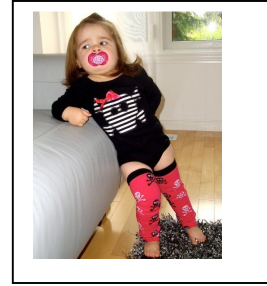
Research examining various populations found 38% have orofacial Myofunctional disorders and, as mentioned above, an incidence of 81% has been found in children exhibiting speech/articulation problems.

Did you know that approximately 80% of all "tongue thrusters" have an airway (respiratory) problem, and the other 20% usually have a detrimental habit, such as thumb sucking?

What causes an orofacial Myofunctional disorder?

It is often difficult to identify a single cause for an orofacial Myofunctional disorder. Most disorders involve a combination of factors that may include:

- Improper oral habits such as thumb or finger sucking, cheek or nail biting
- Lip licking, deviate rest positioning of the tongue, mouth breathing
- pacifier (ab)use
- An airway restriction from enlarged tonsils or adenoids
- Allergies or anatomical deviations involving the nasal cavity or pharynx.
- Structural or physiological abnormalities such as short lingual fraenum frenulum).
- Neurological and sensory-neural developmental delays or abnormalities.
- Hereditary predisposition to any of the above factors.



Why Be Concerned?

Orthodontists have been concerned about OMD since the early 1900's because the abnormal functions and postures of OMD can: negatively influence dental growth, slow down the orthodontic treatment and it may undermine the stability of an orthodontic correction, resulting in a relapse.

Habitual open-lip resting posture (lip incompetence), commonly found among individuals with OMD, eliminates the beneficial influence that closed lips have on the development and maintenance of good dental arch form.

The presence of OMD may have a negative effect on the development of the dentition, particularly the eruption patterns and/or alignment of the teeth and jaws. Research has revealed that of those individuals who exhibit OMD 81% have speech problems. The /s/ sound is the most noticed speech error; others are /z/, /sh/, /ch/, /j/, /d/, /t/, /n/, /l/ and /r/. When there is a combination of OMD and related speech errors, it is often difficult to correct the speech problems through traditional speech therapy. Children or even adults with incorrect chewing and swallowing patterns frequently chew their food with their lips open, usually taking large bites and swallowing without completely chewing the food. This behaviour often leads to food particles around the mouth, noisy chewing and swallowing (smacking and gulping) and a messy eating area. It can also cause an upset stomach from swallowing too much air. (Colic's)

At what age should therapy begin?

Children as young as five years of age can benefit from evaluation or therapy to eliminate sucking habits. **Age five years** is usually a good age to initiate digit sucking therapy or refer a patient for medical evaluation of an airway interference issue. However, resting posture problems of tongue and lips, and other functional problems such as tongue thrusting are not indicated for treatment until **age six or seven**.

Orofacial Myofunctional therapy is also appropriate **for adults**. In many instances, a Myofunctional disorder develops in response to late jaw growth, worsening of a malocclusion over time, or other reasons such as tooth loss. Therapy for adult patients is typically efficient. Adults of all ages are capable of achieving success in treatment.

In some instances, evaluation will reveal that no treatment is needed in a child or adult. A moderate tongue thrust without an accompanying speech or dental occlusion variation does not always require correction. The orofacial Myofunctional clinician can provide advice based on measurements of the muscle strength which child or adult will require treatment. While orofacial Myofunctional therapy is not speech therapy, the orofacial Myofunctional clinician who is also trained in speech-language pathology can also correct the speech disorders which may be associated with orofacial Myofunctional disorders.

Anything all babies are born with a low forward swallowing pattern (tongue thrust). With normal growth and development, the tongue begins to lift up into and against the palate (roof of the mouth). This pressure against the palate helps the palate develop into the correct shape. Anything that adversely influences normal development of the dental arches or position of the teeth can result in an OMD. Oral and facial muscles must adapt to the oral structures to maintain a normal functional relationship.

Oral habits - prolonged thumb or finger sucking, cheek/nail biting-, enlarged tonsils/adenoids, allergies/asthma, sinusitis or a restricted flow of air through the nasal cavity can promote a habitual open-mouth posture. Structural or physiological abnormalities - a short lingual fraenum (tongue-tie), macroglossia (abnormally large tongue) or micrognathia (abnormally small jaw), neurological or developmental abnormalities, Down Syndrome, Cerebral Palsy or other neurological problems limits the patient's ability to achieve the necessary muscle function for correction.