

Tongue Tie – the Big Picture

by Kathryn Gill, MD

Tongue and upper lip tie are developmental arrests which have life-long sequelae. Diagnosis is improving and it is clear that a large number of infants and adults suffer from this issue. Not only is ventral orofacial development disrupted, but speech, swallowing, breathing and even cardiovascular problems may occur as the child grows.

The tongue is central to both middle and lower facial development, and if it is tethered, all organs associated with the face may be affected. There will be changes in the actual *shape* of the upper and lower jaw, the space for air to move through the nose and airways, the sinus development, tooth development etc. An open mouth breather never develops adequate facial skeletal volume or function. They have increased likelihood of having sleep apnea later in life due to poor tone of oro-facial-pharyngeal musculature, chronic sinus congestion and other sequelae.

Tongue tie is usually concomitant with tongue dysfunction and the infant may experience feeding fatigue, resulting in poor weight gain and possibly failure to thrive. Intestinal peristalsis will be uncoordinated. This is because the normal rolling lift of the tongue which initiates peristalsis is disrupted and this will affect coordination of Lower Esophageal sphincter function and increase the likelihood of reflux, spitting up and or vomiting. Associated lip tie interferes with adequate lip seal and also disrupts effective nursing/swallowing. Thus the individual may swallow large amounts of air which causes gas pain, *early fullness* or satiety and colic-like symptoms/behavior.

Later during speech development, the child may have difficulty coordinating tongue musculature to form certain sounds, develop compensatory methods for speech, eating and breathing which lead to further problems. An individual with unaddressed tongue dysfunction and tongue tie will also often “fail” orthodontics, requiring repeated intervention and or life-long use of a “retainer” in the traditional Ortho model.

Lip and Tongue tie are multifactorial issues requiring a team effort to resolve. For patient’s requiring frenectomy, the Osteopathically trained physician must attend to the whole body dysfunctional patterns which developed *with* the tongue tie. From an Osteopathic perspective, we need to evaluate and address abnormal arrangement of anatomical parts, functional irregularities, birth patterns and birth trauma. In some cases the breastfeeding infant does quite well after frenectomy due to freedom to nurse effectively. But in many instances the tongue will re-adhere to the floor of the mouth, particularly if there are overlapping sutures, compression in the cranial base such as the condyles, or abnormal sensory and motor nerve function.

The cells of the human body are designed to respond to kinetic forces. Forces applied at a low level for a prolonged period of time, such as Braxton Hicks contractions on a low lying fetus, or intense forces applied to the core link between the sacrum and cranium,

such as Pitocin stimulated contractions, will have an effect on the molding, shape and function of the newborn body and hence the potential for further functional and structural abnormalities involving swallowing, breathing etc.

The Osteopath is able to evaluate and treat elements of the physical structure (affected by these forces) which are immobile, distorted, overlapping etc. Osteopathically we can also work with the patient to improve function. The approach involves a careful moment-to-moment diagnosis and treatment which allows the physician to address abnormal position of all the anatomical elements. A patient may need treatment of their bony skeleton, ligaments, fascia and other connective tissue as well as support for changes necessary in nerve impingement, vascular impingement etc. Posture and habit are evaluated in order to help the individual become aware that unconscious habits may worsen their situation. For example, sleeping on the stomach affects the shape of the upper and lower jaw, the jaw socket, the position of the nasal septum, the trachea and cervical elements.

The whole patient is treated because the whole body is affected. After treating hundreds of newborns with these issues, it became clearer how to diagnose the “whole body” effects of tight frenums in adults. It is now more apparent that lip tie may contribute to airway dysfunction, changes in function of the nasal septum and its relationship to the fronto-ethmoid cranial bones. This dysfunction can actually cause greater susceptibility to prolonged sinus drainage problems, sinus headaches and migraines in adults. It can also contribute to chronic pain distributed in other areas of the axial skeleton, due to the force vectors which the patient must compensate for.

In my experience it is better for the patient to have a delay between lip and tongue frenectomy (1 week for infants or longer for adults), because it gives the body time to reorganize structural elements in the entire body that were reacting to the fulcrum provided by the excessive tethering.

The most important benefit of concomittant Osteopathic treatment before and after frenectomy is that a *disorganized human system* becomes coordinated and then receptive to the interventions of myofunctional therapy or dental orthopedics and there is much better success developing tongue function, positioning and control. If the tongue functions normally, many of the other sequelae described will not occur.