The ALF Approach

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Overview

The ALF Approach is an integrated, collaborative, whole body approach to treating facial growth and developmental dysfunctions (i.e. malocclusions). The team members include, but are not limited to, an ALF trained dentist, a cranial osteopathic physician and a myofunctional therapist. The goal of the approach is to address the underlying dysfunctional etiology of the malocclusion and re-direct the dysfunctions into an integrated physiological functioning that will continue to support the craniofacial cervical (entire soma) into a healthy, unobstructed and uninhibited neutral, for optimal growth, development and health.

It is fundamental that all the team members are fulcrumed in osteopathic principles, as the ALF appliances were created within these principles and practices and implementation of the ALF principles is vital to an integrated successful outcome which will *not* require a "life time retainer."

The osteopathic principles are the following:

1. The body is a functional unit
2. Structure and function are reciprocally interrelated
3. The body has the capacity to heal itself

1. The body is a functional unit

Each body part moves and develops in relationship to one another and the entire soma. Isolation in diagnosis and treatment of the dental occlusion, without recognition of the complex and vital

connection to the craniofacial cervical (pelvic and feet) complex, is limiting and potentially harmful to our patients. Not only are isolated changes in the dental occlusion impossible, but as stated in Newton's third law, "for every action there is an equal and opposite reaction." Therefore, the heavier and more rapid the forces that are applied to the maxilla and mandible, the heavier and more restrictive are the compensation patterns to the craniofacial cervical complex.

2. Structure and function are reciprocally interrelated

Just as the river carves out the unique form of the riverbed, the form of the riverbed tells the story of the movement, volume and direction of the water flow. The riverbed is the structure, and the water flow is the function. They are interdependent with one another. This is the story of the functions of our bodies: They form our structure, and our structure holds the form for the functions.

The tongue and palate fit like a "hand in glove." The shape of the palate tells the story of the movements of the tongue: When the tongue is habitually low, the buccinator muscles' contractive forces overpower the non-existent counterforce of the tongue in the palate, and hence a narrow palate is formed. Once the palate (the structure) is too narrow for the tongue to fit in, then the structure of the palate needs to change in order to restore health and enable the tongue to be able to rest in the palate. This in turn brings stabilization to the cranial base, widens the oral volume in a three-dimensional experience, increases airway and stimulates the cranial motion. Therefore, both the structure and function need to be assessed, and health restored, for a whole integrated transformational experience.

3. The body has the capacity to heal itself

We are constantly healing ourselves. As healthcare practitioners we need to be aware that placing a bandage on an abrasion isn't healing our patients. It is creating an environment for the patients to heal themselves.

As osteopathic physicians and ALF-trained dentists, the goal of treatment is to remove obstacles, and allow the body to heal itself. A very small activation in the right direction can create a life-changing transformative experience, not because the system is being driven in a direction dictated by human measurements, but because the obstacles (restriction to motion) are being removed and allowing motion and function to be restored. This motion and function are our inherent capacity to heal ourselves.

The ALF appliances are the only appliances that are completely non-obstructive to the tongue-palate connection. The ALF encourage the tongue to perform its inherent action, which is to develop a face, stabilize the TMJ and base of the cranium as well as decompress the upper cervical vertebras. The entire tongue has the opportunity to shape the individualized palate that specifically fits the uniquely shaped tongue. The appliances not only recruit, but also integrate, the myofunctional dysfunctions—thus removing the obstacles to a cure. In this way Nature is doing her work to develop a face.

The ALF

Dr. Nordstrom DDS, working with feedback from osteopathic physicians, labored intensely for many years to create the perfect combination of strength and flexibility in the ALF wire. This perfected ALF wire provides stabilization and flexibly to the craniofacial cervical complex; stimulates the cranial rhythmic impulse; "unwinds' cranial strain patterns; rehabilitates tongue-to-palate resting position, lip seal, and nasal diaphragmatic breathing;

and creates osteoblastic activate developing the maxilla and mandible thus increasing oral volume.

The flexibility of the ALF wires creates a subtle expansion and contraction motion, which augments cranial motion. One example, is the ALF can restore a temporal bone dysfunction by augmenting cranial motion, thus addressing a commonly overlooked and underlying etiology of TMD. The ALF wire "unwinds" cranial strain patterns and, because it synchronizes with the cranial motion, the process is less likely to create the compensatory changes that would, in turn, create new strain patterns. In this way, the patient remains intact as one soma and the tissues move together into greater motion, removing the obstacle of growth and thus creating the environment of healing.

Restoring Function and Motion

The initial phase of an ALF treatment is to restore inherent function and motion. The second phase, once the craniofacial cervical strain patterns have been removed, is to move teeth to create and maintain a "functional" dental occlusion, which stabilizes the integrated craniofacial complex. The ALF is the only appliance that has the capacity to address the underlying cranial strain patterns.

The dental occlusion participates in a complex dynamic, constantly shifting horizontal stabilizing basis for the human being. These horizontal stabilizing bases include the eyes (vision), the temporal mandibular complex, the cranial base, the cervical vertebras and the pelvis. The interlocking of enamel, the hardest substance in the body, overpowers all the other more malleable structures and functions of the body. The dental occlusion will dictate the horizontal planes around which the body will compensate to create balance. Therefore, it is of upmost importance that the dentists learn to assess the functions of the craniofacial cervical complex,

to integrate a wider scope of treatments and consequences for the changes in the dental occlusion.

The scope of practice of a dentist is from the clavicles upward. Thus, given the bases and responsibility for the dentist to learn assessment and treatment of the craniofacial cervical complex in relationship to the dental occlusion.

The process of the ALF approach not only addresses the etiology of dental malocclusions, but also strives to integrate the underlying craniofacial and cervical somatic dysfunction that contributes to malocclusions and temporal-mandibular joint dysfunctions. As an example, using a mandibular splint to decompress the TMJ, without first addressing the underlying temporal bone dysfunction or the integrity of the joint's ligamentous structure, is limited as a complete cure of TMD.

Misaligned and crowding of teeth are created by abnormal tongue movements (a dysfunctional swallow), abnormal resting tongue positions, and/or open-mouth breathing posturing. All of these functions can be affected by compression and trauma to the cranium, face and cervical areas. The light ALF wire is designed to restore normal physiological functioning of all of these structures and processes by recruiting the functions of swallow and neutral tongue resting position in the palate. The ALF appliances do *not* obstruct the tongue, but encourage the tongue to rest in its physiological position in the upper palate—thus activating growth and development of the maxilla as well as integrating retained primary reflexes for neuro integration. This is the driving force for creating craniofacial changes with the ALF process, thereby correcting malocclusions while addressing the underlying etiology of malocclusions and neuro intergration.

A unique and essential goal of the ALF approach is to augment and stimulate inherent motion of the craniofacial complex. The

movements of these bones are subtle, measuring about 1mm; however, the consequence of restrictive motion is significant. The motion is what drains the sinuses and middle ears. The motion of the craniofacial complex is the driving force for the central nervous system lymphatic and venous return, which removes the by products of cellular respiration which are toxins! The motion and functions of the craniofacial complex are the functions of our Health.

A functional swallow augments this inherent motion. With every "upwards and backwards" motion of a swallow the tongue creates motion to the maxilla, palatine, sphenoid in the hard palate and the occiput through the soft palate. The motion from these bones is translated to the entire craniofacial complex as well as contraction the 16 muscles that attach to the hyoid bone. A functional swallow is not only essential for facial growth and development but also for symmetrical development of the craniofacial cervical complex.

A functional swallow also creates a pressure change in the sphenobasilar junction, a joint in the middle of the cranium that connects the sphenoid and occipital bone. The joint is cartilaginous until approximately 28 years old. The "flexibility" of the joint is maintained throughout life. This flexion and extension of the sphenobasilar joint and the compressive forces of the swallow stimulates bone growth for the occiput and sphenoid, thus creates a longer basicranium, which places the face in a more forward position, thus increasing the airway space.

The motion of these bones augments the motion of the cranial facial bones as a functional unit. In turn, the movement of these bones then stimulates movement of the cranial dura, which holds the venous and lymphatic vessels of the cranium. As the motion of the occiput and temporal bones is augmented, there is a compression/decompression pump-like action on the fascia

between the bones, which stimulates the lymphatic and venous drainage of the central nervous system.

Tensegrity Architecture

One of the many important contributions of artist, mathematician, and inventor R. Buckminster Fuller to science was articulating the principles of tensegrity architecture. Unlike typical man-made structures that are stabilized by gravitational compressive forces, tensegrity systems are stabilized by continuous tension, with discontinuous compression.

The most notable aspect of tensegrity architecture lies in its application to biological organisms. The previous, older model for the human structure was based in a gravitational compressive-forces theory, which was not able to explain the vast integrative somatic compensations. When applied to the principles of osteopathic medicine, biotensegrity provides a conceptual understanding of the hierarchical organization of the human body and explains the body's ability to adapt to complexes of growth and development.

The continuous tension with discontinuous compression/decompression is the motion that allows the ALF to be a stabilizing force on the craniofacial cervical complex. For example, the tongue resting in the palate acts as a biotensegrity support for the craniofacial cervical complex. When there is a myofunctional dysfunction, the ALF acts as a vital biometric biotensegrity appliance, applying the same activation as the tongue and stimulating the same neuro-integration process that supports and integrates the cranial motion, balances temporal bone dysfunctions, and decompresses the cervical.

Another vital action the ALF approach provides is the stimulation of the glymphatic and venous drainage from the CNS, which is

imperative to healing from traumatic brain injuries as well as preventing and healing from neurodegenerative diseases such as ALS, Parkinson's, and Multiple Sclerosis. The ALF approach is a health approach to removing obstacles of the dental occlusion and restoring inherent cranial motion, which is vital to central nervous system health and thus overall health.

In order to experience and/or understand the effects of trauma and dysfunction as a formative force of growth and development, one must experience or perhaps have a foundational model of the human body as a unified fluid adaptable malleable biotensegrity complex system.

Birth and Trauma Effects

Given the above foundation as an experience of living tissue, let us investigate the effects of birth and trauma. For this, it is pivotal to understand neonatal cranial anatomy. Perhaps most important to understand is that the occiput is formed in four parts at birth. These four parts—the squamous portion, the occipital sphenoid portion, and the two condylar portions—are surrounded and separated by fascia in the newborn.

One can imagine the four pieces of the occipital bone as "floating in an ocean of fascia." The hypoglossal canal does not exist as a canal within the occipital bone at birth, but rather is a space of fascia between the two condylar portions and the occipital portion of the occiput. The condylar portion of the occiput does not fuse into one bone until the age of eight to nine years. So any compressive force to the occiput before the age of eight to nine years could create a strain in the fascia between the occipital bones and an impingement on the hypoglossal nerve, thus effecting tongue movement. Tongue motion is directed by the hypoglossal nerve. Injury to the nerve can results in dysfunctional tongue motion affecting the swallow, speech, draining of the middle ears

and sinuses, development of the basicranium as well as a deficient palatal and midface development.

If the injuries are severe enough to create a change in position of the condylar part of the occiput, the size and patency of the hypoglossal canal could be compromised affecting the conductivity of the hypoglossal nerve and thus creating a dysfunctional suck and swallow developing malocclusions.

The compressive forces encountered at birth are our first formative strains that will affect the direction and magnitude of our growth and development of the face. As the face grows out from the base of the cranium in an anterior inferior direction, the cranial distortions present in the cranium will be reflected in the formation of the face. The vector forces of compression on the newborn cranium will dictate the amount of facial dysfunction the child will grow into.

A newborn with a history of a “traumatic” birth and nursing difficulties needs to be treated by a cranial osteopathic physician to “unwind” the cranial strain pattern and remove the obstacle of dysfunction, thus allowing the tongue to do it’s job of developing a palate and midface. This will be evident with the examination of a cranial osteopath who will assess the motion at the cranium and examine the integration of a normal infantile suck and swallow. Left untreated, this dysfunctional innervation of the tongue will lead to a malocclusion. If the myofunctional dysfunction is still untreated after orthodontic treatment, there a 100% chance of relapse in the dental occlusion if a lifetime retainer is not used to “force” the teeth against the direction of the still present dysfunctional swallow.

This is a perfect expression of how the tongue and palate are no longer a “glove and ball” experience. The patient palate is being held in a structure (the retainer) by which their inherent motion and

function cannot maintain. A myofunctional therapist is of great importance to help rehabilitate the dysfunction, *and* the osteopathic physicians is of upmost importance to help remodel the base of the occiput to decompress the restricted tissues (fascia), thereby affecting the functioning of the hypoglossal nerve. The ALF approach needs no "life time" retainers to hold the shape of the palate because the underlying etiology of the malocclusion has been addressed.

The hypoglossal nerve is not the only cranial nerve that can be affected by birth trauma or cranial trauma. The glossopharyngeal nerve, the vagal nerve, and accessory nerves can be "impinged." These nerves exist in the cranium through the internal jugular foramen, which is, again, a space filled with fascia between the occiput and the temporal bones. Disruption in the innervation of these nerves can manifest symptoms of colic. Some of these symptoms include irritability, indigestions, gas and bloating, constipation, arching back of the head, torticollis, and difficulty nursing and swallowing. When the cranial osteopathic physician is able to engage the birth strain pattern and allow motion to be restored to the cranium, allowing the temporal and occipital bones to move unimpeded, the fascia strain is resolved, the impingement on the cranial nerves is resolved, and health purses.

Conclusion

The ALF Approach is a collaborative integrative wholistic approach to treating dysfunctions of the craniofacial cervical (whole soma) complex. The ALF approach removes obstacles of dysfunction by restoring inherent motion and thus augmenting the function, which is accomplished not by force but by synchronizing, integrating and augmenting motion present to restore the dysfunction. Learning to use an integrative approach to "bring the whole patient" along as the dental occlusion changes is a transformative process which is a worthy goal to strive for.

For More Information

For more in-depth information on this subject matter, consider attending the course “Osteopathy and the Dental Occlusion,” March 2-3, 2019, Santa Cruz, CA. This course (with CE credits) will also be available for distant learning via “live streaming”.