THE OPEN LOOP CRICKET

A Different Approach in Treating

Posture Airway TMJ Tongue Position and Neurology

The Problem

Treating patients with traditional sleep mandibular advancement devices (MAD) and TMJ appliances has been done for years. The flat plane splint is a technology that has been around for more than 123 years. Although these appliances have had some success, they are more of a band aid approach to treating patients. Instead of treating the root cause of the problem they treat the expression (symptoms) of the true cause.

The Question We Should Ask Ourselves

.When searching for a more definitive solution I must constantly ask myself why something isn't working better than the current arsenal of appliances on the market today. For example, I question what would be my ideal appliance to treat sleep, airway, TMJ and the associated neurological symptoms that are associated with cranial bone displacement.

Why We Should Look Furthur

The human skull consists of twenty-nine bones. Eight bones are in the cranial system, fourteen bones in the facial group and seven more bones consisting of the inner ear and the hyoid bone.

The cranial bones have movement dictated by their sutural anatomy and pressure from the cerebral spinal fluid (CSF) which is pumped throughout the spinal cord and brain within the confines of the dura. This CSF is critical for oxygenation and nourishment of the brain and spinal cord, eliminating toxins and cooling the pituitary and hypothalamus which is critical for hormone regulation.

The cranial bones are grouped together whether they are paired or midline bones depending on whether they cross the midline or not

When we visually look at the face, the skin is supported by fat pads and bone. When we remove the skin and fat pads to observe the position of the cranial bones we start to notice a pattern of asymmetry that then translates to the face. Many factors such as sitting in the pelvic girdle for nine months before birth, the journey through the birth canal, C-sections, diet, and the lack of breast feeding can all influence cranial bone positioning and cranial facial asymmetry.

Since dentists deal with the oral cavity and are trained to compartmentalize the parts of the body, we fail to realize the connection of the maxilla to the rest of the body. The maxilla is a paired set of bones that is connected to the paired palatine bones which subsequently interlocks into the sphenoid bone. The sphenoid bone is the central cog of all the cranial bones, just like a central cog to a watch. It is shaped like a swallowtail butterfly with a greater and lesser wing. The greater wing of the sphenoid is the back of the orbit of the eye (ocular asymmetry). The significance of this relationship of the maxilla to the sphenoid bone is critical to understand. If the sphenoid bone is the central cog of all the cranial bones and the maxilla can impact the sphenoid bone indirectly via the palatine bones, then leveling out the maxilla can have an impact on how the cranial bones support and function within the whole cranial system. Figures 1,2

David Gergen & Timothy Adams

Instead of Treating Pain Points, Go to Source of Pain

Of the ways to accomplish this leveling of the maxilla, I have used in this case report an appliance called the Open Loop Cricket appliance. The premise of utilizing this appliance is that its design allows for changes to occur in the cranial bone positioning as well as light wire activation. Our body is a closed loop kinematic skeletal chain. Within this closed loop system there are two openings, the arch of the feet and bite. At the end of each swallow cycle the teeth come together which can be more than 2,000 to 3,000 times a day.

When the teeth come together the loop is closed or locked in. This locks the whole system into this closed loop kinematic skeletal chain so that any adjustments that are attempted with the cranial bones will end up being locked back within the skeletal system at the end of each swallow cycle as the teeth come together. This demonstrates the power that dentists have to help the health care team unlock and free up the restricted cranial bones, thus affecting facial asymmetry and the rest of the posture, airway, tongue position and neurology.

Since posture dictates airway and neurology, many symptoms of TMD and airway restrictions can be helped by improving the facial asymmetry of these patients.

WHY OPEN LOOP CRICKET IS THE ANSWER

So why is the Open Loop Cricket my ideal appliance to date and why is it important and different than other traditional appliances?

- It is a holistic appliance.
- It aligns the craniocervical junction.
- It unwinds and decompresses the cranial strain patterns of the face.
- It enhances normal growth and facial development.
- It rehabilitates the underlying cause of malocclusion which always involves the tongue.
- It decompresses and realigns the TMJ.
- It enhances neurology.

With the OLC we get a three - dimensional intraoral development unlike a traditional mechanical expander that is limited to a two - dimensional effect. The OLC promotes changes in the craniocervical complex and allows for better tongue position and function to achieve a stable permanent change in the dental occlusion, posture, airway and neural integration.

The goal of any appliance should be to restore and rehabilitate the physiological function of the craniofacial cervical complex which includes the head, face and neck. This allows the body to be in the most ideal position to function 24 /7.

So why is the OLC unique in its design and function? The OLC wire has an innate balance of strength and flexibility to promote facial growth and development, enhance cranial motion and rhythm and change the position of the teeth. It is biocompatible with the cyclic intermittent motion of the craniofacial structure, fascia and the body as a whole.

Due to its composition and flexibility, it synergistically moves with the cranial bone motion with the addition of creating a gap or space by using a piece of acrylic. Upon closing the mouth, the strained cranial bones are allowed to unwind and move to a more natural position for an improved facial symmetry. Since the twelve cranial nerves run through the cranial bones their ability to function can also be enhanced.

In addition to stimulating normal growth and development by allowing the maxillary mandibular complex to develop, the OLC also allows the airway to increase and tone. This is critical because it allows more room for the tongue to function and move anteriorly and superiorly. This tones the airway via the glossopharyngeal muscle and the palatoglossal muscle is activated by the vagus nerve .

The OLC is not a mechanical device that actively widens the palate. The OLC develops the palate in three dimensions due to the tongue. Rapid palatal expanders develop the palate in two dimensions which does not take into effect the cranial strains and potentially could worsen them. The inherent and passive qualities of the appliance allow it to restore function while the structures of the face evolve and change.

The goal is to remove all obstacles and restore the body's inherent motion and function so there is a maximum capacity and space for this transformation to happen. This will facilitate the healing process by engaging with the body's natural motion and rhythm to encourage openings and gaps that release and unwind cranial strains and fascial restrictions.

Final Thoughts

Remember: motion is inherent in all living systems and it should be our goal to restore. The OLC increases motion while restoring function which is usually the main cause of the malocclusion and cranial facial asymmetry.

As a health care provider our ultimate goal is to remove obstacles, augment motion and restore health.

When we are able to restore cellular motion, cranial motion and proper breathing we enable the body to heal itself.

Case Presentation

Patient: 38-year-old Female

Patient Symptoms:

Headaches, cervical issues, ringing of the ears, sinus issues, upper airway resistance syndrome, snoring, dizziness (patient would fall numerous times), TMJ sounds like velcro upon opening and closing, forward head posture, Mallampati 3

After OLC treatment:

All these symptoms have improved dramatically or are totally gone. Mallampati score went from a three to a one.