Right to Grow

Dr. Joseph Da Cruz

Dec 13th, 2014. Interview with Dr Joseph Da Cruz

1. Would you ever use retractive forces, extractions or retainers on a child?

I would not recommend the use of retractive headgear, extractions or retainers on a child, as I think they hinder growth and can be counter-productive to the end result of good health, function and cosmetics. In the last ten years, I've only extracted teeth in exceptional circumstances, such as major asymmetries, which can compromise the treatment time. Retractive headgear flattens the face, which restricts the airway and can drive people into mouth breathing. Mouth breathing is not the way that the body is designed to breathe. I favour the growth of the lower jaw in Class II cases and of the upper jaw in Class III with correction of tongue position by using myofunctional appliances.

I would never restrict the growth of a child, nor would I put retractive forces on bones of both children and adults. The jaws are widening in a growing child with the growth of airway, and fixed retainer can restrict that growth. The maxilla is also moving outwards to expand the airway and headgear can stop that, even reverse it. You should never restrict the growth of a child. Any form of restriction is harmful. In both children and adults, a fixed retainer does not allow the natural expansion and contraction of cranial plates. This restriction can retard the cerebrospinal fluid flow in the head, which is essential to one's health.

The cranium grows outwards, and we need to respect that. Traditional orthodontics attempts to get the skull to move in ways that are not natural. We have to work with the intelligence of the body, optimize and release existing restrictions rather than impose more restriction. In my practice, I guide the muscles surrounding the skull into optimal function, taking into account many things, including breathing and posture. Straightening teeth is my last priority; I will never straighten teeth at the cost of a person's health.

All the bones of the skull are connected/articulated with one another. Furthermore, the individual cranial bones are capable of subtle movement allowed at the sutures. This subtle movement occurs with each pulse of cerebral spinal fluid. This is analogous to blood vessels movement with pulses of blood. Any form of clamping of the jaws can indirectly put restriction on the cranium as a whole; it can make one feel weaker immediately, and this includes the use of fixed retainers. This is very dangerous, especially in a growing child.

I have observed many cases in which young girls and women who were put on braces or fixed retainers resulted in the cessation of their menstrual cycles. The reason to that is because the stress of fixed cranial plates puts their body in the fight or flight mode. The compression exerted by the fixed plates is placed on the cardiovascular and nervous pathways within the skull. The normal cranial rhythm is disturbed and the subtle movement of different suture systems of the

skull is jammed. I have always been against retractive headgear and fixed retainers and I would never use them on a patient.

There are ways to grow the lower jaw, and while doing that, we must ensure that both jaws are growing to their full potential to accommodate the airway. Once the bones are moved into their optimal positions, the muscles are relaxed, not putting counteractive strains on the bones and the person is breathing optimally through their nose, then the heart rate, respiration and the flow of cerebrospinal fluid in the body are in rhythm, the body reaches its stable and healthy state. In this healthy state, the retainer is not required. There is no relapse as there is no fight back.

2. How do we stimulate bone growth?

The heavy force causes the teeth to move through the bones, and the light force stimulates bone to grow. If you use the light force, in such way that you are not displacing the fluid in the ligaments that hold the teeth, you can guide the bones to grow. To achieve that, the muscles must be relaxed when not in function. The bones are slaves to the muscles. Once the muscles are relaxed, the optimum growth of bones can be achieved. This is particularly helpful in situations where joints with destabilisation, subluxation and degeneration cause muscle splinting and fight back. Once we guide the bones into the places where they belong, the patient can have a stable structural posture, balanced head on their neck and breathe freely. We make sure the palate is wide enough so the tongue can rest up against it, and then the person can breathe through their nose. As a result, their diaphragm starts to work properly and the gas exchanges in the body are better balanced.

Before treatment, the patient's maxilla and cranial plates may be compressed, their jaw joints compressed or deranged. Sometimes this compression presses up against nerves in the cranium and restricts blood flow and lymphatic flow. We "unfold" the maxilla and the face literally unfolds. It can result in forward positioning of the lower jaw, widening of face and the change in the appearance of cranial bones. The person breathes better and become more relaxed in their attitude, because stress is reduced.

When the nerves are no longer assaulted from within, the hormonal stress signals in the body quieten down. Therefore, they are no longer sympathetic. When blood can now flow more freely to and from the head, the person's health improves. Hence, they sleep better. We have treated many chronic fatigue cases. The conditions were resolved quickly. They were mainly neurological, but nutrition and sleep also played a part.

3. Do you use cephalometrics in evaluating the airway, and the impact of headgear?

2-D Cephalometrics has its limitations, because it cannot capture three-dimensional detail, especially the cross sectional information. This is particularly important when examining the airway.

Stunting the growth of maxilla with headgear can compromise the patency of the airway. Like I explained previously, headgear can impede outwards growth of the maxilla. If the maxilla cannot come forward, it impedes the mandible from coming forward. The tongue is attached to the mandible. If the mandible is positioned backwards, the tongue would fall backwards and block the airway. Therefore, when the mandible comes forward, the tongue will be brought forward and rest up against the palate. As a result, the airway is open. If the maxilla is too small, the tongue cannot rest properly on it, the tongue will collapse into and block the airway during sleep. This happens in obstructive sleep apnoea, which we know is deadly to health and quality of life, and can be fatal. Therefore, our goal of treatment is to allow the maxilla to grow freely. Sutures, cartilages, periosteum (what covers the bones) are the sites of bone growth. The hydraulic expansion within the skull applies force on the sutures from inside to outside and allows micro-movements at the suture to keep sutures open. When this micro-movement is restricted, ossification can occur. Ossification at the suture site can lead to synostosis (fusion of the suture), the bone growth is hindered and cranial shape is altered. Therefore, we should relax the muscle around the suture to allow free movement of suture.

A lot of patients presented to us are mouth breathers who have been suffering all kinds of cranial symptoms for a long time. Nature intended us to breathe through our nose, not our mouth. Optimal gas exchange and balancing between carbon dioxide and oxygen occurs when we breathe through our nose. Mouth breathing induces non-optimal muscle patterns that can put all sorts of stress patterns on cranial bones, especially the occipital, sphenoid and temporal bones. These stress patterns vary depending on muscle activity, jaw position and subluxation of the vertebrae or the jaw joint. There are a few causes that can lead to mouth breathing. Malnourishment, even during the pre-natal period from a poorly nourished mother can cause mouth breathing. In addition, hypoxia during delivery, forceps injury, dehydration, various forms of growth restriction, previous orthodontic treatment and trauma at birth can also cause mouth breathing. Whatever the cause is, our goal is to introduce proper nasal breathing back to the patient to bring their gas exchange into balance.

4. What is the SOMA?

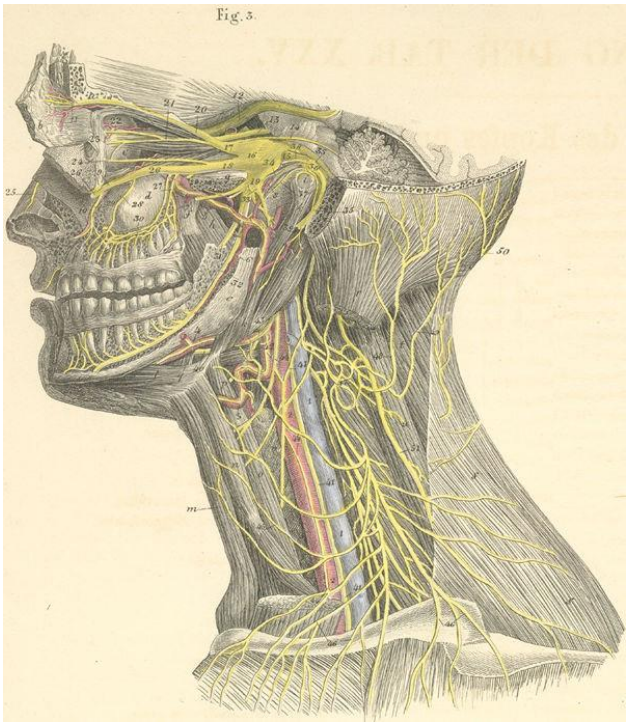
The SOMA is a dental appliance, that I invented and has a world wide patent status. It has its own unique system of adjustment and protocols. It helps to fix the jaw joint, the musculature and the airway. There are many expanders out there and they each have their history. Other dental appliances, such as Schwartz, Crozat, Applied light force (ALF) appliances dealt with maxillary bones but not with adjacent muscles. Expanding the skull through maxillary expansion is not enough. That is why I created the SOMA. Not only it deals with the bones, but also the underlying musculature, which influences the bones. Controlling the proper eruption of teeth in the correct architecture makes life a lot easier for the individual.

In Class II dentition, there is always some level of jaw joint derangement. If that occurs, the nose is accentuated, the lower jaw is retruded and the upper lip is loose. SOMA corrects this. It fixes breathing dysfunction through increasing lip seal and improving lymphatic drainage. Lymphatic drainage is a key to get adenoids and tonsils to shrink. Relaxing the muscles in the neck aids lymphatic drainage.

SOMA allows the lower jaw to come forward and improves the jaw symmetry. As a result, the neck muscles relax; the alignment of the vertebrae is achieved. As cervical vertebrae are the connection between the head and body, having properly aligned vertebrae can improve body balance. Therefore, SOMA is helpful for pain management, cervical vertebral correction and sleep. Any joint in the body that is subluxated can cause muscle problems and pain or discomfort. We have treated over 4000 successful cases with the SOMA.

5. What is your treatment philosophy?

Here are the points from my philosophy: Work on growth and development of the face. Fix the causes of structural pathology and the airway. Maintain nose breathing. Keep the lips sealed. Keep the tongue on the palate. These are required to ensuring the optimum growth of a child. Straightening teeth comes second.



Force should never be placed against the directions of a natural growth. When the head is compressed, as I said, there is less blood flow to the brain. The junction between the sphenoid, the occipital and temporal bone forms the jugular foramen. It is an opening at the base of the skull with veins, arteries and nerves passing through it, including the jugular vein and the vagus nerve. The jugular foramen can be constricted when subjected to forces. This is especially true in a growing child. When those veins and arteries are under undue pressure, such as through headgear, the body goes into a stress mode.

The focus needs to be on development and optimal growth. I believe once the child is fully grown, that is the point at which you can begin to straighten teeth. I correct disturbance in

neurological and immunological signal patterns, which in turn relaxes the muscle and removes the strain on the bones. Once you fix the causes of crowded teeth that arise from counteractive facial muscles and muscles of mastication, there is very little effort required to straighten teeth.

Our focus is beyond straight teeth; it is on neurology, growth patterns, breathing and sleep patterns. When you take the pressure off both blood flow and neural pathways, put the bones into the positions that ensure nasal breathing and proper cranial balance on the neck, the person's hormonal signals come into a balance and they can sleep properly.

About Dr Joseph Da Cruz: http://www.wholisticdentistry.com.au/about_dr_da_cruz.html

Image: Michael P'Alessandro, MD., (2014). Deep nerves of the head and neck (left side) [ONLINE]. Available at: http://www.anatomyatlases.org/atlasofanatomy/plate25/03deepnervesl.shtml [Accessed 14 December 14].