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Advanced Lightwire Functionals



Portland 2009

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FEATURE ARTICLE

ALF (Advanced Lightwire Functionals), Cranial Osteopathy, and Overall Health

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MEDICINE AS AN ART RATHER THAN A SCIENCE

Medicine - with orthodontics as a special branch - in its nature is not a science but an art that uses a complex scientific system.

No two patients are the same and factors well beyond what can be captured in double-blind studies greatly affect the outcome of treatment, one of the most important factors possibly being the personal encounter between patient and his or her practitioner.

If we as dentists opt to ignore the significance of 'subtle energy fields' - as have been proven in quantum physics - our understanding of treatment response and health will always be lacking.

Hans Brugeman pointed out: 'The ratio of photons (particles of energy) to particles of matter is a constant of nature at 9.746×10^8 to 1. This ratio means that a science which solely looks at matter is only covering one-billionth of all the phenomena in the cosmos.'¹

DIFFERENT APPROACHES TO ORTHODONTICS

Since the beginnings of medicine a lot of different treatment philosophies have been taught resulting in a wide variety of treatment approaches. Most of them can be classified either as a 'Method of Substitution' or a 'Method of Stimulation'.

A prime example for substitution is human engineering: the 'fix-it' mentality prevails. In orthodontics it means that an external observer collects data that can be measured and repeatedly verified, deducts a treatment plan and executes it on the patient using whatever means required, including surgery.

Opposed to that is 'stimulation' which triggers the patient's self-regulatory mechanisms, which are self-healing in nature². Osteopathic concepts and homeopathy emphasize this principle.

The human being, consisting of so much more than 'measurable data', is an 'open system' with subtle-energy interactions going on not only within but also with the world around us. Mental attitude and emotions have as much to do with health and treatment response as physical parameters do (see also Bruce H. Lipton *The Biology of Belief*).

The drawback of working with 'stimulation' is that this approach makes treatment much more complex and less predictable. The gain is that we see changes in our patients that go far beyond that which meets the eye.

An example for 'stimulation' in orthodontics is the use of Advanced Lightwire Functionals (ALF) as introduced by Dr. Darick Nordstrom of Hollister, CA.

ALF APPLIANCE

The ALF appliance was inspired by Crozat and Kernot Universal Lightwire appliances. With an Elgiloy yellow body wire of 0.025" or 0.028" thickness (about 0.6 to 0.7 mm) the ALF has a high degree of flexibility. It uses the teeth as handles to affect the alignment of cranial bones and change craniosacral motion ... for better or for worse - it all depends on the dentist's skills when making adjustments.



Figure 1 - ALF appliance

Though the various ALF designs look simple it takes time and dedication to master the art of 'tweaking' the appliance just right to achieve the desired outcome, for example making an adjustment using pliers as opposed to finger pressure will result in different effects. Kinesiology and/or cranial palpation are essential tools to verify whether adequate forces are being delivered.

ALF AND CRANIAL STRAINS

A number of excellent articles about cranial strains and malocclusion have been written by Gavin A. James and Dennis Strokon (published in various IJO journals). The authors explain basic strain patterns and the use of ALF appliances to correct them.

Most of our patients do not fall clearly into just one category of strain patterns. Since cranial movement can be restricted between any of the bones each case presents with its own individuality.

ALF therapy cannot successfully be mastered in a cookbook approach. Dr. Nordstrom always emphasizes in his seminars the difference between a cook and a chef: the cook follows recipes whereas the chef understands principles and applies them.

During the course of their ALF treatment our patients will get maximum benefits if they also receive osteopathic adjustments that can help with ascending problems and integration of changes triggered by activation of the ALF.

ALF, cranial motion and health

One goal of an ideal orthopedic/orthodontic treatment is to establish the patient's full potential of occlusal transverse, sagittal and vertical development. If we chose not to 'muscle' the teeth towards their new position but instead release strains and tension we see the body reaching out for its full potential. The closer we get to this goal the more health improvements we see in our patients some of which we can understand easily, for example:

- establishing an unobstructed nasal airway improves body posture by allowing the mandible to come forward and clears up chronic sinus infections and allergies
- correcting TMJ dysfunction results in full range of mandibular motion
- cosmetic improvements of the smile increase the patient's self-esteem

Our dental training does not provide us with an understanding of the wider health implications that originate from good, symmetrical cranial motion. On the contrary: mainstream teaching denies any such motion insisting that the cranial sutures are ossified in adults. It is up to each individual dentist to pursue further studies on his or her own to ascertain the veracity of previous assumptions.

Even without an understanding of the dynamic aspects of the cranium we can appreciate the significance of the cranial base: all nerves, blood and lymph vessels enter and exit the brain through foramina in the skull base (illustration 2: skull base with foramina, view from coronal). A distortion here, as seen in many cranial strains, can create tension and stretching of anatomical structures that pass through the foramina. The possible consequences are diminished blood supply to the brain, venous congestion in

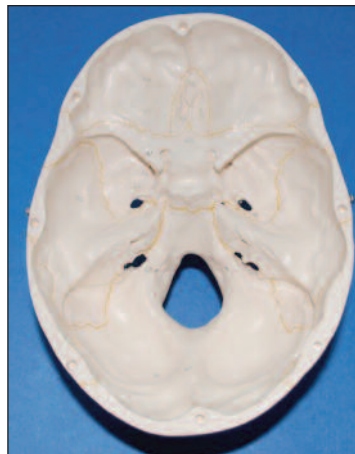


Figure 2 - skull base with foramina, view from coronal

the brain, and/or chronic irritation of any of the 12 cranial nerves.

If we are willing to look even further beyond the boundaries of Western mainstream medicine we will find that acupuncture physiology offers further explanations of how ALF treatment contributes to improving overall health. While discussing the fundamentals of acupuncture is beyond the scope of this article I want to point out an interesting connection: the premaxilla with the incisors has energetic connections with the kidney meridian³. Freeing up the premaxilla is a treatment goal early on in ALF therapy and goes along with seemingly unrelated health improvements.

The kidneys have an anatomical distinctiveness that sets them apart from other internal organs: they are not attached to the peritoneum. That gives them an inherent mobility that shows as a drop of up to two inches depending on whether a person lies down or stands up.

If the 'kidney energy' and the connective tissue are weak the physiologic limits can be exceeded and the patient develops 'nephroptosis', which is a hypermobility of the kidneys, resulting in a drop of more than the height of two vertebrae. The German internist and pathologist Kurt Beisch established the significance of this condition in 1982⁴ pointing out that about 60% of his patient population suffered from it and women were affected more often than men. The implications of a floating kidney are far-reaching⁵:

1. UTI infections: Contrary to the kidney the ureter is attached to the peritoneum. A sagging kidney causes a kink in the ureter obstructing urinary flow and resulting in an increase in residual urine content in the kidneys and possibly hypertension.

2. Adrenal fatigue: The adrenal or suprarenal glands are two small, flattened bodies that sit on top of the kidneys. Arterial blood supply comes from the three suprarenal arteries: superior, middle and inferior. In about 80 % of the population the main blood supply comes from the inferior suprarenal artery which directly branches off the renal artery⁶. As the kidneys sags excessively they stretch the renal artery decreasing its diameter. Picture a 'macaroni' turning into a 'spaghetti'. The diminished blood circulation affects the kidneys but even more so the adrenal glands: severe hypoxemia, possibly for hours (as long as the person is standing), interferes with hormone and neurotransmitter production.

3. Irritation of the Autonomous Nervous System (ANS): The ANS acts to maintain normal internal functions and consists of three parts: the sympathetic nervous system which controls the 'fight and flight' response, the parasympathetic nervous system allowing us to 'rest and digest', and the enteric nervous system, our 'gut-brain' that causes diarrhea when we are frightened or stomach cramps before an important exam. A network of sympathetic nerve fibers covers the entire arterial circuit where it constricts smooth muscle activity diminishing blood flow to the abdominal viscera.⁷ Stretching the renal artery beyond its physiologic limits feeds back afferent irritation signals to the solar or celiac plexus where sympathetic, parasympathetic and sensory visceral fibers intertwine. Depending on the individual's constitutional weakness any internal organ can become symptomatic caused by a hypermobile kidney.

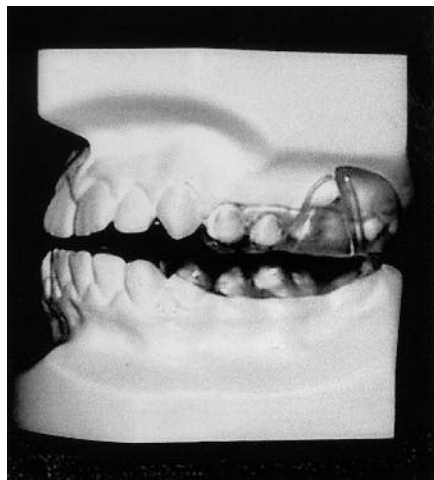
CONCLUSION

It can therefore be said that ALF treatment offers tremendous opportunities to improve overall health. The more we know about the stomatognathic system and its whole-body connections the more obvious is the need to master the challenge of adjusting the ALF appropriately.

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