

Why do Osteopathic Physicians Need to Know about ALF?

More and more dentists begin to understand how the oro-facial complex affects the rest of the body. Realizing that they do not have all the tools to help their patients dentists seek the help of osteopathic physicians.

Osteopathic physicians regularly encounter patients with headaches, low back pain and other complaints in which temporomandibular (TMJ) and dental occlusal dysfunctions are associated. Frequently, these patients require dental procedures in addition to osteopathic manipulative treatment.

It is essential for osteopathic physicians to

- 1) become aware of issues originating in the dental field which impede treatment success for their patients.
- 2) understand an orthopedic/orthodontic way of addressing TMJ and dental occlusal dysfunction, namely the Advanced Lightwire Functionals approach (ALF).
- 3) establish a strong, interdisciplinary, and well-functioning relationship with a dentist trained in the ALF approach and/or biologic dentistry - all with the goal of helping their patients-in-common.

There are frequent occurrences of insufficient maxillary and mid facial development in our patient population. Rigid orthodontic appliances as well as braces (due to their mechanics) have a restrictive component which contributes and sometimes exacerbates the problem. A narrow, posteriorly and downward positioned maxilla keeps the mandible in a retruded position, jams the cranial mechanism, and reduces the overall vitality of the patient. It can also change the conformation of the cranial base as the temporal bones are thrown into external rotation. This can alter the occipital bone into a position that favors flexion, moving the occipital condyles anteriorly and creating a head-forward posture. Meanwhile the airway is obstructed by diminished volume of the maxillary sinuses, a high arched palate, the tongue being closer to the pharyngeal wall, all of which leads to mouth breathing. A small maxilla, a retruded mandible, mouth breathing and reduced vitality are all too common findings in our society.

To address this we need dental appliances that develop the maxillary dental arch in a horizontal rather than vertical direction without restricting cranial motion. The Advanced Lightwire Functional (ALF) appliance, created by Darick Nordstrom, DDS, is able to do this. It is a wire-appliance, worn behind the teeth, which uses the teeth as handles to help release cranial strains. It is first and foremost meant as a supportive device (rather than a mechanical one to move teeth). This is achieved by using very light forces that are in the physiologic range and mimicking nature by encouraging a functional tongue rest position and swallowing pattern, as well as nasal breathing. During this process the teeth move to a new position, mostly anteriorly and laterally, allowing the mandible to reposition forward. This in return improves TMJ health and airway. It alleviates a common finding in which the mandibular condyle is placed posteriorly in the glenoid fossa, with or without displacement of the TMJ disk. This 'internal derangement' of the TMJ is associated with a number of symptoms; subjective symptoms can encompass TMJ pain, breathing and swallowing difficulties, headaches, vision disturbances, and neck pain; objective symptoms can be: restricted range of motion, TMJ clicking and popping, deviations on opening and closing, facial and masticatory muscle tenderness.

Causes for TMJ and dental occlusal dysfunctions are manifold, ranging from traumata, whiplash and head injuries to nutritional deficiencies, oral posture (tongue and lip position, breathing habits), genetic make-up and more. Unless these dental dysfunctions are properly addressed, many people have ongoing symptoms despite adequate osteopathic manipulative treatment (OMT). Wearing orthotics for the feet, proper optical prescriptions and dental appliances all can positively affect the balance in the patient's body, facilitating the osteopathic physician's work.

Patients with scoliosis demonstrate distortions of mandibulo-maxillary symmetry. Some scoliosis patients respond to OMT better when the distortions of the cranium, including the TMJ, are properly addressed. Including the jaw in the treatment plan makes sense because so many muscles that operate the jaw can act asymmetrically, thus, distorting the face and the entire skull and spine. There are instances in which an injury to the lower extremity or pelvis is reflected in asymmetry of the jaw, and unless the jaw is included in the treatment, the lower extremity or pelvis will not fully stabilize from OMT. Asymmetric patterns of function, if left over time, will not reverse themselves, unless they are specifically rebalanced. Occlusal surfaces drive the masticatory functions, which drive the muscular attachments and

the shape of the skull. These misshapen parts will affect distant regions of the anatomy.

The following skills are necessary for any osteopathic physician who wishes to work with an ALF dentist for the benefit of their patients-in-common:

- assessing the patient's vitality and how the ALF appliance changes it.
- using the primary respiratory mechanism (PRM) as the central focus in assisting and guiding the dentist in adjusting the ALF appliance through the course of treatment to enhance the patient's mechanism.
- knowledge to answer questions like:
 - Does the appliance alter the patient's PRM in amplitude, in direction?
 - What influence does the old injury to the sacrum have on the patient's dysfunction, for example?
 - What needs does the patient's structure demonstrate and should these structural distortions be corrected before the dentist takes an impression of the patient's teeth
 - How does the dental work-up reflect the structural findings of the osteopathic physician?
 - How do the dental and cranial findings determine the appliance design?
 - Should the osteopathic physician and dentist see the patient simultaneously or separately? At what point should collaboration start?

There are course available that will prepare osteopathic physicians for the complex task at hand which will be a considerable benefit to their patients.