Clinical Perspective

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MYOFASCIAL RELEASE FOR CRANIOMANDIBULAR PAIN AND DYSFUNCTION

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Astonishingly, the importance of an entire physiological system, the fascial system has been virtually ignored until fairly recently. Clinical evidence has demonstrated that restrictions in the fascial system are of considerable importance to dentists and therapists interested in relieving pain and restoring function.

Massage, modalities, exercise and flexibility programs, medicine, mobilization procedures, manipulation, and muscle energy techniques all affect the neuromuscular skeletal systems but not the fascial system. Only myofascial release procedures structurally alter the cross-links and the viscosity of the fascia's ground substance.

So what? This information is vitally important to dentists and therapists when they become aware of the fact that fascial restrictions can exert tremendous tensile forces on the neuromuscular skeleton and other pain sensitive structures.

Kyoto (1961) measured this pressure at approximately 2000 pounds per square inch. This enormous pressure can create the very symptoms that we have been trying to eliminate. Rather than trying in vain to relieve symptoms, we now have the tools to find and eradicate the cause and effect for a permanent resolution of our patients' complex problems.

Figure 1. Fascial restrictions. Reprinted by permission. MFR Seminars.

THE ANATOMY AND PHYSIOLOGY OF FASCIA

Michigan State University, a leading biomechanical research lab, has documented the importance of the role of the fascial system in pain and dysfunction. Malfunction or the binding down of the fascia may be the reason for many of the poor or temporary results encountered in physical therapy.

The fascia is a tough connective tissue that spreads throughout the body in a three dimensional web from head to foot without interruption. The fascia surrounds every muscle, bone, nerve, blood vessel and organ of the body all the way down to the cellular level. Therefore, malfunction of the fascial system due to trauma, posture, or inflammation can create a binding down of the fascia resulting in abnormal pressure on nerves, muscles, bones or organs. This can create bizarre side effects and seemingly unrelated symptoms that do not always follow dermatomal zones. An extremely high percentage of people suffering with pain and/or lack of motion may be having fascial problems; but most go undiagnosed, as the importance of fascia is just now being recognized. Many standard tests, such as x-rays, myelograms, CAT scans, electromyograph, etc. do not show fascia.

The fascia can be broken down into three divisions:

1. Superficial fascia lies directly below the dermis.
2. Deep fascia surrounds and infuses with muscle, bone, nerves, blood vessels, and organs of the body all the way down to the cellular level.
3. Deepest fascia is within the dura of the craniosacral system.

Fascia at the cellular level create the interstitial spaces and has extremely important functions in support, protection, separation, cellular respiration, elimination, metabolism, fluid and lymphatic flow. In other words it is the immediate environment of every cell of the body. It means, then, that any trauma or malfunction of the fascia can set up the environment for poor cellular efficiency, necrosis, disease, pain and dysfunction throughout the body. (Calliet, 1977)

Health professionals must consider the effect of their treatment on the physiologic motion of the brain and spinal cord, cerebrospinal fluid, dural membranes, cranial bones, sacrum, and the intricate fascia system that surrounds, interpenetrates and influences the entire structure. As the systemic impact of the cranial and myofascial concept becomes more widely understood, dental emphasis will shift from the concept of the TMJ

to a concept of a craniomandibular joint within the cortex. By understanding the craniosacral mechanism, dentistry will assume a greater role in caring for patients' general health.

Since TMJ dysfunction is a whole-body phenomenon due to the powerful influences of the fascial system, one can readily visualize the interactive role of the therapist and dentist. The Myofascial Release Approach to Craniomandibular Dysfunction is multifaceted and multidisciplinary.

Begin treating the symptoms with traditional physical therapy - moist heat, cryotherapy, ultrasound, transcutaneous neural stimulation, interferential electrical stimulation, microcurrent, massage, and therapeutic exercise programs - to decrease pain and spasm and increase range of motion, balance and strength.

Biofeedback (electromyographic and thermal) is valuable in helping to eliminate bruxism, reduce the chronic tension of both the skeletal and smooth musculature, and reeducate the patient in how to relax and deal with the many stressors that we all must cope with on a daily basis. Since so many of our patients are stuck in the emergency "flight or fight" response and do not recognize it or know how to stop it, combining biofeedback with relaxation training tapes, autogenic techniques, guided imagery and open focus procedures allows the patient to return to a state of relaxed equilibrium.

As treatment progresses, continue to evaluate the body for muscle spasms, fascial and osseous restrictions that may be causing the symptoms in the only bilateral joint in our body, the temporomandibular apparatus. Due to the uniqueness of its structure and function, the temporomandibular mechanism needs to function in a balanced state. Its position is space and ultimate function can be profoundly influenced by imbalances as far away as the feet, lower extremities, pelvis, and/or shoulder girdle. With this in mind, microcurrents, a neuroprobe (electronic acupuncture), or cold laser therapy can be applied to the master acupuncture points throughout the body and the ear (auricular therapy). It is thought that these techniques release beta endorphins into the system and assist in balancing the body's energy flow to achieve calmness, reduce muscle spasm and relieve pain. (Figure 2 and Figure 3.)

Symptoms spill over into the face and jaw from primary cervical trauma. They also can be produced in the absence of direct trauma or occlusal discrepancies. This happens because of the anatomic locations of the cervical sympathetic plexus and ganglia, which are embedded in the precervical fascia and of the trigeminal nerve, whose branches continue their innervation below the level of the pons to C3. Myofascial restrictions and abnormal osseous positions (e.g., a torsioned pelvis)

that exist below the cervical area can exert pressure and pull on these nerves causing them to fire abnormally and refer pain along their distribution onto the face, eye, and TMJ mechanism.

Therefore, the search continues in an effort to identify and treat the myofascial restrictions that may be creating additional structural imbalances in the body. The most common areas of restriction or imbalance are the feet, pelvis, and sacral base, psoas, shoulder girdle, and suprahyoid and infrahyoid areas.

The atlas-axis complex, dural tube, temporalis, masseter, internal and external pterygoid musculature, occlusal surfaces, and temporomandibular apparatus require attention so that we do not merely treat symptoms.

A combination of exercise and flexibility programs, joint mobilization-manipulation techniques, traction (without a chin strap), myofascial release with its subdivisions of cranial therapy, myofascial unwinding, and postural awareness and reeducation is recommended. Treating the body as an integrated totality will help establish the balance and support necessary to ensure maximum effectiveness of appliances and dental therapy. As this whole body approach progresses, the patient should be treated by a knowledgeable temporomandibular specialist. Nutritional counseling and/or psychotherapy may also be advisable.

Our goal is to return the patient to a three-dimensional balance in space. This allows for a return of the patient's physiologic adaptive capacity and the body's self-corrective mechanism to function at full potential.

Equilibrium is another way of describing health!

Myofascial Mandibular Compression Technique

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Figure 2. Grasp the mandible and occiput gently and pull lightly cephalad. Follow the tension and follow the motion in a three-dimensional manner until a still point is reached and the softening is felt at the point of release.

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Figure 3. Place your hands flat against the sides of the face on the ramus of the mandible and push slowly caudad. Follow the motion lightly until a still point and softening are felt.

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Additional information on Myofascial Release Treatment and Centers can be obtained by calling 1-800-FASCIAL.