TMJ and Head-Forward Postures
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A positive test for a head-forward posture requires that the zygomatic arch under the eye be more than 3 centimeters forward of the sternoclavicular joint. Clients presenting with head-forward postures are vulnerable to increased stress not only in the neck but the jaw as well. When assessing and correcting head-forward postures, the therapist should visualize the jaw complex as separate from the cranium, for the jaw develops embryologically from visceral, not cranial, myotomes.

As the head and neck move forward on the sagittal plane, the client is forced to backward-bend (hyperextend) occiput on atlas through the occipitoatlantal condyles. The brain will persistently labor to level the eyes to keep the body aware of its location in space (proprioception). This remarkable, built-in proprioceptive reflex (Law of Righting) is only one part of the body’s innate self-regulating system—one that is truly amazing in its ability to consistently level the eyes in the horizontal plane.

Regrettably, head-on-neck hyperextension causes hypercontraction in the sensitive suboccipital muscles. The suboccipitals actually have no Golgi tendon organs (GTOs) as they attach to the cranium but are loaded instead with an abundant supply of type 3 mechanoreceptors. These Golgi end organs (usually found in ligaments) basically possess the same neurological functions as GTOs.

Sustained isometric muscle contraction in the capital extensors places the entire nervous system in a heightened state of alert. With the head in a forward position, passive tensile forces also develop in the hyoid muscles. Tight/short hyoids tug on the mandible forcing it to translate posteriorly and inferiorly. The temporalis and masseter muscles must now contract so the mouth can be kept closed. Sustained isometric muscle contraction in the temporalis and masseters promotes abnormal mandibular positioning and compression at the temporomandibular joint (TMJ).

Some common symptoms that typically accompany this strain pattern include:

- Suboccipital pain syndromes
- Mouth breathing
- Difficulty swallowing
- Teeth clenching
- Face and neck pain
- Migraines
TMJ disruption is notorious for its negative impact on the 11th cranial accessory nerve. Since the upper trapezius and sternomastoids are directly innervated by the 11th cranial, jaw pain will neurologically shorten these muscles initiating a “Catch 22” cycle. As the trapezius and SCMs exaggerate the anterior pulling of the neck and head, tension grows quickly in the hyoids, masseters and temporalis which, in turn, cause even greater TMJ compression.

Because of the intimate relationship of the 11th cranial and vagus nerves, overactivation of the limbic system often develops if either become stressed. Remember the limbic system is the highest cortical level that regulates whole-body muscle tone. So if these two agitated cranial nerves sympathetically spasm one another, increased vagal tone will reverberate throughout the myofascial and visceral systems.

Optimal functioning of myoskeletal and visceral structures requires that the TMJ surfaces retain their ability to glide freely on one another. Since the main innervation to the dural membrane is the vagus and trigeminal nerves, faulty neck and jaw alignment often drags and twists this sensitive membrane. Occipitoatlantal work discussed in the Receptor Techniques section helps relieve 11th accessory and 9th trigeminal pain conditions. Treatment of the trigeminal nerve should always be complemented with work on the masseters and temporalis for they are also “up-regulated “in most TMJ dysfunctions.

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