Neck Prevalence / Soft Tissue

In a review of 11,423 patients with neck pain,
- 87.5% were found to have soft-tissue pain
- 53% had pain from a MVA
- 45% were from falls or sporting accidents


The Neck and Central Sensitization

In one study, researchers eliminated TrP’s in the upper Trapezius muscle through injection.

As a result, not only did ROM in the neck improve, but the sensitivity in other muscles of the wrist, shoulder, and leg also lessened.

Freeman MD, Nystrom A, Christopher Centeno C: Chronic Whiplash and Central sensitization: an evaluation of the role of a myofascial trigger point in pain modulation J Brachial Plex Nerve Inj 4:2, 2009
**Neck Injuries and Fibromyalgia**

People who have had traumatic injuries to the neck were 13 times more likely to develop FMS than were people who had traumatic injuries of the lower extremities.


**Cervical ROM**

- Extension- 75°
- Flexion- 40°
- Rotation- Close to 90°
- Lateral Flexion- 35 to 45°

**Neck Pain / Back Pain**

Independently of traumatic or non-traumatic origin of the symptoms, the prevalence of chronic low back pain is 3 times higher in individuals with chronic neck pain than in the general population. Causes other than a history of neck trauma, such as chronic musculoskeletal pain syndromes, may be important in evaluation of these cases.


**Platysma**

- Extension- 75°
- Flexion- 40°
- Rotation- Close to 90°
- Lateral Flexion- 35 to 45°
**Upper Trapezius / Levator Scapula Differentiation**

- **Levator Scapula**
  - Can restrict forward flexion, lateral flexion and also contralateral rotation.
  - The Levator scapula creates downward rotation of the scapula

- **Trapezius**

**Semispinalis Capitis Muscles**

- **Pincer palpation of the semispinalis capitis is not only more effective, it is safer for the greater occipital nerve.**

**Semispinalis Capitis Layer**

- The greater occipital nerve passes through the semispinalis capitis in about 90% of cadavers.
- Symptoms of greater occipital nerve entrapment are that any pressure on the nerve, even a pillow or a headband can cause a severe occipital headache.
RCPm and Headaches

In a blinded and controlled study of twenty CTTH subjects, 20/20 tested positive for having trigger points. Of the 20, 13 had Active Trp and 7 had latent TrP's.

In the control group of 20, only 6 subjects had latent TrP's

Cervical Rotation

Should be 80-90 degrees

Accomplished by combined motion with lateral flexion

There are two kinds of rotators:
- Ipsilateral rotators
- Contralateral rotators

Articular Arrangement
Facet Pain vs. Muscle Pain

If the client presents with pain on the right when turning to the right, it could be either the contralateral muscles or facet inflammation.

If you add extension and compression and the pain increases, think facet. If the pain lessens with extension and compression, think muscle.

Pain in the front of the neck or on the left side usually means that it's not a facet joint.

Quantifying and Chronicling HA

- Severity
- Frequency
- Duration
- Location
- Associated Phenomena

The key to accurate assessment is taking a great history and understanding what that information means!

Red Flags for Headaches

- If the headaches are a new occurrence for the patient, have them see a physician to have other possible causes ruled out. The number of serious problems that have headaches as a side-effect is legion.
- If the patient has any other global health decline, refer them to a physician immediately.
- If they have had headaches in the past, but recently the headaches are different in frequency or intensity or location, refer them.
- If the headaches are daily, consider analgesic rebound.

Taking a History / Diary

Recording the frequency and the location of the headache can be very helpful in discerning what kind of HA the person has and what the triggers are.
Migraines

Migraines aren’t really headaches; they are a disorder of the nervous system, one symptom of which is headaches.

Prevalence

- Estimates are 30 million people get migraines
- Half of them never get diagnosed
- 25% of them are misdiagnosed

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Central Sensitization

Once the central nervous system becomes stimulated, it can become sensitized, at which point there’s continuous activity and full-blown migraine symptoms. They can become allodynic, and have the nausea and sensitivity to light and noise.
Cortical Spreading Depression*

This is the latest research into the causes of migraine. It is a hyperexcitability of the brain. This lights up the trigeminal nerve.

The cortex is responsible for processing sensory information.

*First described by Brazilian scientist Aristide Leao

Trigeminal Nerve and Upper Cervical Interactions

There is a bidirectional interaction with the afferents of the trigeminal nerve and afferents of the upper three cervical vertebra.

Bartsch T, Goadsby P. Stimulation of the greater occipital nerve induces increased central excitability of dural afferent input. Brain 2002;125:1496–1509

Thus, while pain in the upper cervicals can produce cephalgia, pain in the head can also produce neck pain.

(Not knowing this, the clinician can incorrectly assume that the neck pain causes the head pain)

Four Phases of Migraine Headaches

- Premonitory
- Aura
- Headache Phase
- Headache resolution

Migraine Headache Phase

- The headache is usually a throbbing, pulsing kind of pain that is unilateral 60% of the time, at least initially.
- The headache is typically Temporals / Frontalis area or over the eye.
- The pain usually builds over a one – two hour period and then slowly gets more diffuse as it declines.
- Aggravated by physical activity
- Pain scale- 7-8
- Median Duration- 24 hours
TrP and Headaches

In a study by Sanita 2009, 290 patients with chronic headaches were studied.
- 26% had TTH
- 13% had migraine
- 61% had a combination (migraine and TTH)

TrP were found in 77% of the patients
- Of those with TrP, 89% had active TrP’s

TMD and Cervical Muscles

One study anesthetized symptomatic TM joints and the greatest reduction in pain was not at the masticatory muscles but in the SCM, upper trapezius, and cervical muscles.

TrP and HA

The highest number of TrP was found in the
- Temporalis (N=159)
- Masseter (N=126)
- Occipitofrontalis (N=113)
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