NielAsher.

PROFESSIONAL HOME STUDY COURSE

TREATING TENSION HEADACHE

TRIGGER POINT THERAPY
MASTER COURSE

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NAT Pro Series:

TREATING HEADACHES

TRIGGER POINT THERAPY

Welcome

According to the World Health Organization[1], an estimated 47% of adults had a headache at least once within last year.

Headaches (cephalalgia) cause a 'world of pain' and disability, and sufferers are highly motivated to seek treatment or intervention; more often than not, they reach straight for the 'medicine bottle', but is that the best course of action? Chronic daily headaches (CDH) are thought to affect 4-5% of adults, and medication overuse is a huge issue for this group. Headaches of mechanical component are by far the most significant; they are well-documented with a substantial evidence base. The two most common types of mechanical headache are Tension Type Headaches (TTH), which affect an estimated 3% of the population, and Cervicogenic headache (CGH), which affects an estimated 0.4% - 2.5% of the population. These types of headache are often associated with stiff and tight neck joints and muscles.

Muscles are designed to move joints from A to B; that is their raison d'être. If a muscle can't excurse fully, it tends to become stiffer, tighter, and develop taut bands; in fact, over time, changes in the fibroblast activity make it become more fibrous – a bit like a ligament. Changes in neck mechanics over time can manifest as muscular knots or 'trigger points'. Trigger points can develop in muscles for a number of reasons. When present, they cause the host muscle to be shorter, tighter, and less efficient. Trigger points can also add to the cycle of increased input to the peripheral and central nervous system. Treating trigger points in neck muscles can have both immediate and long lasting effects for both TTH, CGH, and even migraines; it can also reduce the patient's dependency on medication.

This course is designed to help you understand mechanical headaches in more depth, and to offer you a clear hands-on pathway for treatment and management. We passionately believe that an understanding of

trigger points and how to use them will give you valuable extra tools for treatment. Weaving trigger points into your massage or soft tissue routines can have truly profound effects. Combine this with self-help, stretching, and advice on lifestyle modification, and you should be able to help the majority of those in pain.

At the end of this course, you will find a reflective learning exam. This is not a 'pass or fail' test but a mechanism to see that you have understood the information and can apply it for the good of your patients. We are excited to share this information with you, and don't forget that if you have any questions, we are here to support you.

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Introduction

Chronic Daily Headache (CDH) has a prevalence of 4-5% of adults. It affects males to females in a 1:2-3 ratio. These headaches often start as episodic but can 'transform' over time to CDH. Medication (rebound) induced headache is believed to play a role in up to 30% of CDH patients[2]. Interestingly, 50-80% of those treated in tertiary headache centers are recorded as having 'medication overuse'. Those with CDH often have a poorer quality of life than 'episodic headachers'. CDH can be either primary or secondary.

Whilst many people reach for the bottle, some realize that medications can mask underlying mechanical problems such as stiff and tense muscles, and look to us for long term help. For these reasons, manual therapy has become 'a popular choice' for patients with common and benign forms of headaches, such as Cervicogenic (CGH) and Tension Type (TTH), because these two conditions are often associated with mechanical neck pain.[3]

Symptoms and causes of headaches

A headache is defined as 'aching or pain in one or more areas of the head or neck'. Both the frequency and pain level can vary greatly. Depending on the classification, between 65-90 percent of all headaches are due to Tension Type Headaches (TTH)[4]. The remaining 10-35 percent are: migraines, neck based/Cervicogenic headaches (CGH), TMJ type, sinus, and cluster headaches. In terms of trigger point therapy, TTH & CGH are the most accessible and amenable to intervention, although some authorities recognize that trigger points may have an important role to play in relieving migraines.

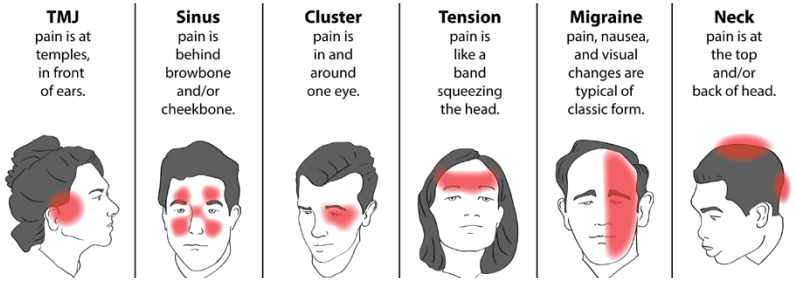
How are they classified?

Headaches are defined as primary or secondary. Primary headaches are benign, recurrent headaches not caused by underlying disease or structural problems. For example, migraine is a type of primary headache. While primary headaches may cause significant daily pain and disability, they are not dangerous. Secondary headaches are caused by an underlying disease, like an infection, head injury, vascular disorders, brain bleed, or tumors. Secondary headaches can be harmless or dangerous. Certain 'red flags' or warning signs indicate a secondary headache may be dangerous.

Here is a list of conditions that are known to cause a secondary headache:

- Sinus headache
- Giant cell arteritis (associated with polymyalgia rheumatica)
- Carotid artery dissection (in the neck)
- Vasculitis
- Headache associated with nonvascular intracranial disorders
- Neoplasm (tumors)
- Idiopathic intracranial hypertension
- Infection
- Post-traumatic headache
- Subdural hematoma
- Cervical spinal disorders (CGH)
- Temporomandibular joint (TMJ) dysfunction
- Headache caused by sleep disorders, such as obstructive sleep apnea.

As you can see, a headache can be a sign that something very wrong is happening inside, so we must always approach them with caution. Fortunately, most headaches are benign. Here is a table with characteristics of the most common types of headaches that should help deepen our understanding.



The International Headache Classification III (ICDH)

We will be following the standardized International Headache Classification III (ICDH) – a full classification can be found here. This classification is hierarchical, and you must decide how detailed you want to make your diagnosis. A diagnosis should be based around the main headache that clients present with (over the last year). When a patient receives more than one diagnosis, these should be listed in the order of importance to the patient. To receive a particular headache diagnosis, the patient must, in many cases, experience a minimum number of attacks of (or days with) that headache. When a patient is suspected of having more than one headache type or subtype, it is highly recommended that he or she fill out a 'headache diary' to record each headache episode.

Tension Type Headaches (TTH)

TTH are by far the most common type of chronic headache. People who experience migraines typically also have tension headaches in between their migraines; these are also known as transformed headaches.

Prevalence of TTH and CGH

	Cervicogenic headache	Tension-type headache
General population (%)	0.4 – 2.5 %	3 %
Headache clinics (%)	15 – 20 %	40%
Mean age	42.9 y/o (all ages are affected)	Onset any age, but most commonly during adolescence or young adulthood
Gender	4 x more prevalent in female (79.1 % ♀ and 20.9 % ♂)	88 % female and 69 % male
Other	CGH is a common symptom after neck trauma; 54 % –66 % of patients with whiplash-associated disorder	Chronic TTH commonly occur during periods of stress and emotional upset.
Intensity	Moderate to severe	Mild to moderate

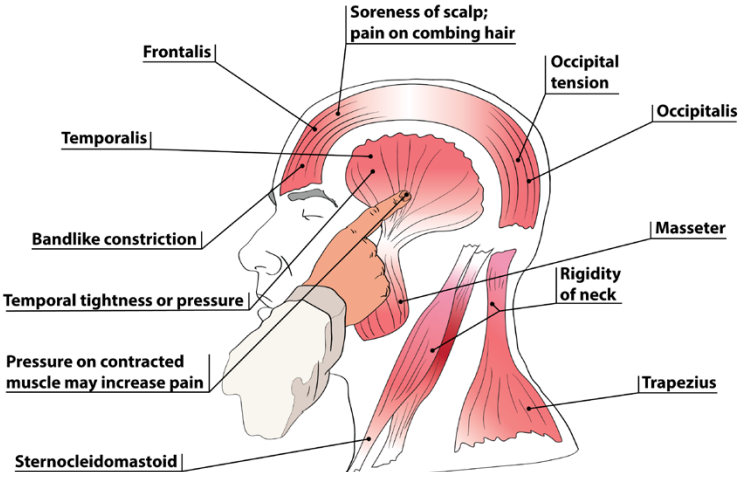
Symptoms of TTH

Tension headaches usually affect both sides of the head and last from thirty minutes to several days or more. They often have a characteristic tight-band or vise-like pain with a 'dull, steady aching' quality. Symptoms can vary in intensity from mild to moderate to severe; they may also affect sleep. They are not accompanied by the additional symptoms that traditionally distinguish migraine headaches such as light sensitivity (photophobia), flashes and patterns in the eyes (visual scotoma), and warning signs (prodromal). Tension headaches affect about 1.4 billion people (20.8% of the population), and are more common in women than men (23% to 18% respectively)[5].

TTH and trigger points

Muscular problems and tension are commonly associated with TTH, and trigger points within muscles may either be causative or may perpetuate TTH. The most commonly affected muscles are: trapezius, sternocleidomastoid, temporalis, masseter, and occipitofrontalis. There is also a strong association with postural issues such as the upper crossed pattern. The pain processing part of the central nervous system is almost certainly involved in TTH, as it shows up abnormal in scans. Trigger points often add to the misery of headaches because they are associated with peripheral and central sensitization (see later). Long-term inputs from trigger points may lead to a vicious cycle that converts periodic headaches into chronic tension headaches. In such cases, even if the original initiating factor is eliminated, the trigger point-central sensitization cycle can perpetuate or even worsen.

TTH are often aggravated by stress, anxiety, depression, fatigue, noise, and glare, but they can also be associated with neck arthritis or neck disc problem.



Seven major causes of TTH

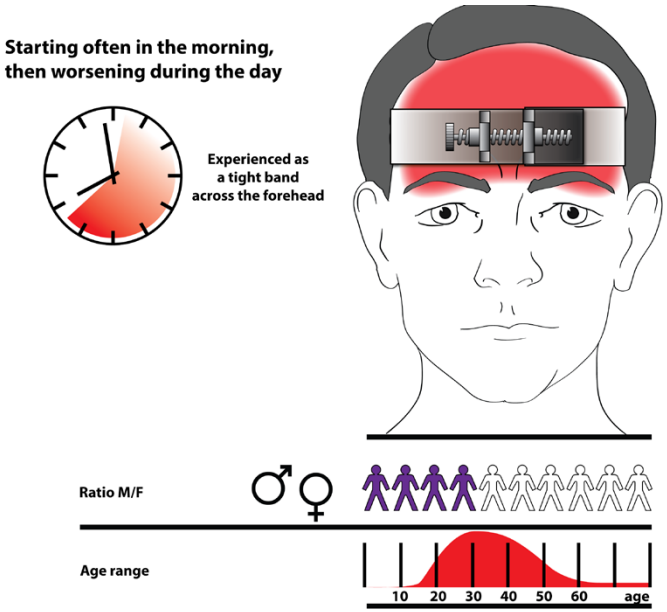
- Stress: usually occurs in the afternoon after long stressful work hours or after an exam
- Sleep deprivation
- Uncomfortable stressful position and/or bad posture
- Irregular meal time (hunger is reported in up to 50% of people)
- Eyestrain
- Tooth clenching (bruxism)
- Postural issues

Acute or Chronic

TTH headaches can be episodic or chronic. Episodic tension-type headaches are defined as tension-type headaches occurring fewer than 15 days a month, whereas chronic tension headaches occur 15 days or more a month for at least 6 months. Headaches can last from minutes to days, months, or even years, though a typical tension headache lasts 4–6 hours.

TTH fact file - (Vernon H, 2009)[6]

1. The most prevalent form of benign primary headache with a reported prevalence varying from 65-90%, depending on the classification, description, and severity of headache features.
2. The psychosocial impacts of TTH include disruptions of daily activities, quality of life & work, and are accompanied by considerable costs.
3. The International Headache Society (IHS) characterizes TTH as bilateral headaches of mild-to-moderate intensity that are experienced with an aching, tightening, or pressing quality of pain.
4. Headaches may last from 30 minutes to 7 days, are not accompanied by nausea or vomiting, and may have light sensitivity (photophobia) or sound sensitivity (phonophobia) but not both.
5. Headache frequency is classified as 'episodic' (<15 headaches per month) or 'chronic' (>15 per month).



6. Episodic TTH is by far the more prevalent category.
7. The chronic TTH patient has a higher frequency of both active and latent triggers points in the suboccipital mm.
8. The chronic TTH patient with active trigger points may have a greater headache intensity and frequency and forward head posture than those with latent trigger points.

Posture and headaches

There are specific activities and maladaptive postures that serve as trigger point activators, either promoting 'new' trigger points to develop or causing latent ones to become active. These may cause a previously asymptomatic neck muscle to develop pain, especially the **sternocleidomastoid** (see later). Don't forget that the head is heavy, and any alteration in head or jaw posture will have an impact on the biomechanics. Furthermore, because the body is always trying to keep the eyes and ears level for balance, poor posture in any part of the body can lead to neck muscle compensation. The most common mechanical maladaptations are:

- Head-forward posture (upper crossed pattern: Janda)
- Round shoulders (upper crossed pattern: Janda)
- Head to one side—telephone posture
- Occupational/ergonomic stressors
- Slouched standing (lower crossed pattern: Janda)
- Slouched sitting (e.g. computer screen/ergonomics)
- Cross-legged sitting
- Habitual postures
- 'Sway-back' posture (lower crossed pattern: Janda)
- Driving position
- Scoliosis
- Joint hypermobility
- Lifting/carrying
- Primary short lower extremity (PSLE)

Two other key factors in neck pain are the mobility of the thoracic and cervical spine (Lewis 2014)[7]; a stiff thoracic spine may be compensated for by a hypermobile neck (cervical spine). Janda (1996)[8, 9, 10] identified 'the upper crossed pattern' with its tight and short anterior chest muscles with weak and overstretched posterior shoulder muscles.

Janda's upper crossed pattern (1996)