



# An Osteopathic Approach to Headache and Cervical Pain Workshop



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# Objectives:

- “Hands On Workshop ”to help the consider some osteopathic considerations as part of the evaluation and treatment of Headache and Cervical Pain patients.
- Introduction of common myofascial pain patterns to know as part of rapid formulation of differential diagnosis and a more complete osteopathic manipulative treatment.
- Demonstrate and teach simple and safe OMT for diagnosis and treatment of HA and cervical pain.

# Treating the Headache and Cervical Pain With OMT

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Includes the brain stem, Cervicothoracic spine  
Shoulders and even sacrum.

Five Models of Osteopathy are required as part of  
an Osteopathic evaluation and treatment.

The Clinical exam includes HPI, and basic neurological  
signs and red flag symptoms which is done prior.



# Part of the Osteopathic Evaluation of Headache



- The “Five Osteopathic Health Care MODELS” need to be considered always.
- The 5 models are the basis for Osteopathic Care.

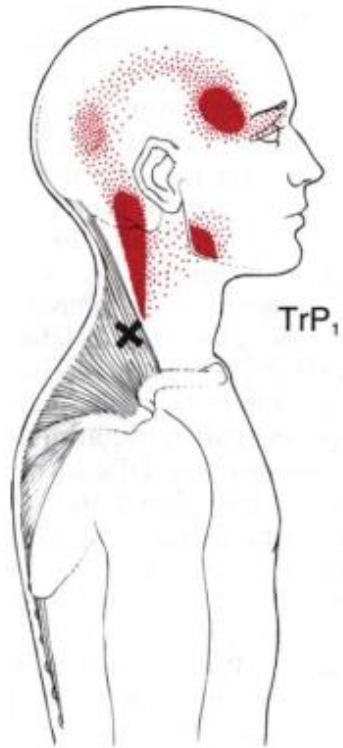
# “FIVE MODELS OF OSTEOPATHY”

- **Biomechanical**
  - Optimize structure and function of the musculoskeletal system to affect the body’s homeostatic mechanisms
- **Respiratory/Circulatory**
  - Optimize respiratory and circulatory components of homeostatic responses
- **Metabolic/Energetic**
  - Optimizes the body’s biochemical processes, cellular functions, and energy consumption
- **Neurologic**
  - Normalizes nervous system function including somatic and autonomic nerves
- **Behavioral**
  - Utilizes mental, emotional, and spiritual influencers of health

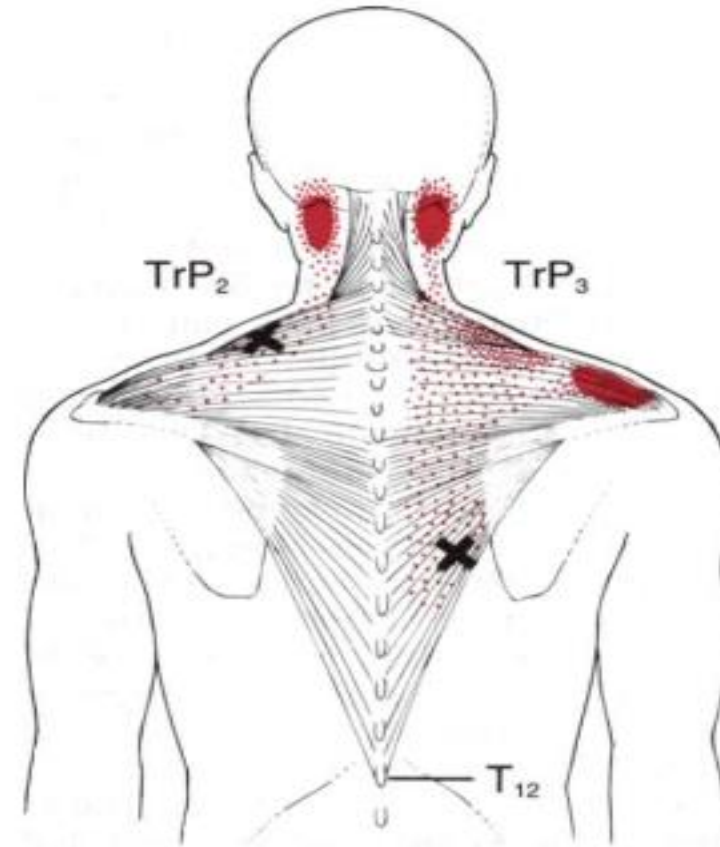


Now we start  
the “Hands on  
Workshop”...

# Trapezius



**Figure 6.1.** Referred pain pattern and location (X) of central trigger point 1 in the middle of the most vertical fibers of the upper part of the trapezius muscle. Solid red shows the essential referred pain zone while the stippling maps the spillover zone.



**Figure 6.2.** Left side of figure shows referred pain pattern and location (X) of central trigger point 2 in the middle of the more horizontal fibers of the **upper** part of a left trapezius muscle. Right side of figure shows referred pain pattern and location (X) of central trigger point 3 in a right **lower** trapezius; this is likely to be a key TrP that induces satellite TrPs in the region to which it refers pain in the upper part of the trapezius muscle. (Conventions are as in Fig. 6.1).

## TRAPEZIUS

### Location of Tender Point:

- 1) In the fibers of the upper part of the muscle at the junction of the neck and shoulder.
- 2) In the fibers of the muscle overlying the supraspinatus muscle.

**Anatomical Correlation:** As stated.

**Direction to Press on Tender Point:** Grasp the muscle between the thumb and finger. Pinch together to elicit a Tender Point. This avoids confusing the Tender Point with that of the underlying muscle.

### Treatment Position(s):

- 1) Place your finger over the Tender Point and sidebend the cervical spine over the Tender Point to achieve maximal relaxation. Fine-tune with slight flexion and rotation away.
- 2) Sidebend the neck slightly toward the Tender Point. Flex shoulder to  $150^{\circ}$  to  $170^{\circ}$  and grasp the arm to traction the shoulder in a cephalad direction for fine-tuning.

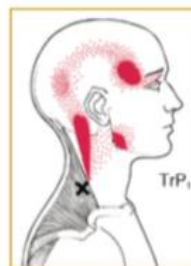
**Frequency of Occurrence:** Very common.

**Clinical Correlation(s):** Occipital headaches and neck pain.

**Associated Pain Referral Pattern:** Frequently refers pain to the lateral head, temporal, and eye area.

**Alternate Names/Nomenclatures:** None.

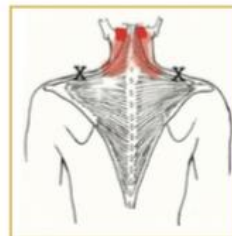
**Explanatory Notes:** None.



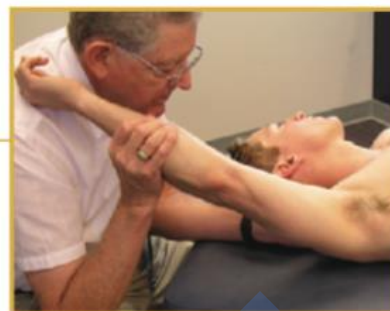
Myofascial Tender Point and pain pattern.  
Medial Point 1



Treatment position 1



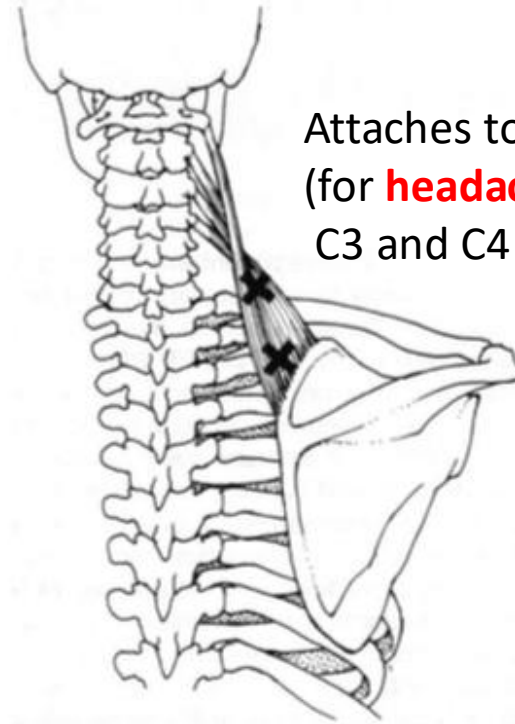
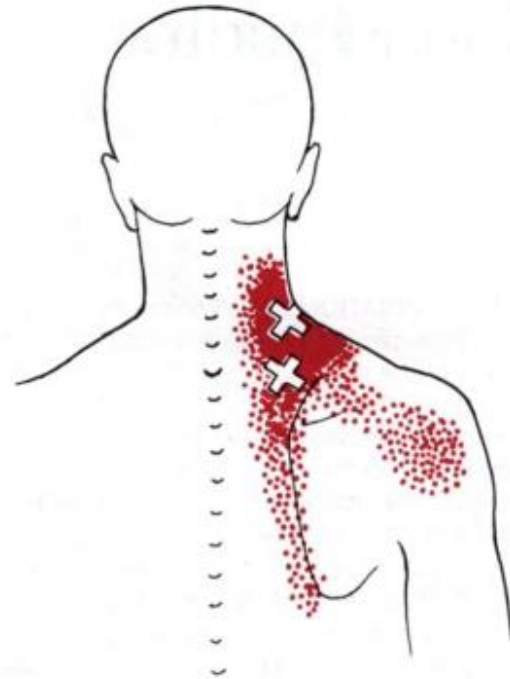
Myofascial Tender Point and pain pattern.  
Lateral Point 2



Treatment position 2



# Levator Scapula



Attaches to C1 and primarily to C2,  
(for **headaches**)  
C3 and C4 (for **neck pain**)

**Figure 19.1.** Consolidated referred pain pattern for trigger point regions (Xs) of the right levator scapulae muscle. The essential pain pattern is *solid red*, and the spillover pattern is *stippled red*. The upper X locates TrPs in the midportion of the muscle (often over-

looked). The lower X locates the much more obvious trigger area tenderness commonly found near the region of the muscle's scapular attachment, which often is enthesopathy secondary to taut band tension associated with the TrPs.

## LEVATOR SCAPULA

**Location of Tender Point:** In the levator scapula muscle, usually at its attachment on the upper medial border of the scapula, above the level of the spine of the scapula.

**Anatomical Correlation:** As stated.

**Direction to Press on Tender Point:** Press from superior medial to inferior and slightly lateral against the upper medial border of the scapula.

**Treatment Position(s):** With patient supine, the shoulder is adducted and slightly flexed. Monitor the degree of adduction and flexion to determine the mobile point as you move the affected arm into these positions. Achieve a mobile point in both of these parameters of motion. With patient's elbow flexed, apply a cephalad force through the shaft of the humerus to elevate the scapula. It takes a significant force to accomplish this. Sidebend the neck toward the Tender Point side.

**Frequency of Occurrence:** Common.

**Clinical Correlation(s):** Pain from the mid-cervical area laterally across the medial superior one-third of the shoulder area.

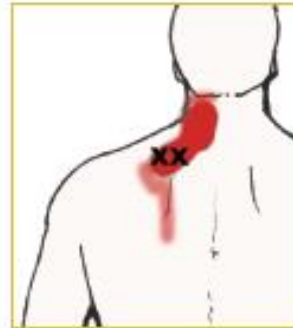
**Associated Pain Referral Pattern:** Pain may be present down posterior upper thorax, in the suboccipital area, and the posterior shoulder area.

**Alternate Names/Nomenclatures:** None.

**Explanatory Notes:** None.



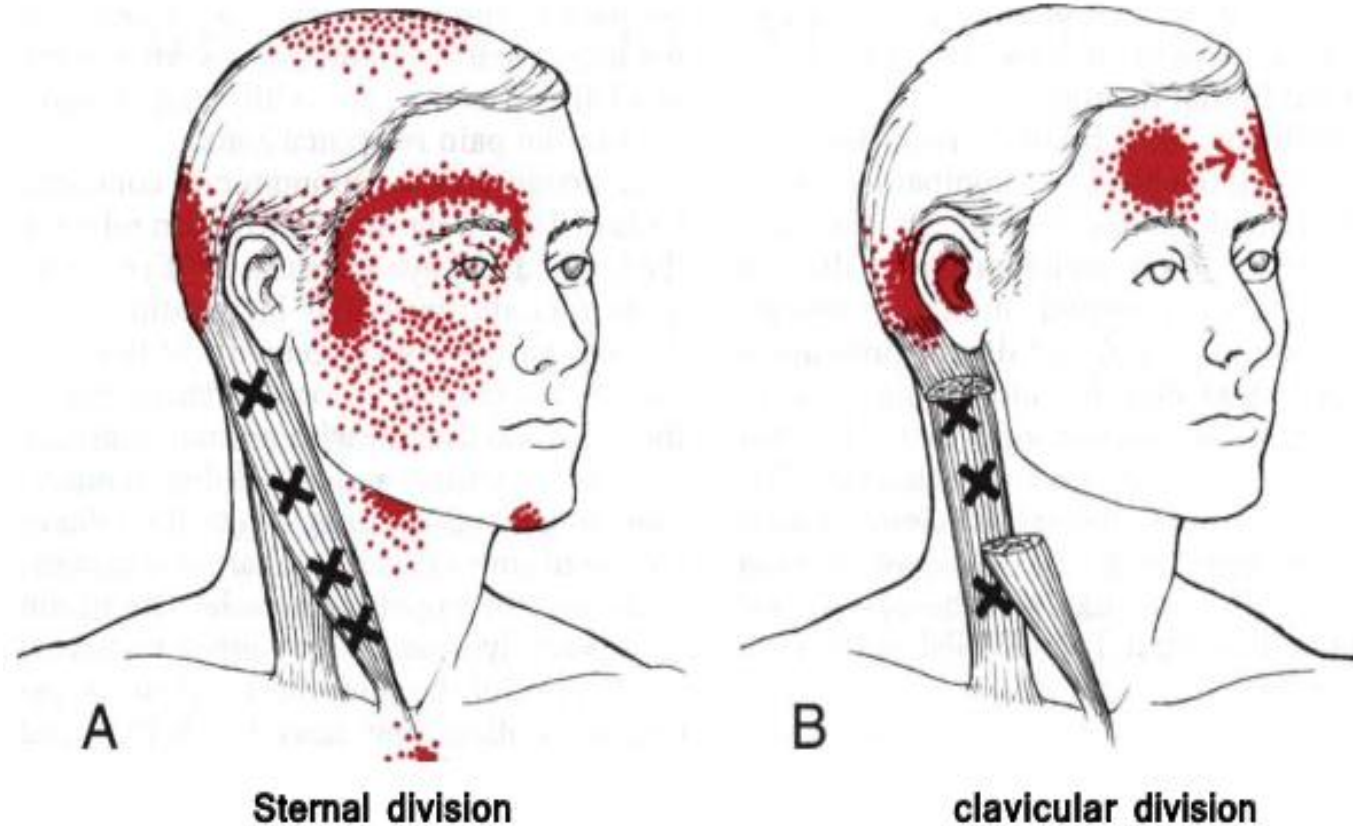
Levator scapula



Levator scapula pain pattern



# Sternocleidomastoids



**Figure 7.1.** Referred pain patterns (*solid red* shows essential zones and *stippling* shows the spillover areas) with location of common trigger points (Xs) in the right sterno-

cleidomastoid muscle. A, the sternal (more anterior and more superficial) division. B, the clavicular (more posterior and deeper) division.

## STERNOCLEIDOMASTOID (Jones addressed one Point as A 7 C)

### Location of Tender Point:

- 1) Three cm. lateral to the medial end of the clavicle on the postero-superior surface — the attachment of the sternocleidomastoid muscle, A 7 C.
- 2) Anywhere in the body of the sternocleidomastoid muscle, both divisions.
- 3) See dry cough in the Explanatory Notes, below.

**Anatomical Correlation:** Sternocleidomastoid muscle and its attachments.

### Direction to Press on Tender Point:

- 1) Press inferiorly and posteriorly on clavicle where muscle attaches.
- 2) Compress the SCM muscle between thumb and finger and squeeze.
- 3) Press posteriorly on the superior margin of the manubrium.

**Treatment Position(s):** With patient supine, flexion marked, sidebend toward markedly, rotate away.

**Frequency of Occurrence:** Very common.

**Clinical Correlation(s):** Clavicular division: relate mainly to spatial disorientation such as postural dizziness. Episodes may last from seconds to hours, and are induced by a sudden stretch or contraction of the muscle that has a Tender Point in it. Sternal division: excessive lacrimation, red conjunctiva, apparent "ptosis" (narrowing of the palpebral fissure), visual disturbances, including blurred vision and dimming of perceived light intensity, coryza, and maxillary sinus congestion. The dry cough Point is considered with tracheal Points that cause the same thing.

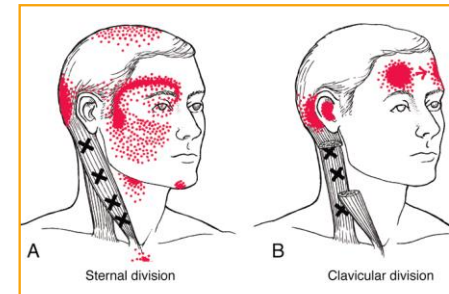
**Associated Pain Referral Pattern:** Clavicular division: pain in and posterior to the ear, and pain in the forehead. Sternal division: pain in TMJ, forehead, maxillary sinus, and throat area.

**Alternate Names/Nomenclatures:** None.

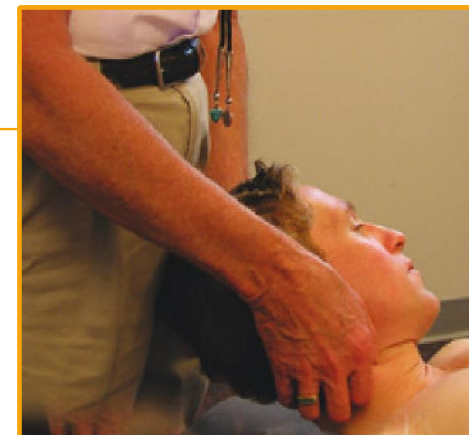
**Explanatory Notes:** The dry cough Point on the anterior superior manubrium is in the tendon part of the sternal division of the SCM muscle where it attaches. Other Points mentioned above are found in the anterior and posterior cervicals and listed under those headings.



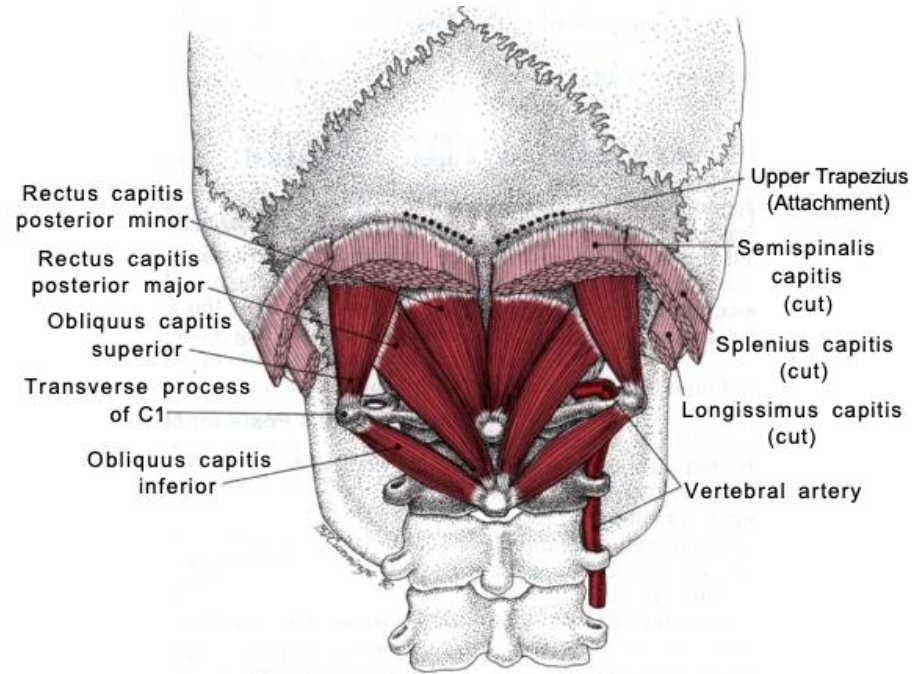
Sternocleidomastoid



Sternocleidomastoid pain patterns

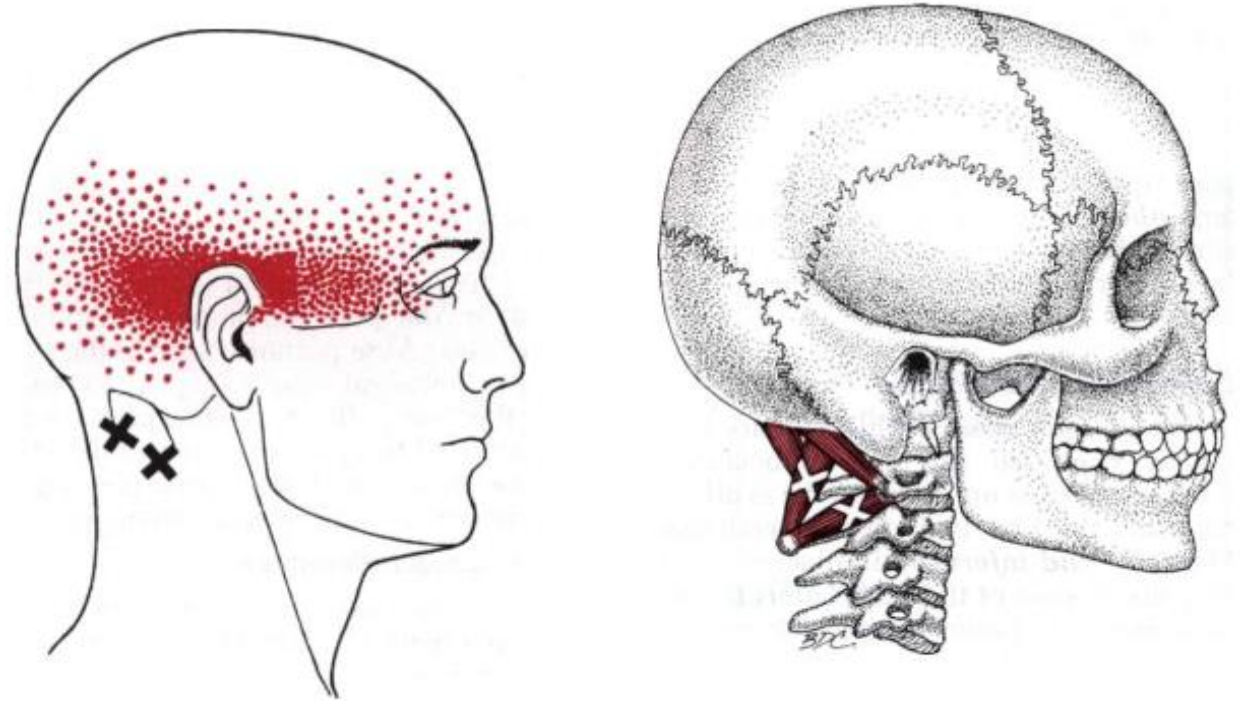


Treatment position



**Figure 17.2.** Attachments of the deep suboccipital muscles (*medium red*). The most lateral three of these four muscles define the suboccipital triangle. This triangle surrounds the transverse portion of the vertebral artery (*dark red*) and should be avoided when injecting

TrPs in the posterior neck muscles. The more superficial overlying muscles are *light red*. The *black dotted lines* indicate the location of attachment of the upper trapezius, which is the most superficial posterior neck muscle.

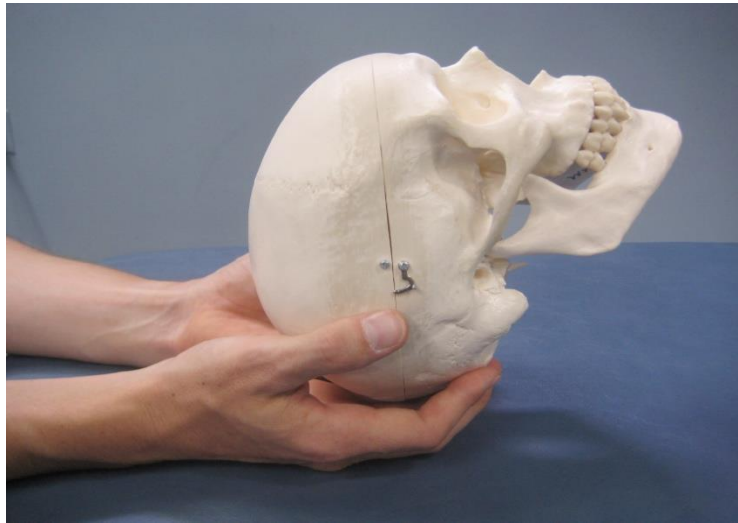


**Figure 17.1.** Referred pain pattern (*dark red*) of trigger points (Xs) in the right suboccipital muscles (*medium red*).

# Suboccipital Muscles or Suboccipital Triangle

# For the PNS: Suboccipital Inhibition

**Simple Treatment for Sinus, Eyes, Occipital HA, and Brain stem/CFS/Glymphatic and Microcirculation Circulation-Neurovascular Headaches, “Brain Fog”, etc.**



**VAGUS NERVE BALANCING, Multiple Chapman's Reflexes at region, Thins mucous, heart rate & hypertension.**

# Rectus Capitis Lateralis- OA Stabilizer

## LATERAL 1 C

**Location of Tender Point:** Lateral tip of the transverse process of 1C. The mastoid process and the 1C transverse process are approximated on the involved side.

**Anatomical Correlation:** Rectus capitis lateralis.

**Direction to Press on Tender Point:** Press from lateral to medial.

**Treatment Position(s):** With patient supine, sidebend toward the involved side. See Explanatory Note, below.

**Frequency of Occurrence:** Common to uncommon.

**Clinical Correlation(s):** Headache usually behind the eye.

**Associated Pain Referral Pattern:** Lateral head to behind the eye.

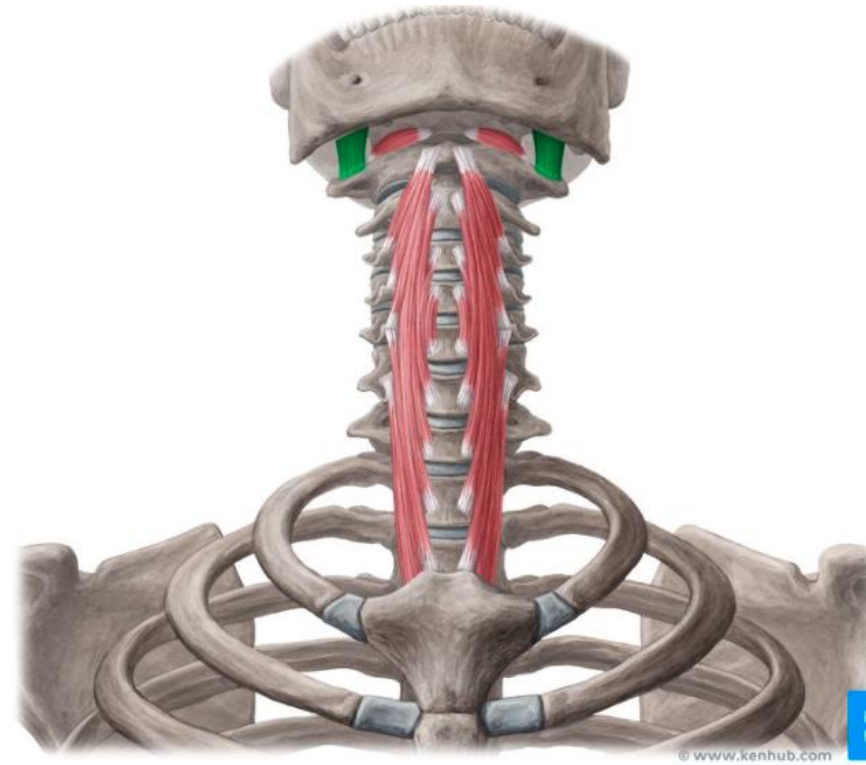
**Alternate Names/Nomenclatures:** None.

**Explanatory Notes:** When sidebending the neck, the nose should be kept in the midline of the body and the sidebending limited to the occipitoatlantal articulation. Sidebend the head toward the side of the approximation of the occipitoatlantal articulation, regardless of the location of the Tender Point.

Refer to diagram, page 10:  
rectus capitis lateralis.



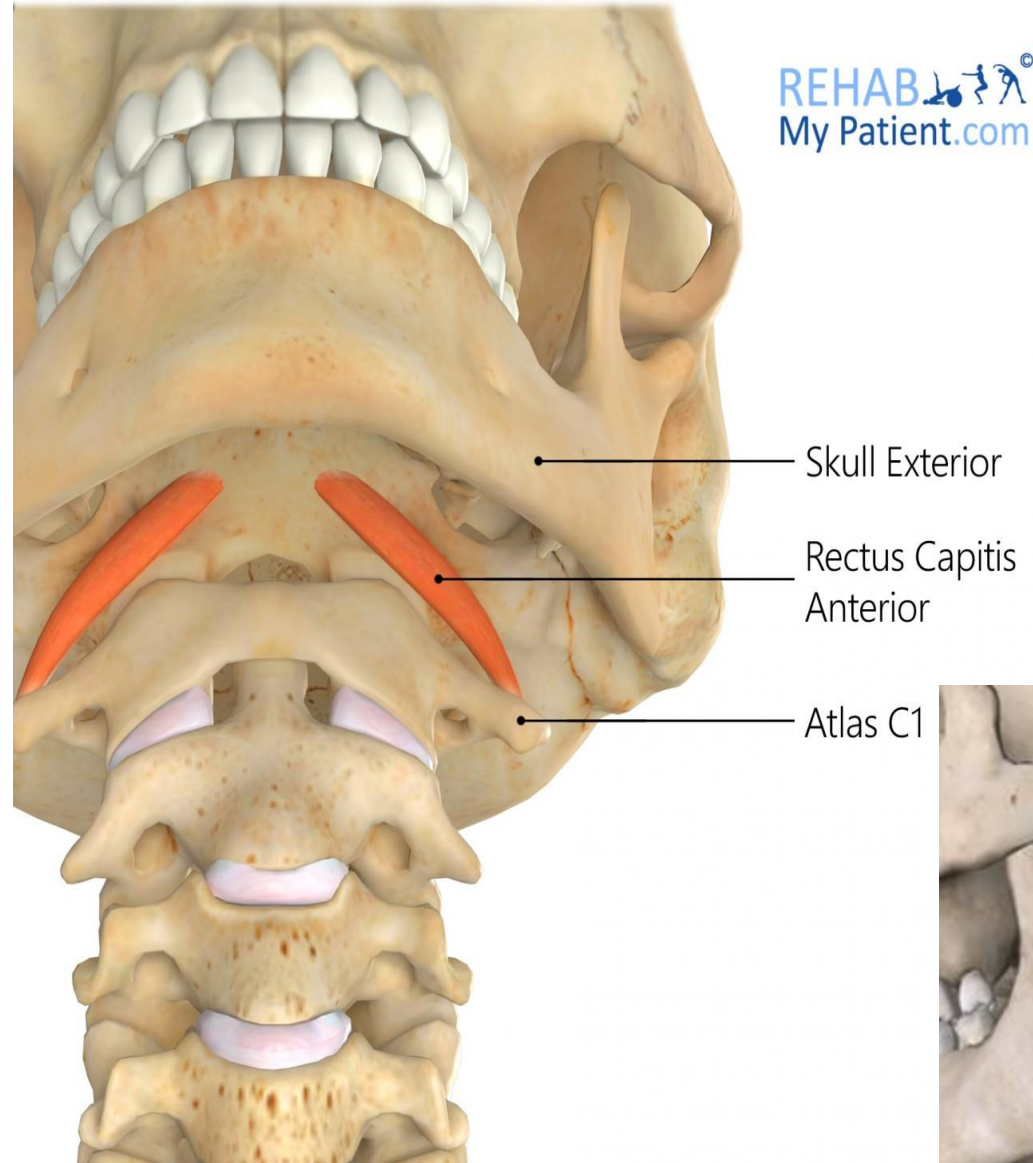
Treatment position



Rectus capitis lateralis muscle (Musculus rectus capitis lateralis)

# Anterior 1C A 1 C

## Rectus Capitis Anterior



**Location of Tender Point:** Posterior surface of *ascending ramus* of the mandible 1/2- to 3/4-inch above the mandible angle.

**Anatomical Correlation:** Probably rectus capitis anterior.

**Direction to Press on Tender Point:** Press from the posterior to anterior on *ramus* of the mandible.

**Treatment Position(s):** With patient supine, flexion or extension none, sidebend away slightly, rotate away markedly. Direct the motion of the treatment with pressure on top of the head.

**Frequency of Occurrence:** Common.

**Clinical Correlation(s):** Frontal or retro-orbital headache, neck pain, dysphagia, eustacian tube dysfunction. Can mimic TMJ pain.

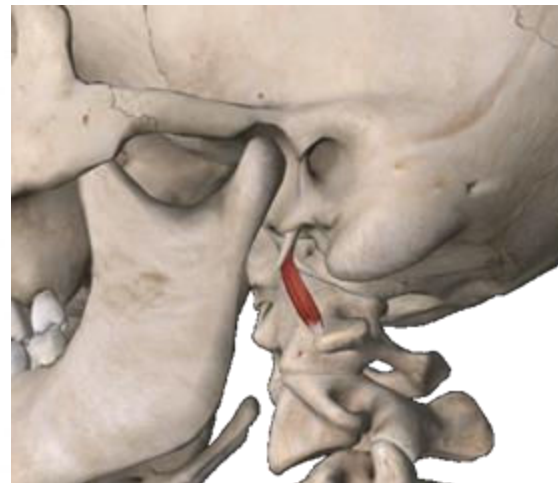
**Associated Pain Referral Pattern:** None.

**Alternate Names/Nomenclatures:** None.

**Explanatory Notes:** None.

Refer to diagram, page rectus capitis anterior.

Frontal, Retro –Orbital, TMJ, Eustachian tube,, Pain or dysfunction





## A 2 C

**Location of Tender Point:** Anterior surface of the tip of 2 C transverse process.

**Anatomical Correlation:** Rectus capiti muscles.

**Direction to Press on Tender Point:** Anterior to posterior.

**Treatment Position(s):** With patient supine, flexion, minimal, if any. Sidebend away, mild to moderate, rotate away markedly.

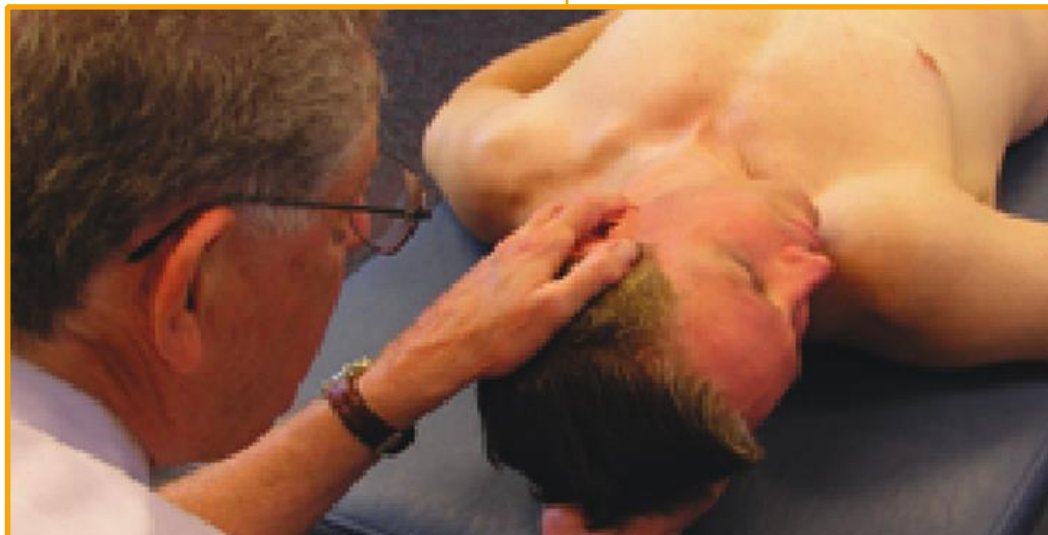
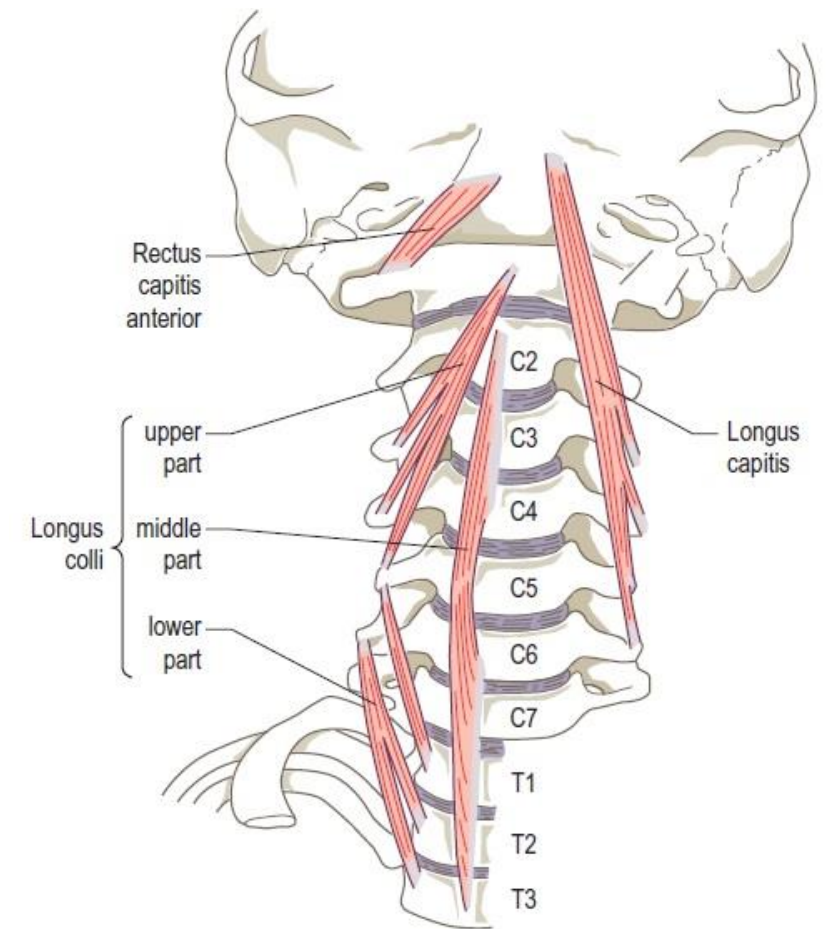
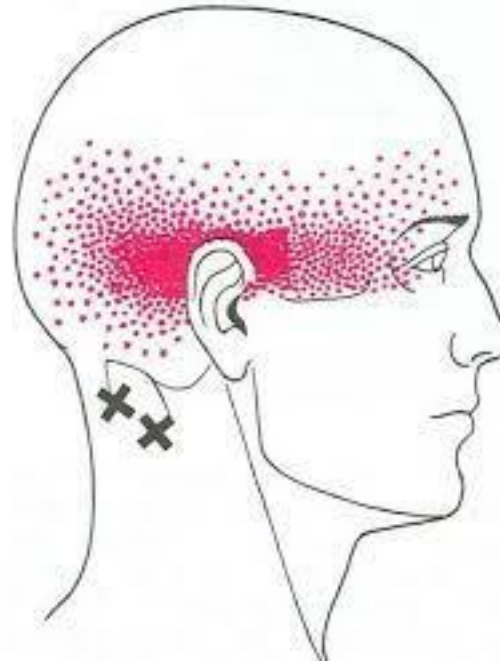
**Frequency of Occurrence:** Uncommon.

**Clinical Correlation(s):** Headache usually behind the eye.

**Associated Pain Referral Pattern:** None.

**Alternate Names/Nomenclatures:** None.

**Explanatory Notes:** See Case Histories #01 and #02 for lateral 1st cervical, anterior 1st cervical, and anterior 3rd cervical.



Headaches often to eye, focus, balance, neck pain

## A 3 C

**Location of Tender Point:** Anterior surface of the tip of 3 C transverse process.

**Anatomical Correlation:** Probably longus capitis muscle.

**Direction to Press on Tender Point:** Anterior to posterior on the anterior surface of the transverse process of the 3rd cervical vertebra. Palpate deeply against the vertebral body.

**Treatment Position(s):** With patient supine, flexion moderate to marked, sidebend toward, usually mild to moderate. Rotate away, mild to moderate.

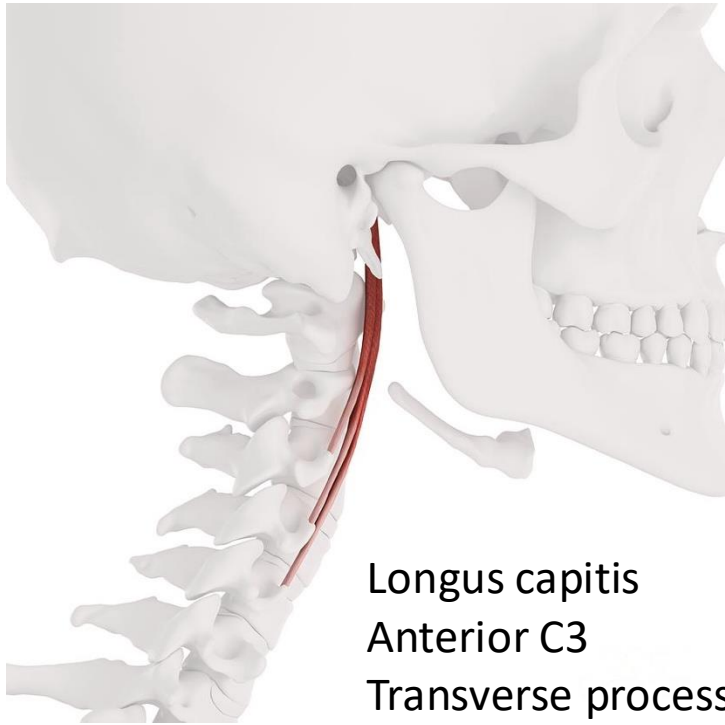
**Frequency of Occurrence:** Common.

**Clinical Correlation(s):** Suboccipital headache.

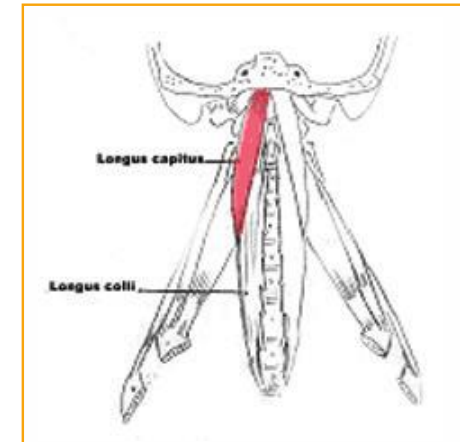
**Associated Pain Referral Pattern:** None.

**Alternate Names/Nomenclatures:** None.

**Explanatory Notes:** None.



Longus capitis  
Anterior C3  
Transverse process



Longus capitis muscle

Suboccipital Headache  
Dizziness, Vision



Treatment position

## P 1 C INION

**Location of Tender Point:** On the medial border of the main muscle mass of the neck, 2cm below the inion (posterior occipital protuberance).

**Anatomical Correlation:** Obliquus capitis inferior.

**Direction to Press on Tender Point:** Press from posterior to anterior.

**Treatment Position(s):** With patient supine, upper cervical flexion, marked, sidebend toward slightly, rotate away slightly.

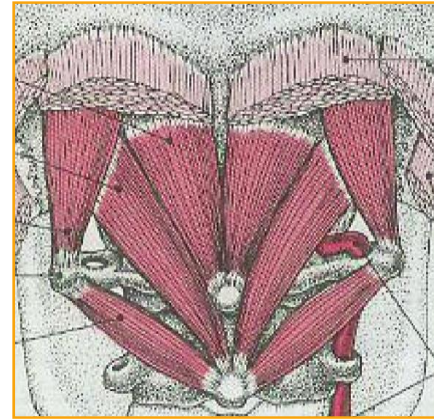
**Frequency of Occurrence:** Uncommon.

**Clinical Correlation(s):** Ipsilateral pain in lateral area of the head to behind the eye.

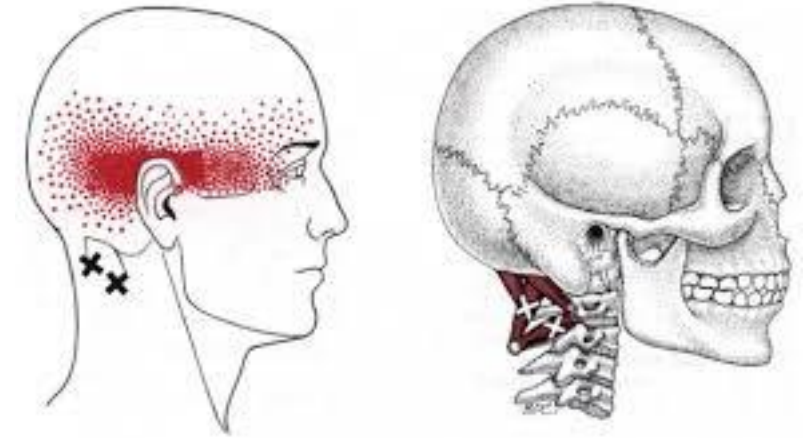
**Associated Pain Referral Pattern:** Same.

**Alternate Names/Nomenclatures:** None.

**Explanatory Notes:** Many times a headache due to musculoskeletal problems can have a vascular component that closely mimics the migraine headache pattern.



Deep suboccipital muscles  
Obliquus capitis inferior



## P 1 C (Regular)

**Location of Tender Point:** On the occiput lateral to the main posterior cervical muscle mass 1 ½-inches from the midline.

**Anatomical Correlation:** Rectus capitis posterior major and minor and obliquus capitis superior.

**Direction to Press on Tender Point:** Press posterior to anterior directing the force slightly cephalad.

**Treatment Position(s):** With patient supine, extension at the level of 1C. Lift the head to flex the lower cervicals allowing marked extension of 1C on the occiput. To accomplish this, the heel of your hand must be on the posterior parietal bones. Sidebend away slightly, rotate away slightly.

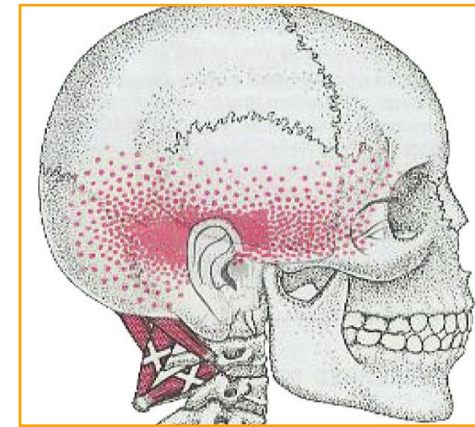
**Frequency of Occurrence:** Common.

**Clinical Correlation(s):** Headache on the ipsilateral side of the head and behind the eye.

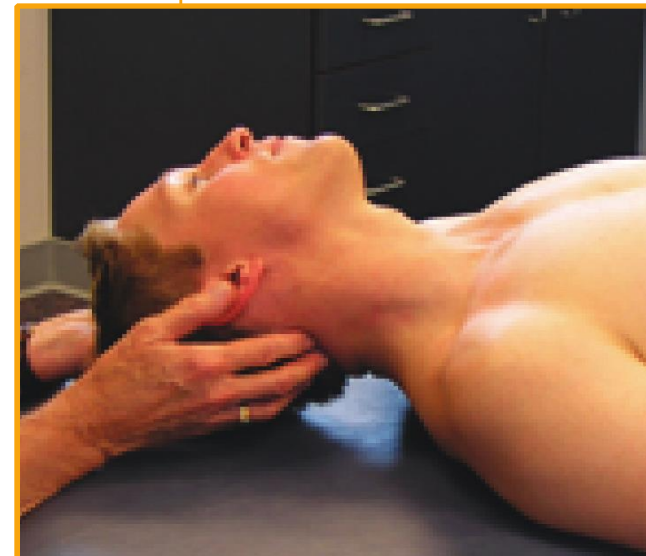
**Associated Pain Referral Pattern:** Same.

**Alternate Names/Nomenclatures:** None.

**Explanatory Notes:** None.



Suboccipital muscles pain pattern



## P 2 C (Regular)

**Location of Tender Point:** Press from posterior to anterior and also inferiorly on the superior edge of the spinous process of 2 C.

**Anatomical Correlation:** Rectus capitis posterior major and minor and obliquus capitis superior.

**Direction to Press on Tender Point:** Press posterior to anterior directing the force slightly medial.

**Treatment Position(s):** With patient supine, extension at the level of 2 C, lift head to flex the lower cervicals allowing marked extension of C 2 on 1 C. To accomplish this, the heel of your hand must be on the posterior parietal bones. Sidebend away slightly, rotate away slightly.

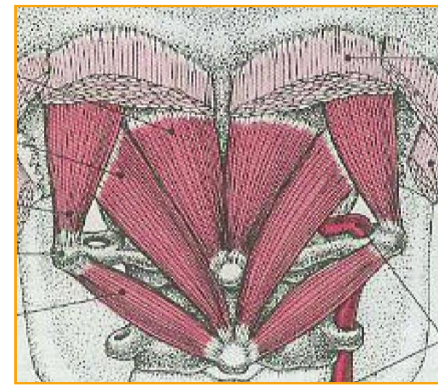
**Frequency of Occurrence:** Common.

**Clinical Correlation(s):** Headache on the ipsilateral side of the head and behind the eye. Instruct your patient to tell you if this position causes any sense of anxiety or dizziness. *If this occurs, take patient out of the position immediately.*

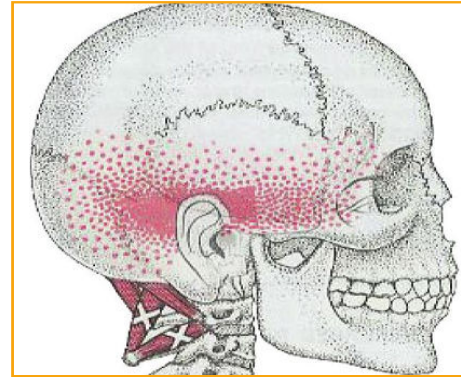
**Associated Pain Referral Pattern:** Same.

**Alternate Names/Nomenclatures:** None.

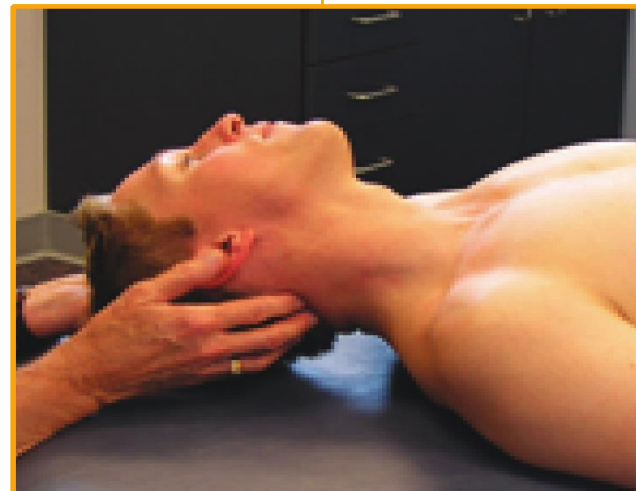
**Explanatory Notes:** None.



Deep suboccipital muscles



Suboccipital muscles pain pattern



## Suboccipital Headache

### P 3 C

**Location of Tender Point:** On the inferior surface of the spinous process of 2 C. It may also be on the posterior tip of the transverse process of 3 C.

**Anatomical Correlation:** Muscle not yet identified, probably scalenes.

**Direction to Press on Tender Point:** Press posterior to anterior on the inferior surface of 2 C spinous process and direct the force superiorly against the inferior edge of the 2 C spinous process.

**Treatment Position(s):** With patient supine, flexion moderate, sidebend away or toward as indicated. Rotate away.

**Frequency of Occurrence:** Common.

**Clinical Correlation(s):** Headache in the suboccipital area.

**Associated Pain Referral Pattern:** None.

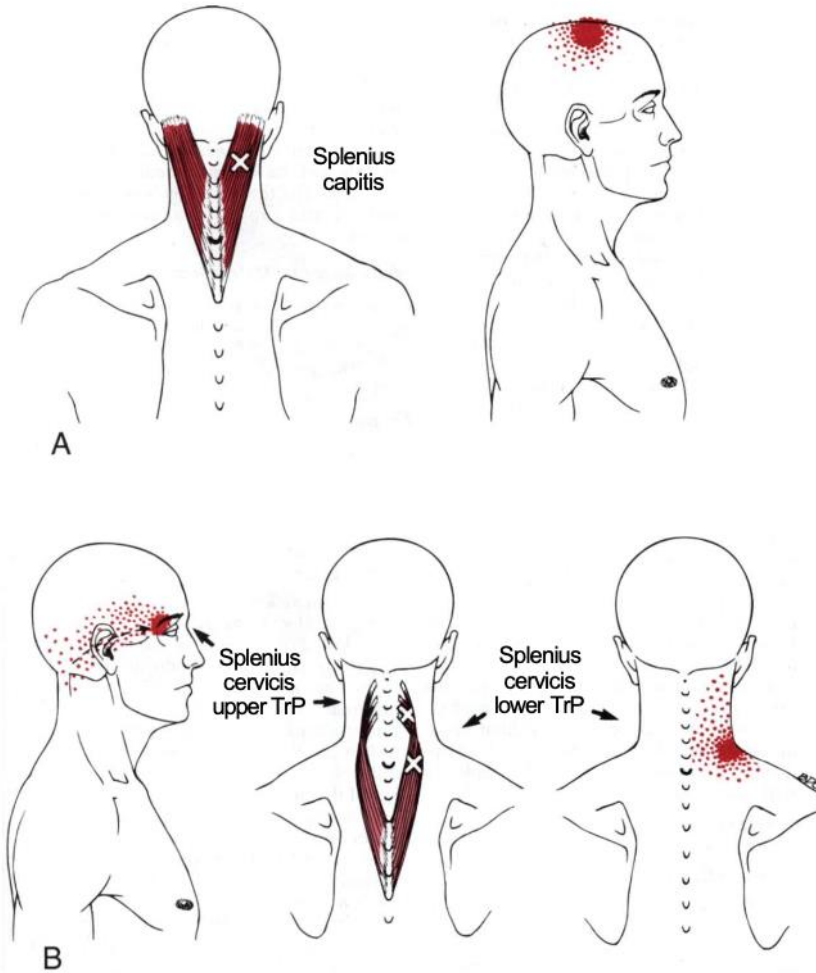
**Alternate Names/Nomenclatures:** None.

**Explanatory Notes:** None.

TP Inferior to spinous process of C2, treat in flexion, Sidebend as needed, rotate away



# SPLЕНИUS CAPITIS AND POSTERIOR 4C



**Figure 15.1.** Trigger points (Xs) and referred pain patterns (dark red) for the right splenius capitis and splenius cervicis muscles (medium red). **A**, an unusually cranial location of a splenius capitis trigger point, which, near the level of C<sub>7</sub>, is just caudad to the exposed vertebral artery. **B**, pressure applied to the tender region of the cranial musculotendinous junctions of the splenius cervicis muscle refers pain to the orbit

(pain figure on the left). The black dash line and arrow indicate that the pain seems to shoot through the inside of the head to the back of the eye. Splenius cervicis central trigger points (located mid-muscle) refer pain to the angle of the neck (figure on the right). The lower X in the middle figure locates this splenius cervicis trigger point region.

## P 4 C

**Location of Tender Point:** On the spinous process of 3 C in the depression below the spinous process of 2 C. Forward bend the head to find this point. Also found on the posterior tip of the transverse process of 4 C.

**Anatomical Correlation:** Multifidus.

**Direction to Press on Tender Point:** Press posterior to anterior.

**Treatment Position(s):** With patient supine, suspend the head in slight extension over the end of the table. With the heel of your hand over the posterior parietal bones, lift patient's head anteriorly on a line through the chin to accentuate extension at the 4 C level. Sidebend away, rotate away.

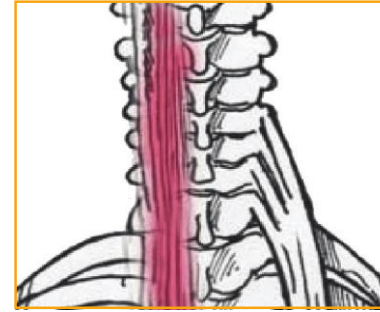
**Frequency of Occurrence:** Common.

**Clinical Correlation(s):** Pain in posterior neck and suboccipital area. This pathology is often overlooked in whiplash injuries.

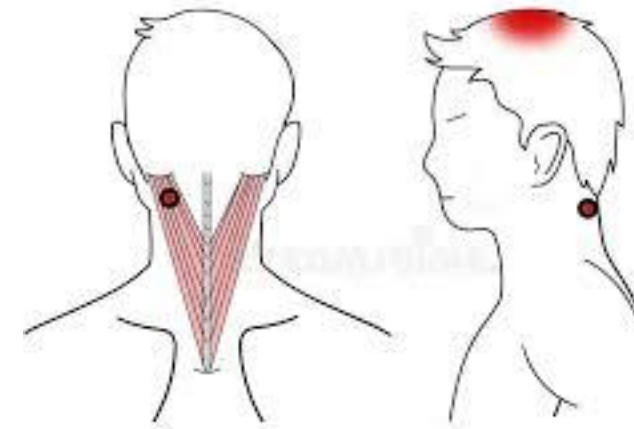
**Associated Pain Referral Pattern:** Same and cervico-dorsal pain.

**Alternate Names/Nomenclatures:** None.

**Explanatory Notes:** None.



Multifidus



Splenius Capitis





### P 3-4-5 T MULTIFIDIS MUSCLE

**Location of Tender Point:** On either side of the tips of the spinous processes of 3-4-5 thoracic vertebrae.

**Anatomical Correlation:** Multifidus muscles, with possible rotatores muscle involvement.

**Direction to Press on Tender Point:** Press lateral to medial on the spinous process.

**Treatment Position(s):** Patient may be prone or supine.

1) If **prone**, stand on the side of the table away from the Tender Point to extend the spine to the desired level. Position patient's arms along sides of the head and cradle the chin in the palm of your hand. Sidebend away slight to moderate. Rotate away slight to moderate.

2) If **supine**, sit at the end of the table with the patient's head and neck off the end of the table allowing extension to the desired level. In the supine position, extension is enhanced by flexing the patient's shoulders until their arms rest on your shoulders. Sidebend away slight to moderate. Rotate away slight to moderate.

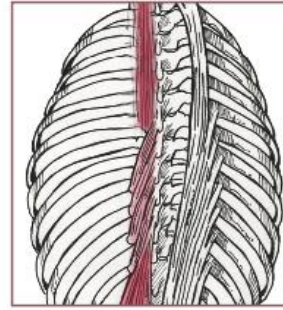
**Frequency of Occurrence:** Common.

**Clinical Correlation(s):** Pain at the level of the involved vertebral segment. Often present in peptic ulcer disease and esophageal reflux. This is an area frequently involved in the presence of myocardial disease. (See Explanatory Notes below.)

**Associated Pain Referral Pattern:** As stated.

**Explanatory Notes:** I have had two cases in which the *only* symptom of an impending myocardial infarction was the presence of upper left thoracic pain. Both patients had presented at earlier visits with the same complaint and were relieved with manipulation. *In retrospect, I now believe they were having anginal pain on those visits, an example of a viscerosomatic reflex.*

The multifidus is a muscle of the posterior thoracic spine, and is mentioned here because it can sometimes contribute to pain in the chest.



Multifidus muscle



Multifidus with pain pattern



Treatment position 1



Treatment position 2

## POSTERIOR LATERAL COLUMN OF THE VERTEBRA

**Location of Tender Point:** On the posterior surface of the articular columns of the neck, just lateral to the spinous processes.

**Anatomical Correlation:** Semispinalis capitis.

**Direction to Press on Tender Point:** Press posterior to anterior.

**Treatment Position(s):** With patient supine, extension to the level of the Tender Point, rotate away, sidebend toward, slightly.

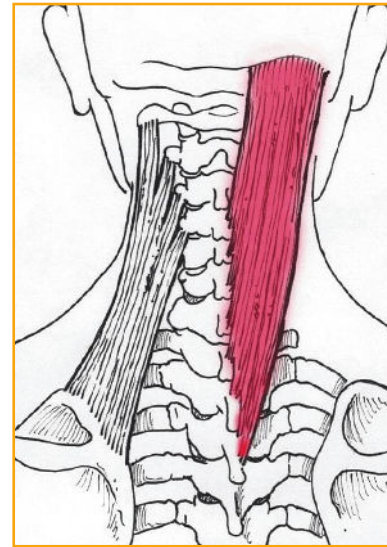
**Frequency of Occurrence:** Common to uncommon.

**Clinical Correlation(s):** Neck pain and headache.

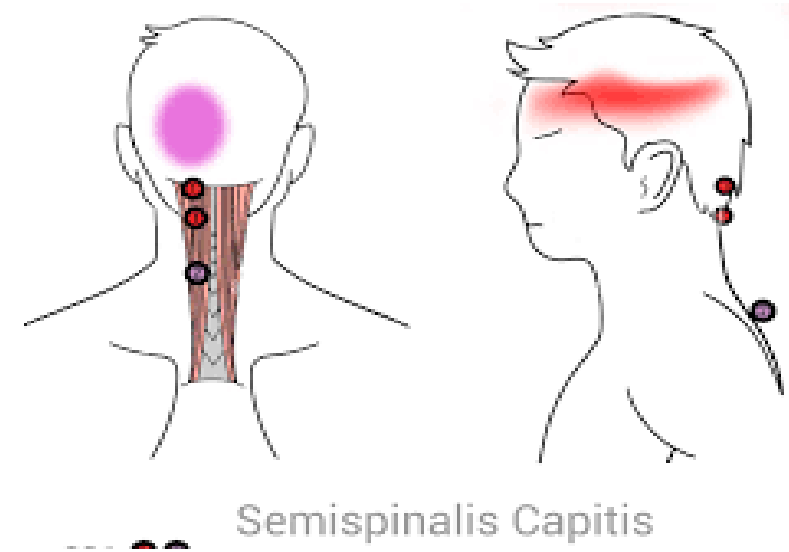
**Associated Pain Referral Pattern:** Lateral head and temporal area.

**Alternate Names/Nomenclatures:** None.

**Explanatory Notes:** None.



Semispinalis capitis



Semispinalis Capitis



Lower cervical pain,  
Posterior

## P 5-6-7 C

**Location of Tender Point:** On the spinous process of the vertebrae, immediately above, or on, the posterior surface of the transverse process of the involved vertebral segment.

**Anatomical Correlation:** Multifidus.

**Direction to Press on Tender Point:** Press posterior to anterior.

**Treatment Position(s):** With patient supine, extension, marked, sidebend away (usually). Rotate away.

**Frequency of Occurrence:** Common.

**Clinical Correlation(s):** Pain at the same level of the dysfunction.

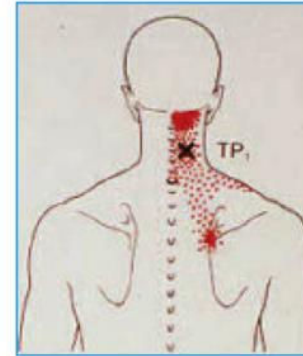
**Associated Pain Referral Pattern:** None.

**Alternate Names/Nomenclatures:** None.

**Explanatory Notes:** None.



Multifidus



Mid-cervical multifidus  
pain pattern

With articulatory or muscle energy OMT  
Treat in flexion gently against barrier

Posterior Cervical pain  
C5-C7 Tx by extension



Treatment position

Posterior neck pain

## A 5 C and A 6 C

**Location of Tender Point:** Anterior surface of the tip of 5 C or C 6 transverse process.

**Anatomical Correlation:** Longus colli muscle.

**Direction to Press on Tender Point:** Press from anterior to posterior.

**Treatment Position(s):** With patient supine, flexion moderate to marked, sidebend away, rotate away.

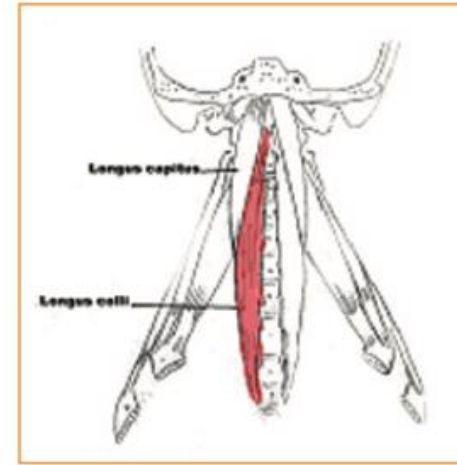
**Frequency of Occurrence:** Uncommon.

**Clinical Correlation(s):** Posterior neck pain.

**Associated Pain Referral Pattern:** None.

**Alternate Names/Nomenclatures:** None.

**Explanatory Notes:** A 7 C Sternocleidomastoid. Jones called the clavicular attachment of the SCM muscle A C 7.



Longus colli

Can use MET or articulatory OMT to segment toward barrier

For A7C treat sternal SCLM

**A 7 C:** Jones called the clavicular portion of the sternocleidomastoid attachment to the clavicle an Anterior 7th Cervical. See SCM on page 9, Chapter 1.



Anterior C4 and 5 treatment position

## ANTERIOR 3-4-5-6 THORACICS

**Location of Tender Point:** Midline on the sternum at the level of the corresponding costal cartilage for A 3 T to A 6 T.

**Anatomical Correlation:** Fascia over the sternum and/or the tissues of origin of the pectoralis major. Apply to A 3-4-5-6 T Points.

**Direction to Press on Tender Point:** Press anterior to posterior.

**Treatment Position(s):**

1) With patient supine, stand at the head of the table with your flexed knee on the table beneath the patient's mid-thoracic area. Use your hand and wrist to apply additional force against the upper thoracic spine to achieve a mobile point by exerting the desired amount of flexion.

2) With patient supine and pulled far enough off the end of the table so that their upper thoracic spine rests against your anterior body — your upper thigh, hip, and pelvis, if you are tall — your abdomen or even chest if you are short. The patient's arms hang toward the floor. By exerting more or less pressure against the upper thoracic spine the desired level of flexion is achieved.

**Frequency of Occurrence:** Common.

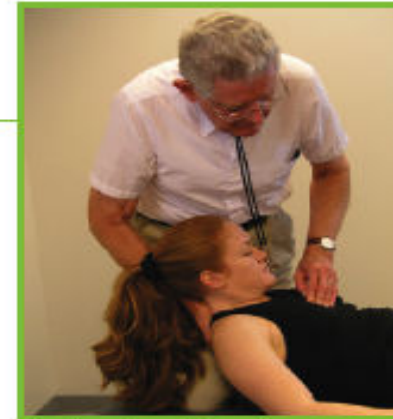
**Clinical Correlation(s):** Substernal and mid-thoracic pain, especially with extension, usually responds well to Counterstrain manipulation. Often present with epigastric pain and dyspepsia.

**Alternate Names/Nomenclatures:** None.

**Explanatory Notes:** The sternal Tender Points are frequently seen in patients who have had cardiac bypass surgery. The pain often will persist for several months.



Sternal Tender Points with pain pattern



Treatment position 1



Treatment position 2

“T4 Syndrome” - Anterior and Posterior T4 TPs w/SD

# Cranial Osteopathy and TMJ Headaches:

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Time in this workshop  
may not be adequate to  
teach fully.

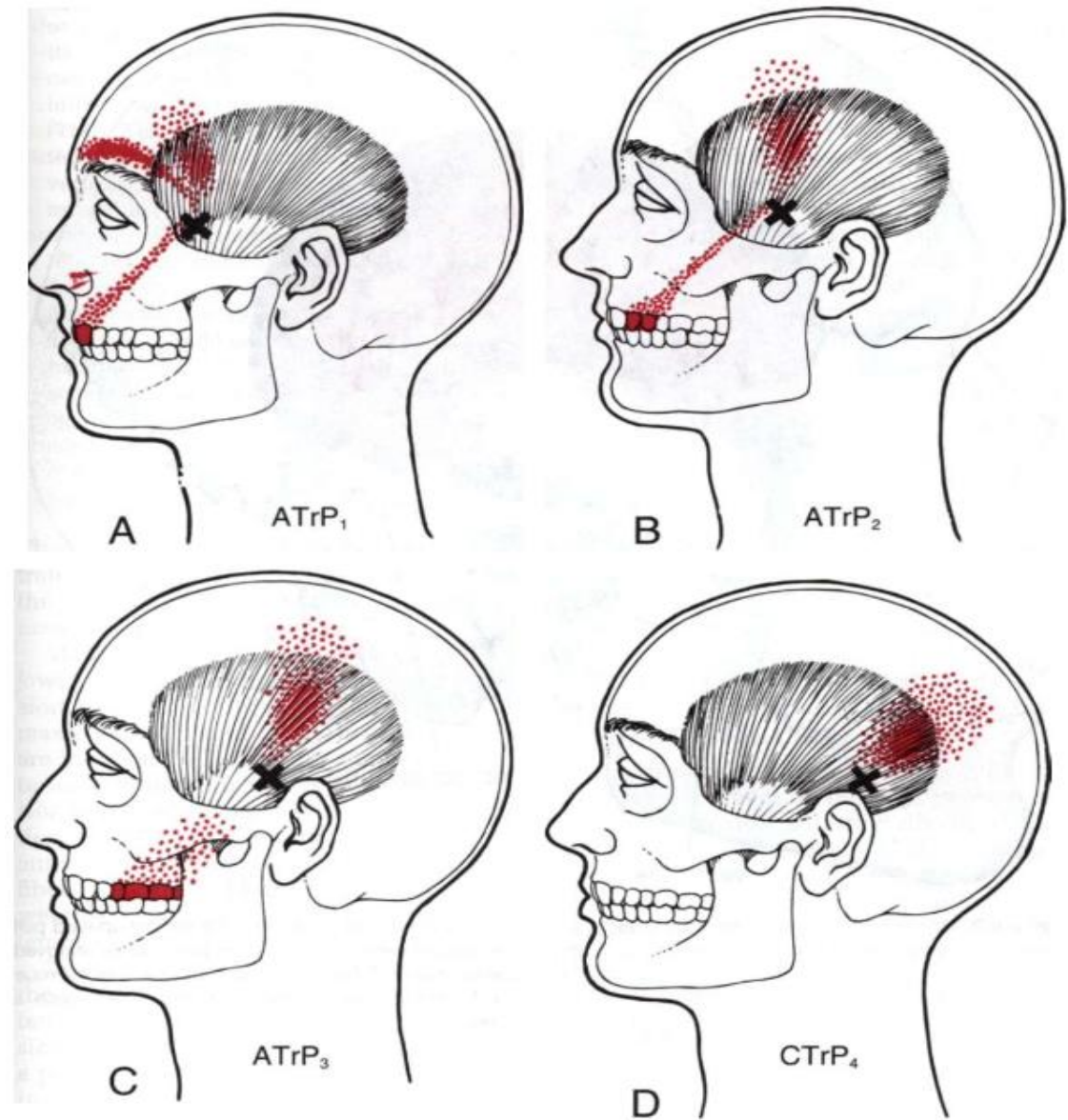
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Brief common problems  
and treatment are  
presented.

# TMJ Troublemakers

- Muscles of Mastication (CN VII-facial):
  - Temporalis m
  - Masseter m
  - Lateral Pterygoid m
  - Medial Pterygoid m
- Also:
  - Sternocleidomastoid (SCM) m (CN XI-spinal accessory)
  - Omohyoid & Digastric mm
  - Suboccipital mm
  - Occipital-Mastoid Suture Compression

TEMPORAL BONE SOMATIC  
DYSFUNCTION,  
MYOFACIAL PAIN &  
COUNTERSTRAIN CRANIAL  
OMM

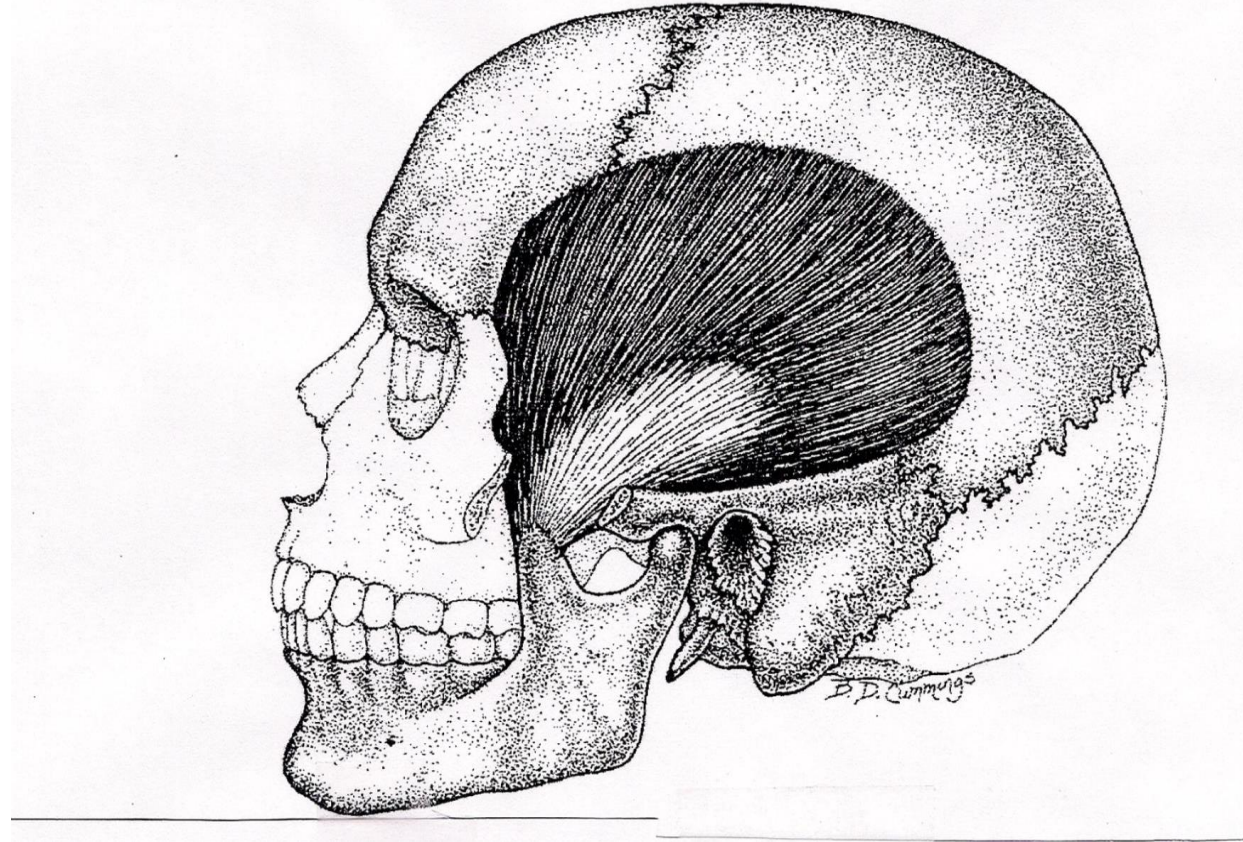


**Figure 9.1.** Patterns of pain and tenderness referred from trigger points (Xs) in the left temporalis muscle (essential zone *solid red*, spillover zone *stippled*). Three of the trigger points are attachment trigger points (ATrPs) which occur at a musculotendinous junction. One is a central trigger point (CTrP) which

occurs in the midfiber region of the muscle. A, anterior "spokes" represent referred pain arising from ATrP, in the anterior fibers of the muscle. B and C, middle "spokes" represent referred pain and tenderness arising from ATrP, and ATrP. D, posterior supra-auricular "spoke" is referred from CTrP. 32



## TEMPORALIS MUSCLE:

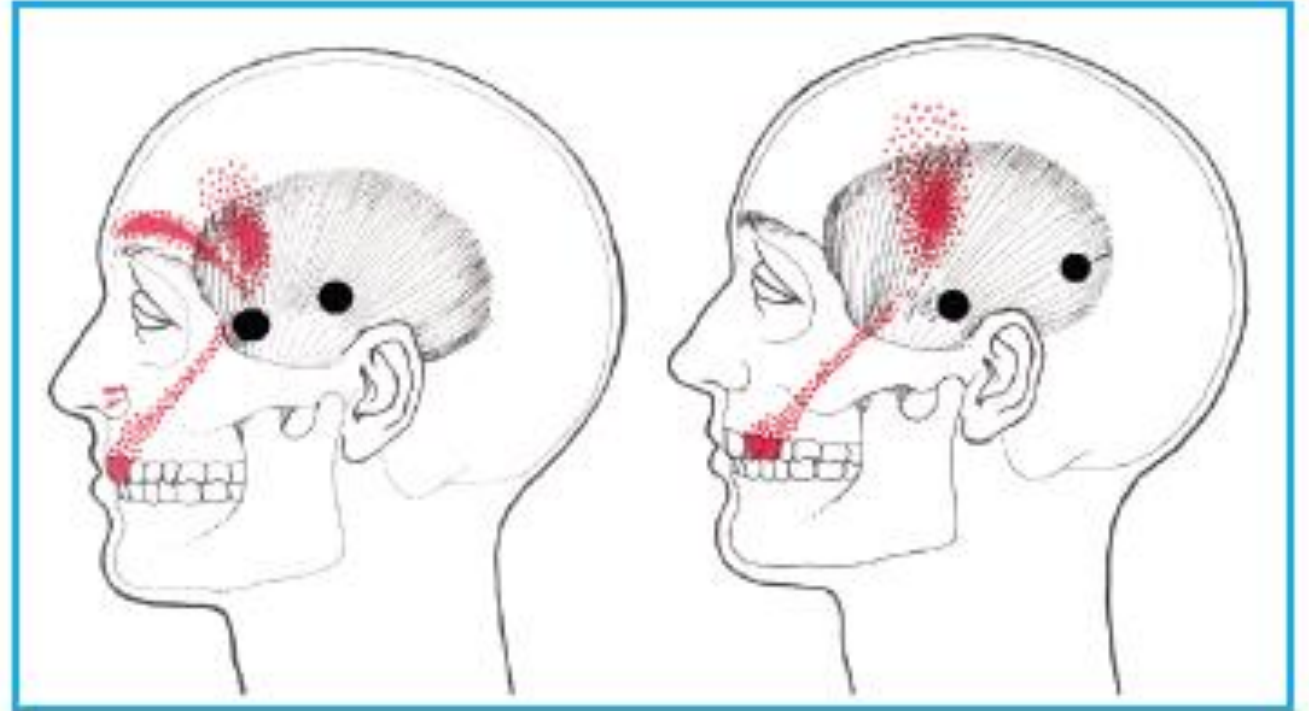


- O: Temporal Fossa (formed by Frontal & Parietal bones)
- I: medial aspect of the Ramus & the Coronoid Process of the Mandible

# Temporalis (TMP)

## Location of Tender Point

- Anywhere in fan-shaped fibers of muscle.
- Press medially to find.
- Patient may show you Tenderpoint



Temporalis

# Temporalis (TMP)

**Treatment Position** –Pt. supine

- Push relaxed jaw toward the TP side
- Stabilize pt's head w/ monitoring hand

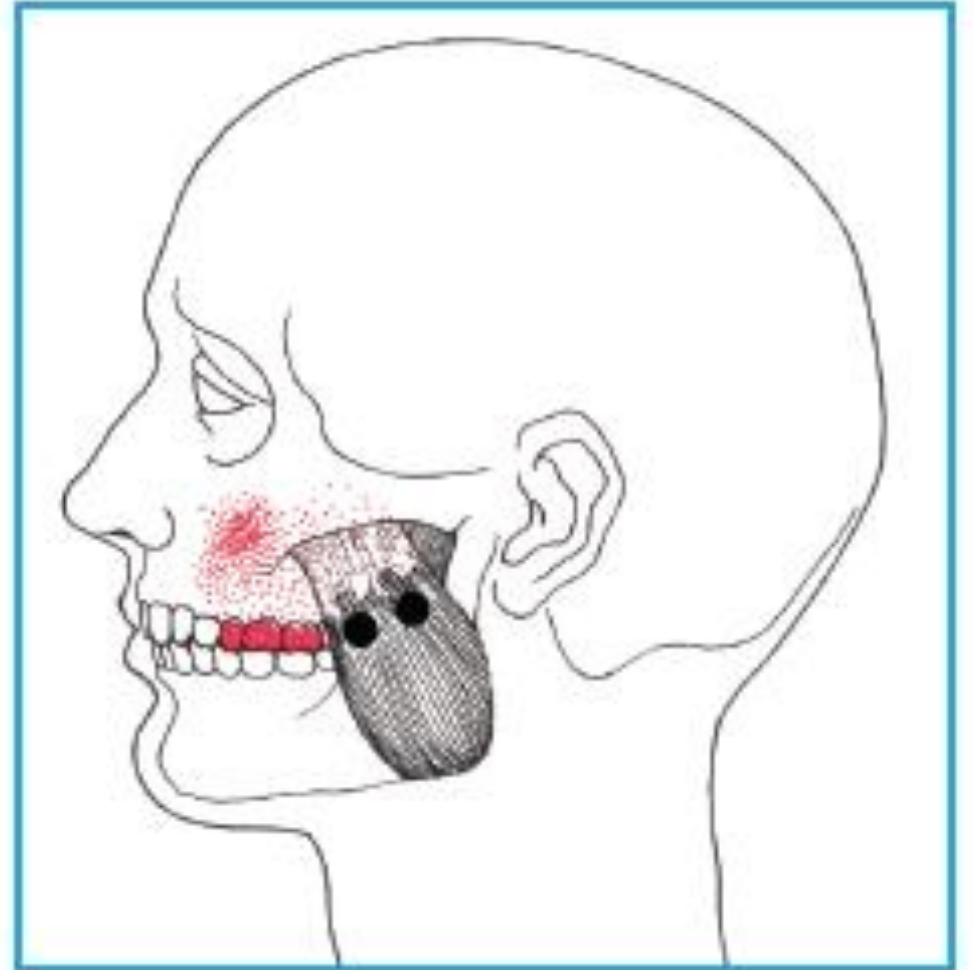


Treatment position

# Masseter (MAS)

## Location of Tender Point

- Superficial and deep fibers of the masseter muscle.
- Press posteriorly toward anterior border of the ascending ramus of mandible



Masseter muscle

# Masseter (MAS)

**Treatment Position –Pt.  
supine**

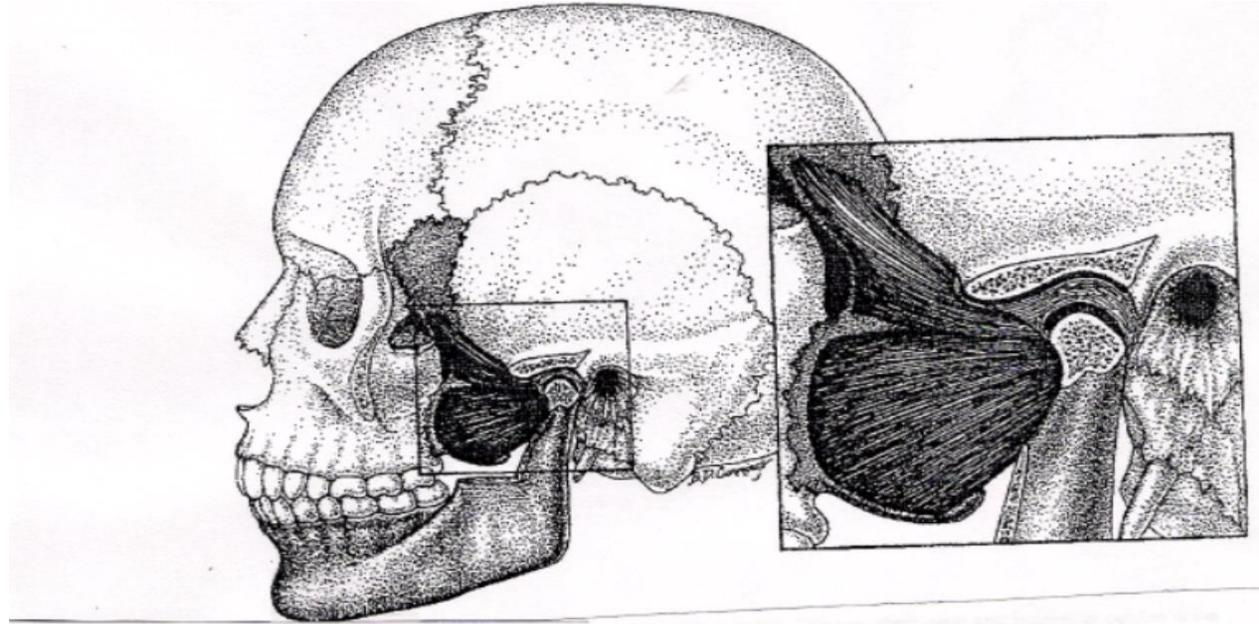
- Push slightly open jaw toward TP side to produce lat glide
- Apply counterforce to frontal bone on TP side to stabilize



Treatment position

- ❖ Successful treatment often reduces tone in trapezius and SCM mm.

# LATERAL PTERYGOID MUSCLE:



- Superior Head:
  - O: inf-lat Greater Wing of Sphenoid
  - I: investing fascia which then attaches to the Disc & Joint Capsule
- Inferior Head:
  - O: lat. aspect Lat. Pterygoid Plate of Sphenoid
  - I: ant-lat Condylar Process of Mandible

## LP LATERAL PTERYGOID

### Location of Tender Point:

- 1) 1cm anterior to the neck of the condyle. Push medial and posterior.
- 2) Lower edge of the greater wing of sphenoid.

**Anatomical Correlation:** Lateral pterygoid muscle.

### Direction to Press on Tender Point:

Tender Point 1, press medial and slightly posterior.  
Tender Point 2, press medially.

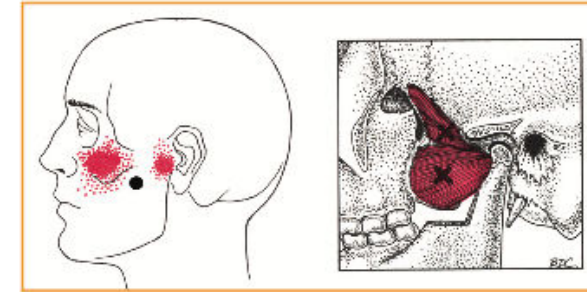
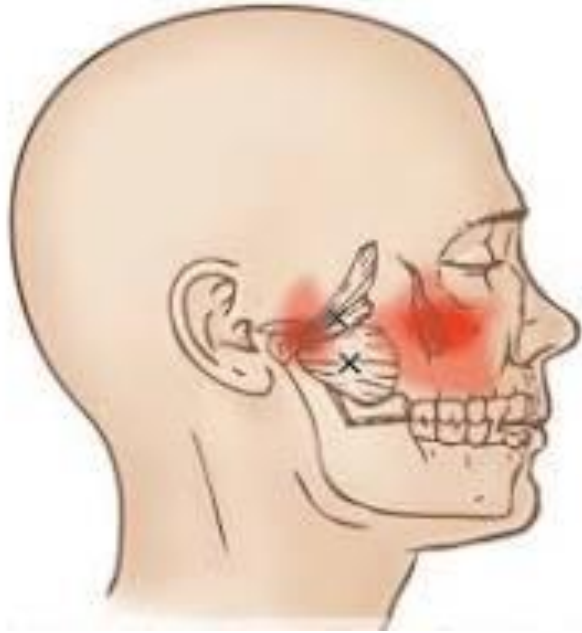
**Treatment Position(s):** With patient supine, push their open jaw 2cm laterally away from the Tender Point side deviating mandible to the opposite side. Apply stabilizing force with forearm of the motion hand.

**Frequency of Occurrence:** Very common.

### Clinical Correlation(s):

- 1) Pain with chewing
- 2) Click in TMJ
- 3) Dyskinesia with mouth opening

**Alternate Names/Nomenclatures:** TMJ and maxilla.



Lateral pterygoid

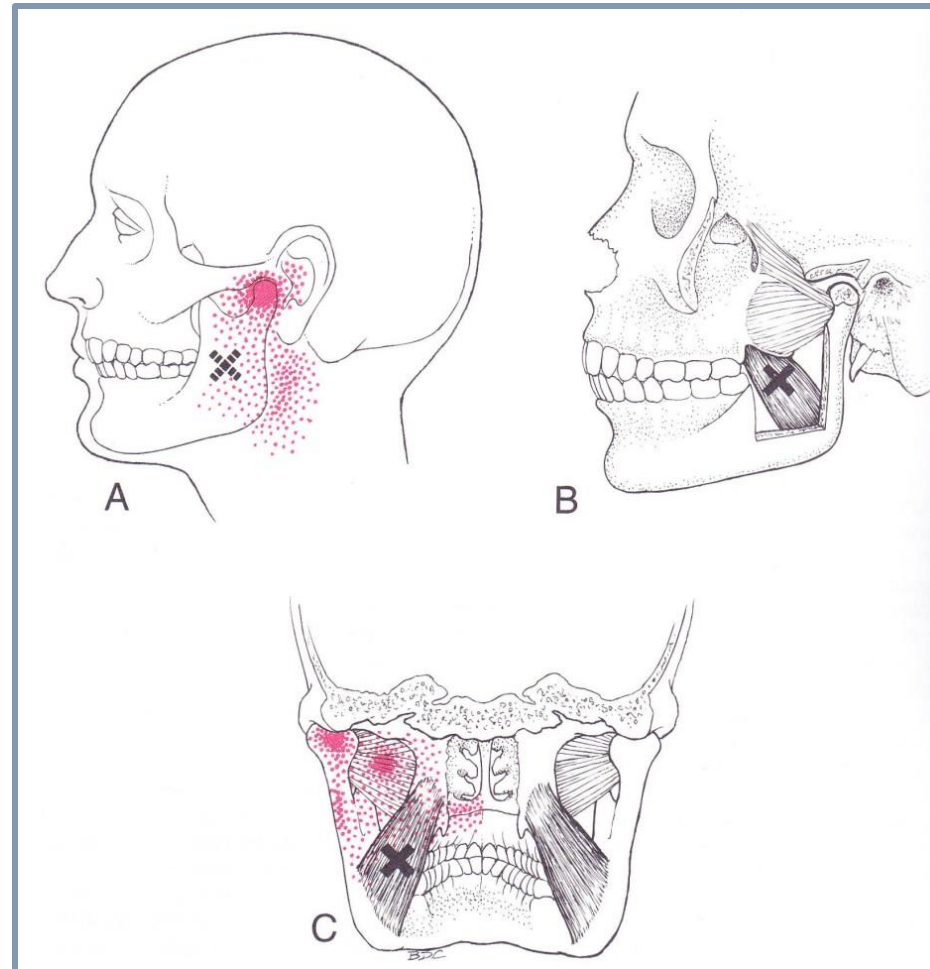


Treatment position

# Medial Pterygoid (MPT)

## Location of Tender Point

- Posterior surface of ascending ramus of mandible
- Approx 2 cm above mandibular angle
- Press anteriorly





# Medial Pterygoid (MPT)

**Treatment Position**– Pt. supine

- Push slightly open jaw laterally away from TP side
- Apply stabilizing force on opposite side of forehead w/ forearm

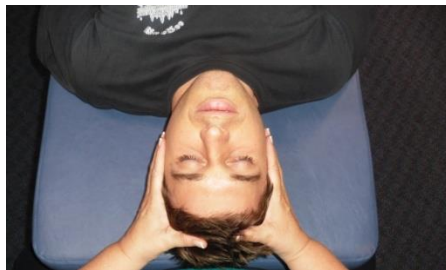


Treatment position

# Occipito-Mastoid Suture (OM)

## Treatment Position –pt supine

- Apply the vault hold from cranial with slight medial compression of the temporal bones
- **Motion Test for Ease:** Rotate one hand CW & the other CCW around a transverse axis. Repeat in opposite direction (like a Torsion)
- Take hands into the direction of ease & hold (for 90 sec).



## OCCIPITO-MASTOID

**Location of Tender Point:** Over the occipito-mastoid suture on a small vertical ridge of bone 3cm posterior and cephalad from the tip of the mastoid process.

**Direction to Press on Tender Point:** Place a palpating finger on the tip of the mastoid process. Allow finger to slide posterior and cephalad along bottom of mastoid until small vertical ridge is felt. Push in a medial direction.

### Treatment Position(s):

**Hand Hold** – With patient supine, place your palms flat on the sides of the head with ring finger and small finger around undersurface of mastoid processes.

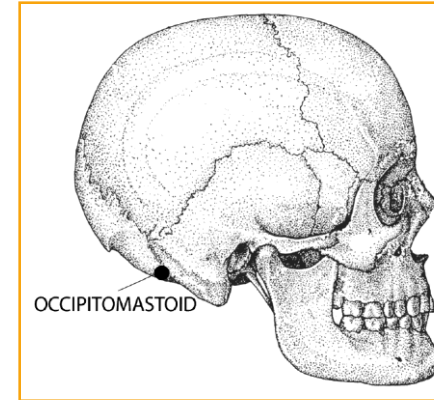
**Technique** – Apply a mild to moderate compression with both palms. Then twist one side in a counter-clockwise or clockwise direction around a transverse axis, as if to unscrew a jar cap. Apply counter rotation to the opposite side. Twist both ways to check for direction of greatest ease and patient preference and hold in that direction.

**Frequency of Occurrence:** Common.

### Clinical Correlation(s):

- 1) Frontal headache
- 2) Pain behind the eye
- 3) Periorbital pain
- 4) Ear ache
- 5) Tinnitus
- 6) Vertigo

**Explanatory Notes:** Check for asymmetrical flexion extension of the temporal bone.



Occipito-mastoid Tender Point



Treatment position

## SPHENO-BASILAR

**Location of Tender Point:** On the occiput, medial to the lambdoidal suture.

**Anatomical Correlation:** Spheno-Basilar synchondrosis.

**Direction to Press on Tender Point:** Palpate the posterior occipital protuberance then move 3cm obliquely cephalad and lateral (about 2 o'clock and 10 o'clock). Feel for small depressions in the occiput bilaterally. Push anteriorly.

### Treatment Position(s):

**Hand Hold** – With patient supine, caudal hand cups the occipitosquama area. Place cephalic hand over the frontal bone with thumb and long finger contacting the greater wings of the sphenoid.

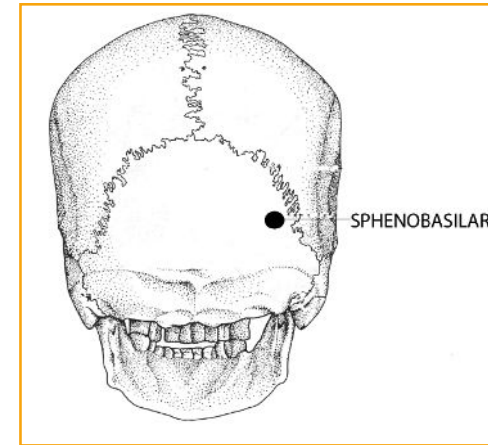
**Technique** – Rotate frontal bone sphenoid complex in a clockwise or counter-clockwise direction and counter-rotate the occiput around an A-P axis to produce torsion through the spheno-basilar synchondrosis. Rotate both ways to check for direction of greatest ease and patient preference. *Hold first in the direction of greatest ease, then gently reverse to hold in the position that was initially more guarded.*

**Frequency of Occurrence:** Very common.

### Clinical Correlation(s):

- 1) Nasal obstruction
- 2) Sinus headaches
- 3) Coccyx pain
- 4) General headaches
- 5) Cervical tension

**Explanatory Notes:** Using same vault hold by the clinician facilitates spheno-basilar flexion and, when held for 90 seconds, it assists in unwinding the spinal dura



Spheno-basilar Tender Point



Treatment position

## BILATERAL COMPRESSION

### Location of tender point:

None

### Anatomical Correlation:

Cranial vascular system

### Treatment position:

Both hands cover the sides of the cranium. The thenar eminence over the parietal bones, hypothenar eminence contacts the anterior occiput, ring fingers cover the mastoid processes and palms cover the temporal squama. Angle your hands so that the web of your palms should be behind the ears.

### Technique:

Patient supine.

Handhold: Compress palms medially, should feel good to the patient. Recommended finishing technique following a cranial session.

### Objective:

1. Improve vascular circulation
2. Relief of vascular congestion throughout cranium
3. Assists drainage of venous sinuses
4. General relaxation

### Clinical Correlations:

1. Generalized headache

“CV4 SCS”



## INFRA ORBITAL

### **Location of tender point:**

Over the infraorbital notches.

### **Anatomical Correlation:**

Maxilloethmoid articulation.

### **Direction to press on tender point:**

3cm lateral to nose slide your finger back and forth to find infraorbital notches.

### **Treatment position:**

Patient supine.

Hand hold: Interlace fingers like a tent. Lay palms over the maxilla and zygomatic bone.

### **Technique:**

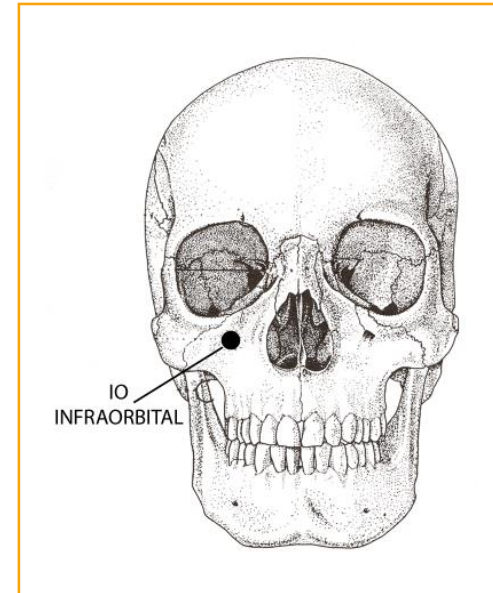
Allow your hands to sink down in posterior, medial and superior direction. Use only the weight of your hands.

### **Objective:**

Decompress the maxilloethmoid articulation.  
Drain maxillary sinuses.

### **Clinical Correlations:**

1. Maxillary sinus congestion and pressure
2. Periorbital pain
3. Overstressed, a good general relaxation technique
4. Hypertonic shoulder rotator muscles
5. Hypertonic cervical flexors



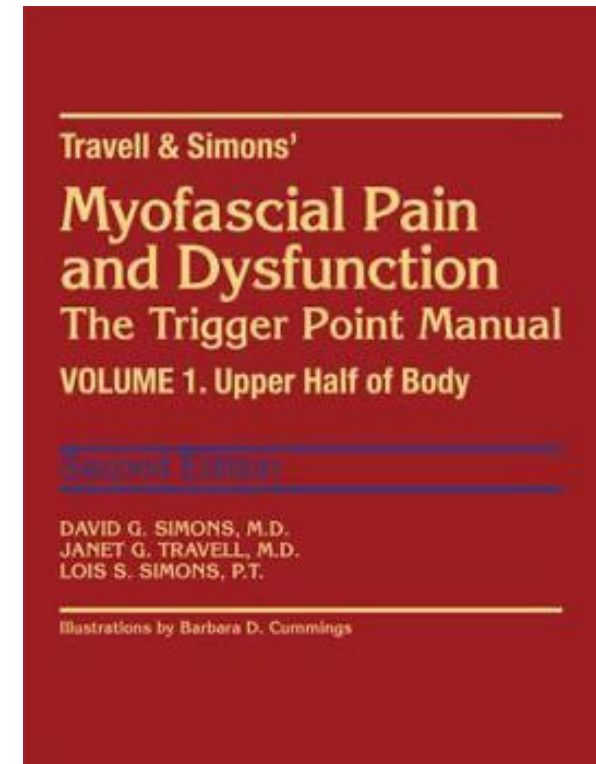
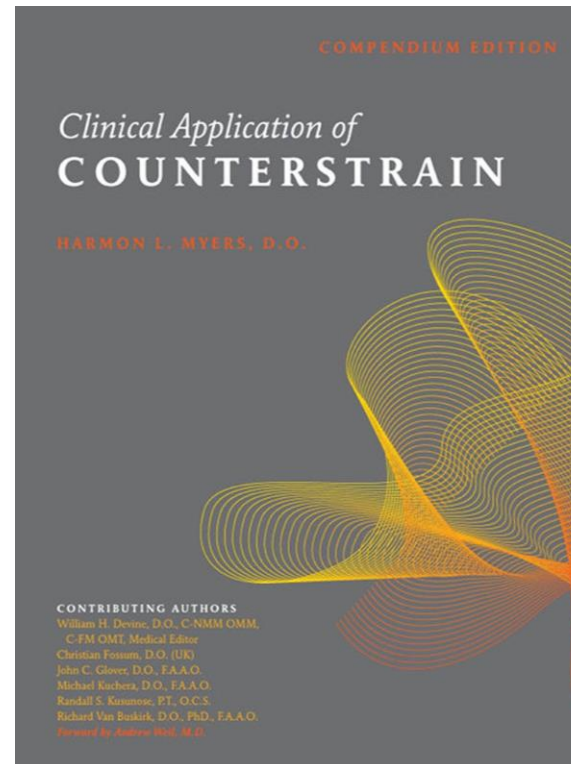
# In conclusion:

- Taking a close history, *observing* the patient's pain pattern complaint, using indirect or careful direct OMT and considering the Five Osteopathic Heath Care Models are all part of an Osteopathic Approach and treatment plan for head and neck pain related headaches..



# References:

- Myofascial Pain and Dysfunction, The Trigger Point Manual, 2nd Edition. Volume 1. David G. Simons, Janet G. Travell, and Lois S. Simons. Williams & Wilkins, Baltimore, MD, 1999.
- Clinical Application of Counterstrain, Compendium Edition. Harmon L. Myers, William H. Devine. Tucson Osteopathic Medical Foundation, Publisher: Osteopathic Press, a division of Tucson Osteopathic Medical Foundation, Tucson, Ariz., 2012





Thank you  
very much!

- Any Questions?

