

An Osteopathic Approach to the Neurologic Patient

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Human Touch



Overview

An Osteopathic Approach to the Neurologic Patient

- Neurological Model
- Multiple conditions that involve the patient neurological disorders
- Cervicogenic headaches ar
- The safe application of OMT in managing patients with cervical spine somatic dysfunction

Overview:

An Osteopathic Approach to the Neurologic Patient

- Models of OMT: Neurologic Model
- Osteopathic perspective in patients with neurological conditions
- Focus Condition: The application of OMT in the management of patients with Cervicogenic Headaches

Understanding OMT

5 Models

5 Models: Using OMT

1. **Structural** Model [Posture & Body Movement]
2. **Respiratory-Circulatory** Model
3. **Metabolic** Model
4. **Neurologic** Model [Sensory & Protective]
5. **Behavioral** Model
[Reproduction, Consciousness and Behavior]

Neurologic Model

[Sensory & Protective]

- Attain autonomic balance
- Address neural reflex activity
- Remove facilitated segments

Osteopathic perspective in patients
with neurological conditions

Parkinson Patients
Restless Leg Syndrome
Post-Concussion Disorder

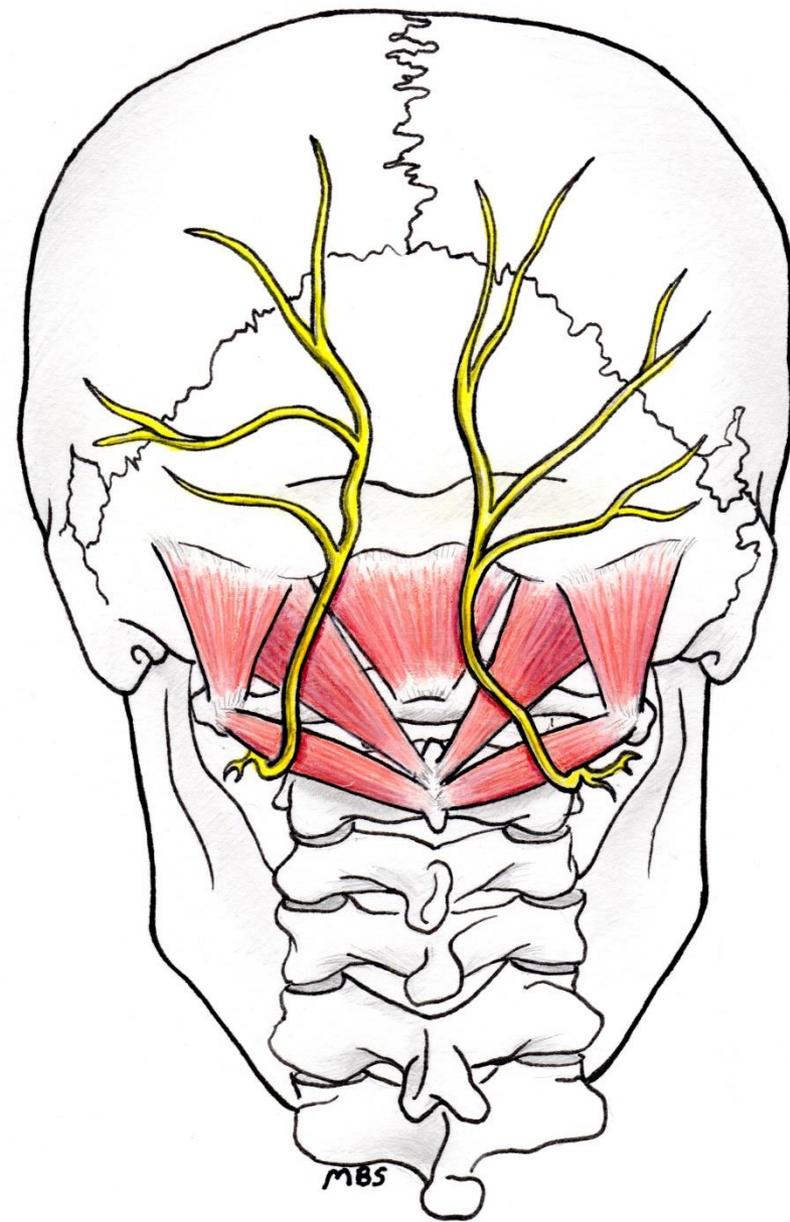
Cervicogenic “Tension” Headaches

Cervicogenic Headaches

- Secondary Headache
- Referred pain
- Etiology: Disorder of the cervical spine and related anatomical structures
- Tension and Migraine Headaches can also be associated with pain involving anatomical structures of the cervical region and muscular tension.

Functional Anatomy

- Greater Occipital mm.
- Greater Occipital nerve



Step 1 = Safety & OMM Game Plan

- History: “**Red Flags**”
- Physical / Structural Exam:
- Provocative Testing:
 - Spurling Maneuver
- Determine Appropriate OMT Modalities
 - Patient Population
 - Clinical Condition
 - Patient’s tolerance of OMT Modality
- Modify OMT Technique to maximize both effectiveness and safety
- Assess – Treat – Reassess
- Management Recommendations

ASSESSMENT

RED FLAGS: THINK “RIFT”

RADICULOPATHY

INFECTION

FRACTURE

TUMOR

ASSESS, TREAT, REASSESS

Tenderness = Where does it hurt?

Asymmetry = Where is there a change in structure on one side?

Range of Motion = Where is there less motion?

Tissue Texture Changes = Where do the tissues feel tight, knot like or swollen?

Cervical Spine Assessment: 3

- Find the “BAD SIDE!”
- Assess C1: Find Transverse Process of C1
- Assess C2: Rotation
- Assess C3-C7: Medical Translation to determine Side-Bending

Step 1: Find Transverse Process of C1



- Use Landmarks:
 - Mastoid Process
 - Angle of Mandible
- “Bad Side”
 - Transverse process = prominent and “sticks out!”

Step 2: C2 = Rotation

- Range of Motion:
 - Isolate to C2
 - 30 degrees of Flexion
 - Keep hand on C2
 - GENTLY test rotation
 - Which way moves easier?
 - Which way more restricted?
- Palpation:
 - Back-up diagnosis
 - Prominent upper cervical musculoskeletal changes



C2/Rotation Pearls

- Keep physician hand between C1 and C2
- Need to isolate between C1 and C2
- C1-C2 = 50% of cervical spine rotation
- Diagnosis of cervical spine rotation is better with slight flexion [30 degrees]



Step 3: C3-C7

- C3-C-7 = Side-Bending
- Keep patient's head midline
- GENTLY MEDIALY translate each cervical segment from C3 to C7.
- “BAD SIDE” = side with Decreased motion Medial Translation to determine Side-Bending



Remember your sites of Cervical Somatic Dysfunction

- C1: “Bad Side” = Prominent Transverse Process
- C2: “Bad Side” = Can’t Rotate Away
 - Can’t get away from it!
 - Stuck Looking at the “Bad Side”
- C3-C7: “Bad Side”

CERICAL SPINE: SUPINE SOFT TISSUE TECHNIQUES

Traction Cervical Techniques

Intersegmental Soft Tissue / Superior Traction

Posterior Cervical Soft Tissue Technique With
Counterforce

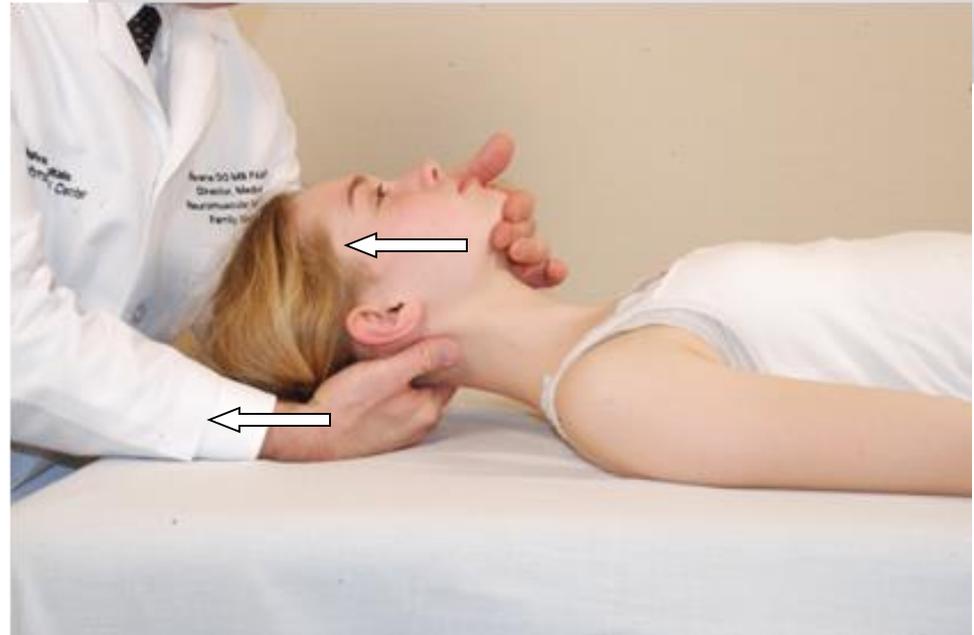
Suboccipital Tension Release Technique

Soft Tissue Techniques

- **Definition:**
 - separation of muscle origin and insertion, or stretch of muscle belly
 - Non-oseous tissues (includes fascia)
 - lateral or linear stretching, deep pressure, traction
 - palpate response and motion changes

Traction Cervical Techniques Supine

- Cup chin and occiput
- Gentle traction superiorly
- May enhance with side bending
- Have patient bend their knees



Intersegmental Soft Tissue / Superior Traction Techniques Supine

- Pt. Supine
- Fingertips lateral to spinous processes
- Apply segment by segment traction
- Pull up 45 degrees
- Have patient bend their knees



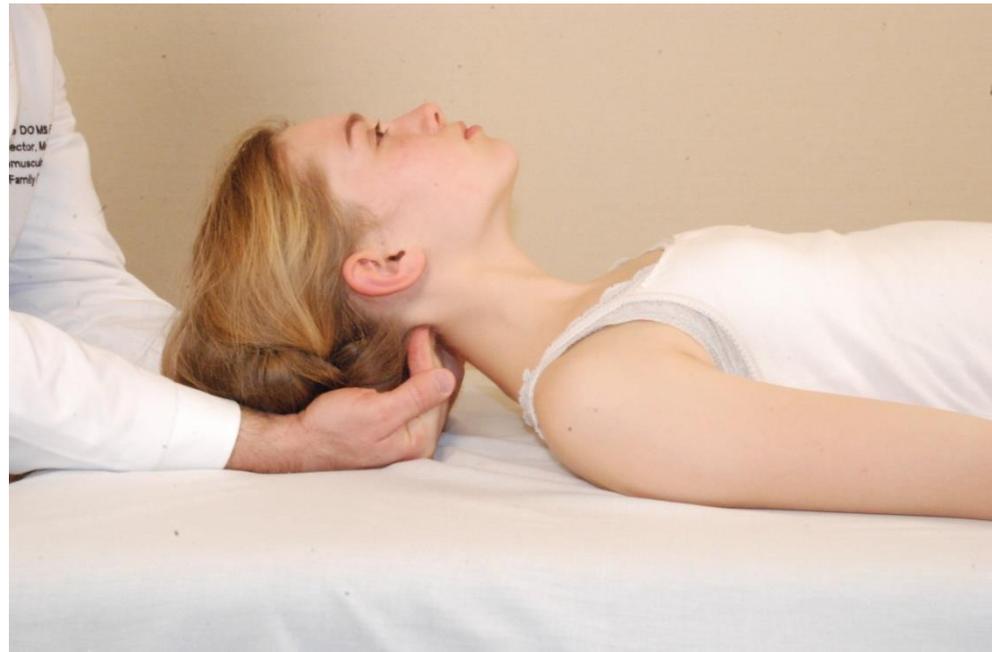
Posterior Cervical Soft Tissue Technique With Counterforce

- Pt. Supine
- Keep head midline at all times
- Upper hand on forehead: **STABILIZER**
 - Provides counterforce
- Lower hand on lateral paracervicals: **MOVER!**
 - GENTLE Lateral traction
- Treat each segment [level] of the cervical spine



Suboccipital Tension Release

- Soft Tissue – Myofascial Release technique
- Greatest impact:
 - Suboccipital muscles
 - Greater occipital nerve
- Pearls:
 - Respiratory cooperation
 - Patient GENTLY extends head
 - Patient education opportunity
 - Do this at home!
 - Go over management instructions



CERICAL SPINE: SUPINE MUSCLE ENGERY TECHNIQUES

1. C1 [Translation] Muscle Energy Technique
2. Upper/Lower Cervical Spine Muscle Energy Technique

Cervical Spine Muscle Energy “Rules”

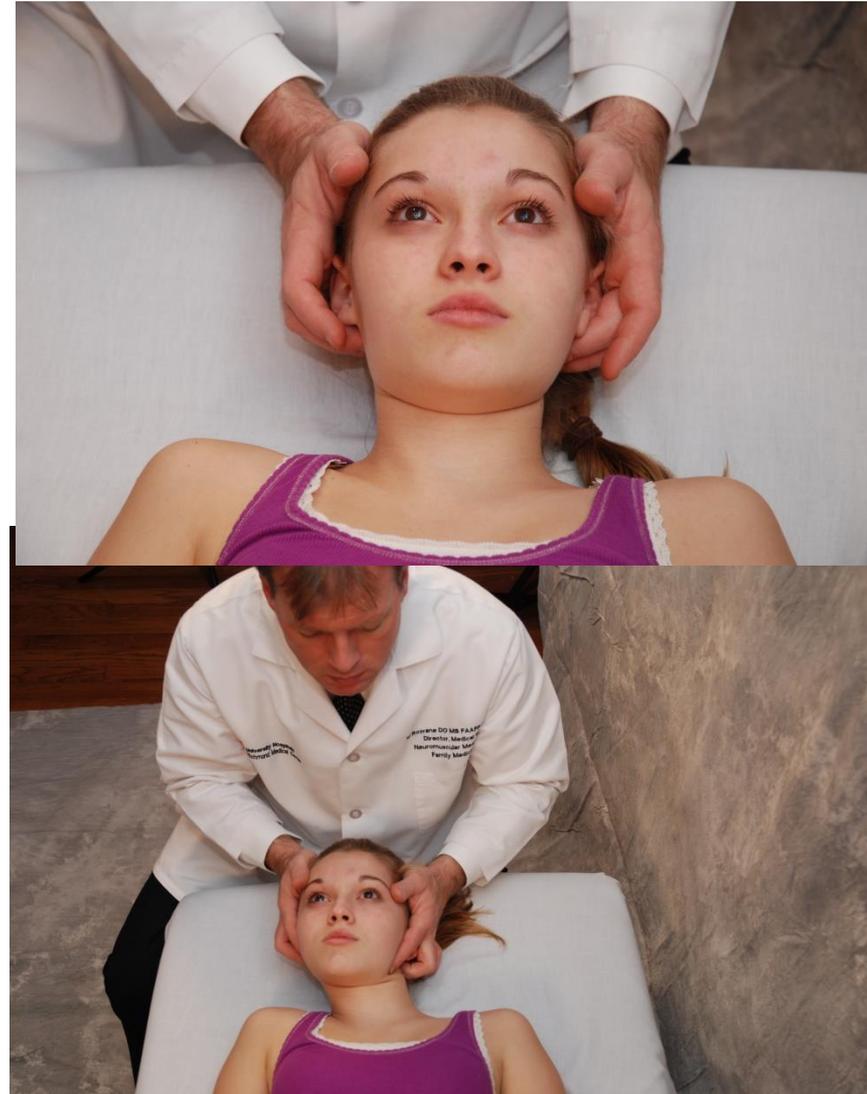
- **“Look Away!”**
- **Muscle Energy “Rule of 3’s”**
- **Cervical Spine Muscle Energy “The 3 T’s”**

Muscle Energy Model: “Rule of 3’s”

- Remember the number **THREE**
 - **3 times**
 - **3 seconds**
 - **3 pounds of pressure**
 - **3 second break between treatments**

C1 [Translation] Muscle Energy Technique

- “Walk Like and Egyptian”
- Patient supine
- Head Midline facing the ceiling at all times
- Add gentle superior traction
- Laterally move head as unity towards the “Bad Side”
- Patient Moves head to midline following Muscle Energy “Rule of 3’s”



General Treatment Principles of Muscle Energy Model (“Rule of Threes”)

- **“LOOK AWAY”** from the problem
- Remember the number THREE
 - **3 times**
 - **3 seconds**
 - **3 pounds of pressure**
 - **3 second break between treatments**

Cervical Spine Muscle Energy

“The 3 T’s”

1. **Traction:** Apply Gentle Traction
2. **Translate:** Move the segment with somatic dysfunction towards the midline
3. **Turn:** Rotate away from “Bad Side”

SAFETY MEASURES

- Keep head in a neutral position as much as possible
- To improve patient safety, it is recommended returning the cervical spine to a neutral position after each maneuver.

Upper/Lower Cervical Spine Muscle Energy Technique

- Keep patient facing ceiling and head midline
- Keep Apply Gentle TRACTION to site of somatic dysfunction
- Gently medially TRANSLATE at site of somatic dysfunction
- TURN slightly AWAY from “Bad Side!”
- Patient TURNS CHIN back to “Bad Side!”
- Return to neutral and start over: ME Rule of 3’s



Summary

An Osteopathic Approach to the Neurologic Patient

- Neurological Model
- Multiple conditions that involve the patient neurological disorders
- Cervicogenic headaches are commonly seen
- OMT can be safely applied in treating patients with cervical spine somatic dysfunction

If circumstances limit their therapeutic modalities and isolate them from the many effective remedies of this medical era, they still have their hands, which by their talented maneuvers can return structural integrity and physiological stability to perverted tissues--

**...for theirs are the hands of an osteopathic
physician.**

WILLIAM A. ROWANE, D.O., F.A.C.O.I.



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