OMM for Primary Care

Anthony Michael Will, D.O.
Board Certified Family Medicine
Board Certified Neuromusculoskeletal Medicine
Department Chair of Osteopathic Medicine AZCOM
Clinical Associate Professor

Disclosures

- None
Learning Objectives

Understand and utilize basic OMT techniques for common primary care office complaints.

1. Low Back Pain
2. Headache
3. Upper respiratory tract infection (URI)

Low Back Pain
Low Back Pain

- The second most common reason people present to primary care.
- One third of all primary care visits are musculoskeletal/orthopedic in nature.
- 85% lifetime incidence of low back pain
- 5% incidence per year in the general population

Epidemiology

- Leading cause of work-related disability, 33% of workers compensation cases are related to LBP.
- Major cause of chronic pain and suffering.
- Many long-term opioid prescriptions are due to chronic low back pain.
- Major cause of lost income and governmental disability claims.
Epidemiology

- The total financial cost of pain to society, which combines the health care cost estimates and the lost productivity estimates, ranges from $560 to $635 billion. All estimates are in 2010 dollars.
- The annual cost of pain was greater than the annual costs in 2010 dollars of heart disease ($309 billion), cancer ($243 billion), and diabetes ($188 billion).

Epidemiology

- Most acute cases of LBP occur between 20-50 years of age
- Occupation plays a major role in risk of acute LBP
- High-risk occupations include lifting activities with improper biomechanics:
  - Nursing
  - Garbage collection
  - Warehouse
  - Airlines
Causes of Low Back Pain

Lumbar strain or sprain, Somatic Dysfunction
*70%*
Osteoarthritis (10%)
Osteoporosis (4%)
Disc herniation with nerve entrapment (4%)
Congenital spinal abnormalities
Sacral, hip, knee, ankle and foot disease
Spondylolisthesis
Infection: Osteomyelitis/Diskitis (0.01%)
Symptom of systemic neoplastic disease (0.7%)
Symptom of recurrent (visceral) disease (2%)
Symptom of psychiatric disease

Acute Low Back Pain
Common Troublemaker
Muscles

- Psoas: Primary hip flexor.
- Quadratus Lumborum: Major Sidebending of lumbar spine.
- Erector Spinae: Major extensor of lumbar spine.
- Piriformis: External rotator of hip and lower extremity.
Psoas & Quadratus Lumborum Muscle

- Treat with indirect counterstrain/ position of ease for severe acute spasm, first 72 hours of injury.
- Treat with direct muscle energy technique if patient tolerates, ie mild spasm. Typically best utilized during the post acute recovery phase, after 72 hours.
- Always try to address the upper lumbar, lower thoracic type II dysfunction on side of spasm. This often keeps the psoas stretched and hypertonic.

Psoas Muscle

- Treat with indirect counterstrain/ position of ease for severe acute spasm, first 72 hours of injury.
- Treat with direct muscle energy technique if patient tolerates, ie mild spasm. Typically best utilized during the post acute recovery phase, after 72 hours.
- Always try to address the upper lumbar, lower thoracic type II dysfunction on side of spasm. This often keeps the psoas stretched and hypertonic.
Psoas – Indirect Counterstrain and Position of Ease

Psoas – Direct Muscle Energy

Q L - Counterstrain Sidebend the patient using the leg as a lever, with slight extension.
Erector Spinae – Counterstrain Prone.

- Place the leg into extension with slight sidebending.
Erector Spinae Counterstrain Supine

Piriformis Muscle: External Rotation
Piriformis Location: Between Sacrum & Greater Trochanter

Piriformis Muscle Counterstrain: Patient prone with slight leg flexion and external rotation.
Headache

Headache: Migraine and Tension Type.

- Top ten most common primary care compliant.
- In the U.S. more than 30 million people have at least one migraine headache per year.
- Lifetime incidence of tension type headache is 69% for men and 88% for woman.
- Continue with standard Rx for both migraine, tension, or mixed variety cephalgia for both abortive and preventative care.
- Assuming that patients have no focal neurological findings, normal neurological exam and normal neuroimaging, if indicated. OMT of the upper thoracic spine, trapezius, levator scapula, upper cervical/OA, and myofascial cranial can help abort or reduce muscle tension triggers for headache.
Levator Scapula Insertion: Superior medial border of scapula

Levator Scapula Muscle
Monitor at superior medial border of scapula.

Sidebend head toward side of tenderpoint.

Abduct and slightly flex arm with cephalad compression.

Hold for 90 seconds and try to reduce hypertonicity by at least 70%.

Levator scapula pain pattern

Treatment position
LEVATOR SCAPULA TECHNIQUE # 2

MONITOR AT SUPERIOR MEDIAL BORDER OF SCAPULA
APPLY DOWNWARD TRACTION OF ARM ON SIDE OF TENDERPOINT
WITH FINE TUNING OF INTERNAL AND EXTERNAL ROTATION.

Stemocleidomastoid & Trapezius Muscle
Sternocleidomastoid Muscle (SCM)

Monitor hypertonic SCM muscle
Flex neck
Side bend neck towards
Rotate away
Hold for 90 seconds and try to reduce hypertonicity by at least 70%
Upper Trapezius Muscle Pain Patterns

Myofascial Tender Point and pain pattern. Medial Point 1

Myofascial Tender Point and pain pattern. Lateral Point 2

Medial Trapezius Location: Sidebend neck towards and rotate away from hypertonic side.

Lateral Trapezius Location: Sidebend neck toward hypertonic side with 170 degrees of flexion and cephalad traction.

Treatment position 1

Treatment position 2
Palpate for upper posterior cervical counterstrain points along the transverse processes of the cervical spine. Palpate for tenderpoints.

Posterior points are treated with extension, sidebending and rotation on the same side of hypertonicity. “Fold and hold” for 90 seconds.
HVLA of upper cervicals & OA (occipital atlanto joint) OK for tension, avoid with acute migraine

OA Myofascial Release
Myofascial Release of Cranial Region
80-90% of upper respiratory tract infections are viral.

Offer OMT and avoid inappropriate antibiotic prescriptions for your patients.

This will provide a unique treatment approach as a DO in addition to standard of care.

Humanistic benefit of improving the doctor-patient relationship with OMT.
Thoracic Outlet Release

- Helps improve thoracic region facial restrictions which will aid in the drainage of lymph from the head and neck.
- Place your hands on the patient’s thoracic inlet with your thumbs contacting the posterior portion of the transverse process of T2 and the head of the 2nd rib.
- Your index fingers should contact the sternoclavicular joint and your middle fingers should contact the 2nd rib.
- Your ring fingers and pinkies should lie between the clavicle and 1st rib.
- The palm of your hand rests on the apex of the thoracic inlet.
- Move the tissues into the direction of the restrictive barrier in all planes of motion. This may be a very small amount of motion.
- Wait for an inherent relaxation/release of the tissues. If the tissues are slow to respond, have the patient take three large breaths and follow the release through the exhalations.
Rib Raising

- Indication: Pneumonia, bronchitis, URI.
- Objective: Increased rib motion with improved respiratory inhalation and exhalation phase movement allowing for expectoration and improved oxygenation.
- Stimulates the sympathetic chain ganglion which helps balance the dysfunctional autonomic tone.
- Patient supine and physician seated at side of table.
- Place the fingertips of both hands under the thoracic region of the patient on the spinous processes. Slowly slide your fingertips laterally pulling the paraspinal muscles (Erector spinae) laterally. This will put you onto the costo-transverse articulations, where the rib meets the vertebra.
- Engage in a gentle anterior motion using the finder pads of your digits.
Lymphatic Pump Technique

- Improve lymphatic flow and fluid exchange.
- Lymphatic pump technique utilizes the elastic recoil of the thoracic cage to create an abrupt inhalation. This inhalation creates a negative intrathoracic pressure which mobilizes lymph fluid and aids in expectoration of bronchial secretions.

  - **Patient Position:** Supine.
  - **Physician Position:** Standing at the head of the table.
  - **Procedure:**
    - Place your hands on the patient’s thoracic wall with the thenar eminence of each hand just distal to the respective clavicle, with the fingers spreading out over the chest wall. In the female patient move hands more superior to avoid breast tissue.
    - Have the patient inhale and exhale with their head turned to one side and their mouth open.
    - As the patient breathes apply a compressive force through your arms, following exhalation and resisting inhalation.
    - With each breath, resist inhalation and follow exhalation. Maintain your pressure at the end position of the previous exhalation and resist inhalation on the next cycle. One-third of the way through the 4th or 5th inhalation, briskly remove your hands, thereby releasing the pressure from the chest.
    - As the patient quickly inhales, this creates a vacuum or negative intrathoracic pressure within the thoracic cavity. You may hear an inspiratory whoop or induce a cough helping expectoration.
Lymphatic Pump Technique

Otitis Media
Otitis Media

- The most common reason for childhood illness visits to primary care, accounting for 16 million annual office visits.
- Acute otitis media is usually a complication of eustachian tube dysfunction that occurs during a viral upper respiratory tract infection.
- *Streptococcus pneumoniae*, *Haemophilus influenzae*, and *Moraxella catarrhalis* are the most common organisms isolated from middle ear fluid.
- Management of acute otitis media should begin with adequate analgesia. Antibiotic therapy can be deferred in children two years or older with mild symptoms.
- Antibiotics, decongestants, or nasal steroids do not hasten the clearance of middle ear fluid and are not recommended for this purpose.

GALBREATH TECHNIQUE

- **Dysfunction:** Otitis Media - chronic, acute, or serous
- **Objective:** To drain the middle ear eustachian tube and improve aeration.
- **Discussion:** The middle ear can be drained by intermittently opening the eustachian tube. This can be achieved by mobilization of the mandible, which affects the soft tissue structures that lie in close relation to the eustachian tube.
- **Patient Position:** Lying supine with the head turned 45 degrees away with the affected ear up.
- **Physician Position:** Seated at the side of the table
The physician’s cephalad hand is placed on the patient’s forehead.
The physician’s contacts the anterior and posterior border of the SCM between his thumb and 2nd digit with his caudal hand.
The physician places a superior traction with his cephalad hand and a gentle inferior pressure with his caudal hand.
This motion is repeated every 3-5 seconds over 30-60 seconds.
The motion will encourage opening of the eustacian tube and thus drainage of the middle ear and allow for lymphatic drainage of the anterior and posterior cervical lymph node chain.
Sinusitis

- Sinusitis affects 30-40 million people per year
- Cost > $5.8 billion per year
- Frequent overantibiotic use due to viral etiology.
  - 16 million office visits per year
- Associated with pain and discomfort
- Many parents seek adjunctive care
  - Antihistamines
  - Topical nasal steroids
  - Decongestants
  - Saline rinse & Neti pot
- Goal of OMT is to encourage drainage
SINUS PERCUSSION OF THE FRONTAL AND MAXILLARY SINUSES

- **Dysfunction:** Congestion of the paranasal sinuses.
- **Objective:** Improve drainage of the sinuses.
- **Discussion:** Percussion of the superficial sinuses allows for decongestion of these areas via concussive waves. These waves help to loosen and liquefy the thick mucus, thus allowing the mucus to drain from the sinuses.
- **Patient Position:** Lying supine.
- **Physician Position:** Seated or standing at the head of the table.
- **Procedure:**
  - The physician gently percusses the frontal bone over the sinuses bilaterally, using his/her fingertips or using the thumbs with gentle pressure.
  - The physician moves inferior to the maxillary bone and sinuses applying the same principle.
Frontal Lift

- Interface fingers above metopic suture
- Place hypothenar eminences on the lateral angles near the coronal sutures
- **Action:**
  - Using the fingers as calipers
  - Compress lateral angles medially
  - Disengage (lift) the frontals from the parietals
  - Lift the frontal bone anteriorly to decompress and drain the frontal sinuses.
Osteopathic Medicine

- Increases patient wellness.
- Improves patient care.
- Distinguishes your practice from others.
- Generates many new patient referrals.
- Can be used to aid in diagnosis.
- Is what we were all trained to practice.

References

- Deyo, RA, Rainville, J, Kent, DL. What can the history and physical examination tell us about low back pain? JAMA 1992; 268:768.
- Shekelle Paul G, MD MPH et al., Spinal Manipulation for Low Back Pain, Annals of Internal Medicine, 1 October 1992, Volume 117, No7, pp. 590-598
References

- Godfrey Charles M, MA MD FRCP et al., A Randomized Trial of Manipulation For Low Back Pain in a Medical Setting, SPINE, Vol.9, 301-4, 1984
- Darrell J. Gaskin. The Economic Cost of Pain in the U.S.A. Ph.D. and Patrick Richard, Ph.D., M.A.