Facilitator's Guide

Section I: OMM Case Presentation. Prior to the next OMM session Residents should read the case below and be prepared to discuss the questions in Section II

Case Presentation

Chief Complaint:

Headache

Patient History:
This is a 47 year-old white female who complains of headache in the midline of the occipital region, present since early morning 3 days previous. The headache is constant and burning with occasional sharp, stabbing pains. The patient has a history of multiple sclerosis, and reports similar headaches in the past, but never with this much pain or sudden onset. The patient also reports a history of migraines and diabetes type 2. She has been treated with IV morphine sulfate and ketorolac (Toradol) with some improvement. However, she continues to complain of significant occipital pain. She reports both photophobia and photophobia with these headaches

Past Medical History:
Multiple sclerosis (MS), diabetes mellitus type 2, migraines, history of breast lumps/nodules, and history of anterior chest wall abscess which cultured positive for methicillin-resistant staphylococcus aureus (MRSA).

Past Surgical History:
Hysterectomy in 1987, cholecystectomy in 1988, and bladder surgery in 2002.

Family History:
The patient's father suffered from hypertension, congestive heart failure, osteoarthritis, and coronary artery disease. He died at the age of 68 from a myocardial infarction. Patient's mother is still living and suffers only from diabetes mellitus type 2.

Social History:
The patient is a 33 pack-year-history cigarette smoker (one pack/day since the age of 14 years). She denies any history or current use of alcohol or illicit drugs. She is a retired RN who worked 8 years in a nursing home and 20 in hospital acute care.

Allergies:
TRIMETHOPRIM SULFAMETHOXAZOLE (BACTRIM) and CLARITHROMYCIN (BIAXIN), both of which cause hives.

Lab Tests & Results:
None noted

Meds:
Toradol, Metformin, Darvocet (prn)

Review of Systems

Constitutional*:* Chronic pain complaints

Skin*:* non-contributory

Blood/Lymph/ Endocrine*:* non-contributory

ENT*:* non-contributory

Eyes: She reports both photophobia and photophobia with these headaches

Cardiovascular*:* non-contributory

Pulmonary: non-contributory

GI*:* non-contributory

GU: non-contributory

Musculoskeletal*:* Chronic complaints of muscle stiffness along with neck and head pain.

Neurologic*:* History of migraines and headaches secondary to flair-up of her MS. Patient also will experience numbness and tingling in her face and hands periodically.

Psychiatric*:* non-contributory

Physical Exam

Vitals*:* BP 142/87; HR 87; RR 16; Temp 98.9; SpO2 99% RA

General: WD/WN WF NAD, but obvious pain secondary to HA

Head*:* Normocephalic and atraumatic

Eyes: Pupils equal, round, and reactive to light. Extra-ocular muscles are intact.

ENT: External auditory canals are patent without erythema or exudates with the tympanic membranes clearly visualized having good color and position. Nasal passages are fully patent with the nasal septum midline and the mucosa pink, moist, and without edema. The oropharynx is without erythema, edema, or drainage.

Neck: The neck is supple, non-tender, and without nodules or lymphadenopathy noted. There are no carotid bruits auscultated.

Chest Wall: Symmetrical movement bilaterally

CV: The heart has a regular rate and rhythm without murmur, rub, click, or gallop noted. Carotid, radial, and pedal pulses are strong and equal bilaterally.

OMM Focused Structural Exam

- The patient was examined in the sitting and supine positions.
- Tissue texture changes are evident in the paraspinal muscles or the cervical, thoracic, and lumbar spines.
- Posterior C1 tender points are palpated bilaterally. Trigger points are elicited bilaterally in the Semispinalis Capitis muscles with referred pain into the shoulders.
- The OA is FSRRL with the flexion component most significant. The AA is rotated right. Tenderness is palpated over the lateral mass at C1 and C2. Pressure on the greater occipital nerve reproduces some of the headache. Also, C3 is FRSL with C4 ERSR.
- In the thoracic region, T3 is F, RSR with T4 – T7 NSLRR.
- Rib #3 on the right is posterior.

Assessment:

Be prepared to discuss this at the OMM session.

- Indicate the primary Medical Diagnosis based upon the international Classification of Diseases (ICD-9). This justifies the Evaluation and Management (E&M) coding portion of the visit.
- List all secondary, co-morbid, and complicating factor diagnoses in order of importance. Itemize somatic dysfunction diagnosis for each body region treated using OMT. This justifies reimbursement for OMT.
- Be prepared to discuss management of typical comorbid and complicating factors associated with the patient's diagnosis and how management and treatment would be modified with each comorbid and complicating factor.

***Respiratory**:* The lungs are clear to auscultation in the upper and lower fields bilaterally. Breathing is unlabored and there are no retractions or accessory muscle use.

Diaphragm: Good movement bilaterally

GI: BS x 4, soft, nontender to palpation

***GU**:* Deferred

***Musculoskeletal**:* See Osteopathic exam below. Muscle strength is 5/5 and symmetric in the upper and lower extremities. Extremities are without focal sensory or motor deficits.

***Neurologic**:* Cranial Nerves II – XII are grossly intact without lateralizing signs. Deep tendon reflexes are slightly increased but are symmetrical in the upper and lower extremities.

Lymphatic: No peripheral edema noted

Section II: Focus of the Case *(approximate time 20–30 minutes)*

Discussion Questions	**Teaching Points**
1. Propose an appropriate differential diagnosis / assessment	Differential Diagnoses: 1. C2–C3 subluxation/arthropathy 2. C2–C3 radiculopathy 3. Migraine headache 4. Cluster headache 5. Tension-type headache 6. Tumor (e.g., posterior fossa) 7. Cervicogenic Headache 8. Congenital or acquired abnormalities at the craniocervical junction (e.g., Arnold-Chiari malformation or basilar invagination) 9. Rheumatoid arthritis 10. Atlantoaxial subluxation 11. Cervical myelopathy 12. Pott's disease/osteomyelitis 13. Paget's disease
2. What is your final diagnosis?	**Primary Diagnosis:** Occipital neuralgia **Secondary Diagnosis:** Tension headache neck pain MS DM Type II **Somatic dysfunction related to diagnosis:** Head, Cervical, Thoracic, and Ribs

3. How do you explain the current structural findings in the context of this case? • Are any relevant structural findings missing? • What would you do differently? • Why?	• Somato-somatic reflexes, manifesting as myofascial changes and somatic dysfunctions. • Missing findings include muscle tightness in the trapezius and deep musculature of the cervical/suboccipital region, and evaluation of the CRI, TMJ, and neck fascia. • These areas need to be addressed
4. What pathophysiology & functional anatomy knowledge is pertinent for diagnosing/treating this patient	**<u>Pathophysiology</u>** and **<u>Functional Anatomy</u>** • The ***greater occipital nerve*** is the largest purely afferent nerve in the body, innervating the posterior skull from the suboccipital area to the vertex. • It is formed from the posterior division of the second cervical nerve. • Within the substantia gelatinosa of the spinal cord, the afferent fibers from this nerve lie in close approximation to the nucleus and spinal tract of the trigeminal nerve. • Rather than exiting through a discrete spinal foramen, the nerve leaves the bony spinal column between the arch of the atlas and axis. • It travels inferolaterally toward the area of the C2–C3 zygapophyseal (facet) joint and then curves around the inferior oblique capitis muscle to ascend toward the occiput deep to the semispinalis capitis muscle. • It pierces either through the tendinous insertion of the trapezius muscle or between the trapezius and semispinalis muscles to reach the subcutaneous tissue of the occipital area. • The site of perforation through these muscles is located just medial to the occipital artery. --- • The ***lesser* occipital *nerve*** forms from the anterior divisions of the second and third cervical nerves. • It ascends along the posterior margin of the sternocleidomastoid muscle, where it provides sensory fibers to the area of the scalp lateral to the greater occipital nerve.
5. What will be your highest yield regions?	Head, cervical, thoracic. and ribcage regions
6. How does previous trauma influence these regions?	There is no recorded trauma history. However, trauma has to be considered as an inciting event.

7. Which 1 or 2 of the aspects below has the greatest influence on the patient complaint? • Pain • Fluid congestion • Hyper-sympathetic influence • Parasympathetic influence	***Pain*** ***Fluid congestion*** All of these aspects have significant influence on the primary complaint. All of them are also modified by the patient's comorbidities.
8. What are the acute or chronic aspects?	**Acute:** headache **Chronic:** suffering from MS, DM, migraines, and any possible trauma history
9. Devise an appropriate treatment plan based on musculoskeletal components involved in the patient complaint	**Goals for OMM Management:** • Physical and manual modes of therapy are important therapeutic modalities for the acute rehabilitation of cervicogenic headache. • A controlled trial testing the effectiveness of therapeutic exercise and manipulative treatment for cases of cervicogenic headache found that efficacy was not substantially affected by age, gender, or headache chronicity in patients with moderate to severe pain intensity. This finding suggests that all patients with cervicogenic headache could benefit from manual modes of therapy and physical conditioning. **The treatment plan could include:** • Osteopathic manipulative techniques such as craniosacral, strain-counter strain, and muscle energy techniques are particularly well suited for the management of cervicogenic headache. • High velocity, low amplitude manipulation can be carefully used in some patients, though it is not unusual to observe an increase in headache intensity after manual modes of therapy of this type, especially if it is delivered too vigorously. • Physical treatment modalities are generally better tolerated when initiated with gentle muscle stretching and manual cervical traction. • Therapy can be slowly advanced as tolerated to include strengthening and aerobic conditioning. Using anesthetic blockade and neurolytic procedures for temporary pain relief can enhance the efficacy and advancement of physical modes of therapy.
10. How soon would you see the patient for OMM follow-up?	• A review of the medical literature suggested that the efficacy of physical treatment modalities for the long-term prevention and control of headaches appears greatest in patients who are involved in ongoing exercise and physical conditioning programs. • Dosing should be dependent upon patient response.

11. What are the outpatient, inpatient, and emergency room considerations?	See # 9 above This is an outpatient case. It is important that the patient fully participates in her care and undertakes the exercise and stretching and strengthening regimens recommended to effect long-term change and increase in function.
12. How are you going to talk to your patient about their complaint and your treatment?	• With compassion and speaking in clear, easily understandable terms. • Emphasize the patient's partnership in her health care • Emphasize a strong belief in the patient's power to effect change, especially in consideration of the fact that her multiple sclerosis may cause her times of feeling powerless over her body

13. How will you communicate your findings, diagnosis, and rationale for OMM treatment to your preceptor?	• Clearly, concisely, with emphasis on pertinent positives and negatives from medical, family, and social histories. Considerations for treatment options, management goals, and long-term outcomes/prognosis. • Any questions or concerns I have will also be addressed with my attending at that time.
14. What coding and billing information for evaluation and management and procedural services will you generate? **(See Chart below)**	• The diagnosis of somatic dysfunction in the assessment justifies the use of OMT • Somatic dysfunction diagnosis must be present in order to bill for the OMT that was performed. OMT is considered a procedure. • Documentation must reflect that the decision to perform OMT was made on that visit based on the physical findings and OMT was used for somatic dysfunction(s) identified • The procedure (OMT) and the E/M visit may both be billed with the same diagnosis code and during the same encounter if the decision to perform the procedure was made at the time of the encounter. Modifier -25 is used with the E/M code <u>You must have a non-somatic dysfunction diagnosis included for this case</u>
15. How would you record your encounter and OMT on your patient care logs?	Enter patient data, diagnosis date, and any special comments.

99253- Inpatient Consultation-detailed

Procedure Services: Osteopathic Manipulative Treatment		
	Code	**Description**
	98925	Manipulation, 1-2 areas
X	98926	Manipulation, 3-4 areas
	98927	Manipulation, 5-6 areas
	98928	Manipulation, 7-8 areas
	98929	Manipulation, 9-10 areas

CPT Diagnostic Codes: Rank in order of Importance

Diagnosis		**Somatic Dysfunction**					
Code	Description		Code	Description		Code	Description
729.2	Occipital Neuralgia	X	739.0	Head		739.5	Hip/Pelvis
307.81	Tension Headache	X	739.1	Cervical		739.6	Lower Extremity
723.1	Neck Pain	X	739.2	Thoracic		739.7	Upper Extremity
			739.3	Lumbar	X	739.8	Rib
			739.4	Sacrum/Sacroiliac		739.9	Abdomen

16. **What is the Evidence Base?**

Biondi, David M. **Cervicogenic Headache: A Review of Diagnostic and Treatment Strategies**,

J Am Osteopath Assoc, Apr 2005; 105: 16S - 22S.

Frontera **Essentials of Physical Medicine and Rehabilitation, 1st ed.,** Copyright © 2002 Hanley and Belfus)

Search for the best evidence references:

An appraisal of the osteopathic literature is critical to ensure the osteopathic paradigm is foremost in the philosophical application of information to patient care. Search of relevant and associated data from the osteopathic literature:

OstMed-Dr (http://www.ostmed-dr.com:8080/vital/access/manager/Index)

Other literature bases (systems or synopsis engines):

- Poems (www.infopoems.com)
- Family Practice Inquiry Network (www.fpin.org)
- PubMed
- Ovid
- Google Scholar

Section III: Workshop/Lab (approximate time 60 minutes)

Facilitator demonstrates the key treatment techniques.

1. Participants divide into groups at the table
2. At each table, discuss and practice the appropriate palpatory diagnosis for this patient
3. Facilitator demonstrates the key treatment techniques:
4. Participants should practice the following techniques on each other:
   - Craniosacral, strain-counter strain, and muscle energy techniques
   - Gentle muscle stretching and manual cervical traction.
5. At each table, while the techniques are being practices:
   a. Identify and practice good body mechanics for the physician and patient in treatment
   b. Discuss the treatment plan
   c. Discuss what palpatory findings should change on the patient after OMM treatment

6. **Documentation**

Residents demonstrate an appropriate documentation of this case including findings and treatment here...

Section IV: Final Wrap-up and Questions/Answers