

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: "I have horrible pain in the area behind my left ear wrapping around my left shoulder blade."

Patient History: A 60 year old Caucasian female presents with a chief complaint of pain behind the left ear wrapping around to the shoulder blade, with a feeling of fullness in the ear. She cannot describe very well how this pain started but she states that about 20 years ago she was gardening and felt like something bit her, though she never saw an insect or bite mark. Within the next couple of days she lost her appetite, developed hives, felt as if her tongue was swelling, had sweats and chills, was unable to get out of bed due to exhaustion and had generalized body aches and a severe headache.

When these symptoms persisted for a few months she was diagnosed with chronic fatigue syndrome. Subsequently the diagnosis was changed to chronic fatigue immune deficiency syndrome and then changed again to fibromyalgia. She does report that since the initial illness, she has had chronic aches and pains diffusely throughout her body. She describes her normal pain as constant, but bearable and being able to work around it. She notes firm touch on the upper arm, over her hips, and knees are quite painful. She rarely, if ever, experiences a restful night's sleep and always awakens feeling fatigued and "un-refreshed".

About 4 times a year she has an "episode." With these she reports being unable to get out of bed, being so overwhelmingly fatigued that she can barely get herself up to use the restroom. During these times, she sometimes goes 20 hours without sleep due to pain, then sleeps 14 hours without awakening. She states that she can't remember conversations well and it is nearly impossible to concentrate. She often reads to fill her time, but during an episode, reading hurts her head too much and she can't remember what she has read. She says that episodes such as this usually last about 2 weeks. Usually they are brought on by a period of increased activity such as having house guests, traveling, or when she does a lot of housework, shopping, yard work, etc. She reports occasional episodes of "being down."

Past Medical History: usual childhood diseases (chicken pox, mumps, measles, rubella), chronic bronchitis as a child, mononucleosis in college, endometriosis, infertility/decreased fertility, hypertension, hypothyroidism, arthritis, hyperlipidemia, hypercholesterolemia, autoimmune hepatitis, irritable bowel syndrome, muscle cramps in lower extremities, partial retinal detachment in right eye, obesity and deconditioning, psoriasis, fibromyalgia, seasonal allergies

Past Surgical History: tonsillectomy and adenoidectomy, wisdom tooth extraction, root canal X 4 with crown placement, appendectomy, exploratory laparotomy with endometriosis implant removal, total abdominal hysterectomy with bilateral salpingo-oophorectomy (with ¼ right ovary remaining), great hallux distal phalangeal joint removal

Trauma History: trampoline accident in childhood where she fell off the trampoline and landed on her neck, with the trampoline landing on top of her, passenger in motor vehicle collision in 1977, 1987, 2005—no hospitalizations, all causing "whiplash" and generalized aches, fall down bleachers at a hockey game causing 2 rib fractures, "black eye", and sprained ankle requiring use of crutches in 2002

Family History: Mother, alive, 79—arthritis, hypertension, peroneal neuropathy, hyperlipidemia. Father, alive, 80—numerous squamous cell carcinomas removed by dermatologist, hepatitis- type unknown, recently diagnosed hypertension. Sister, alive, 57—hypertension, hyperlipidemia, asthma, spinal stenosis. Maternal grandparents: deceased—grandfather, dementia, early onset; grandmother, 99, natural causes. Paternal grandparents: deceased—grandmother, 50s, myasthenia gravis; grandfather, 87, natural causes. Daughter, alive and well, 30. Son, adopted, 27.

Social History: Married for more than 30 years. She is retired. She has a bachelor's degree in early childhood

education. She was the director of a Head Start program with 400 students as well as a home-based outreach program. She has a biological daughter and an adopted son who are both grown and live out of state. She denies use of tobacco products and illicit drugs. She uses alcohol only rarely—usually a glass of wine at holidays. She does not exercise at all. Since she is retired, she rarely leaves the house.

Allergies: Demerol causes HIVES and VOMITING, penicillin causes HIVES.

Meds: Zocor (simvastatin) 40 mg PO q HS, Norvasc (amlodipine) 5 mg PO q d, Cymbalta 20 mg PO bid, (duloxetine), Ambien (zolpidem) 5 mg PO q HS prn sleeplessness, Zetia (ezetimibe) 10 mg PO q d, Celebrex (celecoxib) 100 mg PO bid prn pain, Valium (diazepam) 2 mg PO q HS, Sinequan (doxepin) 75 mg PO q HS, Skelaxin (metaxalone) 800 mg PO tid prn muscle spasm, Zyrtec (cetirizine) 5 mg PO q d, Microzide (HCTZ) 12.5 mg PO q d, Synthroid (levothyroxine) 125 mcg PO q d

Review of Systems

Constitutional: The patient states that she usually feels fatigued and has low energy, but states that she is accustomed to it and copes. She admits to getting ill easily. She admits to slow steady weight gain over the years. She denies fever or chills, admits to night sweats.

Respiratory: Admits to shortness of breath when exposed to smoke and also on days with high mold or pollen counts. Admits to a history of recurrent bronchitis. Admits to diagnosis of mild obstructive sleep apnea based on polysomnography. Denies asthma, hemoptysis, or COPD.

Cardiovascular: Admits to hypertension, mitral valve prolapse, heart murmur. Denies peripheral vascular disease, carotid stenosis, history of MI.

GI: Admits to irritable bowel, usually with issues of diarrhea that she controls with fiber therapy. Denies reflux, ulcers, melena, or hematochezia. She has had colonoscopy 5 years ago, with no abnormalities.

Musculoskeletal: Admits to generalized aches and pains bilaterally that have been present for about 20 years, arthritis, fibromyalgia. Denies Lyme disease, rheumatoid arthritis, MS, scleroderma.

Neurologic: Admits to headaches, sensation of formication in the legs when she is having an “episode”. Denies seizures, migraines, paresthesias, radicular symptoms.

Eyes: Admits to history of partially detached retina in right eye, wears corrective lenses. Denies glaucoma, macular degeneration.

ENT: Admits to feeling of fullness in the ears, tinnitus, chronic sinusitis, chronic post nasal drip, occasionally causing sore throat and hoarseness. Denies vertigo, loss of hearing.

Psychiatric: Denies depression, anxiety, or bipolar disorder. Denies obsessive compulsive disorder or schizophrenia.

Blood/Lymph/Endocrine: Admits to autoimmune hepatitis, hypothyroidism, swollen cervical lymph nodes. Denies leukemia, lymphoma, diabetes, lymphedema.

Skin: Admits to psoriasis, eczema. Denies cancers, scleroderma, connective tissue disorders.

GU: Admits to history of infertility with medical fertility therapy, endometriosis, ovarian cysts, menopausal. Denies chronic UTIs, cystitis, kidney problems, frequency, burning, hesitation.

Physical Exam

Vitals: BP: 124/72, HR: 75, RR: 16, Ht: 5'3", Wt: 250 lbs, BMI: 44.3

General: 60 year old Caucasian female who appears her stated age. She is alert and oriented X 3 and in no apparent distress.

Head: Normocephalic, atraumatic, no lacerations or bruising.

Eyes: No redness, conjunctival irritation or discharge noted. No papilledema. Extraocular muscles intact. Wearing trifocal glasses.

ENT: Tympanic membranes intact without fluid level, ear canals clear and free of wax. Nasal passages clear and pale, turbinates mildly edematous. Throat shows cobblestoning with post-nasal drip, no erythema, no sores, no edema of tonsillar pillars or uvula.

CV: Heart rate and rhythm regular with a grade II/VI early systolic murmur auscultated. Pulses present and equal bilaterally at dorsalis pedis, radial artery, and carotid arteries. No carotid bruits auscultated.

Respiratory: Lungs clear to auscultation bilaterally in all fields.

GI: Abdomen obese, soft, non-tender to palpation, no guarding or rebound. Bowel sounds present in all four quadrants.

GU: Patient refused. Reports most recent annual exam was two weeks ago and was "normal" with regular gynecologist.

Neurologic: CN II-XII intact. DTRs: 2/4 bilaterally in upper and lower extremities. Sensation intact bilaterally. Gait demonstrates hip stiffness, but normal stability and balance. Muscle strength 5/5 in lower extremities, 4/5 in upper extremities—patient reports pain at site where doctor was offering resistance which limited her ability to demonstrate muscle strength.

OMM Focused Structural Exam

Patient was evaluated in the seated and supine positions. Sphenobasilar synchondrosis compression, OA E, S_{RR}L, C₂₋₄ E, S_{RL}, hypertonicity of levator scapulae, trapezius bilaterally, and anterior chest wall musculature, T₁₋₃ NS_{LR}R, T₄ FSR_R, T₉₋₁₂ NR_{LS}R, L₁₋₄ NS_{LR}R, L₅ FSR_L. Sacrum right unilateral sacral flexion. Posteriorly rotated left innominate. Femoroacetabular joint- restricted range of motion in internal and external rotation and extension. Marked hamstring hypertonicity and restriction. Posterior fibular head on the right lower extremity. Inversion of the navicular on the left lower extremity. General forward head carriage with increased kyphosis from thoracic vertebral segments T₄ to T₁₀. Pain elicited with 4 kg of pressure at: base of occiput bilaterally, bilateral trapezius muscles, left low cervical muscles, bilateral lateral epicondyles, right gluteal muscle, right greater trochanter, and bilateral knees.

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 comorbid 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.

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

Discussion Questions

Teaching Points

<p>1. Propose an appropriate differential diagnosis / assessment</p>	<p>Differential Diagnoses:</p> <ol style="list-style-type: none"> 1. Fibromyalgia 2. Psoriatic Arthritis 3. Rheumatoid Arthritis 4. Polymyalgia Rheumatica 5. Statin Induced polymyalgia 6. Multiple sclerosis 7. Lyme disease 8. Epstein Barr 9. Osteoarthritis 10. Myofascial pain syndrome 11. Chronic fatigue syndrome 12. Major depression with somatic features
<p>2. What is your final diagnosis?</p>	<ul style="list-style-type: none"> • Primary Diagnosis: Fibromyalgia • Secondary Diagnosis: Obesity, Irritable bowel syndrome, Insomnia, Hypothyroidism • Somatic dysfunction related to diagnosis: Cranium, Cervical, Thoracic, Lumbar spine, Sacrum, Pelvis, Lower Extremity
<p>3. How do you explain the current structural findings in the context of this case?</p> <ul style="list-style-type: none"> • Are any relevant structural findings missing? • What would you do differently? • Why? 	<ul style="list-style-type: none"> - Postural abnormalities due to guarding tenderpoints and deconditioning - OA and thoracic dysfunction- viscerosomatic reflex due to autonomic dysregulation - Tenderpoints as defined by the American College of Rheumatologists as standard for fibromyalgia
<p>4. What pathophysiology & functional anatomy knowledge is pertinent for diagnosing/treating this patient</p>	<ul style="list-style-type: none"> • Pathophysiology— Dysregulation of the autonomic nervous system • Dysregulation of the neuroendocrine axis <ul style="list-style-type: none"> --elevated levels of substance P, altered levels of serotonin, decreased levels of growth hormone, and cortisol • Alterations in the sleep cycle <ul style="list-style-type: none"> --non-REM phase disturbance with intrusions of alpha waves --infrequent progression to stages 3 and 4 sleep

<p>5. What will be your highest yield regions?</p>	<p>The highest yield regions will be the thoracic spine, the OA, and sacrum for normalizing the autonomics. Another key treatment would include biodynamic balancing in order to further normalize autonomics and cranial rhythm.</p>
<p>6. How does previous trauma influence these regions?</p>	<p>Previous trauma could contribute to the cervical pain and stiffness. Previous trauma also may be the inciting factor for development of fibromyalgia.</p>

<p>7. Which 1 or 2 of the aspects below has the greatest influence on the patient complaint?</p> <ul style="list-style-type: none"> • Pain • Fluid congestion • Hyper-sympathetic influence • Parasympathetic influence 	<p>--Parasympathetic and sympathetic dysregulation --Biomechanical factors --Pain --Fluid congestion --Psychosocial factors All the aspects are affected by comorbidities.</p>
<p>8. What are the acute or chronic aspects?</p>	<p>Acute aspects include the ear pain into the shoulder. Chronic aspects include the pain, sleep disturbance, hypothyroidism, the deconditioning, and the psychological factors from feeling unwell for a long period of time.</p>
<p>9. Devise an appropriate treatment plan based on musculoskeletal components involved in the patient complaint</p>	<p>Goals for OMM Management:</p> <ul style="list-style-type: none"> • Modify autonomic input • Treat somatic dysfunction • Alleviate/reduce pain • Decrease congestion • Restore normal motion <p>The treatment plan could include:</p> <ul style="list-style-type: none"> • Exercise prescription • Self-stretching and strengthening exercises to reduce lordosis and development of postural strain • Cranial techniques • OA condylar decompression • HVLA to the cervical, thoracic, and lumbar spine. Alternatively, indirect techniques, muscle energy techniques, could be considered. • Muscle energy to sacrum and pelvis. • Articular techniques to the feet • Counterstrain <p>Biodynamic rebalancing</p>

<p>10. How soon would you see the patient for OMM follow-up?</p>	<ul style="list-style-type: none"> It is important to address the somatic dysfunctions and establish then maintain normalization of autonomic. Initially it may be appropriate to treat every 2 weeks. It is also important to avoid the trap of over treating by attempting to alleviate all pain.
<p>11. What are the outpatient, inpatient, and emergency room considerations?</p>	<p>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.</p>
<p>12. How are you going to talk to your patient about their complaint and your treatment?</p>	<ul style="list-style-type: none"> 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 fibromyalgia may cause her times of feeling powerless over her body Short term goals include starting an exercise program Long term goals include eliciting from the patient any psychological traumas that could have been the inciting event for the development of her fibromyalgia
<p>13. How will you communicate your findings, diagnosis, and rationale for OMM treatment to your preceptor?</p>	<ul style="list-style-type: none"> 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.
<p>14. What coding and billing information for evaluation and management and procedural services will you generate?</p>	<ul style="list-style-type: none"> 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
<p>15. How would you record your encounter and OMT on your patient care logs? (See OMT Procedure Services Chart pg.7)</p>	<p>Enter patient data, diagnosis date & any special comments</p>

Procedure Services: Osteopathic Manipulative Treatment							
Code		Description					
98925		Manipulation, 1-2 areas					
98926		Manipulation, 3-4 areas					
98927		Manipulation, 5-6 areas					
x	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
		x	739.0	Head	x	739.5	Hip/Pelvis
		x	739.1	Cervical	x	739.6	Lower Extremity
		x	739.2	Thoracic	x	739.7	Upper Extremity
		x	739.3	Lumbar		739.8	Rib
		x	739.4	Sacrum/Sacroiliac		739.9	Abdomen

16. What is the Evidence Base?

- American Academy of Family Physicians: <http://www.aafp.org/afp/20001001/1575.html>
- American College of Rheumatologists: <http://www.nfra.net/default.htm>
- Centers for Disease Control: <http://www.cdc.org>
- The Kimberly Manual, 2006 edition by Paul Kimberly, DO.
- Ruben, Bernard R. Foundations for Osteopathic Medicine. 1997. Williams & Wilkins, 351 Camden Street, Baltimore, MD 21201. Ch. 38.
- Rubin BR, Cortez CA, Gamber R, Shores J. Treatment options in fibromyalgia syndrome. *JAOA*. 1990;90(9):844
- Rubin BR, Gamber R, Shores J, Davis G, Cortez C. The effect of treatment options on perceived pain in fibromyalgia syndrome. *Arthritis Rheum*. 1991;34(5):R33
- Lo KS, Kuchera ML, Preston SC, Jackson RW. Osteopathic manipulative treatment in fibromyalgia syndrome. *JAOA*. 1992;92(9):177.
- Chaitow, Leon. Fibromyalgia Syndrome—A Practitioner’s Guide to Treatment. Churchill Livingstone/Elsevier, 2003.

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.info poems.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
5. At each table, while the techniques are being practiced:
 - 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