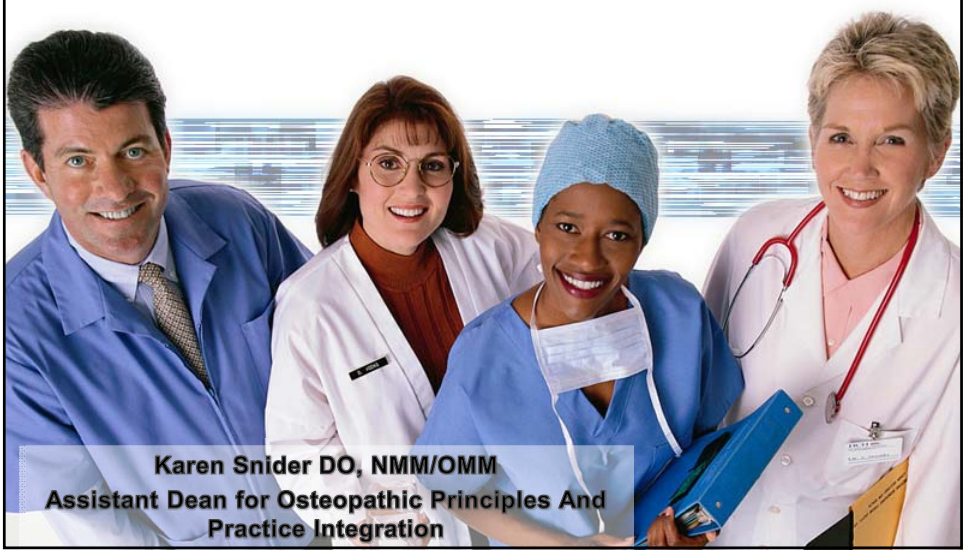
OSTEOPATHIC PRINCIPLES AND PRACTICE

3rd and 4th year Curriculum



Karen Snider DO, NMM/OMM
Assistant Dean for Osteopathic Principles And Practice Integration

Osteopathic Principles And Practice

OPP

The integration of osteopathic philosophy into health care practices, specifically:

- the concept of body unity
- the reciprocal nature of structure (anatomy) and function (physiology)
- and the use of **OMM** and **other interventions** to promote the body's self-healing and self-regulatory mechanisms

Osteopathic Education

OPP Integration

- 1st and 2nd year program
- 3rd and 4th year program
- OGME
- Preceptor CME

Competency Based

- ACCOM
- NBOME
- WHO

Supervised Clinical Experience

Osteopathic manipulative treatment is a distinctive component of osteopathy. It requires both cognitive and sensory motor skills, and knowledge, and the development of these clinical and manual skills requires time and practice.

Supervised clinical practice is an essential component of the training of osteopathic practitioners and should take place in an appropriate osteopathic clinical environment so that high-quality clinical support and teaching can be provided.

World Health Organization

Minimum of 1000 hours of supervised clinical practice.

Osteopathic Principles And Practice Course

Began July 1, 2015

3 semester online BlackBoard curriculum for 3rd and 4th years

1. Systems and special populations based learning Modules
2. Online MCQ Assessment for each Module
3. Manual medicine literature search assignment
4. **OMM Practice log**

OMM Diagnosis and Treatment Reviews

OPP Modules

Semester 5 July 1 – Dec 31, 2015
Introduction to OPP
Module 1 – Cardiovascular
Module 2 – Respiratory
Module 3 – Gastrointestinal
Literature review assignment
OMM Treatment Log

Semester 6 Jan 1 – June 30, 2016
Module 1 – Ob/Gyn
Module 2 – Musculoskeletal 1
Module 3 – Pediatric
Literature review assignment
OMM Treatment Log

Semester 7 July 1 – Dec 31, 2016
Module 1 – HENT
Module 2 – Surgery
Module 3 – Neurology
Module 4 – Musculoskeletal 2
Literature review assignment
OMM Treatment Log

OPP Modules

Semester 5

Module 1 - Introduction to OPP

Module 2 – Cardiovascular
- Osteopathic approach to lymphedema
- Osteopathic approach to myocardial infarction
- Osteopathic approach to congestive heart failure

Module 3 – Respiratory
- Osteopathic approach to pneumonia
- Osteopathic approach to COPD patient
- Osteopathic approach to asthma

Module 4 – Gastrointestinal
- Osteopathic approach to constipation
- Osteopathic approach to GERD
- Osteopathic approach to irritable bowel syndrome

Semester 6

Module 1 – Ob/Gyn
- Osteopathic approach to the dysmenorrhea
- Osteopathic approach to back pain in pregnancy
- Osteopathic approach to carpal tunnel in pregnancy

Module 2 – Pediatric
- Osteopathic approach to colic
- Osteopathic approach to plagiocephaly
- Osteopathic approach to torticollis
- Osteopathic approach to otitis media

Module 3 – Musculoskeletal 1
- Osteopathic approach to ankle sprains
- Osteopathic approach to knee osteoarthritis
- Osteopathic approach to mechanical LBP
- Osteopathic approach to plantar fasciitis
- Osteopathic approach to trochanteric bursitis

OPP Modules

Semester 7

Module 1 – HENT
- Osteopathic approach to vertigo
- Osteopathic approach to URI
- Osteopathic approach to TMJ pain

Module 2 – Surgery
- Osteopathic approach to the postoperative ileus
- Osteopathic approach to atelectasis
- Osteopathic approach to the post-CABG patient

Module 3 – Neurology
- Osteopathic approach to migraine and tension headaches
- Osteopathic approach to carpal tunnel syndrome
- Osteopathic approach to Thoracic outlet syndrome
- Osteopathic approach to cervical and lumbar radiculopathies

Module 4 - Musculoskeletal 2
- Osteopathic approach to De Quervain's Tenosynovitis
- Osteopathic approach to epicondylitis
- Osteopathic approach to mechanical neck pain
- Osteopathic approach to nurse maid's elbow
- Osteopathic approach to postural dysfunction
- Osteopathic approach to the shoulder enthesopathies

OPP Modules

Systems And Special Populations Based Modules

- 3-4 per semester
- Selected diagnoses
  - Overview and pathophysiology
  - Clinical Presentations
    - History, physical examination including assessment for somatic dysfunction
  - Differential Diagnoses
  - Workup
  - Management
    - Medical and surgical
    - OMM
    - Lifestyle
  - Relevant research articles provided for review
- **MCQ Online Assessment for each module** (20 items)

Osteopathic Approach to GERD

OPP

GERD

Definition

Gastroesophageal reflux disease (GERD) is a chronic digestive disease that occurs when an above average quantity of gastric juice irritates the esophagus. Defined as a least weekly heartburn or acid regurgitation.

Epidemiology

GERD prevalence is higher in western world at 10-20% of adults with 40% of U.S. adults experiencing heartburn at least once a month. Most patients with GERD self-treat with over-the-counter (OTC) medications.

Pathophysiology - Etiology

Reflux of stomach contents commonly occurs when the lower esophageal sphincter (LES) briefly relaxes because of a vagally mediated reflex that is stimulated by swallowing or gastric distention. The refluxed stomach contents are neutralized by weakly alkaline, swallowed saliva and cleared by esophageal peristalsis. GERD occurs when stomach acid flows back into the esophagus and overwhelms the esophagus's natural defenses. The esophagus is typically protected from stomach acid by the LES pressure creating a reflux barrier, esophageal motility clearing contents from the esophagus, and esophageal epithelial defenses such as tight intercellular junctions. Reflux can occur when the LES pressure is insufficient to block stomach contents from refluxing into the esophagus.

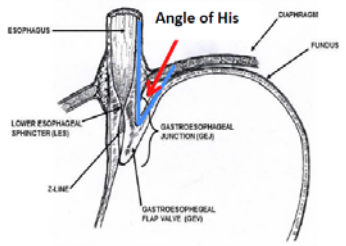
Normal digestion | Weak muscular ring allows fluids to reflux back into esophagus | Stomach bulging through hiatus in diaphragm

GERD

Pathophysiology –Etiology continued

LES pressure is decreased by

- Low LES resting tone or pressure
  Low resting tone of the LES may allow stomach contents to reflux during periods of elevated intra-abdominal pressure. Resting tone is also affected by the vagus nerve activity and local presence of acetylcholine and nitric oxide.
- Abnormal crural diaphragm tension
  Diaphragmatic muscle tension may affect the size and shape of the diaphragmatic hiatus through which the esophagus traverses
- Abnormal phrenoesophageal ligament tension
  The LES is attached to the crural diaphragm via phrenoesophageal ligament the and results in increased LES pressure during inspiration and increase intraabdominal pressure
- Abnormal angle of His
  The angle of His is the acute angle between the abdominal esophagus and the fundus of the stomach at the gastroesophageal junction. This angle becomes obtuse in the presence of hiatal hernia creating a funnel effect directing stomach contents into the esophagus.



GERD

Pathophysiology – Risk Factors

- Obesity and recent weight gain (increased intraabdominal pressure)
- Pregnancy
- Symptom intensity decreases over 50 years of age
- Aging increases incidence of erosive esophagitis and Barrett's esophagitis
- Erosive esophagitis and Barrett's esophagitis more common in males
- Gender ratio for esophageal adenocarcinoma is 8:1 male to female

Clinical Manifestations

The classic symptoms of GERD are heartburn and acid regurgitation. Atypical symptoms include chest pain, dysphagia, and painful swallowing. Extraesophageal symptoms include cough, laryngitis, asthma, dental erosions, globus pharyngitis, recurrent sinusitis and otitis media, and idiopathic pulmonary fibrosis from recurrent aspiration. Alarm symptoms may indicate the presence of advanced disease such as esophagitis (including erosive and Barrett's esophagitis), ulceration, strictures, and adenocarcinoma. Alarm symptoms include symptoms refractory to treatment, dysphagia, weight loss, anemia, or GI bleeding (hematemesis or melena).

Physical Examination

Physical examination may reveal epigastric tenderness, abdominal diaphragm somatic dysfunction with myofascial restrictions in the epigastric area and TART findings in the T2-6 area due to viscerosomatic reflex changes.

GERD

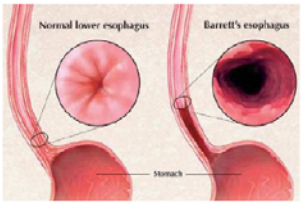
Diagnostic Testing

In the presence of typical symptoms of heartburn and GERD, a presumptive diagnosis of GERD may be made and empiric treatment may be initiated. In the presence of chest pain, cardiac causes should be excluded before GI evaluation.

- Upper Endoscopy
  Upper endoscopy is recommended in the presence of alarm symptoms and for screening of patients at high risk for complications. While most GERD patients have no mucosal damage seen on upper endoscopy, advanced disease may demonstrate as erosive esophagitis, fibrosis with strictures, and Barrett's esophagitis identified by biopsy revealing columnar metaplasia of the esophageal lining. Eosinophilic esophagitis, which may mimic GERD, is diagnosed as >15 eosinophils seen per high power field on mucosal biopsy in a patient who is refractory to proton pump inhibitor (PPI) treatment. Repeat endoscopy in patients without Barrett's esophagus is not recommended by the American College of Gastroenterology in the absence of new symptoms. Screening for *Helicobacter pylori* is not recommended in patients with GERD. Barium radiographs should not be performed for diagnosis of GERD.
- Esophageal Manometry
  Manometry uses a pressure sensitive tube to measure the pressures and patterns of muscular contractions throughout the esophagus. It is useful for detecting LES abnormalities and achalasia of the esophagus, but is not specific enough to diagnose GERD.
- Ambulatory Reflux Monitoring
  To measure how often gastric acid enters the esophagus, a small tube connected to a pH monitor is left in the esophagus for 24 hours. Decreased pH consistent with gastric acid reflux is very sensitive (77-100%) and specific (85-100%) for erosive esophagitis, but less sensitive and specific in patients with a visually normal upper endoscopy.

Differential Diagnosis

- Achalasia
- Cholelithiasis
- Coronary artery disease
- Esophageal cancer
- Esophageal motility disorders
- Esophageal spasm
- Esophagitis
- Esophageal strictures
- Gastric ulcers
- Gastritis
- Helicobacter pylori infection
- Hiatal hernia
- Peptic ulcer disease



GERD

Treatment

The goals of GERD treatment are to relieve symptoms, heal erosions, prevent complications, and avoid progression and recurrence of disease.

Lifestyle Modifications

- Weight loss is strongly recommended in the presence of obesity which can increases intraabdominal pressure
- Avoid provocative foods such as alcohol, coffee , chocolate, citrus juice, and tomato-based products, peppermint, coffee, and spicy foods.
- Avoid lying flat, bending or stooping after meals
- Elevate the head of the bed at night and no eating within 3 hours of bedtime if night time symptoms are present
- Avoid eating to excessively large meals that increase intraabdominal pressure
- Encourage frequent smaller meals
- Avoid tight and restrictive clothing
- Smoking cessation

Medications

- Proton pump inhibitors (PPI) decrease acid secretion and gastric volume. First line treatment for patients with dyspepsia, epigastric pain, early satiety, belching and bloating. Long term use of PPIs is associated with an increased risk of *Clostridium difficile* infection, pneumonia, hip fracture, and vitamin B12 deficiency.
  - eg, omeprazole, lansoprazole, rabeprazole, esomeprazole, pantoprazole
- Antacids buffer acid and increase LES pressure
  - eg, aluminum hydroxide, magnesium hydroxide
- Combination drugs that buffer acid and create a viscous mechanical layer
  - eg, Gaviscon
- H2 receptor antagonists decrease acid secretion and are the choice for patients who do not tolerate PPIs.
  - eg, ranitidine, cimetidine, famotidine, nizatidine

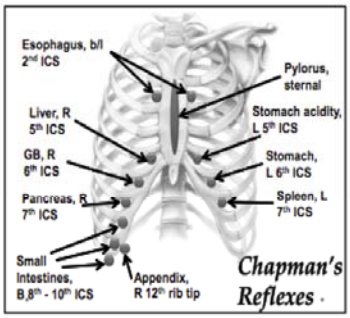
GERD

Surgery

Surgical options include reduction of the hiatal hernia, repair of the diaphragmatic hiatus, strengthening of the GE junction–posterior diaphragm attachment, and Nissen/Toupet fundoplication. Bariatric surgery may be indicated in morbidly obese patients. Surgery is best for patients with refractory erosive esophagitis.

Osteopathic Manipulative Treatment

- Normalize autonomic tone to esophagus and stomach
  - Parasympathetic innervation from vagus nerve
    - Diagnose and treat OA, C1, C2 mobility
  - Sympathetic innervation from T1-4 and T5-9
    - Diagnose and treat for spinal and paraspinal TART findings
    - Diagnose and treat collateral ganglia tissue texture abnormalities (celiac ganglion)
    - Diagnose and treat Chapman reflex points
- Optimize lymphatic and vasculature drainage
  - Diagnose and treat thoracic inlet
  - Diagnose and treat abdominal diaphragm
- Optimize biomechanical functioning of the LES
  - C3-5 innervation to abdominal diaphragm
    - Diagnosis and treat C3-5
  - Diaphragm motion
    - Diagnose and treat hemidiaphragm and crural diaphragm tension
    - Diagnose and treat L1-3 diaphragmatic crus attachment
  - Diagnosis and treat visceral sphincter myofascial tension (hiatus)



1. Assess for tenderness and tissue texture abnormalities as associated sites.
2. Treat positive reflex point by applying firm pressure with a gentle rotary motion over the point using the finger pad.
3. Continue until tissue tension and edema are decreased.

GERD – Sample OMT

OA Balanced Ligamentous Tension (Indirect)
Normalize parasympathetic tone to small and large bowel to improve GI motility and secretion

Diagnosis: OA sidebent left, rotated right

1. The physician makes a "V" with the thumb and index finger of one hand to support the posterior arch and lateral masses.
2. The other hand sidebends, rotates, and flexes/extends the occiput to bring the OA to the balanced ligamentous tension.
3. Test respiratory phases, instructing the patient to hold the phase that provides the best BLT.
4. Repeat as needed and recheck.
5. Repeat until best motion and recheck

Supine HVLA for Neutral Thoracic Dysfunction
Normalize sympathetic tone to esophagus to improve motility and secretion.

Diagnosis: T4-12 neutral sidebending left, rotation right

1. The physician places left thenar eminence posterior to the transverse process and articular facets of the dysfunctional segment
2. The spine is extended at the level of the dysfunction while maintaining flexion above. Right sidebending is introduced sufficiently to engage the restrictive barrier
3. A high velocity, low amplitude thrust is applied through the patient's elbows into the fulcrum. This will result in left rotation, right sidebending and extension of the dysfunctional unit
4. Recheck

GERD – Sample OMT

Direct Abdominal Diaphragm Myofascial Release with Respiratory Cooperation
Improve biomechanics of LES and promote lymphatic drainage from the abdomen.

1. Grasp the lateral sides of the patient's lower rib margins.
2. Assess for motion preference for right or left rotation, right or left sidebending, and flexion or extension and observe the respiration to determine the most restricted hemidiaphragm.
3. Carry the diaphragm to the restrictive barrier in rotation, sidebending, and flexion/extension.
4. The patient takes some deep breaths as the physician maintains the fascial barrier while resisting inhalation on the side with best motion.
5. Recheck.

Celiac Ganglia Inhibition
Normalize sympathetic tone to distal esophagus to improve motility and secretion

1. Patient is supine with knees and hips flexed.
2. Use the finger pads to apply a gentle, downward pressure along the linea alba just inferior to the xiphoid process to assess for fascial tension and tissue texture abnormalities.
3. Apply a gentle, downward pressure until resistance is felt over the most restricted area or over all three at once (also known as the linea alba release.
4. Hold the pressure until a softening or release occurs.

*Avoid compressing the aorta

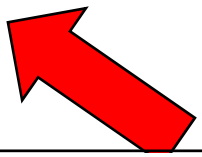
GERD

Complications
Chronic acid irritation in the esophagus may lead to erosive esophagitis, ulcerations, fibrosis with stricturing, Barrett's esophagitis (columnar metaplasia), GI bleeding, and esophageal adenocarcinoma.

Prognosis
Two-thirds of GERD patients have no visual evidence of esophageal damage on endoscopy. Most patients do well with medications, although a relapse after cessation of medical therapy is common and indicates the need for long-term maintenance therapy.

Prevention
Preventive of symptom occurrence and recurrence include lifestyle recommendations such as maintenance of normal body weight, avoiding eating just prior to sleeping, avoid alcohol, caffeine and tobacco. Abdominal breathing exercises may strengthen the LES and improve symptoms.

Self Study
Review Diagnosis and Treatment
Head
Cervical
Thoracic
Abdomen
Lymphatic



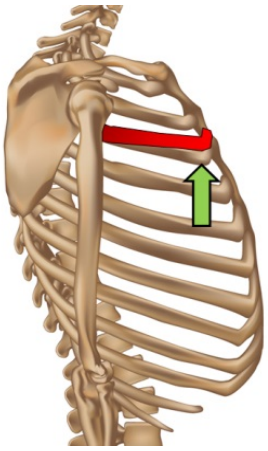
Abdominal Breathing Exercise for GERD
Strengthen diaphragmatic muscle

1. May be performed standing, seated, or supine.
2. Place one hand on abdomen and one on chest, then take a deep breath in through the nose to expand abdomen (not chest).
3. Exhale.
4. Repeat at 6 to 10 slow, deep breaths per minute for 10 -30 minutes each day.

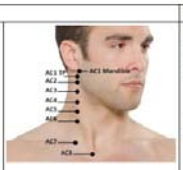
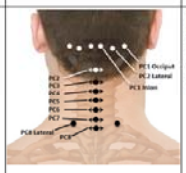
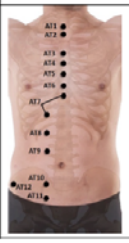
OMM Review

Available every semester

- Diagnosis reviews: cranium, cervical, thoracic, ribs, lumbar, pelvis, sacrum, abdomen, upper extremity, and lower extremity.
- OMT reviews: counterstrain, cranial, muscle energy, myofascial release, high velocity low amplitude thrust, soft tissue, lymphatic,, articulatory, balanced ligamentous tension, ligamentous articular strain, facilitated positional release, Still, visceral, and Chapman reflexes
- Autonomic innervations



Sample Techniques

Region	Location		Treatment	
Cervical Anterior	**AC1:** Transverse process (TP) - C1 transverse process midway between ramus of mandible and mastoid process. Mandible - posterior surface of ramus of mandible **AC2-6:** Found on anterior aspect of transverse processes of corresponding vertebra **AC7:** at clavicular insertion of sternocleidomastoid muscle, 2-3 cm lateral to proximal clavicle **AC8:** at sternal insertion of sternocleidomastoid muscle		**AC1:** SaRa **AC2-6:** FSaRa **AC7:** FStRa **AC8:** FSaRa Note: AC3 may require cervical extension, ESaRa	
Cervical Posterior	**PC1 Inion:** 1cm inferior and lateral to inion **PC1 Occiput:** on occiput 3-4cm lateral to midline in muscle mass **PC2:** Medial - on C2 spinous process or just lateral. Lateral - 2cm lateral to midline below occiput in muscle mass. **PC3-7:** midline or inferolateral aspect of C2-6 spinous processes of named vertebra above or just lateral to spinous process **PC8:** Medial - midline of inferolateral aspect of C7 spinous process. Lateral - posterior tip of transverse processes, anterior to trapezius muscle belly		**PC1 Inion:** FStRa **PC1 Occiput:** E with SaRa as needed **PC2:** E with SaRa as needed **PC3-7:** ESaRa **PC8:** FSaRa Note: PC3 may require cervical flexion, FSaRa	
Thoracic Anterior	**AT1:** sternal notch **AT2:** middle of manubrium **AT3-6:** along sternal midline at level of corresponding rib attachment **AT7:** on xiphoid tip and/or 1/4 distance from xiphoid tip to umbilicus, 1-2cm lateral to midline **AT8:** 1/2 distance from xiphoid to umbilicus, 2-3cm lateral to midline **AT9:** 3/4 distance from xiphoid to umbilicus, 2-3cm lateral to midline **AT10:** 1/4 distance from umbilicus to pubic symphysis, 2-3cm lateral to midline **AT11:** 1/2 distance from umbilicus to pubic symphysis, 2-3cm lateral to midline **AT12:** superior aspect of iliac crest at midaxillary line		**AT1-6:** F to level of point **AT7-9:** FStRa (Note: allow extra time as needed for patient to relax) **AT10-12:** FStRa with thoracic flexion with sidebending towards and rotation away by flexing hips and knees and bringing knees and legs towards point	

Available online at www.sciencedirect.com
ScienceDirect
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Research report

Does osteopathic manipulative treatment (OMT) improves outcomes in patients who develop postoperative ileus: A retrospective chart review

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Received 5 July 2007; received in revised form 18 December 2007; accepted 3 March 2008

Abstract

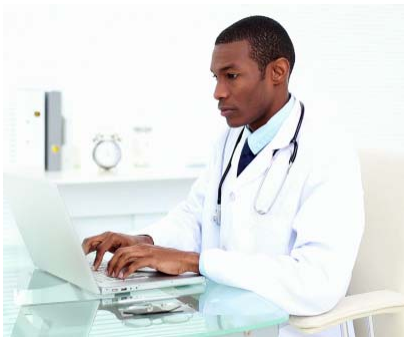
Introduction: The treatment of ileus has been estimated to cost the United States $750 million to $1 billion in a year. In a study by Bennett-Guerrero et al. on 1056 patients who had major non-cardiac surgery, the most frequent problem that delayed discharge was persistent postoperative GI tract dysfunction in 42% of patients. Despite its huge cost to our society, there have been very few advances in our approach to treatment of ileus. Upon reviewing osteopathic literature for treatment of postoperative ileus it seemed that OMT may be of benefit to patients being treated for ileus in the hospital setting.

Materials and methods: All patients ($n = 655$) with a discharge diagnosis of ileus (ICD-9-CM International Code 530.1) between 2003 and 2006 were reviewed. There where 331 patients who had undergone abdominal surgery and were included in the study. Patient records were then divided into two groups, those who had received osteopathic manipulative treatment (OMT) and those who had not received OMT. The data for this study was analyzed using ANCOVA.

OPP Curriculum

Module MCQ Assessments

- Online written assessments may be completed in any order
- Deadlines posted for first, second, and third assessment throughout semester
- Student able to choose which assessment to be completed for each deadline
- Online browser lockdown
- Timed 20 items in 25 minutes
- **Open book**
- WORK ALONE – **Honor code**



OPP Curriculum

Module MCQ Assessments

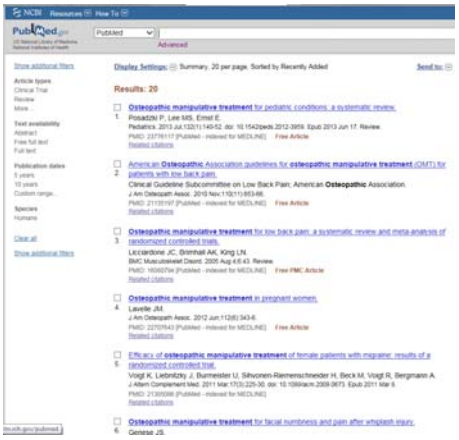
- Items drawn from a blueprint
  - OMM Dx
  - OMM Tx
  - Epidemiology and pathophysiology
  - Diagnostic criteria
  - Treatment and Prognosis
  - Research

Each item has many clones that vary slightly

OPP Curriculum

Manual Medicine Literature Review Assignment

- Student search to medical literature for an article relevant to an assigned topic
- Acceptable manual medicine disciplines include osteopathic manipulative medicine, osteopathic manual therapy, chiropractic, massage, physiotherapy, and physical therapy.
- Citation and Abstract to be uploaded
- Deadlines towards the end of the semester



OPP Curriculum

OMM Practice Log

- **10** supervised clinical patients (preferred) or volunteers
- OMT to at least one body area
- Log to include date, patient vs volunteer, age, sex, chief complaint, body regions treated, types of OMT used

- Physician who supervised the OMM must verify the performance of the OMT by **electronically signing** on the treatment log form
- Practice patients may supervised by preceptor, DME, regional dean or other **qualified physician MD or DO**

- Students have kept OMT logs during 1st and 2nd year for many years

OMM Practice Log

OMM Practice Log **Name:** _____

Each semester osteopathic medical students must perform ten OMM treatments on clinical patients or volunteers. Each treatment must be verified by a supervising physician (DO or MD). Specify patient type as clinical patient (P) or Volunteer (V).

Abbreviations: A-Abdomen, C-Cervical, H-Head, L-Lumbar, P-Pelvis, R-Ribs, S-Sacrum, T-Thoracic
RUE- Right upper extremity LUE-Left upper extremity RUE –Right upper extremity RLE-Right lower extremity

Date	Age	Sex	Patient type	Chief Complaint(s)	Regions treated	OMT	Supervising Physician Signature
6/22/74	46	M	P	Neck Pain	H T R S RUE RLE C L A P LUE LLE	ART/BLT/CR/CS/FPR/HVLA/Ind/INP/Func/Lymph/LA/ME/MFR/ST/Still/Vis/Other:	*Dr. A. T. Still*
					H T R S RUE RLE C L A P LUE LLE		
					H T R S RUE RLE C L A P LUE LLE		
					H T R S RUE RLE		

OMM Practice Log

Supervised OMM Practice

- Outpatient
- Inpatient
- Volunteers
  - Practice sessions
  - Workshops

Supervisors

- Preceptors
- OMM Champions
- Other attendings
- MD or DO

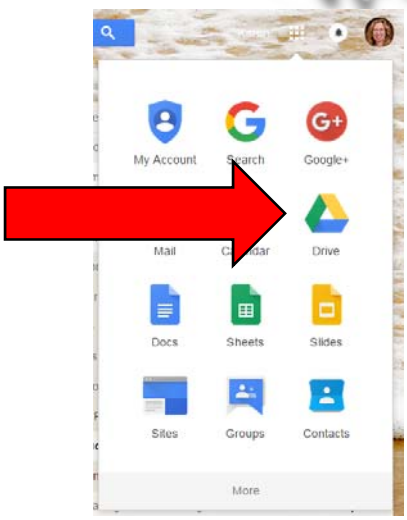
OMM Practice Log

- Taught students how to ask preceptors to use or practice OMM

- Meet with Directors of Student Medical Education (DSMEs) (3x)
- Taught DSMEs how to ask students to use OMM
- Taught DSMEs what kinds of conditions are amenable to OMT

OPP Course Google Drive

Shared course materials via Google Drive
- DSMEs
- OMM Champions



Grades
- Pass (70-79)
- High Pass (80-89)
- Honors (90-100)

Outcomes

- No course failures (168 students)
  - Pass **10%**
  - High Pass **52%**
  - Honors **38%**
- One student did not submit an OMM Log
- Two students submitted less than 10 treatments
- Two students did not submit a Literature Search assignment

Outcomes

Literature Search Assignment

- Manual Medicine for GI conditions
  - 26 different citations

OMM Logs

- Patients
- Volunteers
- Age range
- Musculoskeletal and Non Musculoskeletal problems
- Dates ranged from June to Dec

Lessons Learned

- Online courses have technical challenges
  - Respondus lockdown browser did not update as often as IOS
    - Open exams for a second chance
  - Corrupt files uploaded to blackboard
- Human errors
  - Typos in handouts
  - Typos and miskeys on exams
- Professionalism
  - Did not complete assignments if not needed to pass
  - Copied Literature Search assignment
  - Students signed for preceptors
  - Copy and pasted preceptor signatures

OMM Practice Logs

11/16	26	M	V	Shoulder pain	H O R S RUE RLE C L A P LUE LLE	ME HVLA ME		Dr Hill
11/16	26	M	V	neck pain	H O R S RUE RLE C L A P LUE LLE	HVLA ME BLT	Strengthening	Dr Hill
12/2	30	F	V	Abd cramps	H O R O RUE RLE C L A P LUE LLE	Sacral Rocking BLT ME		Dr Hill
12/2	27	F	V	hip pain	H T R O RUE RLE C L A O LUE LE	ME BLT Strengthening		Dr Hill
12/2	27	M	V	Back pain	H O R S RUE RLE C O A P LUE LLE	HVLA BLT ME		Dr Hill

Lessons Learned

- Failure to turn in assignments
  - OMM log submission required to Pass
- Professionalism “Cut and Paste” signatures
  - Contacted all Students
  - Contacted all DSMEs
  - Contacted individual students directly
  - Contacted individual OMM Champions
- Respondus Browser eliminated
  - Open Book
  - Large item bank with many item clones

Questions?