



Edward Via College of Osteopathic Medicine

MED 8015/MED8016

Clinical Primary Care: Rural/Medically Underserved Population
and Primary Care Modules
Academic Year 2019 - 2020

ROTATION SYLLABUS



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I. Rotation Description

Primary Care is a field that is beloved by physicians because of the variety of opportunities offered. In rural areas, not only will primary care trained physicians work in outpatient settings, but often in emergency rooms, hospitals, specialty clinics, and urgent care centers. They also often assist in surgery and provide obstetrical and newborn care. In medically underserved urban areas, primary care physicians care for patients with a host of complicated medical illnesses. A vast array of settings exist for primary care in a medically underserved area, including rural and inner city experiences. The primary care clinic is also a place where many office based procedures occur including but not limited to biopsies, laceration repairs, and minor fracture treatment. Working with patients on preventive health care management, such as vaccinations, preventive screening tests and measures to prevent disease, and one on one health counseling occur during this rotation. Students have the opportunity to incorporate the “whole-person” approach, a principle valued in osteopathic medicine, and to develop their osteopathic manipulative medicine skills through clinical case-based OMM workshops.

The curriculum is taught through structured reading assignments, case modules and lectures, and through the student-preceptor experience. Students are expected to complete their assignments for both the Clinical Primary Care – Rural and MUA setting, and the longitudinal OMM course. Due to the variety of practice opportunities and formats, students should review their [specific site instructions](#) for a more detailed description of their specific practice setting.

II. Course Goals and Objectives

A. Goals of the Course

Our goal is to educate students on all the aspects of being a rural physician or a physician caring for a medically underserved population. The core values of partnering with the patient, practicing continuous healing relationships, whole person orientation, and the resources of the community context is embodied in the comprehensive care of the patient.

B. Clinical Performance Objectives

While the end-of-rotation exam is derived from the didactic curriculum and objectives described below in the “Clinical Modules – Required Curriculum” section, the end-of-rotation evaluation completed by your preceptor is based on clinical core competencies. These core competencies reflect student performance in 6 key areas: communication, problem solving, clinical skills, medical knowledge, osteopathic medicine and professional and ethical considerations. Your end-of-rotation evaluation from your preceptor will be based directly on your performance in these 6 core competencies as described below.

1. **Communication** - the student should demonstrate the following clinical communication skills:
 - a. Effective listening to patient, family, peers, and healthcare team
 - b. Demonstrates compassion and respect in patient communications
 - c. Effective investigation of chief complaint, medical and psychosocial history specific to the rotation
 - d. Considers whole patient: social, spiritual & cultural concerns
 - e. Efficiently prioritizes essential from non-essential information
 - f. Assures patient understands instructions, consents & medications
 - g. Presents cases in an accurate, concise, well organized manner
2. **Problem Solving** – the student should demonstrate the following problem solving skills:
 - a. Identify important questions and separate data in an organized fashion; organizing positives & negatives
 - b. Discern major from minor patient problems
 - c. Formulate a differential while identifying the most common diagnoses
 - d. Identify indications for & apply findings from the most common radiographic and diagnostic tests
 - e. Identify correct management plan considering contraindications & interaction
3. **Clinical Skills** - the student should demonstrate the following problem solving skills:
 - a. Assesses vital signs & triage patient according to degree of illness
 - b. Perform good auscultatory, palpatory & visual skills
 - c. Perform a thorough physical exam pertinent to the rotation
4. **Osteopathic Manipulative Medicine** - the student should demonstrate the following skills in regards to osteopathic manipulative medicine
 - a. Apply osteopathic manipulative medicine successfully when appropriate
 - b. Perform and document a thorough musculoskeletal exam
 - c. Utilize palpatory skills to accurately discern physical changes that occur with various clinical disorders
 - d. Apply osteopathic manipulative treatments successfully
5. **Medical Knowledge** – the student should demonstrate the following in regards to medical knowledge
 - a. Identify & correlate anatomy, pathology and pathophysiology related to most disease processes
 - b. Demonstrate characteristics of a self-motivated learner including demonstrating interest and enthusiasm about patient cases and research of the literature
 - c. Are thorough & knowledgeable in researching evidence based literature

- d. Actively seek feedback from preceptor on areas for improvement
- e. Correlate symptoms & signs with most common disease
- 6. Professional and Ethical Behaviors** - the student should demonstrate the following professional and ethical behaviors and skills:
 - a. Is dutiful, arrives on time & stays until all tasks are complete
 - b. Consistently follows through on patient care responsibilities
 - c. Accepts & readily responds to feedback, is not resistant to advice
 - d. Assures professionalism in relationships with patients, staff, & peers
 - e. Displays integrity & honesty in medical ability and documentation
 - f. Acknowledges errors, seeks to correct errors appropriately
 - g. Is well prepared for and seeks to provide high quality patient care
 - h. Identifies the importance to care for underserved populations in a non-judgmental & altruistic manner

III. Rotation Design

A. Educational Modules

Educational modules using lectures, cases, and other forms of delivery are used for third year curriculum. Each student must complete a post-rotation exam to assure that the expected basic content or medical knowledge has been acquired during the rotation. In addition to the experiences received in the clinical training sites, students are expected to read the content of the assigned textbooks and on-line materials in order to complete the entire curriculum assigned for the clinical module.

B. Formative Evaluation

Student competency based rating forms are used by the preceptor to evaluate each student's clinical skills and the application of medical knowledge in the clinical setting. These forms are only completed by the clinical faculty member or preceptor. Performance on rotations will be evaluated by the primary clinical faculty member precepting the student. VCOM uses a competency based evaluation form which includes the osteopathic core competencies. These competencies evaluated include:

- a. Medical knowledge;
- b. Communication;
- c. Physical exam skills;
- d. Problem solving and clinical decision making;
- e. Professionalism and ethics;
- f. Osteopathic specific competencies; and
- g. Additional VCOM values.

Student competency is judged on clinical skill performance. Each skill is rated as to how often the student performs the skill appropriately (i.e. unacceptable, below expectation, meets expectation, above expectation, exceptional).

C. Logging Patient Encounters and Procedures

Students are required to maintain a log to identify the procedures performed and the number of essential patient encounters in the CREDO application. All students must review these logs with their preceptors prior to the end of the rotation period, as required by the final preceptor evaluation form. Students are encouraged to periodically review their CREDO entries with their preceptor during the rotation period.

IV. Credits

5 credit hours

V. Course Texts

A. Required Textbooks

- Rakel, R.E., & Rakel, D. (2016). *Rakel textbook of family medicine* (9th ed.). Philadelphia, PA: Elsevier. ISBN: 978-0323239905 (Available in electronic format on the VCOM Library – on Clinical Key)
- American Osteopathic Association, & Chila, A. (2018). *Foundations of osteopathic medicine: Philosophy, science, clinical complications, and research* (4th ed.). Philadelphia, PA: Wolters Kluwer. ISBN-13: 978-1496368324 (Available in electronic format on the VCOM Library – on LWW Osteopathic Medicine Collection)
- Nelson, K.E. & Glonek, T. (Eds). (2014). *Somatic dysfunction in osteopathic family medicine* (2nd ed.). Baltimore, MD: Wolters Kluwer Health. ISBN: 978-1451103052

VI. Course Grading and Requirements for Successful Completion

A. Requirements

- Attendance according to VCOM and preceptor requirements as defined in the [College Catalog and Student Handbook](#).

- Completion and submission of the clinical curriculum

In addition to the learning experience in the clinical site, the clinical curriculum consists of the reading assignments and learning objectives that are included in this syllabus and clinical case modules that are derived from some, but not all, of the learning objectives. Student's success as a physician will depend upon the learning skills they develop during this core rotation, as guided by this syllabus and clinical case modules. National boards, residency in-training examinations, and specialty board examinations require ever increasing sophistication in student's ability to apply and manipulate medical knowledge to the clinical context.

The clinical case modules were developed by VCOM Discipline Chairs and are intended to provide an OMS 3 student with a clinical, patient-centered approach to the learning content of this rotation. The modules should not be approached as rote learning, but should provide structured, clinically-focused learning from the evidence base for this rotation. To submit the clinical case modules follow the link for your campus below:

- Auburn Campus:
https://virginiatech.qualtrics.com/jfe/form/SV_2m1SLTmf7lm00fP
- Carolinas Campus:
https://virginiatech.qualtrics.com/jfe/form/SV_6u5xKNZBQz2uFsp
- Virginia Campus:
https://virginiatech.qualtrics.com/jfe/form/SV_3VgxWMJhZgHq2Sp

The content of the end-of-rotation exams will be based upon the learning objectives and reading assignments in this syllabus and the clinical case modules and their associated references.

- Logging Patient Encounters and Procedures in CREDO:
 - Students are required to log all patient encounters and procedures into the CREDO application. All students must review these logs with their preceptors prior to the end of the rotation period, as required by the final preceptor evaluation form. Students are encouraged to periodically review their CREDO entries with their preceptor during the rotation period. These reviews should stimulate discussions about cases and learning objectives, as well as identify curriculum areas the student may still need to complete. CREDO can be accessed at: <https://credo.education/>

- **Rotation Evaluations:**
 - **Student Site Evaluation:** Students must complete and submit at the end of rotation. See the VCOM website at: <http://intranet.vcom.edu/clinical/Login/index.cfm?fuseaction=LoginInfo&LoginPage=ViewStudentSchedule> to access the evaluation form.
 - **Third-Year Preceptor Evaluation:** It is the student's responsibility to ensure that all clinical evaluation forms are completed and submitted online or turned in to the Site Coordinator or the Clinical Affairs Office at the completion of each rotation. Students should inform the Clinical Affairs Office of any difficulty in obtaining an evaluation by the preceptor at the end of that rotation. See the VCOM website at: www.vcom.edu/academics/clinical-forms to access the evaluation form.
 - **Mid-Rotation Evaluation:** The mid-rotation evaluation form is not required but highly recommended. See the VCOM website at: www.vcom.edu/academics/clinical-forms to access the mid-rotation evaluation form.
- Successful completion of the end-of-rotation written exam. The end-of-rotation exam questions will be derived directly from the specific objectives presented in each of the below modules.

B. Grading

Students must pass both the "module" and "rotation" portions of the course. All rotations have a clinical rotation grade and clinical modules/exam grade. Failure to submit all of the CPC case module files using the Qualtrics link provided above **by no later than 5 PM on the last day of the rotation** will result in a **deduction of 5 points from your end-of-rotation exam score.**

Clinical Grading Scale and GPAs						
OMS 3 End-of-Rotation Exam Grades			OMS 3 AND OMS 4 Clinical Rotation Grades		Other Grades	
A	90-100	4.0	H	Honors	IP	In Progress
B+	85-89	3.5	HP	High Pass	INC	Incomplete
B	80-84	3.0	P	Pass	CP	Conditional Pass
C+	75-79	2.5	F	Fail	R	Repeat
C	70-74	2.0			Au	Audit
F	<70	0.0				

C. Remediation

Students who fail one or more rotations or one or more end-of-rotation exams twice will be referred to the Promotion Board. If a student fails the professionalism and ethics portion of the evaluation he or she may be removed from the rotation and referred to the Professionalism and Ethics Standards Board. No grade will be changed unless the Office of Clinical Affairs certifies to the Registrar, in writing, that an error occurred or that the remediation results in a grade change.

- **Failure of an End-of-Rotation Exam**

Students must pass each end of rotation exam with a C (70%) or better to receive a passing grade for the clinical medical knowledge module. Students who fail an end of rotation exam but pass the clinical rotation evaluation component have a second opportunity to pass the exam within 28 days of notification. If the student passes the remediation exam, the remediated exam grade will be the grade recorded on the transcript and be GPA accountable. If the student fails the end of rotation exam a second time, the student will receive an "F" grade for the rotation and will be brought before the Promotion Board. If the student is allowed to repeat the rotation, all components of the rotation must be repeated. In this case, the "F" grade remains the permanent grade for the initial rotation and the student will receive a new grade for the

repeated rotation. The grade will be recorded in a manner that designates that it is a repeated rotation (eg. R-pass).

- **Failure of a Rotation**

If a student fails the clinical rotation evaluation the student will receive an “F” grade for the rotation and will be brought before the Promotion Board. If the student is allowed to repeat the rotation, all components of the rotation must be repeated. In this case, the “F” grade remains the permanent grade for the initial rotation and the student will receive a new grade for the repeated rotation. The grade will be recorded in a manner that designates that it is a repeated rotation (eg. R-pass).

- **Failure to Make Academic Progress**

Repeated poor or failing performance in a specific competency area on the evaluation form across more than one rotation may also be a reason for a required remediation at the discretion of the Associate Dean for Clinical Affairs in consultation with the clinical chair, the preceptor, and the Promotion Board. In general, rotations should show a progression of improvement in clinical performance. Those students who receive a mere “Pass” on multiple rotations and/or maintain a “CP” on one or more rotations after final grades are received, will be counseled about overall performance and may be required to complete an additional rotation at the end of the year. Any additional curriculum or required remediation will be based on the performance measure. In general, rotations should show a progression of improvement in performance. Those students who continually score in the "unsatisfactory" category or repeated "performs some of the time, but needs improvement" consistently and do not improve over time or who fail one or more rotations may be deemed as not making academic progress and, as a result, may be referred to the Promotion Board and be required to complete additional curriculum. Multiple rotation failures may result in dismissal.

Poor ratings on the clinical rotation evaluation in the professional and ethical areas of the assessment are addressed by the Associate Dean for Clinical Affairs. The Associate Dean may design a remediation appropriate to correct the behavior or if needed may refer the student to the Professionalism and Ethics Board. In the case of repeated concerns in a professional and/or ethical area, the Associate Dean for Clinical Affairs may refer the student to the Campus Dean for a Behavioral Board or Promotion Board hearing. The Campus Dean will act upon this referral depending on the severity and the area of the performance measure. Poor ratings in this area will include comments as to the exact nature of the rating. Repeated poor or failing performance in a specific competency area on the evaluation form across more than one rotation may also be a reason for a required remediation at the discretion of the Associate Dean for Clinical Affairs in consultation with the clinical chair and the preceptor, and the Promotion Board. In general, rotations should show a progression of improvement in clinical performance.

VII. Academic Expectations

Grading policies, academic progress, and graduation requirements may be found in the [College Catalog and Student Handbook](#).

A. Attendance

Attendance for all clinical rotation days is mandatory. The clinical site will determine the assigned days and hours to be worked within the rotation period. Students are required to attend any orientation the clinical site sets as mandatory prior to any rotation or the clinical year. The orientation sessions vary by site and are required to maintain assignment to the site. Although the clinical site determines the assigned days and hours to be worked, VCOM has established the following guidelines:

- 4 week rotations may not be less than 20, eight hour days for a total of a minimum of 160 hours and often average 180 hours or greater.

- Students may be required to work up to 24 days in a 4-week period or 25 days in a 1-month rotation, including call and weekends at the discretion of the clinical site.
- If the clinical site requires longer daily hours or shift work, the student may complete the required hours in less than 20 days with the following specifications:
 - Students should not work greater than an average of 12 out of every 14 days
 - Student should not work more than 12 hours daily, exclusive of on-call assignments.
 - If on-call hours are required, the student should not be on duty for greater than 30 continuous hours.
 - Students may be required to work weekends but in general should have 2 weekends per month free and an average of 2 of 7 days per week free.

It should be noted that preceptors will have final determination of the distribution of hours, which may vary from this policy but should not in general be less than 160 hours for a 4 week rotation. The institution's DSME and assigned clinical faculty determine clinical duty hours. Students are responsible to the assigned clinical faculty and are expected to comply with the general rules and regulations established by the assigned clinical faculty, and/or the core hospital(s), or facility associated with the rotation.

The average student clinical day begins at 7 am and ends at 7 pm. Students are expected to work if their assigned clinical faculty is working. Some rotations assign students to shifts and in such cases the student may be required to work evening or night hours. If on-call hours are required, the student must take the call; however, the student should not be on duty for greater than 30 continuous hours. Students may be required to work weekends, but in general should have two weekends per month free and two of seven days per week free. Student holidays are determined by the clinical site and follow those of other students and/or residents from the clinical site. Students must be prompt and on time for the clinical rotation.

Students are expected to arrive on time to all clinical rotations. If a student is late, he or she must notify the site coordinator and the preceptor prior to or at the time they are scheduled arrive. Students must have a reason for being late such as illness or vehicle issues and it is not anticipated that this would occur more than one occasion AND it is important the student call in prior to being late. Repeated tardiness is considered as unprofessional behavior and is a reason for dismissal from a rotation. Students with repeated tardiness will be referred to the PESB. Tardiness is defined as more than 5 minutes after the scheduled time the preceptor designates as the expected arrival time.

The Office of Clinical Affairs requires that the medical student complete and submit an Excused Absence Clinical Rotations Approval form for any time "away" from clinical rotations. Forms are available at: www.vcom.edu/academics/clinical-forms. The student must have this form signed by their preceptor and others designated on the form to obtain an excused absence and must be provided to the DSME and the Office of Clinical Affairs through the site coordinator. The form must be completed prior to the beginning of the leave. If an emergency does not allow the student to submit this prior to the absence, the "Excused Absence Clinical Rotations Approval" form must be submitted as soon as the student is physically able to complete the form. In addition to completion of the form, students must contact the Department of Clinical Affairs, the Site Coordinator, and the preceptor's office by 8:30 AM of the day they will be absent due to an illness or emergency. No excused absence will be granted after the fact, except in emergencies as verified by the Associate Dean for Clinical Affairs.

Regardless of an excused absence, students must still complete a minimum of 160 hours for a 4 week rotation in order to pass the rotation. Any time missed must be remediated during the course of the rotation for credit to be issued. Students may remediate up to four missed days or 48 hours missed during any rotation period by working on normal days off. OMS 3 students who have any unexcused absences will be referred to the PESB.

VIII. Professionalism and Ethics

It is advised that students review and adhere to all behavioral policies including attendance, plagiarism, dress code, and other aspects of professionalism. Behavioral policies may be found in the [College Catalog and Student Handbook](#).

A. VCOM Honor Code

The VCOM Honor Code is based on the fundamental belief that every student is worthy of trust and that trusting a student is an integral component in making them worthy of trust. Consistent with honor code policy, by beginning this exam, I certify that I have neither given nor received any unauthorized assistance on this assignment, where “unauthorized assistance” is as defined by the Honor Code Committee. By beginning and submitting this exam, I am confirming adherence to the VCOM Honor Code. A full description of the VCOM Honor Code can be found in the [College Catalog and Student Handbook](#).

IX. Clinical Curriculum

In addition to the topics below with reading references and learning objectives, students must also complete the assigned clinical cases. The content of the end-of-rotation exams will be based upon the learning objectives and reading assignments in this syllabus and the clinical case modules and their associated references. To submit the clinical case modules follow the link for your campus

- Auburn Campus: https://virginiatech.qualtrics.com/jfe/form/SV_2m1SLTmf7lm00fP
- Carolinas Campus: https://virginiatech.qualtrics.com/jfe/form/SV_6u5xKNZBQz2uFsp
- Virginia Campus: https://virginiatech.qualtrics.com/jfe/form/SV_3VgxWMJhZgHq2Sp

1. General Medical Exam

Reading Assignment:

- [Seidel's Guide to Physical Examination](#)
 - Chapter 1, pages 1-21
 - Chapter 3, pages 32-51
 - Chapter 6, pages 74-87
 - Chapter 7, pages 88-104
 - Chapter 11, pages 203-224
 - Chapter 14
 - Chapter 17, pages 373-392
 - Chapter 23, pages 567-606

Learning Objectives:

- Identify the recommended order of components of a history and physical
- Recall the appropriate nerve root to the specific motor and sensory area
- Differentiate between the cranial nerve/s tested and its innervation (Table 23.3)
- Relate the specific deep tendon reflex to the muscle group innervated (Table 23.6)
- Recall the classification of strength grading appropriately
- Recall the Glasgow Coma Scale to categorize an individual's level of consciousness
- Recall the appropriate mapping of a specific dermatome and the corresponding anatomical structure
- Formulate wording of questions to help when building a history
- Apply the most effective ways to ask about sexuality
- Recognize the utility of senses such as smell when performing a physical exam (Box 3.4, Box 14.7)
- Differentiate percussive sounds heard when performing physical exam
- Identify office equipment used in primary care
 - Snellen visual assessment and other visual screening devices
 - Panoptic versus a standard ophthalmoscope
 - Tuning fork

- m. Distinguish how to correctly auscultate a blood pressure
- n. Recall the subdivisions of the cerebral cortex and their designated function/s
- o. Distinguish between the varying facial characteristic and the associated medical condition
- p. Recognize breast pathophysiology in primary care
 - i. Correctly label the regions of the breast (Fig. 17.2)
 - ii. Recall the lymphatics of the breast (Fig. 17.3)
- q. Recall the different abnormalities that may occur in the breast
 - i. Breast lumps: fibrocystic changes, fibroadenoma, cancer
 - ii. Fat necrosis
 - iii. Nipples and areolae

2. Preventative Health Care and the USPSTF Guidelines

Reading Assignment: Rake! Textbook of Family Medicine, Chapter 7, pages 81-101

Learning Objectives:

- a. Differentiate between the different types of prevention categories
- b. Identify the type of evidence that is considered to be higher quality versus lower quality
- c. Apply the level of USPSTF recommendations to the appropriate category
- d. Recall the different organizations which devise the preventative measures that develop screening recommendations
- e. Explain the major purpose of the Patient Protection and Affordable Care Act (PPACA)
- f. Interpret the barriers that limit how effective screening tests are
- g. Apply the principles used to determine the accuracy of a screening test
- h. Differentiate between the leading causes and the actual causes of death in the United States
- i. Recalling behaviors that show health benefits with the appropriate risk reduction counseling
- j. Applying recommended chemoprevention to disease processes to aid in risk reduction
- k. Differentiating A and B recommendation for adult and adolescents screening per the recommendation of USPSTF
- l. Recall the “Choosing Wisely: Recommendations from the American Academy of Family Physicians

3. Pulmonary Function Testing (PFT)

Reading Assignment: Rake! Textbook of Family Medicine, Chapter 16, pages 236-241

Learning Objectives:

- a. Identify commonly used diagnostic tools in pulmonary medicine
- b. Interpret results of the following measurements:
 - i. Peak expiratory flow rate (PEFR)
 - ii. Forced expiratory volume in 1 second (FEV1)
 - iii. Forced expiratory volume in 6 seconds (FEV6)
 - iv. Forced vital capacity (FVC)
 - v. Midmaximal expiratory flow rate (MMEF)
 - vi. Total lung capacity (TLC)
- c. Apply the results of PFTs to diagnose obstructive and restrictive lung diseases
- d. Recall what steps are required for an adequate PFT
- e. Recall the diagnostic utility of the following tests in pulmonary medicine:
 - i. Chest radiograph
 - ii. Chest computed tomography
 - iii. Positron emission tomography (PET) scan
 - iv. Ventilation/ Perfusion scan (V/Q scan)

4. Obstructive Lung Disease: Diagnosis and Chronic Treatment

Reading Assignment:

- Rakel Textbook of Family Medicine, Chapter 16, pages 243-251
- Somatic Dysfunction in Osteopathic Family Medicine, Chapter 25, pages 274-286

Learning Objectives:

- Recall the osteopathic evaluation of a patient with chronic obstructive pulmonary disease (COPD) complaints
- Apply osteopathic physical exam findings along with spirometry to help diagnose the three most common obstructive lung diseases
- Recognize pulmonary function test (PFT) results that correlate with obstructive lung disease
- Develop an education plan on the risks of smoking and environmental pollutants in COPD
- Recognize preventative measures to decrease exacerbations of obstructive lung disease
- Identify the stepwise approach to classification and treatment of COPD
- Recognize when testing for alpha-one antitrypsin deficiency is indicated
- Recall the indications for antibiotic treatment in the exacerbation of COPD
- Develop a treatment plan for COPD and incorporate an osteopathic approach
- Consider rib raising to improve lung function in patients with COPD
- Recognize how the use of OMM in COPD patients has been shown to improve pCO₂, O₂ saturation, residual lung volume and total lung capacity
- Apply osteopathic principles and treatment to aid in chest cage movement, including somatic dysfunction, thoracic drainage and rib movement
- Develop patient education on home techniques to improve COPD symptoms including lung exercises and osteopathic treatment

5. Diabetes: Diagnosis and Management in the Ambulatory Setting

Reading Assignment: Rakel Textbook of Family Medicine, Chapter 34, pages 782-816

Learning Objectives:

- Identify and state the groups of diabetes and how diabetes is diagnosed
- Recall the changing epidemiology of diabetes in the United States
- Recall the morbidity and mortality (complications) associated with diabetes mellitus (DM) and preventive measures that lower morbidity
- Recognize the two common pathogenic mechanisms associated with the development of DM and the characteristics of type 1 and type 2 DM
- Identify the dietary recommendations of the ADA and the effects of exercise on DM
- Recognize the classes of diabetic agents, mode of action and side effects; identify agents that may promote weight loss
- Recall the classes of insulin preparations
- Recognize how to initiate insulin in the type 2 DM patient and when to consider the discontinuation of insulin
- Calculate basal-bolus insulin dosing
- Apply evidence-based standards of care in the management of a patient with type 2 diabetes mellitus
- Formulate patient education regarding type 2 diabetes with attention to and respect for the patient's own disease model

6. Infectious Disease Prevention (Vaccines)

Reading Assignment:

- Rakel Textbook of Family Medicine
 - Chapter 7, pages 92-99
 - Chapter 15, page 187
 - Chapter 20, pages 375-378
 - Chapter 22, pages 445-451
- <https://www.cdc.gov/infectioncontrol/pdf/outpatient/guide.pdf>

- <https://www.cdc.gov/tb/topic/testing/healthcareworkers.htm>
- <https://www.cdc.gov/flu/professionals/index.htm>
- <https://www.cdc.gov/std/tg2015/specialpops.htm>

Learning Objectives:

- Identify the role of the Public Health Department
- Translate the functions of the family physician in disseminating the public health information
- Recall that implementing expedited partner therapy can lessen the spread of infectious disease
- Recall the reporting process and understand the necessary information that is needed to report
- Apply the minimum expectations for the prevention of infections in the outpatient setting
- Distinguish which vaccinations are recommended for health care personnel
- Recall the necessary steps needed for diagnosing, and treating active and latent tuberculosis
- Recall necessity to changes in annual flu vaccine and new components for 2019-2020 season
- Recall the treatment variations in special populations as related to STIs
- Identify the age ranges in which completion of varicella, Tdap, and meningococcal vaccines are recommended
- Differentiate the differences in active and inactivated vaccines
- Define the vaccines that are safe for the use in pregnancy

7. Sinusitis and URI

Reading Assignment:

- Rakel Textbook of Family Medicine, Chapter 18, pages 329-336
- Somatic Dysfunction in Osteopathic Family Medicine, Chapter 24, pages 258-273

Learning Objectives:

- Recall the normal anatomy of the upper respiratory tract including sinuses
- Apply the osteopathic evaluation and work up for a patient with suspected sinusitis
- Identify the etiology of sinus infections
- Recognize the main risk factors for the development of sinusitis
- Identify improper use of nasal decongestant sprays leading to rhinitis medicamentosa
- Discriminate when antibiotics are appropriate for acute bacterial sinusitis
- Identify pharmacologic treatments of sinusitis
- Recall all non-medication treatment options for sinusitis
- Recall the potential interactions of common decongestants in patients with hypertension or coronary artery disease
- Predict potential complications of sinus infections and indications for referral
- Apply facial effleurage, mandibular drainage, suboccipital release and trigeminal nerve stimulation to improve symptoms of sinusitis
- Develop patient education on the complications of overuse of antibiotics in non-bacterial sinusitis and treatment options at home for prevention of sinusitis

8. Pneumonia

Reading Assignment:

- Rakel Textbook of Family Medicine, Chapter 15, pages 183-235
- Somatic Dysfunction in Osteopathic Family Medicine, Chapter 25, pages 274-286

Learning Objectives:

- Generate a thorough history and perform an appropriate physical exam in the setting of an acute respiratory illness
- Contrast clinical symptoms of upper respiratory infections verses pneumonia
- Identify the common positive findings on physical exam for pneumonia and acute respiratory infection
- Select the appropriate diagnostic studies to confirm the diagnosis in the setting of respiratory infections

- e. Predict the severity of illness and potential complications in a patient presenting with suspected influenza
- f. Identify the risk factors for various types of pneumonia according to age, lifestyle, and exposures
- g. Choose appropriate antibiotic coverage for different presentations of pneumonia
- h. Identify potential contraindications to first line antibiotic treatments for pneumonia
- i. Recall the most important way to stop the spread of respiratory illness in health care settings
- j. Identify osteopathic treatment options for a patient with pneumonia

9. Dysuria and Common Urinary Tract Disorders in Family Medicine

Reading Assignment: Raket Textbook of Family Medicine, Chapter 40, pages 969-987

Learning Objectives:

- a. Recall the normal structure and physiological function of the renal and urinary tract systems
- b. Recognize the common causes of dysuria, pain, hematuria, and renal failure in the adult patient
- c. Interpret diagnostic findings in the evaluation of a patient with a urologic complaint:
 - i. Urinalysis with microscopy
 - ii. Computed tomography
 - iii. Renal Ultrasound
 - iv. Abdominal X-ray
 - v. Voiding Cystourethrography (VCUG)
- d. Identify pathophysiological mechanism of common disease conditions of the renal and urinary tract systems that are associated with dysuria, pain, hematuria, and nephrolithiasis:
 - i. Cystitis
 - ii. Interstitial cystitis and bladder pain syndrome
 - iii. Urethritis
 - iv. Pyelonephritis
 - v. Urethral syndrome
 - vi. Nephrolithiasis
- e. Recognize signs and symptoms of the common urologic conditions above
- f. Indicate the appropriate evaluation of patients with complaints consistent with common urinary tract disorders
- g. Recall the key diagnostic criteria for each of the conditions detailed
- h. Develop an appropriate treatment plan for the patient with each urologic condition listed above
- i. Identify and relate co-existing socio-economic or genetic factors contributing to the patient with dysuria, pain, hematuria, and nephrolithiasis
- j. Identify key osteopathic diagnostic and treatment principles associated with the conditions and apply them to the patient

10. Skin and Nail Infections and Dermatitis

Reading Assignment: Raket Textbook of Family Medicine, Chapter 33, pages 746-747, 756-769, 781

Learning Objectives:

- a. Distinguish the different presentations and causes of viral 'exanthems'
- b. Apply the knowledge and pathophysiology of the following diagnoses:
 - i. Impetigo
 - ii. Erysipelas
 - iii. Cellulitis
 - iv. Folliculitis
 - v. Abscesses
- c. Identify the appropriate treatment recommendations for the diagnoses above
- d. Recall the clinical presentations that differentiate fungal infections from each other
- e. Define the clinical presentation and symptoms that help clinically define the different viral infections commonly seen in primary care

- f. Identify the preventative measures and treatment recommendation of common infestation seen in primary care

11. Non-traumatic Joint Pain: Upper Extremity

Reading Assignment:

- Rakel Textbook of Family Medicine, Chapter 30, pages 650-663
- Foundations of Osteopathic Medicine
 - Chapter 28G, pages 664-673
 - Chapter 49, pages 1458-1472, 1483-1496
- Somatic Dysfunction in Osteopathic Family Medicine, Chapter 15

Learning Objectives:

- a. Recognize the importance of obtaining a thorough work and environmental exposure history in the evaluation of occupational/overuse disorders
- b. Recall osteopathic concerns for the upper extremity and occupational/overuse disorder
- c. Recall the physical exam necessary to differentiate common causes of shoulder pain as well as differential diagnosis for shoulder pain
- d. Recognize exam findings that correlate with shoulder dislocation
- e. Differentiate rotator cuff tendonitis, impingement syndrome, and bursitis based on history and exam findings
- f. Apply the Spencer technique in treatment of shoulder pain
- g. Recall the physical exam necessary to differentiate common causes of elbow pain as well as differential diagnosis for elbow pain
- h. Relate history and osteopathic exam findings that correlate with lateral and medial epicondylitis including radial head derangements
- i. Apply muscle energy to the lateral and medial epicondyles to assist in healing lateral and medial epicondylitis
- j. Recall the physical exam necessary including osteopathic considerations to differentiate common causes of wrist/hand pain/numbness as well as differential diagnosis for hand numbness
- k. Apply the osteopathic management and treatment of carpal tunnel syndrome and deQuervain's tenosynovitis
- l. Apply myofascial release to the carpal tunnel and muscle energy to the wrist to aid in the management of carpal tunnel syndrome and deQuervain's tenosynovitis
- m. Predict the impact of an occupational/overuse disorder on a patient's life and well-being
- n. Distinguish the role of RICE therapy to decrease inflammation and promote healing
- o. Identify medication options for the treatment of acute pain in an upper extremity injury
- p. Formulate home exercises and stretches for the patient with non-traumatic upper extremity injuries

12. Non-traumatic Joint Pain: Lower Extremity

Reading Assignment:

- Rakel Textbook of Family Medicine, Chapter 30, pages 664-683
- Foundations of Osteopathic Medicine
 - Chapter 28H, pages 673-689
 - Chapter 29, pages 696-746
 - Chapter 49, pages 1458-1472, 1496-1515

Learning Objectives:

- a. Recognize the etiology of the common causes of lower extremity pain
- b. Differentiate the osteopathic evaluation and work up for a lower extremity sports injury
- c. Recall the physical exam necessary to differentiate causes for hip, knee, leg, ankle, and foot pain including differential diagnoses
- d. Develop an osteopathic approach to the evaluation of lower extremity pain including: anatomical causes, balance, tracking, and gait abnormalities

- e. Synthesize a thorough osteopathic knee exam including fibular head derangement and patellar tracking
- f. Formulate an osteopathic treatment plan for knee pain combining office and 'at home' therapies
- g. Formulate osteopathic treatments for knee pain including muscle energy to the fibular head and counterstrain and other indirect procedures to improve hamstring or calf muscle dysfunction associated with knee pain
- h. Generate diagnosis and management of patellofemoral syndrome as well as the use of indirect myofascial release of the patella
- i. Choose strengthening and flexibility exercises to perform at home to assist recovery from lower extremity pain
- j. Recognize plantar fasciitis based on the common presenting history
- k. Formulate home management and tools for prevention of plantar fasciitis
- l. Recall myofascial release and counterstrain in the treatment of plantar fasciitis

13. Common Sports Injuries Presenting to the FM Practice

Reading Assignment:

- Rakel Textbook of Family Medicine
 - Chapter 29, pages 622-649
 - Chapter 30, pages 648-683
- Somatic Dysfunction in Osteopathic Family Medicine, Chapter 15
- Foundations of Osteopathic Medicine
 - Chapter 29, pages 696-746
 - Chapter 49, pages 1458-1472, 1483-1515

Learning Objectives:

- a. Identify the objectives of the pre-participation physical evaluation (PPE)
- b. Recognize red flags from an athlete's history that should be discussed and documented
- c. Infer limitations of cardiovascular screening and cardiac disorders in athletes
- d. Recognize exercise-induced bronchospasm
- e. Identify iron-deficiency anemia
- f. Identify special concerns in the female athlete
- g. Assess low back pain in the athlete with differential diagnosis as well as an osteopathic approach to evaluation, management, and treatment
- h. Recognize the importance of a thorough fracture history
- i. Contrast the differences between medial tibial stress syndrome, chronic exertional compartment syndrome, and stress fracture
- j. Interpret Ottawa ankle rules for imaging
- k. Recall the osteopathic evaluation and work up for a lower extremity sports injury
- l. Recognize the classification of Salter Harris fractures
- m. Identify the risk factors for stress fractures
- n. Categorize the role of gait assessment along with functional, standing structural, seated, supine, and prone examinations
- o. Apply the integration of OMT into conservative and surgical management of sports injuries
- p. Apply muscle energy to the anterior lateral malleolus for the most common ankle sprain

14. Insomnia/Sleep-Wake Disorders

Reading Assignment:

- Rakel Textbook of Family Medicine
 - Chapter 16, pages 272-273
 - Chapter 23, pages 453-455

Learning Objectives:

- a. Recognize normal sleep and awake states of the brain and normal sleep architecture, including changes with aging

- b. Identify components of an accurate sleep history
- c. Recognize common symptoms of primary sleep disorders and typical sleep disturbances
- d. Formulate a differential diagnosis from the clinical signs and symptoms
- e. Choose the most appropriate treatment for the primary sleep disorders, including insomnia, breathing related sleep disorders and parasomnias
- f. Identify risk factors for insomnia
- g. Discuss common insomnia comorbidities
- h. Predict the future health risks for a patient with insomnia
- i. Recall the indications for and use of sleep studies for insomnia
- j. Compare and contrast the mechanism of action for medications approved for use in insomnia
- k. Recall the side effects with the common medications used for insomnia
- l. Formulate a holistic approach to care and discuss lifestyle changes that help patients with insomnia
- m. Develop patient education on proper sleep hygiene for insomnia

15. Hypothermia, Hyperthermia, Stings, Bites and other Environmental Conditions

Reading Assignment:

- Rakel Textbook of Family Medicine, Chapter 29, pages 631-634

Learning Objectives:

- a. Recall the incidence and the major causes of death for high school athletes
- b. Recall the components that are involved in limiting the cooling ability of the body
- c. Formulate a plan to inform patients on the indication for pre-participation screening
- d. Interpret the risk of heat illness with the utilization of wet bulb globe temperature index
- e. Contrast the different components of exertional heat illness to each other (Table 29.7)
- f. Identify the symptoms and management of exertional hyponatremia
- g. Apply the knowledge of the mechanism of frostbite to understand appropriate prevention
- h. Define hypothermia
- i. Recall the recommended management necessary to combat the side effects of hypothermia
- j. Recall the complications of acute mountain sickness
- k. Explain the recommendations for prevention of acute mountain sickness

16. Nutrition and Family Medicine, Obesity: Diagnosis and Management, and Metabolic Syndrome

Reading Assignment:

- Rakel Textbook of Family Medicine, Chapter 27, pages 891-911

Learning Objectives:

- a. Recall current dietary guidelines when using websites (and be familiar with websites) such as www.MyPlate.gov and www.dietaryguidelines.gov for resources
- b. Develop patient education on dietary sources of minerals
- c. Recall sites of absorption of key vitamins and minerals
- d. Recognize health conditions that may impair metabolism or absorption of vitamins and minerals
- e. Recognize health conditions that may result in increased excretion or increased requirements of vitamins and minerals
- f. Identify important aspects of the patient history and physical examination in a nutrition assessment and the components of metabolic syndrome
- g. Develop patient education on body mass index (BMI) and its role in their health and recognize how to classify obesity
- h. Recognize appropriate lab work for malnutrition assessment
- i. Recognize and educate patients about changing nutritional needs in pregnancy and lactation, childhood, adolescence and old age
- j. Appraise various diets for pros, cons and contraindications

17. Interpreting Laboratory Tests and Results

Reading Assignment:

- Raket Textbook of Family Medicine, Chapter 14, pages 157-180

Learning Objectives:

- Recognize biologic variables that can affect test results
- Recall how to calculate a test's sensitivity, specificity and determine true vs false positives and negatives
- Categorize causes of decreased albumin levels
- Differentiate bone vs liver vs other causes of increased alkaline phosphatase levels
- Differentiate pancreatic vs non-pancreatic causes of elevated amylase and lipase levels
- Recall causes of hypercalcemia and hypocalcemia
- Categorize causes of vitamin B12 and folate deficiency
- Stratify causes of leukocytosis and leukopenia by white blood cell type
- Recall causes of thrombocytopenia and categorize them into decreased production and increased destruction
- Assess factors affecting erythrocyte sedimentation rate

18. Addressing Crisis, Trauma and Disasters in the Family Medicine Setting

Reading Assignment:

- Raket Textbook of Family Medicine, Chapter 44, pages 1062-1073

Learning Objectives:

- Recall the various presentations of crisis in the primary care setting
- Recognize the prevalence and approach to trauma related to family dysfunction, the interventions, and treatment
- Recall the increasing prevalence of post-traumatic stress disorders and likelihood of a traumatic event or disaster
- Identify the usual duration of the acute crisis and adaptation to the crisis
- Relate previous psychiatric illness to the challenges of coping of a current crisis
- Apply an intervention approach to the treatment of a crisis in the office setting
- Recognize the importance of a timeline and ecological map (or wheel and spoke model) to determining the causes of the crisis
- Distinguish the differences between problem-focused and symptom-oriented treatment
- Recall the use of medications for psychiatric disorders in a crisis
- Recall the various treatment mechanisms for trauma or crisis intervention
- Develop patient education on coping and adaptive problem-solving skills

19. Male GU (Testicular dysfunction, tumors, testosterone therapy and ED Management)

Reading Assignment:

- Raket Textbook of Family Medicine, Chapter 40, pages 978-996

Learning Objectives:

- Recall the normal structure and physiological function of the male genital urinary tract
- Identify anatomic disorders of the male genitourinary system:
 - Hydrocele
 - Hypospadias
 - Peyronie's disease
 - Phimosis and Paraphimosis
 - Spermatoceles
- Recognize signs, symptoms, and complications of the testicular disorders below:
 - Testicular torsion
 - Undescended testis
 - Varicoceles
- Recall the anatomical position and function of the prostate gland

- e. Contrast differing classifications of prostatitis based upon their defining characteristics
- f. Recall signs and symptoms of prostate cancer
- g. Select appropriate screening test for early detection of prostate cancer when appropriate
- h. Define erectile dysfunction
- i. Formulate an appropriate evaluation for a patient reporting symptoms of erectile dysfunction
- j. Define premature ejaculation
- k. Develop an appropriate plan for management of premature ejaculation
- l. Recognize and select the appropriate treatment for infectious disease process of the male genitourinary system:
 - i. Balanitis
 - ii. Epididymitis
 - iii. Acute bacterial prostatitis
 - iv. Chronic bacterial prostatitis
 - v. Chancroid
 - vi. Gonorrhea and Nongonococcal urethritis
 - vii. Herpes Genitalis
 - viii. Genital warts
 - ix. Syphilis

20. Genetic Testing: Use in Prevention, Diagnosis, and Treatment

Reading Assignment:

- Rakel Textbook of Family Medicine, Chapter 43, pages 1052-1061
- https://www.cdc.gov/nbslabulletin/bulletin_laboratory_role.html

Learning Objectives:

- i. Differentiate between genetic and genomic testing
- ii. Recognize the role of a genetic counselor when pre and post-genetic testing
- iii. Recognize how to inform patients on the indication for prenatal screening
- iv. Distinguish between the major organizations that educate the public about newborn heel stick screening
- v. Identify the technique that has primarily been used to measure the metabolites in the newborn screening
- vi. Define the term pharmacogenetics and the benefits that exist for this type of research
- vii. Apply your knowledge of pharmacogenetics to specific medications (Table 43.4)
- viii. Appreciate the role of Direct-to-Consumer testing benefits and drawbacks to medical information
- ix. Recall the governmental protecting factors that are in place to protect the consumer from discrimination
- x. Correlate the inheritance patterns of chromosomal, single-gene, and multifactorial diseases (Table 43.5)
- xi. Recall the incidence of breast cancer with individuals with BRCA gene mutations
- xii. Identify the preventative measures that can be implemented when attempting to identify or limit risk of hereditary breast and ovarian cancer in individuals with BRCA gene mutations
- xiii. Recognize the medical significance of in-screening for cystic fibrosis in newborns

Osteopathic Manipulative Medicine and the Osteopathic approach to clinical cases are covered in the monthly workshops and tested on the OMM end-of-rotation exams. Students are responsible for reviewing the OMM Syllabus and meeting the learning objectives covered in each month's workshop.