



Edward Via College of Osteopathic Medicine

MED 8017/MED8018

Rural and Medically Underserved Population Primary Care
and Modules

Academic Year 2025 - 2026

ROTATION SYLLABUS



Lisa Carroll, MD

Discipline Chair, Rural Primary Care
Carolinas Campus
Phone: 864-327-9864

lcarroll@carolinas.vcom.edu



Jonah Flowers, DO

Discipline Chair, Family Medicine for Rural and
Medically Underserved Areas
Louisiana Campus
Phone: 318-342-7138

jflowers@ulm.vcom.edu



Joe Kidd, DO

Discipline Chair, Rural Primary Care
Virginia Campus
Phone: 540-231-0641

jhkidd@vt.vcom.edu



Phillip Snider, DO, MS, RD, FAAFP

Discipline Chair, Primary Care for Rural and
Medically Underserved Areas
Auburn Campus
Phone: 334-442-4102

psnider@auburn.vcom.edu

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 exists 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. This rotation also includes 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. Students are expected to incorporate 4 osteopathic tenets as they develop a “whole-person” approach (a highly valued principle 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 Rural and Medically Underserved Population Primary Care 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 1) partnering with the patient, 2) practicing continuous healing relationships, 3) whole person orientation, and 4) utilizing the local community resources 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 manipulative 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 regard 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 regard 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 the 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 online materials in order to complete the entire curriculum assigned for the clinical module.

B. Summative Evaluations

Students are assessed during their third year through both a clinical rotation competency evaluation and an end-of-rotation exam.

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).

In addition to being assessed on clinical performance skills during the rotation, students are also assessed on the basic science and medical knowledge acquired through the educational modules. An end-of-rotation exam is administered to each student at the end of each rotation to assess the student's basic content and medical knowledge acquired during the rotation.

C. Logging Patient Encounters and Procedures

During the clinical years students need to develop the clinical competencies required for graduation and post-graduate training. These competencies are evaluated in many different ways: by faculty observation during rotations, by examinations, by the COMLEX Level 2 CE examination, and VCOM's OMS 3 summative examinations. In order to develop many of these competencies and meet the objectives required for graduation, VCOM needs to ensure that each student sees enough patients and an appropriate mix of patients during their clinical years. For these reasons, as well as others discussed below and to meet accreditation standards, VCOM has developed requirements to log patient encounters and procedures.

Each day, students are required to log all patient type/clinical conditions and procedures/skills that they encounter that day into the VLMS application.

- Within the daily log, the clinical discipline chairs have also identified a specific set of patient presentations and procedures that each student is expected to see/do during the course of the rotation that should be logged in VLMS as you experience it. Students should be familiar with this list and should actively work to see these patients or be involved in these procedures. The list serves as a guide for the types of patients the clinical faculty think students should encounter during the rotation. The list does not include every possible diagnosis or even every diagnostic entity students must learn. The list reflects the common and typical clinical entities that the faculty feels VCOM students should experience. The list can be found in VLMS or CANVAS.
- Students must learn more than they will experience during clinical rotations. The log does not reflect the totality of the educational objectives during the rotation. Clinical experience is an important part, but only a part, of your rotation requirement. Students may discover they have not seen some of the presentations/procedures on the list during the rotation; however, they should arrange to see these problems in the fourth year or learn about them in other ways through the other course materials provided. Students need to commit themselves to extensive reading and studying during the clinical years. "Read about patients you see and read about patients you don't see".

One of the competencies students must develop during their clinical training involves documentation. Documentation is an essential and important feature of patient care and learning how and what to document is an important part of medical education. The seriousness and accuracy with which students maintain and update their patient logs are measures of professionalism. Students must review these logs with their preceptor prior to the end of the rotation period, as required by the final preceptor evaluation form. Students are encouraged to periodically review their VLMS entries with their preceptor during the rotation period.

Throughout the year, data is reviewed by Clinical Affairs, the curriculum committees, and administration to ensure the clinical experiences meet the objectives of the rotation and to assess the comparability of experiences at various sites. The logs serve to:

- Demonstrate student exposure to patients with medical problems that support course objectives.
- Demonstrate level of student involvement in the care of patients.
- Demonstrate student exposure to, and participation in, targeted clinical procedures.
- Demonstrate student exposure to patient populations in both inpatient and outpatient settings.
- Demonstrate comparability of experiences at various clinical sites.
- Quantify for students the nature and scope of their clinical education and highlight educational needs for self-directed learning.

Students will receive a report at the end of the OMS 3 year that outlines the patient encounters the student was involved in throughout their rotations. These individual log reports can be shared during interviews/audition rotations/future credentialing to demonstrate the scope of their clinical experiences.

IV. Credits

MED 8017: 4 credit hours

MED 8018: 1 credit hour

V. Course Texts and Reference Materials

A. Required Textbooks

- Maxwell, Robert. *Maxwell Quick Medical Reference*, 7th ed. Minneapolis, MN: Maxwell Publishing Company, 2024. ISBN: 978-0964519169 (retail price \$9.95)
- Nicholas, Alexander, and Evan Nicholas. *Atlas of Osteopathic Techniques*, 4th ed. Baltimore, MD: Lippincott, Williams & Wilkins, 2023. ISBN: 978-1975127480978-1451193411 (retail price \$183.99) – Available in VCOM's eLibrary in LWW Osteopathic Medicine Collection
- Rakel, Robert, and David Rakel. *Textbook of Family Medicine*, 9th ed. Philadelphia, PA: Elsevier, 2015. ISBN: 978-0323239905 (retail price \$179.99) – Available in VCOM's eLibrary in Clinical Key
- Seffinger, Michael. *Foundations of Osteopathic Medicine*, 4th ed. Philadelphia, PA: Wolters Kluwer Health, 2019. ISBN: 978-1496368324 (retail price \$162.99) – Available in VCOM's eLibrary in LWW Osteopathic Medicine Collection

B. Recommended Textbooks

- Kuchera, Michael, and William Kuchera. *Osteopathic Considerations in Systemic Dysfunction*, 2nd ed revised. Centerville, OH: Greyden Press, 1994. ISBN: 978-1570741548 (retail price 54.95)

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](#).
- Review of the syllabus topics, learning objectives, and reading assignments:
 - 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, as well as clinical case modules and Aquifer Radiology cases that are derived from some, but not all, of the learning objectives. A 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.

- Completion and submission of 12 clinical case modules:
 - 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. The same module may be included under multiple topics in the syllabus to show its relevance to the topic, but students only need to complete the module once. The clinical case modules must be submitted in Canvas **by no later than 5 PM on the day of your end of rotation exam** at: <https://canvas.vcom.edu>. **Failure to do so will result in a deduction of 5 points from your end-of-rotation exam score.**
 - [Module 1 - Diabetes, Nutrition, Lab Results](#)
 - [Module 2 - Sports Injury, Non-Traumatic Upper and Lower Extremity](#)
 - [Module 3 - Sinusitis and Pneumonia](#)
 - [Module 4 – General Medical Examination and Infectious Disease Prevention](#)
 - [Module 5 - Addressing Crisis](#)
 - [Module 6 - Hypothermia, Hyperthermia, Stings, Bites and other Environmental Conditions](#)
 - [Module 7 - Skin and Nail Infections and Dermatitis](#)
 - [Module 8 - Obstructive Lung Disease and PFT](#)
 - [Module 9 - Dysuria and Common Urinary Tract Disorders](#)
 - [Module 10 - Male GU Disorders](#)
 - [Module 11 - Insomnia and Sleep Wake Disorders](#)
 - [Module 12 - Care of the Dying Patient in Primary Care](#)

- Completion of 2 Aquifer Radiology cases:
 - Aquifer Radiology is a case-based virtual course that provides realistic case scenarios that demonstrate best-practices, helping students develop clinical reasoning skills that bridge the gap from content to practice. Upon completion of the cases, students should have a basic understanding of the principles and applications of medical imaging and be able to interpret common radiological studies in the context of presenting patient conditions. In addition, students should be able to recognize common osteopathic structural and viscerosomatic/somatomatic changes that correlate to specific radiographic findings.
 - In order to receive credit for the radiology cases and meet the requirements for passing the rotation, students must complete the case, including all associated components of the online program such as the knowledge assessment questions associated with the cases. The same case may be included under multiple topics in the syllabus to show its relevance to the topic, but students only need to complete the case once. Progress will be reviewed by the online administrator to ensure completion of these requirements. Students must successfully complete the case and knowledge assessment questions **by no later than 5 PM on the day of your end of rotation exam.**
 - [Aquifer Radiology Case 1](#)
 - [Aquifer Radiology Case 16](#)
 - To get full credit for each case completed, please be sure to click forward to the page at the end of the case that states “Summary of Your Case Session” in the upper left-hand corner.
 - Register for the Aquifer cases at: <https://www.aquifer.org>
Your email has been pre-loaded into Aquifer, and you should have received an email

about how to set up your account.

- If you are a first-time user:
 - Click “Sign in” in the top right corner.
 - Enter your institutional email address in the email box. Then click on the “Register” button at the bottom of the page.
 - You will be sent an email with a link to complete registration. Upon receipt of the registration email, click on the link “Click Here”. You will then be brought to the profile setup page. An email will be sent to you. Follow the instructions in the email to set up your account.
 - You will be asked to fill in your profile information and set up a password (8 character minimum). Once you have completed your user profile and created a password, you will receive a welcome email with links to useful information and guides. You would also be logged into the Aqueduct learning management system.
 - Once your profile is completed successfully, you will be brought to your institution’s Course page.
 - You will also receive a “Thank you for registering with Aquifer” email with links to tools, resources, and Aquifer news.
- If you are a returning user:
 - Click “Sign in” in the top right corner.
 - Please log in with your institutional email and account password and click “Sign In”.
- Logging patient encounters and procedures in VLMS:
 - **Students are required to log daily** - Students are **required to log all patient type/clinical conditions and procedures/skills that they encounter that day** into the VLMS application at: <https://vlms.app/login.html>
 - Within the daily log, the clinical discipline chairs have also identified a specific set of patient presentations and procedures that each student is expected to see/do during the course of the rotation that should be logged in VLMS as you experience it. Students should be familiar with this list and should actively work to see these patients or be involved in these procedures. The list serves as a guide for the types of patients the clinical faculty think students should encounter during the rotation. The list does not include every possible diagnosis or even every diagnostic entity students must learn. The list reflects the common and typical clinical entities that the faculty feels VCOM students should experience. The list can be found in VLMS or CANVAS.
 - Students should log only an encounter with or exposure to a real patient.
 - Simulated patients, case presentations, videos, grand rounds, written clinical vignettes, etc. should not be logged even though they are all important ways to learn clinical medicine. Many of these educational experiences, along with self-directed reading, are necessary preparation for COMLEX Level 2 and postgraduate training. This log, however, focuses on a unique and critical component of clinical training, namely, involvement with “real” patients.
 - Longitudinal care of a patient that results in a new diagnosis or secondary diagnosis should be entered as a new entry instead of editing the original entry.
 - Multiple encounters with the same patient that do not result in a new diagnosis or procedure should not be logged. However, if multiple encounters result in a new diagnosis or a new procedure is performed, these should be entered as a new entry.
 - Student involvement with patients can occur in various ways with different

levels of student responsibility. The most “meaningful” learning experience involves the student in the initial history and physical exam and participation in diagnostic decision making and management. A less involved but still meaningful encounter can be seeing a patient presented by someone else at the bedside. Although the level of responsibility in this latter case is less, students should log the diagnoses seen in these clinical encounters. Patient experiences in the operating or delivery room should also be logged.

- 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 VLMS 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.
- Failure to log daily results in the following and is cumulative throughout the academic year (not reset each rotation period):
 - First OMS 3 notification: Email warning outlining consequences
 - Second OMS 3 notification: Meeting with the Associate Dean
 - Third OMS 3 notification: Behavioral contract
 - Fourth OMS 3 notification: Students will receive an IP “In-Progress” grade for the rotation until logging for the rotation is completed.
 - Fifth OMS 3 notification: Referral to PESB/Honor Code (whichever is most appropriate), which could lead to sanctions and/or permanent record in the student file or MSPE.
- Rotation evaluations:

The following evaluations must be completed and submitted for successful completion of the rotation:

 - Mid-Rotation Evaluation: The mid-rotation evaluation form is not required but highly recommended. See the VCOM website at: <https://www.vcom.edu/academics/clinical-education-third-year/forms> to access the mid-rotation evaluation form.
 - Third-Year Preceptor 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. It is the student's responsibility to ensure that all clinical evaluation forms are completed and submitted online or turned into 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. Preceptors must complete the evaluation at: <https://intranet.vcom.edu/clinical>
 - Student Evaluation of the Preceptor: Students must complete and submit an evaluation of their preceptor at the end of the rotation. The form must be completed at: <https://intranet.vcom.edu/clinical>
 - Student Evaluation of the Site: At the end of the student’s last OMS 3 year rotation, the student must complete and submit an evaluation of their core rotation site, DSME, and Site Coordinator. The form must be completed at: <https://intranet.vcom.edu/clinical>

- Successful completion of the end-of-rotation written exam:
The content of the end-of-rotation exams will be based upon the learning objectives and reading assignments, including OMM, in this syllabus, the clinical case modules, and the Aquifer Radiology cases and their associated references.

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 case module files using the Canvas link provided above and the Aquifer Radiology cases **by no later than 5 PM on the day of your end of rotation exam will result in a deduction of 5 points from your end-of-rotation exam score. VLMS logs are due no later than 5 PM on the day of your end of rotation exam.**

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 a clinical rotation, fail an end-of-rotation exam twice, or who have more than one first attempt failure on end-of-rotation exams within an academic year (even if the student has successfully remediated the prior end-of-rotation exam on the second attempt) 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 Professional and Ethical 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, and the repeated rotation must be with a different preceptor than the one from the original rotation that the student failed. Once repeated, the transcript will show both the initial clinical medical knowledge module course and the initial clinical rotation competency evaluation course, as well as the repeated clinical medical knowledge module course and the repeated clinical rotation competency evaluation course. The repeated courses will have the letter "R" at the end of the course number to reflect that they are repeated. Both the grade earned for the initial courses and the repeated courses will be recorded on the transcript, but only the repeated courses will be GPA accountable, regardless of whether the initial or repeated course grade is higher.

In addition, students who fail more than one first attempt failure of end-of-rotation exams

within a semester (i.e. failed the first attempt end-of-rotation exam for pediatrics and failed the first attempt end-of-rotation exam for surgery within the first semester), even if the student has successfully remediated the prior end-of-rotation exam on the second attempt, will be placed on academic probation (at a minimum through their OMS 3 year) by the Campus Dean.

- **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, and the repeated rotation must be with a different preceptor than the one from the original rotation that the student failed. Once repeated, the transcript will show both the initial clinical medical knowledge module course and the initial clinical rotation competency evaluation course, as well as the repeated clinical medical knowledge module course and the repeated clinical rotation competency evaluation course. The repeated courses will have the letter “R” at the end of the course number to reflect that they are repeated. Both the grade earned for the initial courses and the repeated courses will be recorded on the transcript, but only the repeated courses will be GPA accountable, regardless of whether the initial or repeated course grade is higher.

- **Failure to Make Academic Progress**

In general, students should show a progression of improvement in clinical performance throughout rotations. 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. Those students who receive a mere “Pass” on multiple rotations 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. 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 Professional and Ethical Standards 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 referral to the Professional and Ethical Standards Board or Promotion Board. 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.

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.
 - Students 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 for 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 to 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: <https://www.vcom.edu/academics/clinical-education-third-year/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 on 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.

B. Prohibited Use of External Accelerators

At times, there may be lectures on VCOMTV where completion will be documented as part of passing the course (these will be clearly indicated in the course syllabus). For these lectures, the use of an external accelerator is prohibited, as VCOMTV is unable to track completion through these programs. If a student uses an external accelerator for these assignments, they will be required to re-watch the lecture(s) in VCOMTV within the required timeline. Failure to document a student's completion of these assignments within the required timeline due to use of an external accelerator may result in failure of the course.

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. Syllabus and Rotation Schedule

Please use this syllabus as a guide, paying particular attention to the learning objectives as an outline of what you are expected to know for each topic/module. Refer to the rotation calendar for specific dates of exams.

The faculty of the course will make every effort to adhere to the syllabus and rotation schedule; however, the Office of Clinical Affairs reserves the right to make changes to the syllabus; including changes to examinations, quizzes, modules, homework or other assignments; and/or the schedule with as much advance notice as possible. These changes will be communicated to the students in writing via Canvas or email.

X. Rural and Medically Underserved Population Primary Care Curriculum

In addition to the topics below with reading references and learning objectives, students must also complete the assigned clinical cases and the assigned Aquifer Radiology cases. The content of the end-of-rotation exams will be based upon the learning objectives and reading assignments, including OMM, in this syllabus, the clinical case modules, and the Aquifer Radiology cases and their associated references. The clinical case modules must be submitted in Canvas at: <https://canvas.vcom.edu>

1. General Medical Exam

Reading Assignment:

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

Module: [Module 4 – General Medical Examination and Infectious Disease Prevention](#)

Learning Objectives:

- a. Identify the recommended order of components of a history and physical.
- b. Recall the appropriate nerve root to the specific motor and sensory area.
- c. Differentiate between the cranial nerve/s tested and its innervation (Table 23.3).
- d. Relate the specific deep tendon reflex to the muscle group innervated (Table 23.6).
- e. Recall the classification of strength grading appropriately.
- f. Recall the Glasgow Coma Scale to categorize an individual's level of consciousness.
- g. Recall the appropriate mapping of a specific dermatome and the corresponding anatomical structure.
- h. Formulate wording of questions to help when building a history.
- i. Apply the most effective ways to ask about sexuality.
- j. Recognize the utility of senses such as smell when performing a physical exam (Box 3.4, Box 14.7).
- k. Differentiate percussive sounds heard when performing physical exam.
- l. Identify office equipment used in primary care.
 - i. Snellen visual assessment and other visual screening devices
 - ii. Panoptic versus a standard ophthalmoscope
 - iii. Tuning fork
- m. Distinguish how to correctly auscultate a blood pressure.
- n. Recall the subdivisions of the cerebral cortex and their designated function.
- o. Distinguish between the varying facial characteristics 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: Rakel Textbook of Family Medicine, Chapter 7, pgs. 81-101

Module: [Module 4 - General Medical Examination and Infectious Disease Prevention](#)

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. Recall behaviors that show health benefits with the appropriate risk reduction counseling.
- j. Apply recommended chemoprevention to disease processes to aid in risk reduction.
- k. Differentiate A and B recommendations for adult and adolescents screening per the recommendation of USPSTF.
- l. Recall the “Choosing Wisely: Recommendations from the American Academy of Family Physicians.

3. Infectious Disease Prevention (Vaccines)

Reading Assignment:

- Rakel Textbook of Family Medicine
 - Chapter 7, pgs. 92-99
 - Chapter 15, pgs. 187
 - Chapter 20, pgs. 375-378
 - Chapter 22, pgs. 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/treatment-guidelines/specialpops.htm>

Module: [Module 4 - General Medical Examination and Infectious Disease Prevention](#)

Learning Objectives:

- a. Identify the role of the Public Health Department.
- b. Translate the functions of the family physician in disseminating public health information.
- c. Recall that implementing expedited partner therapy can lessen the spread of infectious disease.
- d. Recall the reporting process and understand the necessary information that is needed to report.
- e. Apply the minimum expectations for the prevention of infections in the outpatient setting.
- f. Distinguish which vaccinations are recommended for health care personnel.
- g. Recall the necessary steps needed for diagnosing and treating active and latent tuberculosis.
- h. Recall necessity to changes in annual flu vaccine.
- i. Recall the treatment variations in special populations as related to STIs.
- j. Identify the recommended age ranges for completion of varicella, Tdap, pneumococcal shingles, COVID-19, and meningococcal vaccines.
- k. Differentiate the differences in active and inactivated vaccines.
- l. Define the vaccines that are safe for the use in pregnancy.

4. Pulmonary Function Testing (PFT)

Reading Assignment:

- Rakel Textbook of Family Medicine, Chapter 16, pgs. 236-241
- Pfenninger & Fowler’s Procedures for Primary Care 4th ed, Chapter 81, 560-567

Module: [Module 8 - Obstructive Lung Disease and PFT](#)

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)

5. Obstructive Lung Disease: Diagnosis and Chronic Treatment

Reading Assignment:

- Raket Textbook of Family Medicine, Chapter 16, pgs. 243-251
- Foundations of Osteopathic Medicine, 4th ed., Chapter 43C, pgs. 1245-1258

Module: [Module 8 - Obstructive Lung Disease and PFT](#)

Learning Objectives:

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

6. Diabetes: Diagnosis and Management in the Ambulatory Setting

Reading Assignment: Raket Textbook of Family Medicine, Chapter 34, pgs. 782-816

Module: [Module 1 - Diabetes, Nutrition, Lab Results](#)

Learning Objectives:

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

7. Sinusitis and URI

Reading Assignment:

- Rakel Textbook of Family Medicine, Chapter 18, pgs. 329-336
- Atlas of Osteopathic Techniques, 4th ed. Chapter 16, pgs. 531-539
- Foundations of Osteopathic Medicine, 4th ed.
 - Chapter 42B, pgs. 1142-1147
 - Chapter 48A, pgs. 1386-1391, 1404-1410

Module: [Module 3 - Sinusitis and Pneumonia](#)

Learning Objectives:

- Recall the normal anatomy of the upper respiratory tract including sinuses.
- Recall the common etiologies of sinusitis and URI.
- 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, pgs. 183-235
- Foundations of Osteopathic Medicine, 4th ed., Chapter 43C, pgs. 1245-1258
- Atlas of Osteopathic Techniques, 4th ed.
 - Chapter 15, pgs. 512-513
 - Chapter 16, pgs. 540-547

Module: [Module 3 - Sinusitis and Pneumonia](#)

Online Case: [Aquifer Radiology Case 1](#)

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 versus 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.
- List the indication for imaging in patients with suspected chest infections.
- Demonstrate how to effectively utilize the American College of Radiology Appropriateness Criteria (ACR AC) website to select the appropriate imaging.
- Define the following terms associate with chest radiography/ Chest CT and explain their significance:
 - Silhouette sign
 - Spine sign
 - Air bronchogram
 - Ground glass

- v. Consolidation
- h. Recognize the typical appearance of pleural effusion and hydropneumothorax on chest imaging.
- i. Predict the severity of illness and potential complications in a patient presenting with suspected influenza.
- j. Identify the risk factors for various types of pneumonia according to age, lifestyle, and exposures.
- k. Choose appropriate antibiotic coverage for different presentations of pneumonia.
- l. Identify potential contraindications to first line antibiotic treatments for pneumonia.
- m. Explain why and when follow-up imaging is recommended for patients with pneumonia.
- n. Recall the most important way to stop the spread of respiratory illness in health care settings.
- o. Identify how the biomechanical, respiratory, neurological, metabolic and behavioral models describe contributions to the development of symptomatic disease and address treatment for each component.
- p. Identify osteopathic treatment options for a patient with pneumonia including Vagal nerve facilitation, rib dysfunctions, pulmonary effects on autonomics, Chapman's points.
- q. Demonstrate proficiency in the evaluation and appropriate direct and/or indirect osteopathic treatment for somatic dysfunctions found commonly in the patient with lower respiratory disorders:
 - i. Direct Techniques
 - a) LVMA Rib Raising-supine and seated
 - b) ME Ribs -seated and supine
 - c) Direct and indirect MFR Diaphragm
 - d) Direct MFR-Arcuate ligaments
 - e) Thoracic PUMP

9. Dysuria and Common Urinary Tract Disorders in Family Medicine

Reading Assignment: Rakel Textbook of Family Medicine, Chapter 40, pgs. 969-987

Module: [Module 9 - Dysuria and Common Urinary Tract Disorders](#)

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: Rakel Textbook of Family Medicine, Chapter 33, pgs. 746-747, 756-769, 781

Module: [Module 7 - Skin and Nail Infections and Dermatitis](#)

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 such as scabies and lice.

11. Non-traumatic Joint Pain: Upper Extremity

Reading Assignment:

- Rakel Textbook of Family Medicine, Chapter 30, pgs. 650-663
- Foundations of Osteopathic Medicine
 - Chapter 28G, pgs. 664-673
 - Chapter 49, pgs. 1458-1472, 1483-1496

Module: [Module 2 - Sports Injury, Non-Traumatic Upper and Lower Extremity](#)

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 principles and concerns for the upper extremity, including occupational/overuse disorder and arthritic conditions.
- c. Describe the facilitated segments model for pain and spinal cord levels involved in upper extremity conditions.
- d. Recall the physical exam necessary to differentiate common causes of shoulder pain as well as differential diagnosis for shoulder pain.
- e. Recognize exam findings that correlate with shoulder dislocation.
- f. Differentiate rotator cuff tendonitis, impingement syndrome, and bursitis based on history and exam findings.
- g. Describe the goals of Osteopathic Manipulative Medicine (OMM) and apply the Spencer technique on treatment of shoulder pain, including arthritis conditions.
- h. Apply the Spencer technique in treatment of shoulder pain.
- i. Recall the physical exam necessary to differentiate common causes of elbow pain as well as differential diagnosis for elbow pain.
- j. Relate history and osteopathic exam findings that correlate with lateral and medial epicondylitis including radial head derangements.
- k. Apply muscle energy to the lateral and medial epicondyles to assist in healing lateral and medial epicondylitis.
- l. 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.
- m. Apply the osteopathic management and treatment of carpal tunnel syndrome and deQuervain's tenosynovitis.
- n. 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.

- o. Predict the impact of an occupational/overuse disorder on a patient's life and well-being.
- p. Distinguish the role of RICE therapy to decrease inflammation and promote healing.
- q. Identify medication options for the treatment of acute pain in an upper extremity injury.
- r. Formulate home exercises and stretches for the patient with non-traumatic upper extremity injuries.

12. Non-traumatic Joint Pain: Lower Extremity

Reading Assignment:

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

Module: [Module 2 - Sports Injury, Non-Traumatic Upper and Lower Extremity](#)

Learning Objectives:

- a. Recognize the etiology of the common causes of lower extremity pain.
- b. Differentiate osteopathic evaluation and work up for a lower extremity injury and arthritis.
- 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:
 - i. anatomical causes
 - ii. facilitated segments model for pain and spinal cord levels involved
 - iii. balance
 - iv. tracking
 - v. 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:

- Rake! Textbook of Family Medicine
 - Chapter 29, pgs. 622-649
 - Chapter 30, pgs. 648-683
- Foundations of Osteopathic Medicine
 - Chapter 29, pgs. 696-746
 - Chapter 49, pgs. 1458-1472, 1483-1515

Module: [Module 2 - Sports Injury, Non-Traumatic Upper and Lower Extremities](#)

Online Case: [Aquifer Radiology Case 16](#)

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 for diagnosis and to guide imaging evaluation.
- 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. Explain the terminology and importance of multiple x-ray views in fracture diagnosis.
- m. Identify the basic radiographic anatomy of the extremities and pelvis.
- n. Recognize the classification of Salter Harris fractures.
- o. Identify the risk factors for stress fractures.
- p. Identify elbow and knee effusions.
- q. Compare typical indications for using CT and MRI in musculoskeletal injuries.
- r. Categorize the role of gait assessment along with functional, standing structural, seated, supine, and prone examinations.
- s. Apply the integration of OMT into conservative and surgical management of sports injuries.
- t. 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, pgs. 272-273
 - Chapter 23, pgs. 453-455

Module: [Module 11 - Insomnia and Sleep Wake Disorders](#)

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, and other Environmental Conditions

Reading Assignment: Rakel Textbook of Family Medicine, Chapter 29, pgs. 631-634

Module: [Module 6 - Hypothermia, Hyperthermia, Stings, Bites and other Environmental Conditions](#)

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: Rake! Textbook of Family Medicine, Chapter 37, pgs. 891-911

Module: [Module 1 - Diabetes, Nutrition, Lab Results](#)

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: Rake! Textbook of Family Medicine, Chapter 14, pgs. 157-180

Module: [Module 1 - Diabetes, Nutrition, Lab Results](#)

Learning Objectives:

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

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

Reading Assignment: Rake! Textbook of Family Medicine, Chapter 44, pgs. 1062-1073

Module: [Module 5 - Addressing Crisis](#)

Learning Objectives:

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

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

Reading Assignment: Rake! Textbook of Family Medicine, Chapter 40, pgs. 978-996

Module: [Module 10 - Male GU Disorders](#)

Learning Objectives:

- a. Recall the normal structure and physiological function of the male genital urinary tract.
- b. Identify anatomic disorders of the male genitourinary system:
 - i. Hydrocele
 - ii. Hypospadias
 - iii. Peyronie's disease
 - iv. Phimosis and Paraphimosis
 - v. Spermatoceles
- c. Recognize signs, symptoms, and complications of the testicular disorders below:
 - i. Testicular torsion
 - ii. Undescended testis
 - iii. Varicoceles
- d. 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 and identify appropriate treatments.
- 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
- m. Identify signs and symptoms of benign prostatic hyperplasia and recall the appropriate management.

20. Care of the Dying Patient in Primary Care

Reading Assignment: Rakel Textbook of Family Medicine, Chapter 5, 54-72

Module: [Module 12 - Care of the Dying Patient in Primary Care](#)

Learning Objectives:

- a. Recall the important factors of communication when dealing with the dying patient.
- b. Devise ways to help maintain hope and support in the prolong dying or living process.
- c. Assist the patient and family with modalities that will reassure the patient's wishes are met using a multi-disciplinary team.
- d. Define hospice and palliative care and the indications for its utilization.
- e. Recognize common symptoms experienced at the end of life and infer appropriate management.
- f. Identify the indication for artificial nutrition and hydration.
- g. Recall guidelines for dosing data for opioid analgesics.
- h. Determine how to quantify and address bone/soft tissue, nerve damage, and/or smooth muscle complaints.
- i. Differentiate among types of code status, health care proxies, living wills, Medical Power of Attorney, and advanced directives.
- j. Identify the psychological, social, and spiritual needs of patients with advanced illness and their family members.