I. Rotation Description

The Family Medicine rotation is primarily done in the ambulatory setting, however, will often include experiences in the inpatient setting, nursing home or minor care. Family Medicine is a specialty where students can learn to diagnose and manage common acute and chronic conditions, which present to the primary care setting. Students will also learn to discriminate emergent ambulatory conditions from non-emergent.

During the rotation, students should begin to acquire the essential knowledge to practice cost effective outpatient health care, often in a rural setting. Depending on the practice, students may also be exposed to the hospital setting providing care to the patients of the family medicine physician. Because family medicine has the unique distinction of providing continuity of care for the entire family ‘from birth to death’, students will be expected to have a variety of ambulatory exposures including general medical cases, pediatric cases, geriatric cases, office surgical procedures, osteopathic manipulative medicine and common mental health disorders. Students should also acquire skills in preventive medicine for male and female patients of all age groups according to the United States Preventive Services Task Force (USPSTF). The student should also have exposure to the business of medicine in the ambulatory setting. The VCOM mission and focus of preparing globally minded, community-focused physicians for rural and medically underserved areas is best met through Family Medicine.

The curriculum is taught through structured reading assignments, on-line case modules and lectures, and through the student-preceptor experience. Students are expected to complete their assignments for both Family Medicine and the longitudinal OMM course. The practice of Family Medicine occurs in multiple locations: outpatient office, inpatient hospital, emergency rooms, mission trips, and long-term care facilities.
Due to the variety of practice opportunities and formats in Family Medicine, 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
   During the third year of the curriculum, students expand their knowledge of Family Medicine and its application to the clinical setting. The Department of Family Medicine strives to embody competent and compassionate care with the integration of osteopathic principles and practices, for the entire family. Our goal is to educate students on all the aspects of being a Family Medicine specialist. Family Medicine core values that should be read, understood, and practiced, are: practicing continuous healing relationships, whole person orientation, family and community context, and comprehensive care.

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 Family Medicine 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 auscultory, 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

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 of all Clinical Modules in the required curriculum.
- Completion of the assigned Aquifer cases listed below in the Clinical Modules. Summary of Case Credit button must be clicked at the end of each case in order to receive credit for the case.
  - Register for the Aquifer cases:
    - Go to [https://www.aquifer.org](https://www.aquifer.org)
    - 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 setup 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 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. (LINK Does not work for me)
- 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 Family Medicine 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. The clinical rotation grade uses the Honors, High Pass, Pass, Fail system; these grades are not calculated in the GPA. The rotation modules are assigned an exam grade.

<table>
<thead>
<tr>
<th>Clinical Grading Scale and GPAs</th>
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<tbody>
<tr>
<td><strong>OMS 3 End-of-Rotation</strong></td>
</tr>
<tr>
<td><strong>Exam Grades</strong></td>
</tr>
<tr>
<td>A  90-100</td>
</tr>
<tr>
<td>B+ 85.89</td>
</tr>
<tr>
<td>B  80-84</td>
</tr>
<tr>
<td>C+ 75-79</td>
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<tr>
<td>C  70-74</td>
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<tr>
<td>F  &lt;70</td>
</tr>
<tr>
<td><strong>OMS 3 AND OMS 4 Clinical Rotation Grades</strong></td>
</tr>
<tr>
<td>H  Honors</td>
</tr>
<tr>
<td>HP  High Pass</td>
</tr>
<tr>
<td>P  Pass</td>
</tr>
<tr>
<td>F  Fail</td>
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<tr>
<td>Au  Audit</td>
</tr>
<tr>
<td><strong>Other Grades</strong></td>
</tr>
</tbody>
</table>

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B. 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 a 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 a 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 at: http://www.vcom.edu/handbooks/catalog/index.html

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 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 2 of 7 days per week free.
- 2 week rotations may not be less than 10, eight hour days for a total of a minimum of 80 hours and often average 100 hours or greater.
  - If the clinical site requires longer daily hours or shift work, the student may complete the required hours in less than 10 days with the following specifications:
    - Students should not work greater than 12 out of every 14 days.
    - Students should not work more than 12 hours daily, exclusive of on-call assignments, and may not complete the 2 week rotation in less than 1 week.
    - 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 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 or less than 80 hours for a 2 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 and 80 hours for a 2 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 and OMS 4 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 at: http://www.vcom.edu/handbooks/catalog/index.html

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 at: http://www.vcom.edu/handbooks/catalog/index.html
IX. Clinical Modules

1. Preventive Health Care and the Patient Centered Medical Home
   Reading Assignment:
   - Rakel Textbook of Family Medicine
     - Chapter 7, pages 81-101
     - Chapter 43, pages 1052-1061
   - Primary Care for the 21st Century
   - US Preventive Services Task Force
   Online Case:
     - Aquifer Family Medicine Case 1
     - Aquifer Family Medicine Case 2
   Learning Objectives:
   i. Recall the definitions of primary, secondary, and tertiary prevention
   ii. Recall the definitions of prevalence, incidence, and number needed to treat/screen
   iii. Identify the USPSTF recommendations for the following cancers: colon, breast, lung, ovarian and prostate and the method of screening
   iv. Identify the preventive service recommendations for the following cardiovascular diseases: hypertension, hyperlipidemia, abdominal aortic aneurysm, CHD and CVD
   v. Recall the preventive service recommendations for the following substance abuse and mental health issues: tobacco, alcohol and depression
   vi. Recall principles of screening and the characteristics of a good screening test
   vii. Recall the principles that guide behavior change counseling
   viii. Utilize the CDC/ACIP chart in order to determine what immunizations are required based on age of the patient and contraindications to immunizations
   ix. Recall how to calculate BMI and be able to identify patients at risk for obesity
   x. Relate to patients on the importance of immunizations and screening tests
   xi. Identify the principles of the PCMH, the three primary care domains of care delivery and the importance of self-care
   xii. Identify types of disciplinary teams in the PCMH
   xiii. Recall what patient centered care entails

2. Mood Disorders in Primary Care
   Reading Assignment: Rakel Textbook of Family Medicine, Chapter 46, pages 1090-1107
   Learning Objectives:
   i. Recall the diagnostic criteria for major depressive disorder (MDD)
   ii. Recall how to use the history, physical, and diagnostic tests to rule out medical causes of depressive symptoms
   iii. Identify the effects of depression on the patient’s family
   iv. Select the common therapeutic options for MDD and their side effects
   v. Formulate plan for the use of complementary and alternative therapies for MDD
   vi. Judge how a patient’s culture can affect the evaluation and treatment of mood disorders
   vii. Recall the first line medical treatment for anxiety disorders
   viii. Differentiate between generalized anxiety disorder, seasonal affective disorder and situational anxiety
   ix. Recall the indications for the use of Benzodiazepines and potential side effects
   x. Recall the prevalence of mood disorders in the primary care setting
3. **Oral Cavity and Acute Pharyngitis**
   **Reading Assignment:** Rakel Textbook of Family Medicine, Chapter 18, pages 305-350
   **Online Case:** Aquifer Family Medicine Case 23

   **Learning Objectives:**
   i. Identify the viral and the bacterial causes of acute pharyngitis
   ii. Apply treatment options and physical examination findings for Group A beta hemolytic streptococcus (GABHS) and how to define a carrier
   iii. Recall the Centor criteria for GABHS
   iv. Recognize dysphagia, medication induced esophagitis, and globus hystericus
   v. Recall the elements of an obstructive sleep apnea (OSA) study, the symptoms of OSA and the chronic illnesses associated with OSA
   vi. Recognize the causes of laryngitis and hoarseness, and treatment guidelines
   vii. Identify the symptoms and treatment of reflux laryngitis
   viii. Assess how to evaluate a patient with pharyngitis, including appropriate history and physical examination, use of clinical prediction rules and appropriate antibiotic use
   ix. Recall complications of Group A beta-hemolytic streptococcal pharyngitis
   x. Recall how to identify and treat mononucleosis
   xi. Relate the avoidance of activity restrictions during the treatment of mononucleosis

4. **Outpatient Management of Diabetes Mellitus**
   **Reading Assignment:** Rakel Textbook of Family Medicine, Chapter 34, pages 792-816
   **Online Case:** Aquifer Family Medicine Case 6

   **Learning Objectives:**
   i. Identify and state the groups of diabetes and how diabetes is diagnosed
   ii. Recall the changing epidemiology of diabetes in the U.S.
   iii. Recall the morbidity and mortality (complications) associated with DM and preventive measures that lower morbidity
   iv. Recognize the two common pathogenic mechanisms associated with the development of DM and the characteristics of type 1 and type 2 DM
   v. Identify the Dietary recommendations of the ADA and the effects of exercise on DM
   vi. Recognize the classes of diabetic agents, mode of action and side effects; identify agents that may promote weight loss
   vii. Recall the classes of insulin preparations
   viii. Recognize how to initiate insulin in the type 2 DM patient and when to consider the discontinuation of insulin
   ix. Calculate basal-bolus insulin dosing
   x. Apply evidence-based standards of care in the management of a patient with type 2 diabetes mellitus
   xi. Formulate patient education regarding type 2 diabetes with attention to and respect for the patient’s own disease model

5. **Coronary Artery Disease (CAD) Stable Angina**
   **Reading Assignment:** Rakel Textbook of Family Medicine, Chapter 27, pages 529-541
   **Online Case:** Aquifer Internal Medicine Case 2

   **Learning Objectives:**
   i. Recognize signs and symptoms of angina
   ii. Apply 3 goals in the pharmacologic management of stable CAD
   iii. Recall the pharmacologic effects of nitrates, b-blockers, calcium channel blockers and Ranolazine for the treatment of stable angina
   iv. Categorize symptoms as angina pectoris, atypical angina, or non-cardiac chest pain
   v. Recall how to perform a physical exam that includes: identifying the presence of dyspnea and anxiety, obtaining accurate vital signs, and performing heart, lung, and vascular exams
vi. Select appropriate laboratory and diagnostic studies based on patient demographics and the most likely etiologies of chest pain
vii. Recall how to recommend primary and secondary prevention of ischemic heart disease through the reduction of cardiovascular risk factors
viii. Select appropriate anti-anginal medications when indicated and communicate potential adverse reactions
ix. Recall how to develop a diagnostic testing strategy for a patient at risk of CAD, presenting with shortness of breath, and interpret the test results
x. Develop education for patients about lifestyle changes and management goals to reduce the risk of CAD

6. Dyslipidemia Management
**Reading Assignment:** Rakel Textbook of Family Medicine, Chapter 27, pages 504-513
**Online Case:** Aquifer Internal Medicine Case 16

**Learning Objectives:**
i. Recognize the risk factors for the development of atherosclerosis
ii. Identify all coronary artery disease risk equivalents
iii. Recall the primary and secondary goals of therapy for dyslipidemia
iv. Develop appropriate patient education regarding therapeutic lifestyle changes and the health implications of obesity
v. Recall the role of statins in primary and secondary therapy
vi. Recognize the mechanism of action and side effects of statin therapy
vii. Recognize the action, benefits, and side effects of fish oil
viii. Recognize clinical signs of hypercholesterolemia
ix. Differentiate the etiologies of primary and secondary dyslipidemias in adults
x. Devise screening recommendations for dyslipidemias in adults

7. Headache (HA)
**Reading Assignment:**
- Rakel Textbook of Family Medicine, Chapter 41, pages 997-1038
- Somatic Dysfunction in Osteopathic Family Medicine (2nd ed.), Chapter 35, pages 399-414

**Online Case:** Aquifer Family Medicine Case 18

**Learning Objectives:**
i. Distinguish between primary and secondary headaches using history findings
ii. Recall the differential diagnosis associated with headaches
iii. Infer the components of the history of the patient that presents with the complaint of HA
iv. Recognize the diagnostic criteria for each of the primary headache types
v. Distinguish headaches associated with Giant Cell Arteritis versus primary headaches
vi. Chose the appropriate physical examination techniques for a patient presenting with headache
vii. Identify appropriate indications for ordering imaging tests on a patient who presents with headache
viii. Formulate an acute treatment plan for each of the primary headaches
ix. Infer when a patient requires prophylaxis for headaches
x. Formulate a prophylactic treatment plan for chronic primary headaches
xi. Recall the typical somatic dysfunctions associated with the primary headache types and their osteopathic treatment (Cervicogenic, Tension, Migraine, and Cluster)
-xii. Identify the primary headache and counsel a patient on the appropriate prevention and treatment
-xiii. of the somatic dysfunction associated with the headache
-xiv. Utilize sub-occipital release, soft tissue techniques to the cervical paraspinal musculature and cranial techniques to improve the somatic component of the headache
xvii. Develop myofascial self-care techniques for patients to use outside the office to help treat headaches

8. Outpatient Management of Hypertension and Metabolic Syndrome  
**Reading Assignment:** Rakel Textbook of Family Medicine, Chapter 27, pages 514-526  
**Online Case:** Aquifer Family Medicine Case 8  
**Learning Objectives:**
   i. Relate the NCEP ATP-III criteria and its associated medical conditions with metabolic syndrome  
   ii. Recall the incidence of metabolic syndrome and obesity in the U.S. and its prevalence in ethnic populations  
   iii. Infer the pathological mechanism of increased abdominal adipose tissue and its effects on metabolism especially lipids and blood sugar  
   iv. Recognize appropriate treatments for metabolic syndrome  
   v. Recall the nationally accepted guidelines for screening, diagnosing, and staging the severity of hypertension  
   vi. Identify and list appropriate elements of a comprehensive physical examination in hypertensive patients, including proper techniques in blood pressure measurement  
   vii. Recall recommended laboratory studies for an uncomplicated new hypertensive patient on initial visit  
   viii. Assess elements of lifestyle modification (including health education and behavioral change strategies) for hypertensive patients  
   ix. Formulate patient education on dietary and lifestyle changes needed to reduce risk of hypertension and metabolic syndrome  
   x. Recognize updated hypertension recommendations based on the most recent guidelines

9. Pulmonary Function Testing (PFT) and Cigarette Smoking  
**Reading Assignment:**  
- Rakel Textbook of Family Medicine  
  - Chapter 16, pages 236-242  
  - Chapter 49, pages 1133-1150  
**Learning Objectives:**
   i. Distinguish obstructive from restrictive lung disease using PFT, FEV1, and FVC  
   ii. Utilize PFTs to diagnose obstructive and restrictive lung diseases  
   iii. Recall what steps are required for an adequate PFT  
   iv. Identify the most common causes of acute episodes of cough  
   v. Recall the most common differential of cough in the non-smoking adult  
   vi. Infer the morbidity and mortality associated with tobacco use  
   vii. Relate pathologic basis of smoking and its effect on tissues  
   viii. Infer the pharmacologic effects of Bupropion, nicotine, and Varenicline for the treatment of smoking  
   ix. Develop patient education on community opportunities to help smoking cessation  
   x. Recall the stages of change in respect to the patients’ desire to stop smoking

10. Allergy and Asthma  
**Reading Assignment:** Rakel Textbook of Family Medicine, Chapter 19, pages 351-364  
**Online Cases:**  
- Aquifer Family Medicine Case 13  
- Aquifer Pediatrics Case 13  
**Learning Objectives:**
   i. Recognize the common physical signs and symptoms of allergies  
   ii. Identify the most effective treatment for allergic rhinitis
iii. Recall the key elements to the diagnosis of asthma
iv. Recognize common signs and symptoms of asthma
v. Develop a differential diagnosis for asthma
vi. Infer the most useful test for the diagnosis of asthma in the primary care office and its relationship to the severity of disease
vii. Recall the classification scale for asthma and the step approach to treatment
viii. Recall the risk factors for asthma related death
ix. Recognize the important features of the history and physical examination that support the diagnosis of asthma
x. Distinguish comorbid conditions that must be addressed to help the patient control symptoms of asthma
xi. Recognize the available classes of medications to treat asthma
xii. Formulate patient education for an asthma action plan based on stage and severity
xiii. Recall how to use a peak flow meter, inhaler, and spacer device

11. Dermatology – Skin Cancers and Skin Biopsy

Reading Assignment: Rakel Textbook of Family Medicine, Chapter 33, pages 740-781

Online Case: Aquifer Family Medicine Case 16

Learning Objectives:

i. Differentiate physical characteristics of seborrheic keratosis from melanoma
ii. Recognize the physical characteristics and prognosis of actinic keratosis
iii. Recognize the physical characteristics of basal cell carcinoma and the indications for Mohs surgery
iv. Recognize the physical characteristics of squamous cell carcinoma and treatment modalities
v. Recognize the physical characteristics of melanoma and risk factors for development
vi. Recall the most important prognostic indicator in the treatment of melanoma
vii. Define terms that describe the morphology, shape, and pattern of skin lesions
viii. Recall treatment principles of topical corticosteroid and local and systemic antifungal agents
ix. Utilize the ABCDE criteria for the evaluation of hyper pigmented lesions as possible melanoma
x. Discriminate common biopsy procedures including shave biopsy, punch biopsy, incisional and excisional biopsies
xi. Develop patient education on the importance and methods of prevention of skin cancers

12. Crystal Arthropathie and Spondyloarthropathies

Reading Assignment: Rakel Textbook of Family Medicine, Chapter 32, pages 699-739

Online Case: Aquifer Family Medicine Case 11

Learning Objectives:

i. Recognize the signs and symptoms of gout
ii. Recall the most important factors in the development of acute gouty arthritis
iii. Identify the causes of secondary gout
iv. Define the mechanism of action of Allopurinol and use in the prophylaxis of gout
v. Recognize the diseases associated with calcium pyrophosphate deposition disease
vi. Formulate a evaluation for a suspected new diagnosis of calcium pyrophosphate deposition disease
vii. Recognize the signs and symptoms of ankylosing spondylitis and the classic radiographic appearance
viii. Recall the classic triad of reactive arthritis and the suggested causes
ix. Develop a differential diagnosis for knee pain in an adult
x. Formulate an appropriate treatment plan for osteoarthritis, including medications and lifestyle modifications
xi. Recognize the utility of Osteopathic techniques to help with the treatment of osteoarthritis
xii. Select and recognize when imaging and referral to specialists are appropriate in arthritis
xiii. Develop patient education on the different classes of medications useful for the treatment of chronic pain and their common side effects

13. Low Back Pain/Lumbosacral Pain

Reading Assignment:
- Rakel Textbook of Family Medicine, Chapter 31, pages 688-698
- Foundations of Osteopathic Medicine (3rd ed.)
  - Chapter 40, pages 543-573
  - Chapter 41, pages 590-600

Online Case: Aquifer Family Medicine Case 10

Learning Objectives:
1. Utilizing the osteopathic evaluation and work up for the evaluation of low back pain
2. Identify the most common cause of back pain seen in Family Medicine, predisposing factors and significance of psychosocial factors
3. Recall the osteopathic physical examination necessary to differentiate causes for low back pain and differential diagnosis of low back pain
4. Recognize the value of diagnostic testing, and describe routine treatment for LBP
5. Recognize the clinical signs and symptoms associated with disc herniation syndromes and when to refer for surgical evaluation
6. Identify the clinical signs, symptoms, and treatment of lumbar compression fractures, spinal stenosis, and scoliosis
7. Recognize the red flags/alarm symptoms for serious causes for low back pain
8. Apply osteopathic physical examination findings to develop appropriate treatment for back pain
9. Apply counterstrain, soft tissue manipulation, myofascial release, muscle energy and HVLA in the setting of lumbosacral back pain
10. Develop patient education on home exercises and other home treatments for low back pain

14. Thoracic Back Pain

Reading Assignment:
- Rakel Textbook of Family Medicine, Chapter 31, pages 688-698
- Somatic Dysfunction in Osteopathic Family Medicine (2nd ed.), Chapter 38, pages 443-452

Learning Objectives:
1. Utilize the osteopathic evaluation and work up for a patient complaining of thoracic back pain
2. Identify the most common causes of thoracic back pain seen in Family Medicine, predisposing factors and significance of psychosocial factors
3. Recall the osteopathic physical examination necessary to differentiate causes for thoracic back pain and differential diagnosis of thoracic back pain
4. Identify the clinical signs and symptoms of thoracic compression fractures, spinal stenosis, and scoliosis
5. Recognize red flags/alarm symptoms for serious causes for thoracic back pain
6. Recall the criteria for ordering imaging studies and when indicated
7. Apply counterstrain, soft tissue manipulation, myofascial release, muscle energy and HVLA in the setting of thoracic back pain
8. Apply osteopathic examination findings with clinical findings and symptoms to diagnose rib dysfunction or fracture
9. Utilize muscle energy and counterstrain to treat a patient with rib dysfunction
10. Develop patient education on home exercise and other home treatments for thoracic back pain
15. Neck Pain

Reading Assignment:
- Rakel Textbook of Family Medicine, Chapter 31, pages 684-696
- Foundations of Osteopathic Medicine (3rd ed.), Chapter 38, pages 513-526

Learning Objectives:
- i. Utilize the osteopathic evaluation and work-up of cervical neck pain
- ii. Recall the most common causes for cervical pain seen in family medicine, predisposing factors and significance of psychosocial factors
- iii. Recall the osteopathic physical examination necessary to differentiate causes for cervical pain and a differential diagnosis of cervical neck pain
- iv. Recognize the clinical signs and symptoms associated with disc herniation syndromes and when to refer for surgical evaluation
- v. Recognize the clinical signs, symptoms and treatment of cervical compression fractures and spinal stenosis
- vi. Recognize the red flag/alarm symptoms for serious causes for cervical neck pain
- vii. Identify the criteria for ordering imaging studies and when imaging is indicated
- viii. Apply muscle energy, suboccipital release, counterstrain, soft tissue manipulation, myofascial release and HVLA in the patient with cervical neck pain
- ix. Develop patient education on home exercise and home therapies neck pain including cervical sprain and whiplash syndromes

16. Common Adult Gastrointestinal Disorders

Reading Assignment:
- Somatic Dysfunction in Osteopathic Family Medicine (2nd ed.), Chapter 28, pages 308-316
- Rakel Textbook of Family Medicine, Chapter 38, pages 914, 917-924

Online Case: Aquifer Family Medicine Case 19

Learning Objectives:
- i. Recall the osteopathic evaluation and work-up of gastrointestinal disorders
- ii. Identify the etiology of Barrett’s esophagitis and role of H. pylori in peptic ulcer disease
- iii. including methods of testing for Barrett’s and H. pylori
- iv. Develop patient education on lifestyle changes at home and the use of H-2 blockers and PPI including side effects
- v. Recall evidence-based treatment strategies for H. pylori gastritis
- vi. Recognize the common causes of Upper GI bleeding
- vii. Apply an osteopathic physical examination along with history to evaluate right upper quadrant pain and formulate a differential diagnosis for right upper quadrant abdominal pain
- viii. Infer viscerosomatic reflexes along with diagnostic testing in the setting of suspected gall bladder disease
- ix. Recognize the differences between ulcer and non-ulcer (functional) dyspepsia
- x. Apply osteopathic techniques to identify the viscerosomatic and somatovisceral reflexes associated with common gastrointestinal complaints
- xi. Apply mesenteric lift to reduce congestion and improve circulation to the intestines
- xii. Apply doming of the diaphragm to improve lymphatic flow
- xiii. Develop patient education on appropriateness of follow-up and testing for eradication in patients with H. pylori gastritis
17. Nutrition and Family Medicine

**Reading Assignment:** Rakel Textbook of Family Medicine, Chapter 37, pages 891-911

**Learning Objectives:**

i. Recall current dietary guidelines when using websites (and be familiar with websites) such as [www.MyPlate.gov](http://www.MyPlate.gov) and [www.dietaryguidelines.gov](http://www.dietaryguidelines.gov) for resources

ii. Develop patient education on dietary sources of minerals

iii. Recall site of absorption of key vitamins and minerals

iv. Recognize health conditions that may impair metabolism or absorption of vitamins and minerals

v. Recognize health conditions that may result in increased excretion or increased requirements of vitamins and minerals

vi. Identify important aspects of the patient history and physical examination in a nutrition assessment

vii. Develop patient education on body mass index (BMI) and its role in their health

viii. Recognize appropriate lab work for malnutrition assessment

ix. Recognize and educate patients about changing nutritional needs in pregnancy and lactation, childhood, adolescence and old age

x. Appraise various diets for pros, cons and contraindications

18. Thyroid Disorders

**Reading Assignment:** Rakel Textbook of Family Medicine, Chapter 35, pages 828-839

**Learning Objectives:**

i. Recall the roles of the thyroid hormones (TSH, T4, T3) in the diagnosis of thyroid disorders

ii. Identify the correct algorithm for diagnosing thyroid disorders

iii. Recognize when to refer to endocrinology for further work-up of thyroid disorders

iv. Recall the treatment for primary hypothyroidism

v. Identify when a patient may have sub-clinical hypothyroidism and its clinical significance

vi. Recall the pathogenesis of Graves disease

vii. Utilize physical examination findings to help diagnose hyperthyroidism

viii. Identify the most common cause of hypothyroidism in the United States as well as the role of iodine deficiency in hypothyroidism

ix. Recognize when to consider biopsies for nodules and cysts of the thyroid gland

x. Recall the common medications which may affect thyroid function

xi. Develop patient education on the signs and symptoms of over-treatment of hypothyroidism

19. Ophthalmology and the Family Medicine Patient

**Reading Assignment:** Rakel Textbook of Family Medicine, Chapter 17, pages 274-300

**Online Case:** [FM I Case 20 – The Red Eye](http://example.com/fm1_case20)

**Learning Objectives:**

i. Utilize a complete physical exam of the eye, including use of handheld ophthalmoscope to determine causes of ‘Red Eye’

ii. Assess the need for referral in evaluation of the following conditions:
   a. Reduced Vision
   b. Pain
   c. Photophobia
   d. Corneal Staining
   e. Corneal edema
   f. Unequal pupils
   g. Elevated intraocular pressure

iii. Differentiate symptoms of conjunctivitis to help determine viral, bacterial versus allergic causes

iv. Recall the proper management of styes, chalazions, and blepharitis

v. Identify the common causes of dry eyes and appropriate treatment
vi. Recall the leading causes of blindness in the United States and appropriate screening and treatment
vii. Differentiate between open-angle and angle-closure glaucoma and when emergent referral is needed
viii. Recall the ophthalmologic symptoms of Giant Cell Arteritis and the treatment
ix. Utilize presenting symptoms of vision loss to develop a differential for the patient with sudden vision loss
x. Develop patient education on the proper use of antibiotic eye drops in the treatment of conjunctivitis

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.