



# Edward Via College of Osteopathic Medicine

MED 8100/MED 8105  
Clinical Surgery and Surgery Modules  
Academic Year 2023-2024

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## ROTATION SYLLABUS

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### I. Rotation Description

The purpose of the VCOM Department of Surgery is to provide a high quality surgical educational experience. The Mission of the College is to provide medical education and research that prepares globally-minded, community-focused physicians and to improve the health of those most in need.

Third year medical student clerkships are offered by the majority of our regional hospitals. The general surgery rotation is four weeks in duration. The student acts as a surgical extern as he/she rotates with the

Discipline. He/she learns how to do a surgical history, assess the patient by Goldman's criteria, provide pre- and post-op care, make rounds, write orders, and attend all conferences that are for surgical cases. The Department of Surgery faculty believe the surgical disciplines have important roles in medical education and the provision of healthcare and that educational and healthcare advances are founded upon sound clinical and basic research.

During the third-year surgery rotation, students expand their knowledge of surgical conditions and gain the ability to apply this knowledge in the clinical setting. The curriculum is taught through case modules, assigned readings, and through one-on-one student-preceptor interaction in the clinical setting. Students are expected to complete their assignments for both surgery and the longitudinal OMM course. The practice of surgery occurs in the outpatient office setting and in the inpatient setting. Due to the variety of practice opportunities and formats in surgery, 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

1. Practice – The student will become familiar with the characteristics of the practice of general surgery, including the knowledge base required, manner of patient communications, intermittent patient encounters, and aspects of clinical reasoning, lifestyle considerations, and continuing education issues.
2. Surgical/Clinical Reasoning – The student will develop knowledge and skills in learning to differentiate between elective, urgent, and emergent surgical clinical problems from the perspective of clinical reasoning skills.
3. Communication – The student will develop the ability to transmit information through a concise, accurate, and timely oral presentation, as well as documenting their History and Physical and recording progress notes in the hospital chart where applicable.

### B. Objectives of the Course

1. To provide a working knowledge of surgical conditions of patients a primary care physician is likely to encounter in daily practice.
2. To provide a challenging and interesting introduction to surgery as a choice to practice, recognizing the need for general surgeons in rural and underserved areas.
3. To broaden the students' knowledge of surgical disease and procedures.
4. To provide clinical research in new techniques and surgical devices that will enhance the health of all humans.
5. To foster compassionate and altruistic care by participation in our Appalachian and International Medical Missions.
6. To promote the development of surgical technical skills in students and residents including:
  - a. Basic surgical instruments, knots and ties
  - b. Elementary wound closure and local anesthesia
  - c. Subcutaneous and fascial closures
  - d. Wound debridement, irrigation and drainage, securing tubes, Z plasties, VY plasties, rotation flaps
7. To become familiar with more complicated procedures including skin grafts, nerve, vessel and tendon repair.
8. To become familiar with the surgical specialties and how they are practiced, including:
  - a. Otorhinolaryngology
  - b. Ophthalmology
  - c. Neurosurgery
  - d. Cardiovascular Surgery
  - e. Orthopedics

- f. Urology
- g. Plastic Surgery

### C. Clinical Performance Objectives

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

1. **Communication** - the student should demonstrate the following clinical communication skills:
  - a. Effective listening to patient, family, peers, and healthcare team
  - b. Demonstrates compassion and respect in patient communications
  - c. Effective investigation of chief complaint, medical and psychosocial history specific to the rotation
  - d. Considers whole patient: social, spiritual & cultural concerns
  - e. Efficiently prioritizes essential from non-essential information
  - f. Assures patient understands instructions, consents & medications
  - g. Presents cases in an accurate, concise, well-organized manner
2. **Problem Solving** – the student should demonstrate the following problem-solving skills:
  - a. Identify important questions and separate data in 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 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 online 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 VLMS 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 VLMS entries with their preceptor during the rotation period.

### IV. Credits

5 credit hours

### V. Course Texts

#### A. Required Textbooks

- Townsend, C.M., Beauchamp, R.D., Evers, B.M., & Mattox, L.L. (2021). *Sabiston textbook of surgery* (21<sup>st</sup> ed.). Philadelphia, PA: Elsevier. ISBN-13: 978-0323640626

- American Osteopathic Association, & Chila, A. *Foundations of osteopathic medicine* (3rd ed.). Baltimore, MD: Lippincott Williams & Wilkins. ISBN: 978-0781766715  
Available in electronic format on the VCOM Library – on LWW Osteopathic Medicine Collection
- Kuchera, M. & Kuchera, W. (1994). *Osteopathic considerations in systemic dysfunction* (Rev 2<sup>nd</sup> ed.). Dayton, OH: Greyden Press. ISBN: 978-1570741548
- Rakel, R.E., & Rakel, D. (2016). *Rakel textbook of family medicine* (9<sup>th</sup> ed.). Philadelphia, PA: Elsevier. ISBN: 978-0323239905 (Available in electronic format on the VCOM Library – on Clinical Key)

## VI. Course Grading and Requirements for Successful Completion

### A. Requirements

- Attendance according to VCOM and preceptor requirements as defined in the [College Catalog and Student Handbook](#).
- Completion and submission of the clinical curriculum
  - In addition to the learning experience in the clinical site, the clinical curriculum consists of the reading assignments and learning objectives that are included in this syllabus and clinical case modules that are derived from some, but not all, of the learning objectives. Student's success as a physician will depend upon the learning skills they develop during this core rotation, as guided by this syllabus and clinical case modules. National boards, residency in-training examinations, and specialty board examinations require ever increasing sophistication in student's ability to apply and manipulate medical knowledge to the clinical context.
  - The clinical case modules were developed by VCOM Discipline Chairs and are intended to provide an OMS 3 student with a clinical, patient-centered approach to the learning content of this rotation. The modules should not be approached as rote learning, but should provide structured, clinically focused learning from the evidence base for this rotation. 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/login/ldap>. **Failure to do so will result in a deduction of 5 points from your end-of-rotation exam score.**
  - The content of the end-of-rotation exams will be based upon the learning objectives and reading assignments in this syllabus and the clinical case modules and their associated references.
- Logging Patient Encounters and Procedures in VLMS:
  - Students are required to log all patient encounter diagnoses and procedures into the VLMS application. A minimum of 100 encounters is required for each rotation and students must log the minimum number of encounters in order for the preceptor to sign off on the log.
  - An encounter is the same as a primary diagnosis. Secondary diagnoses, procedures, and prescriptions don't count towards the requirement, though we recommend logging those where possible to make your record accurate and complete. Multiple encounters can be logged under the same patient (i.e. in-patient, or even one you saw on multiple distinct times on the same day), and those do count separately towards the requirement. You can also enter didactic patients from hypotheticals discussed with your preceptor or lectures related to the rotation (these also count towards the requirement but be sure to mark them as didactic so that they remain organized

separately from your real patients).

- 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. If the rotation does not provide enough patient encounters/procedures to reach the minimum entry requirement, the student may request a waiver from the Associate Dean for Clinical Affairs. **VLMS logs are due no later than 5 PM on the day of your end of rotation exam.** VLMS can be accessed at: <https://clinicaems.com>
- Rotation Evaluations:
  - Student Site Evaluation: Students must complete and submit at the end of rotation. See the VCOM website at: <https://intranet.vcom.edu/clinical> to access the evaluation form.
  - Third-Year Preceptor Evaluation: It is the student's responsibility to ensure that all clinical evaluation forms are completed and submitted online or turned in to the Site Coordinator or the Clinical Affairs Office at the completion of each rotation. Students should inform the Clinical Affairs Office of any difficulty in obtaining an evaluation by the preceptor at the end of that rotation. See the VCOM website at: <https://www.vcom.edu/academics/clinical-education-third-year/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: <https://www.vcom.edu/academics/clinical-education-third-year/forms> to access the mid-rotation evaluation form.
- Successful completion of the end-of-rotation written exam. The end-of-rotation exam questions will be derived directly from the specific objectives presented in each of the below modules.

## B. Grading

Students must pass both the "module" and "rotation" portions of the course. All rotations have a clinical rotation grade and clinical modules/exam grade. Failure to submit all of the Surgery case module files using the Canvas link provided above **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.

- **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
    - Student should not work more than 12 hours daily, exclusive of on-call assignments.
    - If on-call hours are required, the student should not be on duty for greater than 30 continuous hours.
    - Students may be required to work weekends but in general should have 2 weekends per month free and an average of 2 of 7 days per week free.

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

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

Students are expected to arrive on time to all clinical rotations. If a student is late, he or she must notify the site coordinator and the preceptor prior to or at the time they are scheduled arrive. Students must



have a reason for being late such as illness or vehicle issues and it is not anticipated that this would occur more than one occasion AND it is important the student call in prior to being late. Repeated tardiness is considered as unprofessional behavior and is a reason for dismissal from a rotation. Students with repeated tardiness will be referred to the PESB. Tardiness is defined as more than 5 minutes after the scheduled time the preceptor designates as the expected arrival time.

The Office of Clinical Affairs requires that the medical student complete and submit an Excused Absence Clinical Rotations Approval form for any time "away" from clinical rotations. Forms are available at: <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 of the day they will be absent due to an illness or emergency. No excused absence will be granted after the fact, except in emergencies as verified by the Associate Dean for Clinical Affairs.

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

#### **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. Pre-requisites to a Successful Clerkship

Prior to beginning the rotation it would be advisable to review the [Video on Surgery Scrubbing Technique](#) found on VCOM-TV.

## XI. Clinical Curriculum

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

### 1. Acute Abdomen

**Reading Assignment:** Sabiston Textbook of Surgery, pages 1134-1149

**Module:** [Module 9 - Acute Abd SBO and Appendicitis](#)

**Learning Objectives:**

- i. Define what is meant by Acute Abdomen
- ii. Discuss the anatomy of the region
- iii. Describe the investigative studies used in the workup of the acute abdomen
- iv. Discuss the role of laparoscopy
- v. Develop a differential diagnosis for a patient with an acute abdomen
- vi. Describe the algorithm for management of the acute abdomen
- vii. Describe the indications and preparation for surgical exploration
- viii. Discuss pre-operative management
- ix. Discuss the preparation for emergency surgery

### 2. Adrenal Masses

**Reading Assignment:** Sabiston Textbook of Surgery, pages 964-995

**Module:** [Module 10 - Adrenal Disorders](#)

**Learning Objectives:**

- i. Define the work-up of an adrenal mass noted incidentally (incidentaloma) on a CT scan
- ii. Define the basic physiology of aldosterone secreting tumors (Conn syndrome)
- iii. Define the basic physiology of pheochromocytoma. Understand the basic diagnostic work-up. Learn the rule of 10's as a mnemonic tool (10% malignant, 10% bilateral, 10% extra-adrenal, 10% familial p980). Define which MEN syndrome is related to pheochromocytoma
- iv. Define glucocorticoid physiology and the difference between Cushing syndrome and Cushing disease
- v. Identify the characteristics of adrenal cortical carcinomas (size, symptoms, CT appearance)
- vi. Identify the indications for, and the risks and benefits of, biopsy of an adrenal mass
- vii. Compare open versus laparoscopic adrenalectomy and define the major complications of adrenal surgery and the anatomy of the region

### 3. Anorectal Disease

**Reading Assignment:** Sabiston Textbook of Surgery, pages 1390-1418

**Module:** [Module 4 - Anorectal Disease, Anesthesia, Wound Healing](#)

**Learning Objectives:**

- i. Identify the important anatomical landmarks of the anorectal area
- ii. Define the causes and treatment of pelvic floor disorders, including incontinence
- iii. Define the causes and treatment of pelvic floor disorders, including:
  - a. urinary obstruction
  - b. rectal prolapse
- iv. List a differential diagnosis for a patient with perianal pain
- v. Identify the signs, symptoms and treatment plan, including non-operative intervention and timing, for the following conditions. Discuss the characteristic history including, character and duration of complaint, presence or absence of associated bleeding and relationship of complaint to defecation. Indicate in which part of exam (external, digital, anoscopic, or proctoscopic) these findings are identified.
  - a. Hemorrhoids
  - b. Anal fissures
  - c. Perianal fistulas
  - d. Perianal abscess
  - e. Pilonidal disease
  - f. Hidradenitis
  - g. Perianal condyloma
  - h. Crohn's Disease
  - i. Anal tumors

#### 4. Appendicitis

**Reading Assignment:** Sabiston Textbook of Surgery, pages 304, 1301-1317

**Module:** [Module 9 - Acute Abd SBO and Appendicitis](#)

**Learning Objectives:**

- i. Describe the anatomy of the appendix and its relation to other abdominal and retroperitoneal structures
- ii. Describe the pathophysiology and clinical presentation of acute appendicitis. Discuss its diagnosis and differential diagnosis (be specific regarding different age groups and male vs. female)
- iii. Describe the diagnostic algorithm for appendicitis
- iv. Describe the management of uncomplicated appendicitis
- v. Discuss perforated appendix and an appendiceal abscess
- vi. Discuss chronic or recurring appendicitis
- vii. Describe appendicitis occurring in the elderly.
- viii. Describe the diagnosis and treatment of appendiceal cancer.
- ix. Recognize the special physical signs that are relevant to appendicitis:
  - a. McBurney's Point tenderness
  - b. Positive Rovsing's Sign
  - c. Positive Psoas Sign

#### 5. Anesthesia

**Reading Assignment:** Sabiston Textbook of Surgery, pages 217-218, 324-340

**Modules:**

- [Module 3 - Burn Management, Principles of Pre-Post Op, Anesthesia, Wound Healing](#)

- [Module 4 - Anorectal Disease, Anesthesia, Wound Healing](#)

**Learning Objectives:**

- i. Describe preoperative evaluation for the patient undergoing anesthesia
- ii. Describe airway assessment
- iii. Describe assessment of physical status using the ASA classification
- iv. Recognize the risks of death or major complications with anesthesia
- v. Discuss the pharmacology and risks of local anesthetics
- vi. Describe the factors behind selection of anesthetic techniques.
- vii. Identify the benefits and risks among the regional anesthetic techniques including local, spinal, epidural and peripheral blocks.
- viii. Describe “Conscious Sedation”, its benefits and risks.
- ix. Recognize malignant hyperthermia and its treatment
- x. Recognize potential complications in post-anesthesia care:
  - a. respiratory complications
  - b. nausea and vomiting
  - c. hypothermia
  - d. circulatory complications

**6. Bowel Obstruction**

**Reading Assignment:** Sabiston Textbook of Surgery, pages 303-304, 1250-1258, 1339-1344

**Module:** [Module 9 - Acute Abd SBO and Appendicitis](#)

**Learning Objectives:**

- i. Describe the pathophysiology behind SBO and its typical etiologies
- ii. Discuss the clinical manifestations and diagnosis of SBO including:
  - a. history
  - b. physical examination
  - c. radiologic and laboratory studies
- iii. Describe the causes of and the terms used to describe ileus and postoperative bowel obstruction
- iv. Discuss the nuances of simple versus strangulated obstruction
- v. Describe diagnostic modalities for diagnosing SBO.
- vi. Discuss treatment of SBO to include:
  - a. fluid resuscitation and antibiotics
  - b. tube decompression
  - c. operative management
- vii. Describe the unique aspects of etiology, diagnosis, and treatment of SBO in the geriatric population.
- viii. Discuss the presentation of patients with postoperative small bowel obstruction (SBO)
- ix. Discuss management of specific SBO issues including:
  - a. recurrent intestinal obstruction
  - b. acute postoperative obstruction
  - c. ileus
- x. Discuss the classification, diagnosis and treatment of Large Bowel Obstruction (LBO) and pseudo obstruction
- xi. Describe Ogilvie’s Syndrome
- xii. Discuss the diagnosis and treatment of LBO.

**7. Breast Disorders and Breast Cancer**

**Reading Assignment:** Sabiston Textbook of Surgery, pages 809-871

**Module:** [Module 2 - Disorders of Breast, Principles of Pre-Post Op](#)

**Learning Objectives:**

- i. Recognize the anatomy of the breast and its lymphatic drainage
- ii. Describe breast development and physiology, both normal and abnormal
- iii. Describe the diagnosis of breast disease (breast cancer, fibro-adenoma, breast cysts, fibrocystic change, papilloma) and the use of radiographic-guided needle biopsy techniques for diagnosis
- iv. Describe breast imaging (mammography, ultrasonography, MRI) and the limitations of each modality.
- v. Describe the current recommendations for screening management both for low risk and high risk patients regarding breast cancer.
- vi. Identify and manage high-risk breast patients
  - a. Describe the Gail model and how it is useful to primary care physicians.
  - b. Describe the more common genetic aberrations that lead to an increase in risk for development of breast cancer
- vii. Describe benign breast tumors and related diseases with attention to diagnosis and treatment
  - a. Recognize breast pain vs. chest wall pain and the differential diagnosis and treatment
  - b. Describe treatment options for cyclical breast pain
  - c. Define pathologic nipple discharge and its work-up and treatment
- viii. Describe staging systems (TNM) used in breast cancer and the more common pathologic types
- ix. Discuss the surgical treatment issues in breast cancer
  - a. Breast preservation vs. mastectomy
  - b. Sentinel node biopsy
  - c. Post-mastectomy reconstruction
- x. Describe the modern concept of breast cancer classification using molecular markers.
- xi. Recall the incidence of breast cancer with individuals with BRCA gene mutations
- xii. Discuss preventive measures that may mitigate the risk of hereditary breast development in individuals with BRCA gene mutations (including prophylactic mastectomy).
- xiii. Discuss adjuvant chemo- and radio- therapies
- xiv. Describe recognition and treatment of special conditions including:
  - a. Disease in the elderly
  - b. Chronic subareolar breast abscesses
  - c. Paget's disease
  - d. Breast cancer in men

## 8. Burn Management

**Reading Assignment:** Sabiston Textbook of Surgery, pages 484-505

**Module:** [Module 3 - Burn Management, Principles of Pre-Post Op, Anesthesia, Wound Healing](#)

### Learning Objectives:

- i. Describe the more common types of burns and the most common types of burns and their mechanisms of injury.
- ii. Recognize the role of education and prevention.
- iii. Recognize the difference between chemical, electrical and thermal injuries
- iv. Define superficial burns (1<sup>st</sup> degree), partial thickness burns (2<sup>nd</sup> degree), and full thickness burns (3<sup>rd</sup> degree).
- v. Define emergency care of superficial (1<sup>st</sup> degree) and uncomplicated partial thickness burns (2<sup>nd</sup> degree)
- vi. Define the rule of Nines for burn assessment
- vii. Define criteria for transfer to a major burn center
- viii. Recognize the rationale for burn resuscitation for major burns
- ix. Recognize the Parkland and similar formulas and recognize the magnitude of fluid that may be required to manage a major burn
- x. Recognize inhalational injury - the importance of careful assessment of patients burned in closed spaces (apartments, garages, etc.)
- xi. Recognize the necessity of tetanus prophylaxis in burns

- xii. Recognize the basics of treatment of chemical burns in the emergency setting

## 9. Cholecystitis and Biliary System Disease

**Reading Assignment:** Sabiston Textbook of Surgery, pages 1432-1435, 1489-1514

**Module:** [Module 11 - Cholecystitis and Hepatobiliary System and Pancreatic Disorders](#)

### Learning Objectives:

- i. Describe the anatomical arrangement of the hepatobiliary system
- ii. Discuss the general considerations of biliary tree disease, including:
  - a. biliary colic
  - b. fever
  - c. jaundice
  - d. cholangitis
- iii. Identify pertinent historical and physical examination facts related to gallbladder disease, including:
  - a. gallstones
  - b. acute and chronic cholecystitis
  - c. emphysematous cholecystitis
  - d. gallstone ileus
  - e. bacterial cholangitis
  - f. choledocholithiasis
  - g. biliary dyskinesia
  - h. Sphincter of Oddi dysfunction
- iv. Differentiate among the various diagnostic modalities used to diagnose hepatobiliary disease (ultrasonography, CT scan, HIDA scan, MRCP)
- v. Describe treatment options for the above hepatobiliary disorders including laparoscopic or open cholecystectomy and ERCP
- vi. Describe the indications for selective cholangiography
- vii. Discuss the complications in dealing with these disorders, including:
  - a. bile duct injury
  - b. lost stones
  - c. postcholecystectomy pain
  - d. retained biliary stones
  - e. biliary leak
- viii. Describe the recognition and treatment of post cholecystectomy syndromes
- ix. Discuss noncalculous biliary disease, its diagnosis and management

## 10. Colon Cancer

**Reading Assignment:** Sabiston Textbook of Surgery, pages 1361-1389

**Module:** [Module 12 - Colon Cancer](#)

### Learning Objectives:

- i. Discuss colorectal cancer genetics and specific genetic mutations
  - a. Describe what is meant by “mismatch repair genes
  - b. Discuss the adenoma-carcinoma sequence
  - c. Discuss Lynch syndrome
- ii. Describe Colorectal polyps, their diagnosis and management
- iii. Describe the epidemiology of colorectal cancer regarding prevalence in different parts of the colon, age at diagnosis, gender predilection (if any), frequency of hereditary versus sporadic.
- iv. Discuss the importance of screening colonoscopy as a way to decrease colorectal cancer mortality
- v. Describe the preoperative workup (staging) for a patient diagnosed with colorectal cancer
- vi. Discuss the surgical management of colon cancer with respect to the location in the colon.

- vii. Discuss the role of chemotherapy in colorectal cancer and the role of radiotherapy for colorectal cancer
- viii. Describe the main postoperative complications for colon resections for colorectal carcinoma
- ix. Describe the indications for temporary and permanent colostomy, including rectal cancer, Hartmann's Procedure, large bowel obstruction (diverting colostomy)

## 11. Diverticulitis

**Reading Assignment:** Sabiston Textbook of Surgery, pages 1337-1340

**Module:** [Module 6 - Diverticulitis and Diverticulosis](#)

**Learning Objectives:**

- i. Define diverticular disease
- ii. Discuss the anatomy and pathogenesis of diverticular disease.
- iii. Describe the Hinchey Classification used to assess severity of disease.
- iv. Compare the diagnosis and treatment of uncomplicated and complicated diverticulitis.
- v. Define a treatment algorithm based on pathology (perforated vs. nonperforated, abscess vs. no abscess etc.)
- vi. Define the impact of patient condition, physical findings such as localized or generalized peritonitis, and CT findings on your treatment plan
- vii. Identify the appropriate antibiotics for treatment of diverticulitis
- viii. Identify which patients require interventional radiology for abscess drainage
- ix. Define which patients require urgent surgical intervention
- x. Define which patients require a colostomy
- xi. Describe the surgical technique for primary anastomosis and Hartmann's procedure
- xii. Describe the management of patients with recurrent diverticulitis
- xiii. Discuss the diagnosis and treatment of complications of diverticulitis including abscess, fistula, generalized peritonitis, pneumoperitoneum, bowel stricture/obstruction.

## 12. Head and Neck Tumors

**Reading Assignment:** Sabiston Textbook of Surgery, pages 770-807

**Module:** [Module 7 - Head and Neck Tumors](#)

**Learning Objectives:**

- i. Recognize the etiology and most common clinical findings found in sialolithiasis and sialadenitis.
- ii. Understand the systemic illnesses or conditions that are associated with salivary gland disorders.
- iii. List the most common tumors of the salivary glands, presentations, workup and treatment.
- iv. Understand the physical findings of parotid, salivary and oral tumors.
- v. Identify the most common oral cancers.
- vi. Understand HPV and smoking risks associated with oral cancers.
- vii. Understand the risks of salivary gland and oral cancer surgery
- viii. Define primary hyperparathyroidism including basic issues regarding the diagnosis, gland localization and surgical options.

## 13. Inguinal Hernia

**Reading Assignment:** Sabiston Textbook of Surgery, pages 1105-1133

**Module:** [Module 8 - Inguinal Hernia](#)

**Learning Objectives:**

- i. Describe the epidemiology of inguinal hernia (Age, gender, activities, etc.)
- ii. Describe the anatomy of the inguinal region as it pertains to indirect, direct, and femoral hernias
- iii. Define the key historical and physical findings in the diagnosis of an inguinal hernia.
- iv. List the differential diagnosis for:
  - a. groin masses
  - b. scrotal masses
- v. Define nonoperative management of an inguinal hernia

- vi. Define the operative management of inguinal hernias.
- vii. Define the diagnosis and management of a:
  - a. sliding inguinal hernia.
  - b. strangulated inguinal hernia.
  - c. bilateral inguinal hernias.
- viii. Define surgical site infection as a complication of inguinal hernia repair
- ix. Define the nerve injuries that occur as a complication of inguinal hernia repair
- x. Define injury to the spermatic cord, ischemic orchitis and testicular atrophy as a complication of inguinal hernia repair
- xi. Define inguinal hernia recurrence as a complication of inguinal hernia repair
- xii. List the pros and cons of open vs. laparoscopic repair of inguinal hernias including the rationale for using synthetic mesh for most inguinal hernia repairs.

#### 14. Laceration and Suturing

**Reading Assignment:** Rakel Textbook of Family Medicine, Chapter 28, pages 594, 602-605, and 608 (Available in electronic format on the VCOM Library)

**Module:** [Module 1 - Wound Healing, Suturing and Lacerations](#)

##### Learning Objectives:

- i. Recognize the elements of an initial evaluation of patients with lacerations.
- ii. Discuss the importance of tetanus vaccination and indications.
- iii. Describe local anesthetics and their duration of action.
- iv. Discuss the different types of suture techniques and their indications.
- v. Describe the different types of suture material according to site and extent of laceration.
- vi. Discuss management of complicated lacerations.
- vii. Recognize the importance of the time of suture removal.
- viii. Recognize the use of tissue adhesive and when it can be utilized.
- ix. Recognize relaxed skin tension lines and the importance with skin closure.
- x. Educate patients on proper wound care after laceration repair.
- xi. Recognize an abscessed wound and the appropriate treatment.

#### 15. Lung Cancer

**Reading Assignment:** Sabiston Textbook of Surgery, pages 1583-1603

**Module:** [Module 5 - Lung Cancer](#)

##### Learning Objectives:

- i. Describe the anatomy of the lung.
- ii. Describe the physiologic evaluation of the lung.
- iii. Describe the epidemiology of lung cancer.
  - a. Prevalence
  - b. gender risks
  - c. age risks
  - d. screening recommendations, including indications for low dose CT scanning
- iv. Recognize the difference between the pathologic types
  - a. adenocarcinoma
  - b. squamous cell carcinoma
  - c. small cell carcinoma
- v. Describe the history and physical exam finding in lung cancer.
- vi. Describe the diagnostic workup in lung cancer.
- vii. Define the staging of lung cancer.
- viii. Describe the surgical treatment of lung cancer and the multi-specialty approach to lung cancer.
- ix. Describe the recommended follow-up algorithm for a lung cancer patient.

#### 16. Pancreatic Disease



**Reading Assignment:** Sabiston Textbook of Surgery, pages 1533-1544, 1551-1558

**Module:** [Module 11 - Cholecystitis and Hepatobiliary System and Pancreatic Disorders](#)

**Learning Objectives:**

- i. Define and classify pancreatitis
- ii. Describe the risk factors associated with acute pancreatitis (AP)
- iii. Define the pathophysiology of AP
- iv. Define the clinical manifestations of AP
- v. Define the diagnosis and differential diagnosis of AP
- vi. Define the treatment for an episode of AP
- vii. Define the role of ERCP in the treatment of AP
- viii. Define the role of laparoscopic cholecystectomy in the treatment of acute pancreatitis
- ix. Define the treatment of complications of pancreatitis including:
  - a. Peripancreatic fluid collections
  - b. pancreatic necrosis
  - c. pancreatic pseudocysts
  - d. pancreatic ascites
  - e. pancreatocutaneous fistula
  - f. vascular complications
- x. Define the assessment tools used for prognosis including Ranson's Criteria for non-gallstone pancreatitis
- xi. Define the pathology, etiology, diagnosis and treatment of chronic pancreatitis
- xii. Define the management of chronic pain associated with pancreatitis
- xiii. Define malignant pancreatic tumors, their diagnosis, treatment and prognosis

## 17. Pediatric Inguinal Hernia and Hydrocele

**Reading Assignment:** Sabiston Textbook of Surgery, page 1868-1869

**Module:** [Module 14 - Pediatric Inguinal Hernia](#)

**Learning Objectives:**

- i. Define testicular descent and its relationship to pediatric inguinal hernias
- ii. Define the approach to a groin mass in a child
- iii. Identify the type of inguinal hernia that is most common in infants and children
- iv. Define reducible and non-reducible hernia
- v. Define the anatomy of an inguinal hernia including open vs obliterated processes vaginalis
- vi. Define the anatomy of a hydrocele in a child.
- vii. Define communicating hydrocele
- viii. Define non-communicating hydrocele
- ix. Define the surgical approach to inguinal hernias in children
- x. List the complications related to inguinal hernias in children

## 18. Principles of Preoperative, Operative, and Postoperative Surgery

**Reading Assignment:** Sabiston Textbook of Surgery, pages 187-314

**Modules:**

- [Module 2 - Disorders of Breast, Principles of Pre-Post Op](#)
- [Module 3 - Burn Management, Principles of Pre-Post Op, Anesthesia, Wound Healing](#)

**Learning Objectives:**

- i. Describe pre-operative, peri-operative and post-operative periods.
- ii. Describe the goal of a pre-operative evaluation.
- iii. Describe the top patient risk factors most predictive of post-operative mortality.
- iv. Describe the system used to categorize general risk using the American Society of Anesthesiologist (ASA) classification
- v. Describe a systems approach to preoperative evaluation considering the following topics:
  - a. Cardiovascular

1. Revised Cardiac Risk Index using six predictors
2. “Stepwise approach to preoperative cardiac assessment for non-cardiac surgery”.
3. Timing of surgery after PTCA and MI
4. Ability to climb stairs
- b. Pulmonary
  1. Indications for PFT’s
  2. Risk factors for post-op complications
- c. Renal
  1. Relationship to cardiac complications
  2. Timing of dialysis
- d. Hepatobiliary
  1. Child-Pugh classification
- e. Endocrine
  1. Insulin dosing
  2. Steroid dosing
- f. Immunologic
  1. Steroids
- g. Hematologic
  1. Guidelines for RBC transfusion
  2. Management of patients on chronic anticoagulation
- vi. Define the considerations given to the following surgical issues:
  - a. Age
  - b. Risk factors for post-op delirium
  - c. Nutritional status
  - d. Obesity
- vii. Identify indications for antibiotic prophylaxis based on the types of operative wounds listed by the National Research Council
- viii. Identify the logic and evidence of pre-operative fasting.
- ix. Recognize the usual presentation and treatment for the following causes of intra-operative instability:
  - a. Myocardial infarction
  - b. Pulmonary embolism
  - c. Pneumothorax
  - d. Malignant hyperthermia
  - e. Anaphylaxis and latex allergy
- x. Recognize Universal Protocol with respect to Wrong-Site Surgery

## 19. Skin Cancer

**Reading Assignment:** Sabiston Textbook of Surgery, pages 705-730

**Module:** [Module 17-Skin Cancer](#)

### Learning Objectives:

- i. Describe risk factors and treatment options for Basal Cell Carcinoma.
- ii. Describe risk factors and treatment options for Squamous Cell Carcinoma.
- iii. Recognize the risk factors for melanoma including pre-existing lesions and association with other cancers with gene mutations.
- iv. Describe the physical appearance of a melanoma (ABCDE).
- v. Describe Breslow’s thickness and recognize Clark’s levels and their relevance to prognosis, treatment, and survival.
- vi. Describe the surgical treatment options for melanoma including width of surgical margins and indications for sentinel node biopsy.
- vii. Describe the indication for sentinel node biopsy and subsequent treatment in the biopsy is positive.

- viii. Recognize treatment alternatives for metastatic melanoma.
- ix. Recognize the risk of developing skin cancer in transplant patients and the necessity for life-long surveillance.
- x. Define Merkel Cell Carcinoma and treatment options.

## 20. Surgical Treatment of Thyroid Disease

**Reading Assignment:** Sabiston Textbook of Surgery, pages 873-920

**Module:** [Module 13 - Thyroid Disorders](#)

**Learning Objectives:**

- i. Discuss the epidemiology of thyroid nodules (changing prevalence, gender variance, predisposing conditions).
- ii. Describe the typical symptoms of goiter and hyperthyroidism and the physical examination of the thyroid gland.
- iii. Describe the work-up of thyroid nodules (TSH, ultrasound, fine needle aspiration).
- iv. Describe the indications (and alternative treatments) for surgical treatment of thyroid disease including thyroid nodules, thyroid cancer, and hyperthyroidism.
- v. Describe the general conduct of thyroid surgery including the relevant anatomy and common complications, including recurrent laryngeal nerve injury and parathyroid gland injury.
- vi. Compare the four major types of thyroid cancer and differentiate them according to: prognosis, potential sites of metastases, need for post-operative treatment (radio-iodine, chemotherapy, etc.).

## 21. Trauma Resuscitation

**Reading Assignment:** Sabiston Textbook of Surgery, pages 386-428

**Module:** [Module 15 - Trauma Resuscitation](#)

**Learning Objectives:**

- i. Describe the ABCDE of the primary survey.
- ii. Describe airway management including indications and means of definitive airway control including:
  - a. Endotracheal intubation
  - b. Cricothyroidotomy
- iii. Recognize basic chest injuries and their treatment including
  - a. Simple pneumothorax
  - b. Tension pneumothorax
  - c. Hemothorax
  - d. Flail chest
- iv. Define means to determine adequacy of circulation.
- v. Define means to control external bleeding
- vi. Define means to gain emergent vascular access including intraosseous needle insertion and the Seldinger technique for central venous access.
- vii. Define means to determine neurologic deficits including the Glasgow Coma Score and AVPU.
- viii. Define the steps and importance of complete patient exposure including log rolling, identification of a spinal “step off”, digital rectal exam, and the prevention of hypothermia.
- ix. Define the secondary survey.
- x. Define the role of the trauma team leader.

## 22. Wound Healing

**Reading Assignment:** Sabiston Textbook of Surgery, pages 119-149

**Modules:**

- [Module 1 - Wound Healing, Suturing and Lacerations](#)

- [Module 3 - Burn Management, Principles of Pre-Post Op, Anesthesia, Wound Healing](#)
- [Module 4 - Anorectal Disease, Anesthesia, Wound Healing](#)

**Learning Objectives:**

- Describe the tissue response in the phases of wound healing.
- Discuss the importance of macrophages in wound healing.
- Describe the Collagen Synthesis and its relevance to wound healing.
- Recognize the factors that inhibit wound healing.
- Define Keloid and Methods for possible prevention and treatment.
- Describe the characteristics of an ideal wound dressing.
- Discuss the different treatment options for chronic open wounds.
- Identify the characteristics of fetal wound healing.
- Discuss the importance of tissue engineering and when it is applicable to open wounds.

**23. Pain Management**

**Reading Assignment:** Sabiston Textbook of Surgery, pages 340-346

**Module:** [Module 16 - Pain Management](#)

**Learning Objectives:**

- Describe the importance of pain control in the post-operative period.
- Describe the assessment of pain by exams and scales .
- Compare and contrast the different type of narcotics used in pain control.
- Recognize the role of non-narcotic methods and medicines available for pain control.
- Recognize the variability in management bases on special patient populations (Pediatrics, Geriatrics and Acute pain management in Chronic Pain Management patients).
- Recognize the side-effects and complications of the use of opioids.
- Describe different treatment options for complications in both acute and chronic use of opioids.
- Recognize the importance of the proper documentation of prescribing narcotics.
- Recognize the signs of opioid addiction, tolerance, dependence and abuse.
- Define how to effectively manage opioid addiction.

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.