

General Surgery Clinical Rotation

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General Description

Required Rotation

This required rotation of no less than four (4) weeks in a hospital-based service is intended to be a structured clinical experience under direct supervision. This rotation is a time to build a foundation in clinical problem solving and decision-making, a time to build clinical experience and acumen on a foundation of didactic information. Upon completion of the rotation, the student should be able to elicit a surgical history, perform a physical examination, obtain appropriate laboratory studies, assess the results, develop a diagnosis, formulate a management plan, and assist in implementation of appropriate therapy for common surgical principles and practices. The College of Osteopathic Medicine, Department of Surgery will administer a post-rotation examination when the student has completed this required rotation. The COMAT Surgery Clerkship Exam is a Standardized National Exam developed by the National Board of Osteopathic Medical Examiners, specifically designed for end of surgery clerkship assessment. **Students are required to achieve a passing exam score of at least 70%. All Online Interactive Required Cases (ANGEL and WISE MD) must be completed by the starting date of the students next rotation (Monday following the Surgery Clerkship- NO EXCEPTIONS) . Students should access the ANGEL site for detailed instructions regarding the requirements of this rotation.**

Association for Surgical Education Study Guide: The Manual of Surgical Objectives- A Symptom and Problem-based Approach. *It is "critical" that the student understand that the NBOME-COMAT Surgery exam was written by the National Board of Osteopathic Examiners (NBOME) using the required textbook "Essentials of General Surgery" by Peter F. Lawrence, 4th Ed., and The Manual of Surgical Objectives written by the Curriculum Committee of the Association for Surgical Education. Therefore, the complete ASE Manual of Surgical Objectives is posted on the ANGEL site.*

Required Textbooks:

Lawrence, PF (Ed). **Essentials of General Surgery**, 4th Ed., 2006, Baltimore: Lippincott, Williams and Wilkins. **See above comments**
Department of Surgery. **Basic Surgical Skills Course Pack**, Lab #2115. (received during year 2)

Required Assigned Online Case Studies and Quizzes: located on Angel and WISE MD.

Online Interactive Cases (ANGEL cases and WISEMD cases) must be completed to pass the rotation. (All online interactive cases must be completed by the starting date of the students next rotation (Monday following the Surgery Clerkship- NO EXCEPTIONS).

Clinical Skills Review and Surgery Procedure Videos

Found on the Angel Surgery Clerkship Site. Skills Review videos are from Access Surgery and Procedure Videos are from The New England Journal of Medicine to help you review and prepare for skills and procedures while on your clerkship rotations.

NOTE: Students should understand instructed that even though they have been checked off in a skill, this **DOES NOT** allow them to perform that skill without supervision by an attending or resident.

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Student Responsibility

It is required that the student meet with their preceptor at the beginning of the rotation to discuss the learning objectives outlined in this document. Students should also seek and receive preceptor feedback midway through the rotation. The student should also seek experiences to further develop a variety of clinical skills previously taught in the Basic Surgical Skills Course.

Prerequisites

A student may not start any clinical rotation (required or elective) in surgery until all preclinical course work has been successfully completed and completion of Part I of the COMLEX exam.

Purpose

This rotation provides didactic and clinical experiences that will support the development of skills required to meet the entry level competencies for students preparing to enter a residency program. The competencies endorsed by the American Osteopathic Association and the objectives of this rotation are as follows:

Competencies

To help the student with preparing for the exam and the surgery rotation experience, objectives and corresponding reading assignment guidelines have been established. Categories have been assigned per week for emphasis during the surgery rotation.

WEEK 1:

Osteopathic Philosophy and Osteopathic Manipulative Medicine

REQUIRED READING: None.

OBJECTIVES: Osteopathic Philosophy and Osteopathic Manipulative Medicine

1. Demonstrate the ability to perform and record an osteopathic structural examination on a surgical patient and document such using acceptable osteopathic terminology.
2. Demonstrate the application of the osteopathic philosophy into the pre- and post-operative care of the surgical patient.
3. Demonstrate an understanding of palpatory findings which are found in common conditions encountered in a surgical practice.
4. Understand and be able to initiate Osteopathic Manipulative Treatment in the surgical patient for post-operative ileus and atelectasis.

Interpersonal and Communication Skills

REQUIRED READING:

BSS Packet: Review documentation 221-259

Angel Article: Communication and Leadership

OBJECTIVES: Interpersonal and Communication Skills

1. Communicates effectively with attending, resident, team members and other health care professionals.
2. Documentation in medical records is legible.
3. Communicates appropriately and professionally to patient and family members.
4. Demonstrates ability to develop and execute patient care plans appropriate for level of training and follows the SOAP/problem oriented format.

Professionalism

REQUIRED READING:

Angel Article: Professionalism

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OBJECTIVES: Professionalism

1. Demonstrates a commitment to continuity of patient care.
2. Displays a sense of responsibility and respect to patients, families, staff and peers.
3. Demonstrates cultural sensitivity.
4. Maintains a professional appearance, well-groomed, appropriately dressed.
5. Punctual in attendance, prompt and available when called upon.
6. Motivated to learn, shows appropriate assertiveness, flexibility, adaptability toward education.
7. Demonstrates appropriate attitude, cooperative, receptive to feedback.
8. Demonstrates an eagerness and willingness to help out, takes an active contributing role within the health care team, **“Always be prepared.”**
9. Follows through or completes responsibilities assigned or volunteered and reports back to preceptor.

Practice-Based Learning

REQUIRED READING:

[Angel Article: Systems-Based Care/Practice-Based Learning](#)

OBJECTIVES: Practice-Based Learning

1. Demonstrates motivation and a desire to learn.
2. Demonstrates the ability to learn from practice.
3. Critiques personal practice outcomes appropriate to level of training.
4. Demonstrates a recognition of the importance of lifelong learning in medical/surgical practice.
5. Seeks and responds to feedback.
6. Demonstrates being a “self-directed learner”.
7. Seeks out more information than what is required or expected.

Systems-Based Practice

REQUIRED READING:

[Angel Article: Systems-Based Care/Practice-Based Learning](#)

OBJECTIVES: Systems-Based Practice

1. Know where to go for help—personal and professional.
2. Attends all required orientations presented by the facility and completes needed paperwork for rotation.
3. Follows policy and procedures set forth by the health care facility and departments within that facility.
4. Follows the policies for a medical student at the surgery rotation facility.
5. Report to appropriate institutional authority when absent following Clinical Affairs guidelines.

Patient Care

REQUIRED READING:

Essentials of General Surgery: Chapter 26 (pp 519-561)

BSS Packet: Review entire

OBJECTIVES: Patient Care Objectives

1. Discusses decisions about diagnostic and therapeutic interventions based not only on the data gathered, but also based on patient preferences.
2. Perform and record adequate and appropriate history and physical examination.
3. Demonstrate and discuss the principles of clean and sterile technique including gowning and gloving.
4. Demonstrate understanding of basic OSHA guidelines in patient care areas.
5. Discuss the indications and observe arterial puncture technique

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6. Discuss and observe placement of central venous line.
7. Discuss indications for and observe placement of vascular access ports and long-term central venous catheters.
8. Discuss the assessment and management of nutritional states in the surgical patient.
9. Discuss indications for use of blood products in the surgical patient
10. Demonstrate knowledge of closed suction drainage systems.
11. Demonstrate knowledge of wound care, including suture and staple removal.
12. Demonstrate Osteopathic principles and practices in the surgical patient.
13. Documentation is appropriate, neat, legible, efficient and accurate, i.e. orders, post-op notes, progress notes, discharge orders.

OBJECTIVES: Basic Clinical/Surgical Skills

1. Demonstrate ability to scrub, gown, glove alone and with assistance, and to maintain proper sterile techniques in the surgical setting.
2. Demonstrate knowledge of and proper usage of commonly used surgical instruments.
3. Perform simple surgical procedures i.e. punch biopsy, excision of a lesion, incision and drainage of a simple abscess, and securing a wound drain with supervision.
4. Suturing laceration and surgical wounds
5. Stapling of lacerations and surgical wounds
6. Removal of sutures and skin staples
7. Steri strip use in lacerations and surgical wounds
8. Drainage of simple abscesses
9. Surgical dressings
10. Removal of surgical drains
11. Demonstrate knowledge of indications for insertion of urinary catheter and management of daily care.
12. Demonstrate knowledge of indications for insertion of nasogastric tubes and management of daily care.
13. Demonstrate three-dimensional awareness in laparoscopic settings while operating camera for procedures.
14. Demonstrate how to assist in securing hemostasis of wounds, i.e. direct pressure, hand ties and/or cauterization.
15. Demonstrate knowledge of basic aseptic technique.

Medical Knowledge (Some of the objectives used in this section taken directly from the The Manual of Surgical Objectives written by the Curriculum Committee of the Association for Surgical Education 4th Ed., 2001. For your availability please refer to the complete ASE study guide/objectives found on the DMU ANGEL site).

Successful Surgery Clerk

REQUIRED READING:

Basic Surgical Skills Packet: Review packet
Essentials of General Surgery: Chapter 1 (pp 1-9)

OBJECTIVES: Successful Surgery Clerk

1. Discuss the role of a successful surgery clerk.
2. Discuss your day-to-day inpatient responsibilities.
3. Discuss how to manage the surgery clerkship expectations

Surgical Patient

REQUIRED READING:

Essentials of General Surgery: Chapter 2 (pp 11-42)

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OBJECTIVES: Surgical Patient

1. Discuss the value of the preoperative assessment, selected diagnostic tests, preoperative screening tests and the goal of outside consultation in evaluating a patient.
2. Discuss the role that antibiotics play in surgical patients pre- and post-operative.
3. Discuss the assessment of cardiac and pulmonary risk.
4. Discuss the documentation required in the medical record of a surgical patient, post-op note, operative report, physician's orders and daily progress notes.
5. Discuss common post-operative complications and their treatment.
6. Discuss pain management in the post-operative patient.
7. Discuss the role of prophylactic treatments to prevent deep vein thrombosis.
8. Discuss pulmonary emboli signs, symptoms and treatment.
9. Discuss the evaluation of patients with abnormalities.

Fluids, Electrolytes and Nutrition

REQUIRED READING:

Essentials of General Surgery: pp 43-89

Chapter 3: Fluids and Electrolytes (pp 43-66)

Chapter 4: Nutrition (pp 67-89)

Assigned Online Case Studies: Angel Case - "Fluids, Electrolytes & Nutrition"

OBJECTIVES: Fluids and electrolytes

1. Identify the fluid compartments in the body and the distribution of fluids and electrolytes within them.
2. Explain the basic changes that occur in a surgical patient, i.e. hemorrhage, persistent vomiting or diarrhea, intestinal obstruction, dehydration and the appropriate replacement of fluid.
3. Indicate normal daily requirements of fluids and electrolytes for adult and pediatric patients.
4. Describe the concept of acid-base balance, how this is maintained and the role of the kidney and lungs in this process.
5. Describe the daily sensible and insensible fluid and electrolyte losses in the routine post-operative patient.
6. Discuss the methods of determining fluid balance.

OBJECTIVES: Nutrition

1. Perform a nutritional assessment of a patient.
2. Classify the types of malnutrition and the characteristics of each.
3. Indicate the basic nutritional requirements of any patient, including calorie, protein, carbohydrates, fats, electrolytes, trace elements and vitamins.
4. Select those patients that require nutritional support and in specific cases, choose the route of that support.

Surgical Bleeding and Blood Replacement

REQUIRED READING:

Essentials of General Surgery: Chapter 5 (pp 91-101)

OBJECTIVES: Surgical bleeding and blood replacement

1. Explain the coagulation cascade and describe the lab tests used to assess clotting status, discussing application to the specific diseases.
2. Identify the common coagulopathies.
3. List the component blood products currently available, their safety and indications for the use of each.
4. Recognize and explain the etiology and treatment of disseminated intravascular coagulopathy (DIC).

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WEEK 2:

Wounds, Wound Healing and Surgical Infections

REQUIRED READING:

Essentials of General Surgery: pp 147-178

Chapter 8: Wounds, Wound Healing (pp147-161)

Chapter 9: Surgical Infections (pp 163-178)

Assigned Online Case Study: Angel Case – “Wounds”

OBJECTIVES: Wounds and Healing

1. Describe the cellular physiology of each phase of wound healing.
2. List those factors that promote or impair normal healing.
3. Have a basic understanding of suture materials in both operating room and ambulatory situations.
4. Discuss how to classify and manage a wound.

OBJECTIVES: Surgical Infections

1. Classify types of operative infections seen in major surgery.
2. Describe and manage surgical infection in terms of prophylaxis and active treatment including selection of wound closure, management of drains and antibiotics.
3. Recognize signs and symptoms of wound infection and describe the treatment necessary in both early and late post-operative patients.
4. Discuss the causes of post-operative fevers.
5. Discuss the prevention and management of surgical infection.

Skin Disease, Malignant/Benign and Infectious Diseases

REQUIRED READING:

Essentials of General Surgery: Chapter 25 (pp 491-518)

Assigned Online Case Studies: Angel Case – “Skin Disease”; WISE MD Case - “Skin Cancer”

OBJECTIVES: Malignant Diseases of the Skin, the Lymphatics, and Soft Tissue

1. Benign: be able to recognize and treat sebaceous cyst, lipoma, infection, and abscess.
2. Malignant:
 - a. Melanoma:
 - i. Identify the clinical characteristics, subtypes of melanoma and describe surgical treatment.
 - b. Basal cells/squamous cell carcinoma:
 - i. Identify the clinical characteristics, risk factors, outline the necessary steps in confirming their diagnoses, and describe the medical and surgical therapy for them.

Hernias

REQUIRED READING:

Essentials of General Surgery: Chapter 12 (pp 225-237)

Assigned Online Case Studies: Angel Case – “Hernia”; WISE MD Case - “Hernia”

OBJECTIVES: Hernias

1. Discuss the differential diagnosis of inguinal pain, mass or bulge.
 - consider hernia, adenopathy, muscular strain
1. Identify anatomic differences between direct inguinal, indirect inguinal and femoral hernia.
2. Explain the embryology leading to the development of inguinal hernia/hydrocele.
3. Identify and discuss the management of umbilical hernia in adults and children.
4. Discuss the clinical conditions that may predispose to development of inguinal hernia.

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5. Discuss the relative frequency of indirect, direct and femoral hernias by age and gender.
6. Discuss the indications, surgical options, and normal post-operative course for:
 - Inguinal hernia repair
 - Femoral hernia repair
7. Define and discuss the clinical significance of incarcerated, strangulated, reducible and Richter's hernias.
8. Discuss the differential diagnosis of an abdominal wall mass.
 - Consider desmoid tumors, neoplasm, hernia, adenopathy, and rectus sheath hematoma
9. Describe the potential sites for abdominal wall hernias.
 - Consider incisional, umbilical, inguinal, femoral, Spigelian, and epigastric
 - Differentiate diastasis recti from abdominal hernia
10. Describe clinical factors contributing to the development and repair of an incisional hernia.

WEEK 3:

Gastrointestinal

REQUIRED READING:

Essentials of General Surgery: pp 239-303

Chapter 13: Esophagus (pp 239-254)

Chapter 14: Stomach (pp 255-282)

Chapter 15: Small Intestine and Appendix (283-303)

Assigned Online Case Studies: Angel Case – “Esophagus, Stomach, Duodenum, and Small Bowel” and WISE MD Case - “Appendicitis”

OBJECTIVES: Esophagus

1. Discuss the anatomy and physiology of the esophagus.
2. Discuss the common benign disorders of the esophagus.
3. List those diseases presenting with dysphagia and discuss the differential diagnosis.
4. Discuss malignant disease of the esophagus.

OBJECTIVES: Stomach, small bowel and appendix

1. Discuss the normal anatomy and physiology of the stomach and duodenum.
2. Discuss diagnostic value of UGI retroentgenography and esophagogastroduodenal endoscopy.
3. Discuss pathophysiology, natural history, diagnosis, and complications of peptic ulcers.
4. Discuss symptoms and work-up, staging and treatment of a patient with gastric carcinoma.
5. Recognize the presenting symptoms in a patient with mechanical small bowel obstruction, document what studies are required to confirm the diagnosis, and outline a management plan.
6. Discuss motility disorders.
7. Discuss the pathophysiology of appendicitis.
8. Recognize symptoms, physical findings and laboratory findings that enable one to make a diagnosis of acute appendix.
9. Discuss the differential diagnosis of acute appendicitis and how diseases with similar symptoms can be distinguished from appendicitis.
10. Discuss how to differentiate upper vs lower GI hemorrhage.

Colon, Rectum and Anus

REQUIRED READING:

Essentials of General Surgery: Chapter 16 (pp 300-333)

Assigned Online Case Studies: Angel Case – “Appendix, Colon and Rectum” and WISE MD Cases – “Colon Cancer,” “Bowel Obstruction,” “Anorectal Disease,” and “Diverticulitis”

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OBJECTIVES: Colon, Rectum and Anus

1. Explain the common causes of lower gastrointestinal bleeding, their presentation and diagnostic workup.
2. Discuss the initial management of a patient with an acute GI hemorrhage.
3. Discuss the TNM classification and Dukes classification of colorectal cancer.
4. Discuss the current status of genetics in the development of colon cancer.
5. Compare and contrast the diagnosis and management of Crohn's disease of the colon and ulcerative colitis.
6. Discuss the pathophysiology of diverticulosis and diverticulitis and list the complications of each.
7. Explain the pathophysiology of hemorrhoids, clinical recognition, medical management, indication for surgical treatment available.
8. Recognize the symptoms and treatment of perianal, ischioanal abscess and fistula-in-ano.
9. Discuss the indication for, limitations and benefits of flexible sigmoidoscopy and colonoscopy.

Liver, Biliary and Pancreas

REQUIRED READING:

Essentials of General Surgery: pp 335-366

Chapter 17: Biliary Tract (pp 335-351)

Chapter 18: Pancreas (pp 353-366)

Chapter 19: Liver (pp 367-382)

Assigned Online Case Studies: Angel Case - "Biliary & Pancreas"; WISE MD Cases – "Pancreatitis," "Cholecystitis"

OBJECTIVES:

1. List the common types of gallstones and discuss the pathophysiology involved in their formation.
2. Discuss differential diagnosis of a patient with jaundice.
 - a. Discuss, prehepatic, intrahepatic (both non-obstructive) and posthepatic (obstructive) etiologies.
 - b. Discuss painful vs. non-painful
 - c. Discuss inflammatory vs. non-inflammatory
 - d. Discuss benign vs. malignant
3. State the most common etiologies and diagnosis of pancreatitis.
4. Discuss Ranson's criteria of severity and prognosis of pancreatitis.
5. Describe the diagnostic evaluation of a patient presenting with painless jaundice.
6. Discuss common benign tumors of the liver, diagnostic testing and management.
7. Discuss the common primary hepatobiliary malignancies, diagnosis, diagnostic testing and treatment.

WEEK 4:

Breast

REQUIRED READING:

Essentials of General Surgery: Chapter 20 (pp 385-397)

Assigned Online Case Study: Angel Case – "Breast"; WISE MD Case – "Breast Cancer Surgery"

OBJECTIVES: Breast

1. Describe the pathophysiology, presentation and management of fibrocystic disease of the breast.
2. Identify the risk factors for breast cancer.
3. Explain the recommendations for screening of breast cancer, including physical examination, mammography and ultrasound.
4. Discuss the TNM classification of breast cancer.
5. Discuss common infections and benign lesions of the breast.

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Endocrine

REQUIRED READING:

Essentials of General Surgery: Chapter 21 (pp 399-425) (*Objectives taken from “Essentials of General Surgery” by Peter F. Lawrence 4th ed., 2006*)

Assigned Online Case Study: WISE MD Cases “Adrenal Adenoma,” “Thyroid Nodule” and “Hypercalcemia”

OBJECTIVES: Thyroid Gland

1. Discuss the evaluation and differential diagnosis of a patient with a thyroid nodule.
2. Discuss the different types of carcinoma of the thyroid gland and their cell type of origin, discuss the appropriate therapeutic strategy for each.
3. Describe the symptoms of a patient with hyperthyroidism; discuss the differential diagnosis and Treatment options.

OBJECTIVES: Parathyroid Gland

1. Discuss the role of the parathyroid glands in the physiology of calcium homeostasis.
2. Discuss the causes, symptoms, and signs of hypercalcemia.
3. Discuss the evaluation and differential diagnosis of a patient with hypercalcemia.
4. Discuss the indications for surgery for hyperparathyroidism.

OBJECTIVES: Adrenal Gland

1. Discuss the clinical features of Cushing's syndrome and discuss how lesions in the pituitary, adrenal cortex, and extra-adrenal sites are distinguished diagnostically.
2. Discuss pheochromocytoma, including its associated signs and symptoms, appropriate diagnostic workup, and treatment.

OBJECTIVES: Multiple Endocrine Neoplasia Syndromes

1. Discuss the multiple endocrine neoplasia syndromes and their surgical treatment.

Trauma

REQUIRED READING:

Essentials of General Surgery: Chapter 10 (pp 181-208)

Assigned Online Case Studies: Angel Case – “Trauma”; WISE MD Case – “Trauma Resuscitation”

OBJECTIVES: Trauma

1. Discuss initial management of a patient who has sustained blunt abdominal trauma.
2. Describe the initial management of the patient who has sustained penetrating abdominal trauma.
3. Discuss diagnostic modalities in the patient with abdominal trauma.
4. Discuss the diagnosis and management of patients undergoing thoracic trauma, including pneumothorax, hemothorax, flail chest, and aortic dissection.

Anesthesia

REQUIRED READING:

Essentials of General Surgery: pp 22, 24, 27, 153

OBJECTIVES: Anesthesia

1. Discuss the importance of doing a good pulmonary evaluation and the risk of pulmonary complications.
2. Discuss why renal failure patients may require modifications in anesthetic techniques.
3. Discuss local anesthetics and toxic levels.

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Implementation

Course objectives are to be accomplished in a College affiliated hospital or clinical facility, under supervision. Basic objectives must be covered during the rotation to assure adequate student preparation for Board examinations and other evaluations such as post-rotation examinations. The use of diverse methods appropriate to the individual and the clinical site are encouraged, but patient-centered teaching is optimal.

Didactic methods to achieve required objectives include:

- reading assignments
- lectures
- computer-assisted programs
- student attendance at/participation in formal clinical presentations by medical faculty.

Clinically oriented teaching methods may include:

- assignment of limited co-management responsibilities under supervision
- participation in clinic visits, daily patient rounds and conferences
- supervised and critiqued clinical work-ups of patients admitted to the surgical service
- general surgery case study and scrub assignments.
- patient chart documentation performed under supervision, i.e. post-op note, admission orders, floor orders, progress notes, discharge instructions, discharge summary and prescription writing.

Three levels of achievement are identified:

- familiarity with a variety of medical procedures through observation and assisting
- proficiency in clinical procedures through actual supervised performance
- awareness of the availability of various medical procedures and their use.

Evaluations of students must be completed within one week from completion of the rotation. On the last day of service, the supervising physician should review the student's performance with the student and have the student sign the evaluation form before submission. A student's signature simply indicates that the student has received a grade directly from the attending; it does not indicate agreement with the grade received.

Mandatory Interactive Online Cases

The Department of Surgery has developed mandatory *Interactive Online Cases* assigned throughout the surgery rotation. The *Assigned Online Cases* are listed with the reading assignments found in this document under medical knowledge. It is highly recommended to complete these cases with your weekly reading assignments and not wait until the end of the rotation. **Students failing to complete all cases prior to the starting date of their next rotation (Monday following the Surgery Clerkship) will receive a grade of "FAIL" for the rotation. NO EXCEPTIONS.** There will **NOT** be a substitute or make-up for the incomplete cases.

Post-Rotation Examinations

Des Moines University Department of Surgery requires the completion of the NBOME-COMAT surgery subject examination with a passing score of **70%** or greater. The NBOME-COMAT surgery exam is a web-based exam administered by the NBOME and accessed via the NBOME website. A DMU approved proctor at your rotation site must proctor your exam. This exam will provide the student an opportunity to be informed of his or her progress nationally. **The surgery post rotation exam must be taken on the Thursday or Friday of the last week of the general surgery rotation.**

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The NBOME-COMAT surgery subject examination consists of 100 test items, has a 2-hour time limit and a 5-minute tutorial prior to taking the exam.

COMAT Surgery Subject Examination % Breakdown by Topic

TOPIC	%
Fluids	5-13%
Skin and Subcutaneous Tissues	2-7%
Infections	2-8%
Gastrointestinal	30-37%
Hepato / Biliary	13-20%
Hernias	5-13%
Trauma	5-13%
Endocrine / Breast	5-13%
Anesthesia	2-7%

A remediation retake exam will be available to those who fail the NBOME-COMAT surgery exam via the "Surgery Clerkship RETAKE (DO2013)" site on ANGEL. It is the responsibility of the student to contact the department academic assistant within 48 hours of being notified of an examination failure to request becoming enrolled in the ANGEL remediation site. The surgery retake examination must be taken within **3 weeks of the initial failure date**. Passing score for the retake examination is **70%** or greater. For any passing score on the retake exam, a score of 70% will be reported to the office of Clinical Affairs. Failure to complete the retake exam within the specified time period will result in failure of the rotation.

Those failing the retake will be required to complete an **oral remediation exam** conducted by the surgery department chair as well as other surgery faculty members. The student is required to notify the department chair or academic assistant within 48 hours of the failure so that an oral exam can be scheduled. The student is responsible for making all arrangements, including time off from their current rotation as well as travel back to Des Moines University for the oral exam. **The oral remediation exam will be video-taped/recorded.** The final exam grade will be determined by the Department of Surgery chair at the completion of the oral exam. For successful completion of the oral remediation exam a grade of "pass" will be reported to the office of Clinical Affairs. Failure of the oral examination will result in failure of the rotation and the student will need to retake the surgery clinical rotation and retake the NBOME-COMAT surgery post rotation examination.

Texts and Resources

Required Assignment Texts:

- Lawrence, PF (ed). **Essentials of General Surgery**. 4th Ed., 2006, Baltimore: Williams & Wilkins.
- Department of Surgery. **Basic Surgical Skills Course Packet/Notebook**. Course #2115.
- Assigned Online Case Studies and Quizzes. **ANGEL Cases and WISE MD Cases**

Clinical Skills Review and Surgery Procedure Videos

- Found on the Angel Surgery Clerkship Site. Skills Review videos are from Access Surgery and Procedure Videos are from The New England Journal of Medicine to help you review and prepare for skills and procedures you may be asked to perform, assist or given the opportunity to do while on clerkship rotations.

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Additional Resources: The resources listed below are available electronically from the DMU Library portal thru *AccessMedicine* and *AccessSurgery* electronic resources.

AccessSurgery:

- Brunicaardi FC, et al. **Schwartz's Principles of Surgery**, 9th Ed. The McGraw-Hill Companies, 2010.
- Doherty, Gerard M (ed.). **CURRENT Diagnosis and Treatment: Surgery, 13e**. The McGraw-Hill Companies, 2010.
- Doherty, Gerard M. **Quick Answers Surgery**. The McGraw-Hill Companies, 2010.
- Feliciano DV., Mattox KL, and Moore EE. **Trauma, 6e**. The McGraw-Hill Companies, 2008.
- Kaiser, Andreas M. **McGraw-Hill Manual: Colorectal Surgery**. The McGraw-Hill Companies, 2009.
- Kuerer, Henry M (ed.). **Kuerer's Breast Surgical Oncology**. The McGraw-Hill Companies, 2010.
- Minter RM and Doherty GM. **Current Procedures: Surgery**. The McGraw-Hill Companies, 2010.
- Morita SY, Dackiw APB, and Zeiger MA (eds.). **McGraw-Hill Manual: Endocrine Surgery**. The McGraw-Hill Companies, 2010.
- Skandalakis JE, Colburn GL and Weidman TA, et al. **Skandalakis' Surgical Anatomy**. Paschalidis Medical Publications, Ltd., 2004.
- Zinner MJ and Ashley SW. **Maingot's Abdominal Operations, 11e**. The McGraw-Hill Companies, 2007.
- Zollinger RM and Ellison EC. **Zollinger's Atlas of Surgical Operations, 9e**. The McGraw-Hill Companies, 2011.

AccessMedicine:

- Morgan GE, Jr., Mikhail MS and Murray MJ. **Clinical Anesthesiology, 4e**, McGraw-Hill Companies, 2006.