

**DOMINICAN UNIVERSITY
PHYSICIAN ASSISTANT STUDIES**

**PAS 640: GENERAL SURGERY ROTATION
CLINICAL YEAR 2020**

COURSE DESCRIPTION: This one-month clinical course provides the physician assistant student with an opportunity to learn, understand, and gain supervised experience in the principle and practice of General Surgery. Physician assistant students will gain experience in the care of patients with commonly encountered health conditions requiring surgical management in the outpatient, inpatient and operating room settings. Students will have the opportunity to build and increase their surgical care skills in recognizing indications and potential complications for surgical management of health care problems, providing preoperative, intraoperative and postoperative patient care, developing basic surgical assisting skills and practicing medicine as part of a health care team.

COURSE CREDIT: 4 Credits

COURSE INSTRUCTORS AND CONTACT INFORMATION

COURSE DIRECTORS: Elizabeth Heintz PA-C, Director of Clinical Education
Office Address: Parmer Hall 439
Office Phone: 708-524-5181
E-mail: eheintz@dom.edu, sirby@dom.edu

OFFICE HOURS Open Door policy or by appointment

PROGRAM MISSION STATEMENT

The mission of the Dominican University Physician Assistant Studies Program is to graduate physician assistants who provide highly competent, patient-centered, and compassionate health care. Our physician assistants will serve as integral members of healthcare teams and will demonstrate leadership, service, and commitment to lifelong learning.

COURSE GOALS

1. Provide physician assistant students with a supervised clinical practice experience specific to General Surgery with oversight by practicing physicians and PAs (B3.04, B3.05, B3.3.06, B3.07)
2. Provide students with supervised clinical practice experiences that meet expected learning outcomes through participation in the care of preoperative, intraoperative, and postoperative general surgical patients with commonly encountered surgical conditions including the assessment, diagnosis, and management of adult and elderly patients seeking acute or chronic surgical (pre-operative, intra-operative and post-operative) care. (B3.02, B3.03c, B3.04, B3.05, B3.06, B3.07)

PROGRAM LEARNING OUTCOMES

Medical Knowledge

MK 1: Apply principles of evidence-based medicine to clinical scenarios

MK 2: Apply scientific principles related to patient care

MK 3: Understand etiologies, risk factors, underlying pathologic processes, and epidemiology for medical conditions

- MK 4:** Evaluate the signs and symptoms of medical and surgical conditions
- MK 5:** Apply appropriate diagnostic studies for medical evaluation
- MK 6:** Understand the management of general medical and surgical conditions to include pharmacology and other treatment modalities
- MK 7:** Apply interventions for prevention of disease and health promotion/maintenance
- MK 8:** Understand screening methods to detect conditions in an asymptomatic individual
- MK 9:** Evaluate history and physical findings and diagnostic studies to formulate differential diagnoses

Interpersonal and Communication Skills

- ICS 1:** Understand how to create and sustain a therapeutic and ethically sound relationship with patients
- ICS 2:** Use effective communication skills to elicit and provide information
- ICS 3:** Demonstrate the ability to adapt communication style and messages to the context of the interaction
- ICS 4:** Demonstrate the ability to work effectively with physicians and other healthcare professionals as a member or leader of a healthcare team or other professional group
- ICS 5:** Demonstrate emotional resilience and stability, adaptability, flexibility, and tolerance of ambiguity and anxiety
- ICS 6:** Apply accurate and adequate documentation of information regarding care for medical, legal, quality, and financial purposes

Patient Care

- PC 1:** Demonstrate the ability to work effectively with physicians and other healthcare professionals to provide patient-centered care
- PC 2:** Demonstrate compassionate and respectful behaviors when interacting with patients and their families
- PC 3:** Obtain essential and accurate information about their patients
- PC 4:** Demonstrate the ability to make decisions about diagnostic and therapeutic interventions based on patient information and preferences, current scientific evidence, and informed clinical judgement.
- PC 5:** Develop, implement, and monitor patient management plans across the lifespan including emergent, acute, and chronic conditions
- PC 6:** Demonstrate the ability to provide healthcare services and education to patients and families to prevent disease and promote health in patients across the lifespan
- PC 7:** Perform medical and surgical procedures appropriate to their area of expertise
- PC 8:** Provide healthcare services and education aimed at disease prevention and health maintenance
- PC 9:** Use information technology to support patient care decisions and patient education

Professionalism

- PR 1:** Understand the legal and regulatory requirements, as well as the appropriate role of the physician assistant
- PR 2:** Demonstrate professional relationships with physician supervisors and other healthcare providers
- PR 3:** Maintain respect, compassion, and integrity in all situations
- PR 4:** Demonstrate accountability to patients, society, and the profession
- PR 5:** Maintain a commitment to excellence and on-going professional development
- PR 6:** Apply a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices
- PR 7:** Demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities

PR 8: Apply self-reflection, critical curiosity, and initiative

PR 9: Establish and maintain healthy behaviors and life balance

PR 10: Demonstrate a commitment to the education of students and other healthcare professionals

Practice-based Learning & Improvement

PBL 1: Analyze practice experience and perform practice-based improvement activities using a systematic methodology in concert with other members of the healthcare delivery team

PBL 2: Locate, appraise, and integrate evidence from scientific studies related to their patients' health problems

PBL 3: Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.

PBL 4: Utilize information technology to manage information, access online medical information, and support their own education

PBL 5: Recognize and appropriately address gender, cultural, cognitive, emotional, and other biases; gaps in medical knowledge; and physical limitations in themselves and others

Systems-based Practice

SBP 1: Effectively interact with different types of medical practice and delivery systems

SBP 2: Understand the funding sources and payment systems that provide coverage for patient care

SBP 3: Practice cost-effective healthcare and resource allocation that does not compromise quality of care

SBP 4: Advocate for quality patient care and assist patients in dealing with system complexities

SBP 5: Partner with supervising physicians, healthcare managers, and other healthcare providers to assess, coordinate, and improve the delivery of healthcare and patient outcomes

SBP 6: Accept responsibility for promoting a safe environment for patient care and recognizing and correcting systems-based factors that negatively impact patient care

SBP 7: Apply medical information and clinical data systems to provide effective, efficient patient care

SBP 8: Recognize and appropriately address system biases that contribute to healthcare disparities

SBP 9: Apply concepts of population health to patient care

ARC-PA STANDARDS ADDRESSED IN THIS COURSE

- B3.02 SPCE *must* enable students to meet program expectations and acquire the *competencies* needed for clinical practice: acute and chronic.
- B3.03 SCPE *must* provide sufficient patient exposure.... to meet program-defined requirements with patients seeking:
 - Medical care across the life span: adults, elderly.
- Care for conditions requiring surgical management, including pre- operative, intra-operative, post-operative care
- B3.04 Supervised clinical practice experiences must occur in the following settings:
 - Operating room
- B3.05 Instructional faculty for the supervised clinical practice portion of the educational program must consist primarily of practicing physicians and PAs.
- B3.06 Supervised clinical practice experiences should occur with:
 - a) Physicians who are specialty board certified in their area of instruction,
 - b) PAs teamed with physicians who are specialty board certified in their area of instruction or
 - c) Other licensed health care providers experienced in their area of instruction
- B3.07 SCPE *should* occur... in the following disciplines:

- General surgery
- C3.02 The program must document student demonstration of defined professional behaviors

COURSE LEARNING OUTCOMES

Dominican University Physician Assistant clinical phase students will demonstrate knowledge (MK); interpersonal communication (ICS); clinical and technical skills (CTS); problem-solving and clinical reasoning (PC); and professionalism (P) competencies through the ability to perform the following learning outcomes:

1. Demonstrate a sufficient depth and breadth of understanding for the topics on the General Surgery PAEA End of Rotation Exam™ and apply the knowledge to the selection of the single-best answer when presented with clinical scenario based multiple-choice questions.
2. Apply knowledge of disease states to the evaluation of **adult and elderly patients seeking acute or chronic surgical (pre-operative, intra-operative and post-operative) care.**
3. Perform focused and comprehensive contextual **patient narratives** in the medical, surgical, social, functional and pharmacological domains when caring for adult and elderly patients seeking **acute or chronic** surgical (pre-operative, intra-operative and post-operative) care. (MK, ICS, CTS)
4. Accurately and concisely **communicate patient findings** in written electronic medical records and orally to all members of the health care team. (ICS)
5. **Demonstrate empathy** to the emotional, cultural and socioeconomic aspects of the patient, the patient's condition, and the patient's family or significant others. (ICS, P)
6. Use active listening skills to accurately obtain, interpret and utilize the patient historical and subjective narrative to develop a **patient-centered management plan.** (ICS, P)
7. Deliver accurate patient education that encompasses verbal, non-verbal and written forms of information to the patient and their care team that considers **disease prevention** and health awareness. (ICS,P)
8. Formulate a **differential diagnosis** for adult and elderly patients seeking **acute or chronic** surgical (pre-operative, intra-operative and post-operative) care based on the patient history and physical examination and recommend diagnostic studies in the context of insurance plan coverage, best practices and cost. (MK, PC)
9. Develop, implement and monitor acute and chronic care **management plans** and goals. (MK, PC)
10. **Recognize** potentially life- or function-threatening medical and surgical problems encountered in surgical practice.
11. Collaborate with the implementation of **pharmacological and non-pharmacological approaches** including counseling, therapeutic modalities, and rehabilitation. (MK, ICS, PC)
12. Advocate for and support patients in **access to quality care** in complex health care delivery systems. (ICS, P)
13. **Professional behavior** must comport with the highest ethical and legal standards in all encounters with patients and members of the medical team. (ICS, P)
14. Recognize **professional limitations**, in consulting with other health care providers and directing patients to appropriate community resources. (ICS, P)
15. Critically evaluate the medical literature to use current practice guidelines and apply the principles of **evidence-based medicine** to patient care. (MK, PC, P)
16. Perform a comprehensive systems review, and perform a comprehensive general or system focused **physical examination** on adult and elderly patients seeking **acute or chronic** surgical (pre-operative, intra-operative and post-operative) care. (MK, ICS, CTS)
17. Demonstrate an ability to recommend and interpret appropriate diagnostic studies to assist in the

evaluation and treatment of patients seeking surgical care. (MK, ICS, CTS)

18. Possess the **technical and professional skills** to observe universal precautions, aseptic technique, wound management/closure (suturing, stapling, surgical knot ties, and skin adhesives). (MK, CTS)

COURSE ASSESSMENT AND GRADING

Student attainment of expected learning outcomes is developed through experiential patient care exposure under the supervision of a clinical preceptor and through self-directed learning by students. Formative assessment of progress toward attaining the course learning outcomes, learning objectives and required patient encounters/exposures is conducted mid-rotation. Summative evaluation of course learning outcomes, learning objectives and assurance of attainment of patient encounters/exposures is conducted upon conclusion of the course via the following components.

Components of Clinical Year Evaluation Process

1. Preceptor End of Rotation Evaluation of Student learning Outcomes
2. PAEA End of Rotation™ Exam
3. Completion and submission of all clinical data, via the Exxat system including, but not limited to: Patient demographics, Patient clinical information, ICD 10 coding, and Procedure performance activities
4. Return to Campus activities
5. Note/Clinical documentation submission
6. Student’s evaluation of self and preceptor

All components of this evaluation process must be successfully completed to be eligible for graduation from the PA program.

Supervised Clinical Experience Grade Calculation Process

SCPE rotation course grades are determined/assigned by the principal faculty member designated as the rotation/course director. Instructional faculty (preceptors) provide information used to determine rotation grades but do not assign the rotation grades.

The final SCPE rotation grade assigned is Pass/Fail. In order to earn passing grade for the clinical rotation, the student must earn an average of >70% for the total grade calculation and earn >70% on each individual component of the clinical rotation grade. Given the nature and complexity of educational activities on clinical rotations, a comprehensive, multifaceted process for evaluating student progress has been designed. The components each serve to assess different skills acquired by a student during clinical training. These constituent parts are combined to formulate the final SCPE grade.

EXPECTED COURSE LEARNING OUTCOME	ARC-PA Standard Addressed	ASSESSMENT	PERCENTAGE OF GRADE
Outcomes 1-2 (MK, CTS)	B3.02, B3.03a, B3.03c	End-of-Rotation Exam	40%
Outcomes 2-18 (MK, ICS, CTS, P, PC)	B3.02, B3.03a, B3.03c	End of Rotation Preceptor Evaluation of Student learning outcomes	25%
Outcome 4 (MK, ICS, CTS, PC)	B3.02, B3.03a, B3.03c	Note/Clinical Documentation Submission	10%

Outcome 13 (P)	B3.02, B3.03a, B3.03c	EXXAT Patient Logging	10%
Outcome 2-18 (P)	B3.02, B3.03a, B3.03c	Return to Campus Day Activities /OSCE Rubric	10%
Outcome 13 (P)	C3.02	Course Director Evaluation of Student Professionalism	5%

End of Rotation Exam Grade Conversion

This General Surgery rotation assessment includes use of the PAEA End of Rotation exam (40% of grade) and this test is specific to the general surgery rotation. For more information about the exam composition please see the General Surgery Blueprint available at: <https://paeaonline.org/assessment/end-of-rotation/content/>. The site also includes a sample exam to further familiarize yourself with test expectations.

For grading purposes within the General Surgery rotation, the PAEA exam score will be converted using a student Z-score.

1. *Calculating The Z-Score*
 - a. The following formula establishes the student Z-score for a particular test:
 - b. $Z\text{-Score} = (\text{Student EOR Score} - \text{National average for that exam}) / \text{Exam SD}$
 - c. Example: $Z\text{-score} = (87.9 - 75.9) / 8 = +1.5$
 - i. In the above example 87.9 is the student’s EOR score; 75.9 is the national average on the same exam; and the exam standard deviation is 8.
2. *Using the Z-Score to Convert the End Of Rotation Test Grade*
 - a. Since the program assigns 70% as the lowest grade eligible to earn a “C” on a test, the following formula was used to establish a grade via a student Z-score.
 - b. $\text{Converted EOR Test Grade} = [85 + (z\text{-score} \times 10)]\%$ with a maximum allowed grade of 100%.
 - c. For our example above the student would have a $\text{Converted EOR Test Grade} = [85 + (1.5 \times 10) = 100$.

Z-Score	Adjusted Grade	Letter Grade
+0.5 +	90% to 100%	A
-0.5 to +0.49	80% to 89.9%	B
-1.5 to -0.51	70% to 79.9%	C
-2.5 to -1.51	60% to 69.9%	D
< -2.5	<60%	F

REQUIRED TEXTS AND RESOURCES

In addition to the following list it is expected that students will use textbooks and resources from all courses in the Physician Assistant Studies program for SCPE rotations.

1. Doherty, G. (2015) CURRENT Diagnosis & Treatment, 14th Ed. McGraw-Hill. ISBN 978-0-07-179211-0
2. Brunicaudi FC, Andersen D, Billiar T, Dunn D, Hunter J, Matthews R. (2010) *Schwartz Principles of Surgery, 10th Ed*, McGraw-Hill. ISBN 978-0-07179675-0

RECOMMENDED TEXTS AND RESOURCES

1. Blackbourne, LH (2017) *Surgical Recall, 8th Ed.* Wolters Kluwer ISBN-13: 978-1496370815

Internet Resources

- UpToDate 2019

TEACHING METHODS AND ASSIGNMENTS FOR ACHIEVING COURSE OBJECTIVES/LEARNING OUTCOMES

Instructional Design

The clinical year is developed with a patient-centered, problem-oriented, and applications-based focus. During this time students discover how to use the extensive medical knowledge base that was developed during the first four semesters of the program curriculum.

The clinical year is the time for students to focus on skill competency development including patient care skills, communication skills, interpersonal (team) skills, and evidence-based practiceskills. To facilitate this process, the primary instructional activity of the clinical rotations is supervised direct patient care experience performing patient evaluations, ordering and interpreting diagnostic tests, formulating diagnoses, developing treatment plans, performing clinical procedures, and providing patient education.

In addition, during each rotation there is a list of specific requirements that will be the focus of student knowledge-base studies (or review) during that rotation. The end-of-rotation written examinations will be based upon the instructional objectives listed in this syllabus and from the topics presented below.

ROTATION-SPECIFIC COURSE OBJECTIVES

At completion of the General Surgery rotation, the second year PA student will have an understanding of each of the following areas as they relate to the specific medical conditions noted within the General Surgery End of Rotation™ Exam Topic List and will be able to:

Medical Knowledge:

1. Demonstrate medical knowledge about select health problems as noted in the General Surgery End of Rotation™ Exam Topic List to include the relevant:
 - a. Patient History and Physical Exam
 - b. Diagnostic Studies
 - c. Diagnosis
 - d. Health Maintenance
 - e. Clinical Interventions
 - f. Clinical Therapeutics
 - g. Scientific Concepts
2. Integrate the General Surgery End of Rotation™ Exam Topic List, General Surgery End of Rotation™ Exam Blueprint, and the student's prior performance on medical knowledge assessments (e.g., PACKRAT) to formulate a plan of study to ensure adequate preparation for the General Surgery End of Rotation™.
3. Reflect on learning strategies used to learn and retain medical knowledge and identify previous strategies that were effective and integrate new strategies to improve effectiveness with knowledge retention and application to the General Surgery End of Rotation™ Exam.

During the General Surgery rotation, the physician assistant student should be able to demonstrate the ability to perform the following under the supervision of a clinical preceptor:

Interpersonal and Communication Skills

Patient Narratives:

1. Establish effective rapport and elicit an appropriate acute, interval or comprehensive history from adult and elderly patients, and/or their caregivers, of any age, gender, ethnicity, race, culture and socioeconomic background that includes:
 - a. Determining the purpose of visit (POV), chief complaint (CC) or major problem(s)
 - b. Obtaining a brief follow-up history pertaining to a recent acute problem or a thorough history of present illness (HPI) for new problems including onset, quantity, quality and chronology of symptoms, palliative and provocative factors, location and radiation of problem, and associated symptoms
 - c. Eliciting an appropriate review of systems related to specific medical conditions.
 - d. Eliciting a past medical history including previous and current health problems, hospitalizations, surgeries, major injuries and childhood illnesses appropriate.
 - e. Determining a patient's immunization status based on age-based recommendations for adult and elderly patients.
 - f. Determining an appropriate interval history pertaining to progression, regression, or stability of any chronic health problems
 - g. Obtaining a list and reconciling medications currently in use (prescription and over-the-counter) with dosing schedule and any history of allergies including a description of the nature of the allergic response
 - h. Eliciting a social history from adult and elderly patients that describes nutritional habits (diet), use of recreation substances (alcohol, tobacco and/or other drugs), education, employment, military occupational exposures, socioeconomic history, and sexual history (when pertinent) including risk behaviors and past sexually transmitted infections (STIs)
 - i. Determining any family history pertaining to exposure to illness, familial predisposition to disease, or genetic transmission
 - j. Determining preventative health strategies pursued by the patient
 - k. Determining the meaning of pertinent historical information relative to specific medical conditions or diseases listed within the General Surgery End of Rotation™ Exam Topic List
2. Record all pertinent positive and negative historical data in a clear and concise manner using appropriate medical terminology and standard medical abbreviations approved by the facility.

Physical Examination

1. Recognize possible relationships between symptoms elicited from adult and elderly patients through the medical history and identify potential physical findings that must be assessed in the physical examination.
2. Perform a problem-focused or complete physical examination appropriate for adult and elderly patients based on the gender of the patient, reason for visit, urgency of the problem and patient's ability to participate in the examination in the context of the pre/intra/post-operative setting.
3. Demonstrate safe and appropriate use of any required instruments or equipment including:
 - a. Auscultation using the bell and diaphragm features of the stethoscope;
 - b. Non-invasive blood pressure (NIBP) measurement instruments
 - c. Selection and use of sphygmomanometers of the appropriate size;
 - d. Oral, rectal, and ear thermometers/thermistors

- e. Pulse oximeters
 - f. Oto/ophthalmoscopes
 - g. Percussion hammers
 - h. Tuning forks
 - i. Snellen chart
 - j. Pseudoisochromatic color vision (Ishihara) plates
 - k. Ear cures
 - l. Woods lamp with and without fluorescein stain
4. Identify age-related normal vital signs including evaluation of pain through the recognized Visual Analog Scale.
 5. Perform appropriate limited physical examinations to assess progression, regression, stability or complications of select health problems as noted in the General Surgery End of Rotation™ Exam Topic List.
 6. Document all pertinent normal and abnormal physical findings using appropriate medical terminology and facility defined acceptable medical abbreviations.

Communicate Patient Findings

1. Document their performance of all patient assessment activities, management plans and patient education for acute and chronic health problems seen in the general surgery setting.
2. Demonstrate the ability to write organized, timely and accurate patient progress, procedural and operative notes.
3. Deliver coherent, accurate and succinct patient presentations to preceptors and/or other medical professionals involved in the care of the patient.
4. Demonstrate interpersonal skills that will enhance communication with the patient, the patient's caregiver and/or family.
5. Demonstrate the ability to counsel patients about signs and effects of harmful personal behavior and habits.

Demonstrate Empathy

1. Demonstrate awareness of personal biases and the socioeconomic and cultural factors that may affect their interpersonal communication, assessment, treatment, and clinical-decision making in caring for individuals from different cultural, ethnic, racial, socio-economic or other diversity backgrounds.
1. Effectively elicit and document the patient's explanatory model and assess the patient's spiritual values and practices during patient encounters.
2. Recognize need for and appropriately utilize informal and/or formally trained interpreters.
3. Utilize reflective practice techniques to evaluate cross cultural encounters to improve quality of personal practices and health care outcomes.
4. Respond to patient diversity, preferences, beliefs and cultural background in a nonjudgmental manner.

Patient-Centered Management Plans

1. Demonstrate awareness of personal biases and the socio-cultural factors that may affect their interpersonal communication, assessment, treatment, and clinical-decision making in caring for individuals from different cultural, ethnic, racial, socio-economic or other diversity backgrounds.
2. Effectively elicit and document the patient's explanatory model and assess the patient's spiritual values and practices during patient encounters.
3. Recognize need for and appropriately utilize informal and/or formally trained interpreters.

4. Utilize reflective practice techniques to evaluate cross cultural encounters to improve quality of personal practices and health care outcomes.
5. Support shared decision making through use of clinical-decision making that integrates clinical judgement; patient values, beliefs, and preferences; and the best available medical evidence.

Patient Care – Problem-Solving and Clinical Reasoning

Differential Diagnosis

1. Integrate normal and abnormal findings from the medical history, physical examination and diagnostic studies to formulate an initial problem list and develop the list of differential diagnoses in adult or elderly patients presenting with acute or chronic care.
2. Demonstrate the continued development of clinical reasoning skills including the ability to compare and contrast critical differences of acute and/or chronic disease states that comprise the differential diagnosis for a given adult or elderly patient presentation.
3. Ascertain the need for and order/perform additional diagnostic assessments if indicated to adequately evaluate acute and/or chronic disease states included in the differential diagnoses list.
4. Establish a most likely diagnosis based upon historical information, physical examination findings, laboratory and diagnostic study findings and literature research when needed.

Diagnostic Studies

1. Recognize indications for and appropriately order screening tests and diagnostic or follow-up laboratory procedures, imaging studies or other diagnostic evaluations commonly used in the general surgery setting.
2. Provide pertinent patient education about common screening and diagnostic tests regarding required patient preparation, procedure, possible complications, purpose of testing, risks versus benefits, alternatives, and cost-effectiveness.
3. Identify techniques and potential complications for common diagnostic procedures.
4. Identify laboratory and diagnostic studies considered to be the “best practice/gold standard” for the diagnosis of specific conditions listed within the General Surgery End of Rotation™ Exam Topic List.
5. Properly collect the following specimens or instruct the patient on collection procedures when indicated and applicable:
 - a. Venous and arterial blood samples
 - b. Clean-catch and “dirty” urine specimens
 - c. Sputum samples
 - d. Fecal specimens
 - e. Wound and blood samples for aerobic and anaerobic culture
 - f. Urethral and cervical swabs for STI testing
 - g. Cervical scrapings for cancer screening
 - h. Vaginal swabs for microscopy
 - i. Skin scrapings for microscopy
 - j. Skin biopsies
 - k. Wound and blood samples for aerobic and anaerobic culture
 - l. Pre operative nasal swabs to r/o MRSA
6. Perform and interpret the following diagnostic procedures when indicated and applicable:
 - a. Waived laboratory procedures including whole blood glucose, hemoglobin, microhematocrit, dipstick urinalysis, and rapid serologic tests for group A streptococcus.
 - b. 3-lead monitoring and 12-lead diagnostic electrocardiography (ECG)
 - c. intradermal (PPD) tuberculosis screening
 - d. peak flow measurements

7. Correctly interpret findings/results on the following diagnostic tests:
 - a. Complete blood count
 - b. Peripheral blood smear
 - c. Basic metabolic panel
 - d. Comprehensive metabolic panel
 - e. Liver function test
 - f. Renal function test
 - g. Glycosylated hemoglobin
 - h. Sedimentation rate
 - i. Lipid panel
 - j. Hepatitis panel
 - k. Cardiac biomarkers
 - l. PT/INR and PTT
 - m. Thyroid function test
 - n. C-reactive protein
 - o. Iron studies
 - p. Microscopic urinalysis and culture
 - q. Sputum gram stain and culture
 - r. Monospot testing
 - s. Plain film radiographic images

Emergently Diagnose

1. Recognize signs and symptoms of common medical emergencies and take appropriate action to sustain life.
2. Comprehend and describe the application of basic and advanced techniques of cardiopulmonary resuscitation adult patients.
3. Comprehend and describe the treatment of patients with anaphylactic reaction.
4. Recognize potentially lethal cardiac dysrhythmias and know the current treatment for each.
5. Understand the use of and indications for standard emergency medications and administer if appropriate.

Management Plans

Acute Care

1. Differentiate among common etiologies based on the presenting symptom.
2. Recognize “don’t miss” conditions that may present with a particular symptom.
3. Prioritize a focused history and perform a focused physical examination.
4. Discuss the importance of a cost-effective approach to the diagnostic work-up.
5. Describe the initial management of common and dangerous diagnoses that present with a particular symptom.

Chronic Care

1. Identify best practices and implement chronic disease surveillance strategies.
2. Elicit a focused history that includes information about adherence, self-management, and barriers to care.
3. Perform a focused physical examination that includes identification of chronic disease complications.
4. Assess improvement or progression of the chronic disease.
5. Describe major treatment modalities applicable to the care of patients with chronic disease.

6. Propose an evidence-based management plan that includes pharmacologic and non-pharmacologic treatments and appropriate surveillance and tertiary prevention.
7. Communicate appropriately with other health professionals (e.g. physical therapists, nutritionists, counselors).
8. Document a chronic care visit.
9. Communicate respectfully with patients who do not fully adhere to their treatment plan.
10. Educate a patient about an aspect of his/her disease respectfully, using language that the patient understands. When appropriate, ask the patient to explain any new understanding gained during the discussion.
11. Assess status of multiple diseases in a single visit.
12. List important criteria to consider when prioritizing next steps for management of patients with multiple uncontrolled chronic diseases.
13. Document an encounter with a patient who has multiple chronic diseases using a SOAP note and/or chronic disease flow sheet or template.

Pharmacological and Non-pharmacological Approaches

1. Develop patient-centered, comprehensive therapeutic management plans that are based upon assessment/diagnosis, concurrent treatments the patient is following for other medical problems, evidence-based guidelines and patient readiness and ability to comply.
2. Identify potential complications of specific clinical interventions and procedures performed commonly in the general surgery setting.
3. Initiate (prescribe) appropriate pharmacotherapeutics based upon diagnosis, signs/symptoms, potential drug interactions, existing allergies, and evidence based therapeutic guidelines.
4. Provide patient education about medication usage to include the reason for the taking medication, dosing schedule, expected outcomes, and potential adverse effects.
5. Identify appropriate monitoring for patients after interventions, including checking for compliance, adverse events and effectiveness.
6. Evaluate the severity of patient condition in terms of need for office procedure, medical and/or surgical referral, admission to the hospital or other appropriate setting.
7. Select non-pharmacologic modalities (e.g. physical therapy, surgery, counseling) to integrate into patient management plans.
8. Identify and direct patients to available community resources specific to the needs of individual patients within a diverse general surgery practice population. Specify indications for referral to appropriate specialist and sub-specialist practitioners.
9. Develop increasing knowledge and proficiency in the performance of clinical/surgical procedures/ skills necessary to first-assist a surgeon in a surgical setting including the ability to describe the indications, contraindications, patient preparation, and technique for common General Surgery procedures.
10. Demonstrate a basic knowledge of strategies used to identify, assess, and manage: pre-operative risks, peri-operative care/risks, life-threatening surgical emergencies, post-operative risks and complications.
11. Discuss the appropriate use of medications in the surgical patient related to such issues as dosage, indications, contraindications, interactions, complications, metabolism and excretion of medications commonly used for:
 - a. Pain management
 - b. Perioperative antibiotic usage
 - c. Chemotherapy
 - d. Inpatient considerations (e.g. sleep medications, anti-emetics, laxatives)

12. Discuss anesthetics, their indications, modes of action, contraindications, complications and combinations in:
 - a. General anesthesia
 - b. Spinal and regional anesthesia
 - c. Regional anesthesia/field blocks
13. Practice proper technique in the following settings:
 - a. Demonstrate knowledge of and ability to scrub and gown for surgery, position patient, maintain sterile technique, tie knots, suture/staple, apply dressings, transfer patient to and from O.R. table, hold retractors.
 - b. Demonstrate ability to set up a sterile field outside the O.R. (for office procedures)
14. Identify potential complications of specific clinical and surgical interventions and procedures.
15. Identify appropriate monitoring for patients after interventions, including checking for compliance, adverse events and effectiveness.
16. Evaluate the severity of patient condition in terms of need for medical referral/consultation, urgent vs. scheduled office procedure, urgent vs. scheduled surgical intervention, admission to the hospital or other appropriate setting

Professionalism

Access to Quality Care

1. Recognize the importance of cost effective health care, quality assurance and practice guidelines in today's health care environment.
2. Identify cost-effective health care and resource allocation strategies that do not compromise quality of patient care.
3. Advocate for quality patient care and assist patients in dealing with system complexities.

Professional Behavior

1. Demonstrate appropriate professional demeanor, ethics and respect for patient's confidentiality.
2. Identify the roles of the following members of the health care team and how to implement their services appropriately.
 - a. Specialty consults
 - b. Nursing
 - c. Physical therapy
 - d. Occupational therapy
 - e. Respiratory therapy
 - f. Pharmacy
 - g. Dietary services
 - h. Home health
 - i. Social work
 - j. Laboratory services
 - k. Medical Interpreters
 - l. Ethics team
3. Compare and contrast the discipline specific approach of general surgery providers versus the approach of providers within other disciplines (i.e. internists/hospitalists, pediatricians, family practitioners, OB/Gyn, emergency medicine physicians and behavioral medicine physicians) to patient care and also demonstrate an understanding of the role of the general surgery providers in coordinating care with other providers and specialists.

Professional Limitations

1. Recognize personal limitations in knowledge base and/or abilities to establish a definitive diagnosis in certain situations and use the medical literature and evidence-based medicine evaluative skills to answer critical diagnostic questions or determine the need for referral/consultation.
2. Demonstrate accountability to patients, society, and the profession by acknowledging their professional and personal limitations and seeking additional consultation/referral to support the care of patients.
3. Should not misrepresent directly or indirectly, their skills, training, professional credentials, or identity.
4. Recognize the importance of and have the ability to identify and direct patients to available community resources specific to the needs of individual patients within a diverse general surgery practice population.

Application of Evidence-Based Medicine

1. Recognize their own personal biases, gaps in medical knowledge and physical limitations as well as those of others.
2. Review and expand their core knowledge by reading suggested/recommended textbooks, journal articles and/or other medical literature resources.
3. Demonstrate the ability to access and integrate the available evidence in making diagnostic and treatment decisions and be able to consider the limitations of the scientific database.
4. Apply the principles of evidence-based medicine to answer a clinical question related to a patient in the General Surgery setting.

Clinical and Technical Skills

1. Possess the ***technical and professional skills*** to perform procedures common to primary care including but not limited to; collection and performance of non- interventional diagnostic procedures to include the collection of specimens for analysis to support diagnosis.
2. Possess the ***technical and professional skills*** to:
 - a. Describe indications for a foley catheter
 - b. Observe universal precautions
 - c. Provide an initial interpretation for plain radiographs
 - d. Aseptic technique
 - e. Perform digital rectal exam
 - f. Describe indications for NG tube placement
 - g. Wound management/closure (suturing, stapling, surgical knot ties, skin adhesives)
3. Demonstrate safe and appropriate use of any required instruments or equipment including:
 - a. Appropriate patient positioning on operating table
 - b. Appropriate surgical field draping and sterile technique.
 - c. Suture and removal kits
 - d. Hemostat
 - e. Kelly clamp
 - f. Kocher clamp
 - g. Mosquito clamp
 - h. Forceps
 - i. Richardson retractor
 - j. Army/Navy retractor
 - k. S retractor
 - l. Balfour retractor
 - m. Skin hook

PAS 640 – General Surgery

- n. Rake
- o. Bulldog clamp
- p. Suction/Yankauer suction tip
- q. Electrocautery using hyfracator/desiccator

OUTLINE OF TOPICS TO BE COVERED IN THIS COURSE



General Surgery End of Rotation™ Exam Topic List

PULMONOLOGY	ENDOCRINOLOGY
Shortness of breath	Tremors
Hemoptysis	Fatigue
Weight loss, fatigue	Palpitations
Lung carcinoma	Heat/cold intolerance
Pleural effusion	Hyperparathyroidism
Pneumothorax	Hyperthyroidism
Pneumonia (postoperative)	Thyroid nodules
	Thyroid carcinoma
	Adrenal carcinoma
NEUROLOGY/NEUROSURGERY	Pheochromocytoma
Change in vision	
Change in speech	
Motor and/or sensory loss	OBSTETRICS/GYNECOLOGY
Vascular disorders (carotid disease)	Pain
Subarachnoid hemorrhage	Skin changes
Subdural hematoma	Nipple discharge
Epidural hematoma	Adenopathy
	Benign breast disease (fibroadenomas, fibrocystic breast disease)
	Breast carcinoma
UROLOGY/RENAL	
Edema	
Orthostatic hypotension	
Urinary retention	DERMATOLOGY
Dysuria	Rash
Fluid and electrolyte disorders	Redness/erythema
Acid/base disorders	Discharge
Testicular carcinoma	Drug eruptions (postoperative)
Wilms tumor	Urticaria (postoperative)
Bladder carcinoma	Cellulitis
Renal cell carcinoma	Burns
Chronic renal failure (shunts/access)	Pressure ulcers
Renal vascular disease	Basal cell carcinoma
Nephrolithiasis	Squamous cell carcinoma
	Melanoma

*Updates include spacing and style changes.



General Surgery End of Rotation™ Exam Topic List

PREOPERATIVE/POSTOPERATIVE CARE	GASTROINTESTINAL/NUTRITIONAL
Risk assessment:	Abdominal pain
Cardiac disease (history of myocardial infarction, unstable angina, valvular disease, hypertension, arrhythmias, heart failure)	Anorexia
Pulmonary disease (history of asthma, chronic obstructive pulmonary disease)	Heartburn/dyspepsia
Metabolic disease (history of diabetes, adrenal insufficiency)	Nausea/vomiting
Hematologic disease (history of clotting disorders, anticoagulant use)	Jaundice
Tobacco use/dependence	Hematemesis
Substance use disorder	Diarrhea/constipation/obstipation/change in bowel habits
Post-operative fever	Melena/hematochezia
Wounds/infections	Esophageal strictures
Deep venous thrombosis	Esophageal cancer
Fluid/volume disorders (volume overload/depletion)	Hiatal hernia
Electrolyte disorders	Peptic ulcer disease
Acid/base disorders	Gastric cancer
	Pyloric stenosis
	Acute/chronic cholecystitis
CARDIOVASCULAR	Cholelithiasis/choledocholithiasis
Chest pain; history of angina	Cholangitis
Syncope	Hepatic carcinoma
Dyspnea on exertion	Acute/chronic pancreatitis
Claudication	Pancreatic pseudocyst
Aortic aneurysm/dissection	Pancreatic carcinoma
Arterial embolism/thrombosis	Appendicitis
Peripheral arterial disease	Inflammatory bowel disease
Arterial/venous ulcer disease	Small bowel carcinoma
Varicose veins	Toxic megacolon
	Colorectal carcinoma
	Diverticular disease
HEMATOLOGY	Bowel obstruction (small, large, volvulus)
Easy bruising/bleeding	Anal disease (fissures, abscess, fistula)
Anemia	Hemorrhoids
Fatigue	Hernias (inguinal, femoral, incisional)
	Bariatric surgery

Composition of End of Rotation Exam™ is Summarized Below



General Surgery End of Rotation™ Exam Blueprint

General Surgery 100-Question Exam	History & Physical	Diagnostic Studies	Diagnosis	Health Maintenance	Clinical Intervention	Clinical Therapeutics	Scientific Concepts	Totals
	(16%)	(20%)	(25%)	(4%)	(23%)	(8%)	(4%)	(100%)
Gastrointestinal/nutritional	(50%)	10	10	12	2	12	2	50
Preoperative/postoperative care	(12%)	2	2	2	2	1	2	12
Cardiovascular	(9%)	2	2	2	0	2	1	9
Endocrinology	(8%)	1	2	2	0	2	0	8
Urology/renal	(5%)	1	1	1	0	2	0	5
Neurology	(5%)	0	1	2	0	1	1	5
Dermatology	(5%)	0	0	2	0	2	1	5
Pulmonology	(3%)	0	1	1	0	1	0	3
Hematology	(3%)	0	1	1	0	0	1	3
Totals:	(100%)	16	20	25	4	23	8	100