This clerkship module is a part of the Clinical Field Placement (CFP) series of courses over the clinical year of the Bethel PA program. The Student Clerkship Handbook and CFP syllabi expectations and requirements will be followed for grading requirements.

**General Surgery Clerkship**

**Rotation Purpose**
The purpose of this 8-week rotation is to educate the physician assistant student in the evaluation, diagnosis, management, and treatment of common surgical problems encountered in a General Surgery practice, which may occur in inpatient or outpatient settings. Clinical experiences are intended to assist the student’s transition from didactic to integrated clinical evaluation, decision-making, and management of patients with surgical problems. Students will learn pre and post-operative care of the surgical patient; the student will also obtain experience in the operation room through active participation in surgical cases. The student will perform minor surgical procedures and become educated in the management and overall care of the surgical patient.

**Preceptor Requirements**
Board Certified General Surgeon or Certified PA/NP working with a Board Certified General Surgeon

**Clinical Field Placement Courses Objectives/Learning Outcomes**
At the end of this course, the PA student will be able to:

1. Develop the competencies for clinical practice and knowledge acquisition in all clinical settings (B3.02, B3.03a-d, B3.04a-d, B3.07a-f & 2, 3, 8, 9)
2. Demonstrate skills necessary to function in the healthcare environment with preceptor supervision (B3.02, B3.03a-d, B3.04a-d, B3.07a-f & 2, 3, 8, 9)
3. Appreciate different clinical settings and business practices, especially in areas designated as “medically underserved” (B3.02, B3.03a-d, B3.04a-d, B3.07a-f & 2, 3, 8, 9)
4. Synthesize and apply medical knowledge and treatment in an evidence-based manner in the care of patients (B3.02, B3.03a-d, B3.04a-d, B3.07a-f & 2, 3, 8, 9)
5. Synthesize aspects of the Christian faith to apply medical knowledge and clinical skills to patient care (B3.02, B3.03a-d, B3.04a-d, B3.07a-f & 2, 3, 8, 9)

**Instructional Objectives**
By the end of the rotation, assessed by preceptor evaluation, student logging and end of rotation examinations, the PA student will be able to (B1.09, B3.03a, B3.04a &B3.04c, and B3.07b):

1. Gather information, formulate differential diagnoses, and propose plans for the initial evaluation and management of patients with common presentations.
2. Demonstrate a sound approach to the evaluation and initial management of conditions routinely encountered in General Surgery.
3. Conduct an encounter that includes patients and families in the development of screening and treatment plans.
4. Utilize evidence-based medicine to determine cost-effective diagnostic evaluation of common acute and chronic presentations.
5. Assess specific classes of pharmacologic agents along with their indications, contraindications and side effect profiles.
6. Judge the criteria utilized to determine whether overnight hospitalization is required and the subsequent discharge criteria for a specific General Surgery diagnosis.
7. Discuss the influence of psychosocial factors on a patient’s ability to provide a history and carry out a treatment plan.
8. Incorporate psychological issues into patient discussions and care planning.
9. Demonstrate interpersonal and communication skills that result in effective information exchange between patients of all ages and professionals from other disciplines and other specialties.
10. Integrate their understanding of the professional aspects of the Surgical PA by showing respect, compassion, and integrity to all patients and providers.
11. Demonstrate ethical principles for provision/withholding clinical care, confidentiality of patient information, informed consent, and providing cost-effective health care and resource allocation without compromising quality.
12. Characterize the legal and regulatory roles of the Surgical PA.
13. Document and record information in the medical record that shows an understanding for the legal, medical, ethical, and financial aspects of quality medical care as it relates to the General Surgery patient.
14. Apply information technology to support patient care decisions and patient education when given a specific General Surgery disease or diagnosis.
15. Integrate evidence from scientific studies, apply knowledge of study design and statistical methods, apply information technology and access/evaluate on-line information as it relates to a specific General Surgery disease or diagnosis.

Problem List
The following sections contain content that a student should understand; either by clinical exposure or by reviewing didactic material that will help to guide student preparation for testing:

Cognitive
Students will be able to discuss the etiology, pathophysiology, pathology, clinical presentation, differential diagnosis, management & procedures, clinical pharmacology, and patient education for the following list of medical conditions or procedures.

1. The student will demonstrate the knowledge and skills described above pertaining to the following:
   A) Head/Neck
      • Benign and malignant neoplasms
      • Lymphadenopathy
      • Dysphagia
      • Thyroid enlargement
   B) Cardiovascular/Pulmonary
      • Aortic aneurysm
      • Arteriosclerotic occlusive disease
      • Venous insufficiency
      • Venous thrombosis
      • Pulmonary embolus
      • Breast mass and carcinoma
      • Pneumothorax
      • Lung/bronchogenic tumors (primary and metastatic)
   C) Gastrointestinal
      • GI bleeding (upper, lower, and alcoholic)
      • Gastritis/PUD
      • Meckel’s diverticulitis
      • Cholelithiasis/acute cholangitis
      • Incarcerated bowel/Bowel obstruction
      • Crohn’s disease/ulcerative colitis/IBS
      • Gastric neoplasms
      • Pancreatitis/pancreatic abscess/pseudocyst
• Achalasia/esophageal obstruction
• Esophagitis
• Intussusception/volvulus
• Acute cholecystitis
• Pseudomembranous colitis
• Hernias: esophageal, inguinal, and abdominal
• Hemorrhoids/rectal prolapse
• Diverticulosis/diverticulitis
• Colorectal carcinomas
• Acute appendicitis
• Mallory-Weiss syndrome

D) Musculoskeletal/Trauma
• Bone cysts/tumors
• Blunt force trauma to the chest/abdomen
• Ganglion cysts
• Penetrating trauma to the chest/abdomen

E) Renal/Genitourinary
• Hydrocele/varicocele
• Phimosis/paraphimosis
• Wilm’s tumor
• Fluid/electrolyte disorders
• Acid/base disorders
• Bladder malignancy
• Renal cell carcinoma
• Renal vascular disease
• Hypervolemia/hypovolemia

F) Endocrine
• Pheochromocytoma
• Thyroid carcinoma/masses

G) Neurologic
• Intracranial tumors (primary and metastatic)
• Brain abscess
• Trauma: cerebral contusion, subdural, epidural, intracerebral hematomas
• Post concussion syndrome
• Subarachnoid hemorrhage
• Aneurysm

2. At the conclusion of the rotation the student will demonstrate their understanding of surgical management and anesthesia related to the following:
   A) Wound management/surgical technique
      • Various suture materials/primary closure/delayed closure
      • Sterile technique
      • Healing: primary, secondary, tertiary
      • Wound debridement
      • Factors affecting wound healing process
   B) Anesthesia
      • Pre-anesthesia history and physical examination
      • Various methods of anesthesia: local, regional blocks, and general
      • Effects of anesthesia on: cardiac, renal, and pulmonary organ systems
      • Mortality; the high risk patient

3. The student should be able to recognize (through appropriate use of historical and physical examination skills) and manage the following postoperative complications:
   A) Infection problems
- Fever of unknown origin (FUO)
- Wound infection
- Abscess formation
- Fistula formation, sinus tract formation
- Nosocomial infections
- Phlebitis/DVT
- Necrotizing fasciitis

B) Cardiopulmonary problems:
- Chest pain/arrhythmias
- Shortness of breath/atelectasis/pneumonia
- Postoperative hypertension
- Pericarditis/endocarditis
- Pulmonary embolus
- Shock: hypovolemic and/or septic

C) Gastrointestinal and bleeding problems:
- Postoperative bleeding
- Vomiting/diarrhea/constipation/ileus
- Evisceration
- Peritonitis

D) Nutritional/Metabolic problems:
- Postoperative nutritional assessment
- Acid-base disturbances
- Water and electrolyte abnormalities
- Feeding methods and solution calculations/enteral and parenteral alimentation
- Normal fluid balance
- Blind-loop syndrome

E) Renal/Genitourinary problems:
- Urinary retention
- Renal failure
- Urinary tract infections

F) Drug and transfusion reaction:
- Acute hemolytic reaction
- Acute febrile reaction
- Acute allergic reaction
- Blood components
- Transfusion therapy

4. The student will be able to understand the indication, contraindication, technique and complications of the following technical skills:
   A) Arterial/venous blood collection/starting IVs
   B) Blood culture collection
   C) Performing and interpreting an ECG
   D) Foley catheter insertion
   E) Thoracentesis
   F) Paracentesis
   G) Lumbar puncture
   H) Properly scrub for the OR and donning gown and gloves
   I) NG tube insertion
   J) Suture technique and removal
   K) Central line placement
   L) Preparation of operative field
   M) Maintain aseptic techniques
   N) Surgical wound dressing
   O) Assist in surgery
   P) Interpret and/or understand the indications for the following radiological studies:
- Flat and upright of the chest and abdomen
- V.Q. scan
- Upper GI series
- Lower GI series
- Mammography
- Extremity films
- Ultrasound/Doppler flow studies
- CT scan: helical, chest, abdomen
- MRI
- I.V.P.
- Bone scan

**Rotation Expectations**
Clearly, subjects addressed in any clinical rotation are dependent on the number of patients and kinds of disease entities presenting to a particular service. Nevertheless, certain course content must be addressed, either by clinical exposure or by didactic materials that students can review to be prepared for end-of-rotation examinations and future Board Certification. Therefore, the following table contains the minimum diagnoses or presenting complaints to which students must be exposed, regardless of setting.

<table>
<thead>
<tr>
<th>Diagnosis</th>
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<tbody>
<tr>
<td>Acute Appendicitis</td>
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<tr>
<td>Abdominal Pain</td>
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<tr>
<td>Hernia- Adult and Pediatric</td>
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<tr>
<td>Bowel Obstruction</td>
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<tr>
<td>Gallbladder Disease</td>
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<tr>
<td>Breast Cancer</td>
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<tr>
<td>Colon Cancer</td>
</tr>
<tr>
<td>Anemia of Unknown Etiology</td>
</tr>
<tr>
<td>Intraabdominal Trauma</td>
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<tr>
<td>Soft Tissue Tumor</td>
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<tr>
<td>Melanoma</td>
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<tr>
<td>Cerebrovascular Disease</td>
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<tr>
<td>Abdominal Aortic Aneurysm</td>
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<tr>
<td>Burns</td>
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<tr>
<td>Surgical Nutrition</td>
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</tbody>
</table>

**Technical Skills:** Students are expected to acquire certain technical and interpretation skills that are commonly employed in medical care. Students are required to participate in and perform certain basic procedures under adequate supervision. At the end of the rotation the student should be able to do the following:

**Basic, or Level 1:**

<table>
<thead>
<tr>
<th>Procedure</th>
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<tbody>
<tr>
<td>Venipuncture/IV Placement</td>
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<tr>
<td>Incision and Drainage</td>
</tr>
</tbody>
</table>
Obtaining Surgical Consent
Scrub for Operation or Procedure
Assist for Operation or Procedure
Basic wound closure or Repair
Removal of Sutures or Staples
Insertion of Bladder Catheter

Advanced, or Level 2 (assist or observe):

Wound Debridement
Insertion of Nasogastric Tube
Arterial or Central Line Placement
Insertion or Removal of Chest Tube
Proctoscopy/Colonoscopy
Endotracheal Intubation

Professional Development

1. Relate and perform professionally in a working situation with other members of the health care team.
2. Demonstrate an openness to receive constructive criticism.
3. Demonstrate a willingness to recognize limitations and seek help from supervising preceptors and appropriate reference materials.
4. Perform duties with a professional attitude in such areas as attendance, and dress code.
5. Demonstrate sensitivity to the emotional, social and ethnic background of patients.
6. Recognize the important role of the team of providers in the care of the elderly
7. Recognize the impact that distance from a referral center has on patient care.
8. Identify the obstacles to obtaining medical care for those who are uninsured.
9. Recognize the impact that poverty, setting or socioeconomic class of patient, may have on your treatment plan
10. Demonstrate understanding of end-of-life planning

Grading
Assessed Activity Weighting
Online Participation: 2%
Patient Profiles: 10%
Patient Encounter Logs: 4%
Final Preceptor Evaluations: 40%
Student Self Evaluations: 2%
End-of-Rotation Exams: 40%
End-of-Rotation Meetings Participation: 2%
Total: 100%

**Final Grade Breakdown**

<table>
<thead>
<tr>
<th>Percentage</th>
<th>Letter Grade</th>
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<tbody>
<tr>
<td>95.00%</td>
<td>A</td>
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<tr>
<td>90.00%</td>
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<tr>
<td>63.00%</td>
<td>D+</td>
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<tr>
<td>60.00%</td>
<td>D</td>
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<tr>
<td>&lt;60.00%</td>
<td>F</td>
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</tbody>
</table>

**Clinical Tasks:**
1. Write problem oriented progress notes using the SOAP format.
2. Implement an appropriate treatment plan as approved and supervised by the preceptor.
3. Present oral cases presentation to the preceptor.
5. Demonstrate effective management of extended care facility patients.
6. Utilize appropriate community resources to implement patient care plans

**Text(s): RECOMMENDED RESOURCES**

