



Sample Surgery/Operating Room APPE Student Rotation

Rotation Description

The Surgery/Operating Room rotation will help students become familiar with the key principles utilized in hospitals and health systems to provide pharmaceutical care for peri-operative patients. The rotation is designed to expose students to various activities including extracting information from a patient's medical record, clinically monitoring patients and their drug therapy, providing patient-specific therapeutic recommendations, providing useful and accurate drug information, and developing effective communication skills. The student will participate in several activities designed to improve the student's working knowledge and experience with surgical/OR patients. The rotation will enable the student to apply knowledge in any pharmacy practice setting to provide necessary patient care.

Goals and Objectives

The preceptor and student should agree on which goals and objectives are appropriate for the rotation based on rotation site, rotation objectives delineated by School/College of Pharmacy, rotation length, and student interests. The following are a list of potential goals and objectives:

1. Perform all necessary aspects of the dispensing process including adherence with state and federal regulations.
2. Demonstrate ability to accurately and safely interpret medication-related orders including identification and resolution of problems.
3. Verbally communicate effectively and safely with healthcare professionals at appropriate levels. Communicate in English with correct grammar and pronunciation.
4. Discuss issues of the peri-operative setting and appropriate pharmacotherapy including (but not limited to):
 - a. Surgical infection prophylaxis
 - b. Sedation
 - c. Neuromuscular blockade
 - d. Inhaled anesthetics
 - e. Local anesthetics
 - f. Hemostatic agents
 - g. Post-operative nausea and vomiting
 - h. Peri-operative pain control
5. Use appropriate critical pathways, clinical practice guidelines, and disease management protocols in the delivery of pharmaceutical care.
6. Integrate clinical and pharmaceutical knowledge with patient specific information to identify potential medication related problems.
7. Develop patient specific monitoring plans.
8. Integrate with members of the healthcare team and establish interdisciplinary relationships.
9. Provide evidence-based and timely responses to requests for drug information.

Activities

During the course of the rotation, the student should participate in some of the following activities as assigned by the preceptor:

1. Participate in OR satellite pharmacy distribution processes as directed by preceptor.
2. Shadow a pharmacy technician to review automated dispensing cabinet functions.
3. Complete and discuss all assigned readings on time as assigned by preceptor. Prepare and lead at least one topic discussion on a relevant peri-operative topic.
4. Review pharmacy profiles and pertinent lab data daily for assigned patients in the peri-operative setting for appropriateness of therapeutic regimens and endpoint monitoring.
5. Monitor and evaluate drug therapy for assigned peri-operative patients and make recommendations to optimize outcomes in the areas of drug selection, dose, and indications for use. Act proactively to identify, prevent, and resolve drug-related problems.
6. Present and discuss assigned patients in the OR/Peri-operative setting with preceptor.
7. Recognize and report Adverse Drug Reactions (ADRs) on the appropriate ADR form as directed by preceptor.
8. Provide responses to nursing questions regarding drug administration and other pharmacotherapeutic issues.
9. Answer drug information questions upon request in a timely manner, utilizing appropriate resources. Provide written, referenced responses to drug information questions as directed by preceptor.
10. Present a formal oral/written patient case presentation as directed by preceptor.
11. Present a journal club article on a relevant clinical publication as directed by preceptor.
12. Participate in SCIP initiatives and assist in ensuring and monitoring compliance with guidelines.
13. Participate in the all assigned pharmacy and interdisciplinary meetings relative to care of peri-operative patients such as:
 - a. SCIP Committee
 - b. P & T Committee
 - c. Patient Safety Committee
 - d. Pharmacy Medication Management meeting
 - e. Pharmacy Practice Meeting
 - f. Various other meetings as directed
14. Complete other activities as assigned by preceptor.

Topic Discussions

As time permits, preceptors should schedule time when they can discuss various topics with the student. Background readings should be provided when available (some suggested readings listed with topics in this section). The student should be expected to lead at least one topic discussion towards the end of the rotation.

Potential Topics

1. Surgeries:

- a. General
 - i. Colectomy/ostomy
 - ii. Hernia repair
 - iii. Nissen fundoplication surgery
 - iv. Esophagectomy
 - v. Whipple procedure
 - vi. hysterectomy
 - vii. Thyroidectomy
- b. Vascular
 - i. abdominal aortic aneurysm (AAA)
 - ii. Coronary artery bypass graft (CABG)
 - iii. Vascular bypass surgery
 - iv. LVAD lead placement
- c. Orthopedic
 - i. Total knee arthroplasty (TKA)
 - ii. Total hip arthroplasty (THA)
- d. Neurosurgery
 - i. Spinal stenosis
 - ii. Degenerative osteoarthritis of the spine
- e. Urological
 - i. Radical retropubic prostatectomy (RRP)/ radical perineal prostatectomy (RPP)
 - ii. Urostomy/ Transurethral Resection of Bladder Tumor (TURBT)
 - iii. Transurethral resection of the prostate (TURP)

2. Anesthesia:

- a. General anesthesia
- b. Regional Anesthesia
- c. Conscious sedation
- d. Malignant Hyperthermia
- e. Neuromuscular blockade
- f. Sedation
- g. Inhaled anesthetics
- h. Local anesthetics

3. Miscellaneous topics:

- a. Surgical infection prophylaxis (SCIP)
- b. Post-operative nausea and vomiting
- c. Peri-operative and post-operative hypertension
- d. Post-operative pain management
- e. Hemostatic agents
- f. Post-operative ileus
- g. Fistula management
- h. Enteral feeding/management of tube feeding
- i. Fluids/Electrolytes/Nutrition
- j. DVT/SU prophylaxis
- k. Implantable pain pumps
- l. Chronic pain management
- m. Radiologic contrast agents

Projects

The student may be assigned at least one longitudinal surgical project. The preceptor and student should choose a project during the second week of rotation (see example projects listed below). Some projects listed may be more appropriate for students on extended-length (e.g., several months in length) rotations, which should be considered when determining project(s) to be completed. Student should present findings / deliverables to the appropriate audience during the rotation.

Potential Projects

1. Compliance rates with antibiotic surgical prophylaxis
2. Rate of post-operative surgery infections despite appropriate antibiotics prophylaxis
3. Review and update recommendations for surgical prophylaxis based on most current guidelines
4. Rate of post-operative infections in obese patients based on antibiotic dosing

Evaluation

- The preceptor will evaluate the student on achievement of the predefined goals and objectives for the rotation. Students will also be asked for any specific personal goals for the rotation.
- Students will also be evaluated on their interactions with pharmacists, pharmacy technicians, physicians, nurses, and other staff within the organization, as well as daily discussions with the preceptor concerning patient care and discussion topics.
- The evaluation will include an oral mid-point evaluation to assess progress. The preceptor and student will complete a final written evaluation at the conclusion of the rotation according to school of pharmacy criteria.

Website Resources

Website	Resource
American Society of Health-Systems Pharmacists	www.ashp.org
Infectious Disease Society of America (IDSA)	www.idsociety.org
American Society of Anesthesiologists	www.asahq.org
Institute for Safe Medication Practices	www.ismp.org
Orlando Health Surgical Institute for Safe Medication Practices	www.surgicalcriticalcare.net