**Anticoagulation Clinic**

**Description of Rotation:**

Anticoagulation Clinic refers to the provision of medical services in the outpatient setting. Clinics can focus on providing preventive care and/or the management of anticoagulation conditions. Pharmacist-directed services may be disease state (e.g. DSM) or medication centered (e.g. MTM), and can be provided in a standalone (independent) clinic or in collaboration with other healthcare professionals, such as physicians, nurses and dieticians.

**Goals of Rotation:**

Facilitate student learning and critical thinking skills in an Anticoagulation Clinic environment in order to:

1. Understand patient healthcare needs.
2. Apply evidence-based medicine.
3. Enhance and reinforce didactic course work.
4. Develop interpersonal communication skills.
5. Describe the pathophysiology of common illness.
6. Explain monitoring parameters given the particular disease state and the treatment regimen (including efficacy, toxicity, side effects, and potential drug interactions).
7. Provide non-pharmacological treatment for disease states.

**Learning Objectives:**

Upon completion of this rotation the student should be able to:

1. Describe the symptomatology, physical findings, pathophysiology, diagnostic procedures, laboratory tests, primary and alternative pharmacotherapies, and non-pharmacological treatments for disease states encountered during the rotation.
2. Describe the clotting cascade and its relevance to monitoring.
3. Discuss the pharmacokinetic parameters pertinent to warfarin dosing and be able to account for these parameters when developing a treatment plan.
4. Describe the current anticoagulation treatment protocols for patients who are status-post: acute myocardial infarction, ischemic stroke, deep vein thrombosis, venous thromboembolism, and pulmonary embolism.
5. Describe and understand the general principle of immunization, including appropriate schedules as well as immunizations required in specific patient populations. Demonstration of proper injection technique may also be assessed.
6. Provide recommendations for medication dose adjustments based upon pharmacokinetic and pharmacodynamic principles.
7. Provide appropriate monitoring parameters for the chosen treatment plan (including efficacy, toxicity, side effects, and potential drug interactions).
8. Effectively communicate the drug treatment plan to the patient with appropriate precautions and expectations.
10. Counsel patients on commonly prescribed medications and devices (i.e. blood glucose meters, peak flow meters, inhalers, etc.).
11. Develop plans to manage commonly encountered disease states, which may include: hyperlipidemia, diabetes mellitus, hypertension, and asthma.
12. Discuss the benefits and limitations of alternative medicine (i.e., herbal therapy, biofeedback, etc.).
14. Utilize basic physical assessment skills to evaluate patients and demonstrate basic competencies:
   a. Measure height, weight, temperature, pulse respiration rate, blood pressure, ideal body weight, and body mass index.
   b. Assess peripheral edema, cardiac and pulmonary sounds, and general findings of a routine diabetic foot exam (pedal pulses, proprioception, and sensory deficits by microfilament, etc.).

Activities:

1. Patient interviews and care plans
   a. Medication Therapy Management
   b. Patient goal setting
2. Case/disease state presentations and discussions
3. Research drug information question
4. Educational programs
   a. Patients
   b. Medical Staff
   c. Students
5. Newsletter
6. Physical Assessment
7. Define patient goals for each disease state
8. Data collection
9. Required Readings

Common disease states encountered in the outpatient setting (list not inclusive):

1. Clotting disorders
2. Arrhythmias
3. Diabetes /Metabolic Syndrome
4. Dyslipidemia
5. Hypertension
6. Asthma/COPD
7. Thyroid Disorders
8. GERD
9. CHF
10. Anemia
11. Pain Management
12. PAD
13. Nutrition
14. Allergies
15. Obesity
16. Depression
17. Mood disorders
18. URI
19. Osteoporosis
20. Osteoarthritis
21. Weight Loss
22. Sun Burn
Potential longitudinal activities to accomplish at site:

1. Identify and collect appropriate drug-related monitoring parameters for each assigned patient
2. Maintain an adequate patient data base for each assigned patient
3. Identify and prioritize drug-related problems for each assigned patient
4. Assess the appropriateness of each assigned patient’s drug therapy
5. Construct a detailed pharmacotherapeutic plan for each assigned patient
6. Present all patient data in a concise and meaningful fashion
7. Provides evidence-based regimens and monitoring plans for each patient
8. Obtain and write-up a patient medication history
9. Provide medication information to a unique cultural and socioeconomic diverse patient
10. Provide a recommendation and counseling on an OTC product
11. Counsel a patient on their medications
12. Provide a verbal therapeutic plan recommendation to another health-care professional
13. Perform medication reconciliation for patients
14. Interpret diagnostic tests results for patient/caregiver/or preceptor
15. Take a patient’s blood pressure
16. Take a patient’s pulse
17. Assess a patient’s peripheral edema
18. Take a patient’s respiratory rate
19. Assess a patient’s temperature
20. Provide an optimal pain management or palliative care plan for a patient
21. Observe a Health Care professional perform a full physical examination and assess results
22. Make a warfarin dosage adjustment based on patient parameters
23. Recommend empiric antibiotic therapy
24. Recommend antibiotic therapy based upon a culture and sensitivity
25. Assess the significance of a drug-drug interaction
26. Adjust a drug dose in a patient with renal insufficiency
27. Determine monitoring parameters for a patient being treated for an infectious disease
28. Assist in explaining to a patient or caregiver their health-insurance options
29. Prepare a written pharmacokinetic consultation
30. Prepare a handout for case presentation
31. Prepare an article for a newsletter or publication
32. Prepare a patient education sheet
33. Prepare a written drug information response in a practice setting
34. Provide an education presentation to pharmacists
35. Provide an education presentation to other health care professionals
36. Lead a Journal Club discussion
37. Participate in a Patient/Medication Safety Review or error reduction program
38. Develop a community-based educational initiative
39. Discuss or Implement, evaluate, and obtain reimbursement for MTM services
40. Participate in a discussion of a pharmacist role in ethical issues related to any of the following topics: end of life care, professional behavior, clinical research, and pharmacy current event/hot button issue