Nuclear pharmacy

Description of Rotation:

Nuclear pharmacy refers to the provision of medical services in the outpatient setting for patients for diagnosis or treatment for disease states that require radiopharmaceuticals.

Goals of Rotation:

Facilitate student learning and critical thinking skills in a Nuclear pharmacy 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 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.
3. Provide recommendations for medication dose adjustments based upon pharmacokinetic and pharmacodynamic principles.
4. Provide appropriate monitoring parameters for the chosen treatment plan (including efficacy, toxicity, side effects, and potential drug interactions).
5. Effectively communicate the drug treatment plan to the patient with appropriate precautions and expectations.
7. Counsel patients on commonly prescribed medications and devices (i.e. blood glucose meters, peak flow meters, inhalers, etc.).
8. Document all appropriate recommendations and interventions.
9. Describe concepts of radioactivity and the dosimetry levels associated with radiopharmaceuticals.
10. Develop concepts in the preparation and dispensing of radiopharmaceuticals.
11. Explain the rational use of diagnostic and therapeutic radiopharmaceuticals.
Activities:

1. Case/disease state presentations and discussions
2. Research drug information question
3. Educational programs
   a. Medical Staff
   b. Students
4. Newsletter
5. Define patient goals for each disease state
6. Data collection
7. Required Readings

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

1. Cardiovascular Imaging
2. Pulmonary Imaging
3. CNS Imaging
4. Skeletal Imaging
5. Bone Marrow Imaging
6. Renal Imaging
7. Liver Imaging
8. Gastrointestinal Imaging
9. Thyroid Imaging
10. Infection Imaging
11. Inflammation Imaging
12. Oncology Imaging
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. Perform medication reconciliation for patients
10. Interpret diagnostic tests results for patient/caregiver/or preceptor
11. Adjust a drug dose in a patient with renal insufficiency
12. Determine monitoring parameters for a patient being treated for an infectious disease
13. Prepare a handout for case presentation
14. Prepare an article for a newsletter or publication
15. Prepare a patient education sheet
16. Prepare a written drug information response in a practice setting
17. Provide an education presentation to pharmacists
18. Provide an education presentation to other health care professionals
19. Lead a Journal Club discussion
20. 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