

MOLLOY COLLEGE
Rockville Centre, NY
DEPARTMENT OF ALLIED SCIENCES
NUCLEAR MEDICINE

COURSE: NMT 307
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Course Goals:

1. Identify the most common reasons for ordering each study
2. Name clinical findings that are consistent with the suspected pathology
3. Describe the historical and current radiopharmaceuticals used for each study including: identity, physical data, chemical form, dose, mechanism of localization, bodily distribution, and whole body dose and target organ
4. Discuss any procedures and/or substances that may interfere with the performance of a valid test
5. Discuss any contraindications or adverse reactions associated with the study
6. Describe any associated patient preparation, including pre-medications, dietary requirements, and/or physical limitations or exertion.
7. List and/or describe equipment required for valid performance of the study, including camera and ancillary equipment.
8. Describe the test procedure, including dose, time frames, patient position, study parameters, and routine views
9. Discuss technical pitfalls associated with the study
10. Discuss methods of preventing and/or correcting technical problems associated with the study.
11. Discuss possible alterations in the routine procedure, including order of views, drug administration, and effect delay post dose administration on radiopharmaceutical distribution
12. Identify normal and abnormal patterns of radiopharmaceutical distribution on typical studies.

Method of Instruction:

1. Teacher presentation with questions and answers, discussions and demonstrations.
2. Articles from professional journals (supplied by instructor).
3. Case presentations by instructor.
4. Student participation in discussion and out of class assignments.

Recommended Text(s):

1. Nuclear Medicine and PET/CT Technology and Techniques (6th edition). Bernier, Christian, and Langan, Mosby, CRC Press, Missouri, 2007.
2. Principles and Practice of Nuclear Medicine (latest edition). Early and Sodee, C.V. Mosby, Missouri, 1995.

A passing grade of C+ is required of all students in the Nuclear Medicine Program in order to proceed to the next level. Failure to obtain such grade will require a repeat of the course. Every effort will be made to assist marginal students to maintain this minimum grade point average.

Academic Integrity:

The college maintains and affirms a strong policy of academic honesty. Every member of the academic community has a duty neither to cheat nor to condone cheating fabrication, plagiarism, or facilitation of academic dishonesty. Academic infractions are subject to disciplinary action as described in the College Student Handbook.

GRADING:

1. ATTENDANCE/CLASS PARTICIPATION:	5%
2. CLASS PRESENTATION:	10%
3. FIRST EXAM:	25%
4. SECOND EXAM:	25%
5. FINAL:	35%

PLEASE NOTE: MAKE UP EXAMINATIONS WILL BE ALLOWED ONLY WITH A PROPER MEDICAL EXCUSE.

NMT 307

COURSE OUTLINE

Endocrine Imaging

- Thyroid uptake and scans
- Parathyroid Imaging
- Adrenal Imaging
- ¹³¹I Whole body imaging

Central Nervous System

- Conventional Brain Scans
- SPECT Brain imaging
- Cisternography
- Ventricular Shunt Patency Studies
- CSF Leaks

Therapeutic use of radionuclides

- Specific pathology
- Radiopharmaceuticals
- Dose calculation
- Administration of Therapeutic Doses

Pediatric Nuclear Medicine

- Technical considerations
- Injection techniques
- Clinical applications

Special Imaging Procedures

- Lacrimal Gland imaging
- Lymphoscintigraphy
- Peritoneal shunt patency studies
- Monoclonal antibody imaging

Pet Imaging

- Nature of isotopes
- Basics and principles of PET imaging
- Procedures and protocols
- Image interpretation and troubleshooting

Radionuclide Non-Imaging Procedures

- Schilling Test
- Blood studies

Class Presentation

You will have approximately 15 minutes to present each case, and additional five minutes to answer any questions from your colleagues.

Be as creative as possible. You may use any type of media; however, do not feel restricted to:

Handouts

Powerpoint

Slides

Films

Etc

***please inform the instructor so that special reservations may be made.**

1. From your clinical sites, pick two (2) cases that were or will be covered in the course of this semester.
2. In your presentation, the following must be included:
 - a. Patient information: demographics, medical history, and any other important medical information that is pertinent to the patient and the exam.
 - b. Reasons for ordering Nuclear Medicine Exam. Any other radiological exam ordered (please include results of those as well).
 - c. Type of exam ordered. Dose, Radiopharmaceutical, Route of Administration, Method of Localization, possible reactions.
 - d. Imaging Protocol: please include as much information here as possible.
 - i. Example: camera brand/type, imaging technique, views taken, processing techniques, etc.
 - e. Results of the Nuclear Medicine Exam. Please present films of the scan. Was the exam conclusive? Did it provide enough information for physicians to be able to make a medical decision? Does it need to be correlated with other imaging modalities?
 - f. Patient's comments about the exam: length of time, comfort, etc.
 - g. Last section of the presentation, please include your own comments: be as creative as possible.
3. Any information that is investigated or concluded that may in any way be relevant should always be mentioned.
4. Grading of the presentation will be based on the conclusiveness and professionalism of both the presenter and the presentation. The presenter must include information from all of the above outlined items. Any extra information provided will benefit the grade.