

HARVARD MEDICAL SCHOOL JOINT PROGRAM IN NUCLEAR MEDICINE

COURSE OUTLINE 2009/2010

Course Title: Introduction to Clinical Nuclear Medicine 2009/2010

Course Instructor(s) J. Anthony Parker
& Contact Information: Joint Program in Nuclear Medicine Faculty

Objective(s):

Rapid and intensive exposure to Nuclear Medicine with emphasis on clinical topics.

Criteria for Successful Completion of This Course

1. Attendance (>85%) and participation at lectures
2. Passing grade (>60%) on introductory exam

Textbook: Handouts and Reading Assignments

Lecture Location(s): Throughout the JPNM

Course Title: Introduction to Clinical Nuclear Medicine 2009/2010

Course Schedule

Time: 8:00 – 9:00 AM

Day	Date	Loc	Topic	Instructor	Reading Assignment
Mon	7/6/09		No Lecture		
Tues	7/7/09 7:00	BWH	7:00 Introduction to Cardiac PET and PET/CT Protocols Reading Room – Shapiro Center	Di Carli	
			8:00 SPECT and PET in Neuro-oncology Abrams Conference Room – L1	Gerbaudo	
Wed	7/8/09	CHB	Introduction to Pediatric Nuclear Medicine	Treves	
Thurs	7/9/09 7:00	BWH	Systematic Interpretation of Myocardial Perfusion Imaging and SPECT Protocols Reading Room – Shapiro Center	Dorbala	
Fri	7/10/09	WRVA	8:00-8:30 Fingerprinting 8:30-11:30 Computer Training 11:30 Cardiac Markers	Drum	
Mon	7/13/09	BWH	Renal Scan - Captopril	Kim	
Tues	7/14/09	BWH	PET/CT of Lung and Pleural Malignancies Abrams Conference Room – L1	Gerbaudo	
Wed	7/15/09 7:00	BWH	Introduction to Cardiac PET and PET/CT Protocols Reading Room – Shapiro Center	Di Carli	
Thurs	7/16/09 7:00	BWH	Quantitative and Gated Myocardial Perfusion Imaging Reading Room – Shapiro Center	Dorbala	
Fri	7/17/09	BWH	Lymphoscintigraphy Hollenberg Conference Room Thorn Building 3 rd Floor	Kim	
Mon	7/20/09	BWH	Renal Scan – General Abrams Conference Room – L1	Kim	
Tues	7/21/09 7:45	CHB	Pediatric Epilepsy Wittenborg Conf Room, Radiology Dept	Treves	
Wed	7/22/09 7:00	BWH	High Risk Scan Features Reading Room – Shapiro Center	Dorbala	
Thurs	7/23/09	CHB	Endocrine Glands of the Neck	Grant	
Fri	7/24/09	BIDMC	Octreotide – MIGB Cases	Kolodny	

Mon	7/27/09	CHB	Benign Thyroid Disease	Grant
Tues	7/28/09	CHB	Pediatric Genitourinary	Grant
Wed	7/29/09	CHB	Pediatric Brain Tumors	Treves
Thurs	7/30/09	CHB	Image Fusion – Beyond PET/CT	Treves
Fri	7/31/09	WRVA	GI Bleeding	Powsner
	8:30			
Mon	8/3/09	BWH	Thyroid Cancer I Hollenberg Conference Room Thorn Building 3 rd Floor	Kim
Tues	8/4/09	CHB	Pediatric Gastrointestinal	Drubach
Wed	8/5/09	CHB	Pediatric Nuclear Medicine Case Review I	Treves
Thurs	8/6/09	BWH	Infection Imaging	Horky
Fri	8/7/09	BWH	Hepatobiliary Scintigraphy	Britz- Cunningham
Mon	8/10/09	BWH	Lung Scintigraphy	Britz- Cunningham
Tues	8/11/09	BWH	Clinical Indications for PET/CT of Colorectal Cancer Abrams Conference Room – L1	Gerbaudo
Wed	8/12/09	CHB	Pediatric Oncology	Grant
Thurs	8/13/09	CHB	Pediatric Nuclear Medicine Case Review II	Treves
Fri	8/14/09	BIDMC	Tumor Markers	Drum
Mon	8/17/09	CHB	Introduction to Radiation Safety Enders Lobby, Byers B Conf Room	Lorenzen
Tues	8/18/09	CHB	Pediatric Musculoskeletal	Drubach
Wed	8/19/09	DFCI	Bone Scintigraphy Oncology Cases	Sakellis
Thurs	8/20/09	DFCI	Cases	Zukotynski
	7:45			
Fri	8/21/09	BWH	Thyroid Cancer II	Kim
Mon	8/24/09	BWH	Brain Imaging	Horky
Tues	8/25/09	BWH	Introduction to the Radiopharmacy Radiopharmacy L2	Paolino
Wed	8/26/09	DFDI	PET/CT Oncology Cases	Sakellis
Thurs	8/27/09	BIDMC	Test	Parker
Fri	8/28/09	BIDMC	Test Review	Parker
Thurs	9/3/09	BWH	ECG I	Yang
Thurs	9/10/09	BWH	ECG II	Yang

Additional Notes:

Recommended Textbooks:

- Introductory text: Mettler FA, Guiberteau MJ: Essentials of nuclear medicine imaging. Saunders, 2005.
- Comprehensive text: Ell P, Gambhir S: Nuclear medicine in clinical diagnosis and treatment. Churchill Livingstone, 2004.
- Pediatric Nuclear Medicine: Treves ST: Pediatric nuclear medicine / PET. Springer, 2006.
- CT introduction: Webb WR, Brant W, Major N: Fundamentals of body CT. Saunders, 2005.
- Cheap Physics: Maher K et. al.: Basic Physics of Nuclear Medicine.
http://en.wikibooks.org/wiki/Basic_Physics_of_Nuclear_Medicine.

References:

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- Callahan RJ: The Compounding, Quality Control and Mechanisms of Localization of Radiopharmaceuticals in Fahey FH, Harkness BA: Basic Science of Nuclear Medicine. CD. Society of Nuclear Medicine, 2001.
- Delbeke D, Martin WH, Patton JA, Sandler MP ed.: Practical PET imaging: A teaching file. Springer-Verlag, New York, 2002.
- Donohoe KJ, Frey KA, Gerbaudo VH, Mariani G, Nagel JS, Shulkin B: Procedure guideline for brain death scintigraphy. J Nucl Med 2003; 44: 846-851.
- Gibbons et al: ACC/AHA 2002 Guideline update for exercise testing.
http://www.acc.org/clinical/guidelines/exercise/exercise_clean.pdf
- Koh D-M, Cook GJR, Husband JE: New horizons in Oncologic Imaging. N Engl J Med 2003; 348:2487-2488.
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- Lardinois D, Wider W, Hany TF, Kamel EM, Korom S, Seifert B, von Schulthess GK, Steinert HC: Staging of non-small-cell lung cancer with integrated positron-emission tomography and computed tomography. N Engl J Med 2003; 348:2500-2507.
- Mariani G, Gipponi M, Moresco L, Villa G, Bartolomei M, Mazzarol G, Bagnara MC, Romanini A, Cafiero F, Paganelli G, Strauss HW: Radioguided sentinel lymph node biopsy in malignant cutaneous melanoma. J Nucl Med 2003; 43:811-827.
- Moore SC: Physical Characteristics of Nuclear Medicine Images. 1998;
<http://brighamrad.harvard.edu/education/online/physics/MooreNM/PhysCharacLesson.html>
- Parker JA, Coleman RE, Siegel BA et al: Society of Nuclear Medicine Guideline for Lung Scintigraphy. <http://www.snm.org/>.
- Robins RJ, Schlumberger MJ: The evolving role of ¹³¹I for the treatment of differentiated thyroid carcinoma. J Nucl Med 2005; 46:28S-37S.
- Taylor A, Schuster DM, Alazraki N: A clinician's guide to nuclear medicine. Society of Nuclear Medicine, 2000.

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- Wijdicks EFM: The diagnosis of brain death. N Engl J Med 2001; 344:1215-1221.
- Wiseman GA, Kornmehl E, Leigh B et al: Radiation dosimetry results and safety correlations from 90Y-ibritumomab tiuxetan radioimmunotherapy for relapsed or refractory non-Hodgkin's lymphoma: Combined data from 4 clinical trials. J Nucl Med 2003; 44:465-474.
- Witzig TE, Gordon LI, Cabanillas F et al: Randomized controlled trial of yttrium-90-labeled ibritumomab tiuxetan radioimmunotherapy versus rituximab immunotherapy for patients with relapsed or refractory low-grade, follicular, or transformed B-cell non-Hodgkin's lymphoma. J Clin Oncol 2002; 20:2453-2463.