Maintenance of Certification
General Outline of Cognitive Exam
(Nuclear Medical Physics) Updated 4/2016

General Information:
Approximately 30% of the material on the examination is core nuclear medicine physics, technology and safety. The rest is taken from recent advances in the field. Traditional nuclear medicine physics texts and the resources below will be helpful in preparing for the exam.

Length and Structure:
The exam is approximately 150 questions in length. All questions are either multiple-choice questions or r-type questions. A scientific calculator is available but no complex calculations are required.

Clinical Procedures:
Candidates should have a general knowledge of common diagnostic and therapeutic nuclear medicine procedures.

Resources:
Reports and Documents
AAPM Task Group Reports relevant to nuclear medicine
AAPM Task Group 181: The Selection, Use, Calibration, and Quality Assurance of Radionuclide Calibrators Used in Nuclear Medicine
NRC Regulations and guidelines relevant to nuclear medicine
ACR Nuclear Medicine Practice Guidelines and Technical Standards for Nuclear Medicine
SNMMI Practice Guidelines
NEMA NU 2-2012: Performance Measurements of Positron Emission Tomographs
ICRP Report 80
*Essentials of Nuclear Medicine;* Mettler and Guiberteau
*Medical Imaging Physics;* Hendee and Ritenour
*Physics in Nuclear Medicine;* Cherry, Sorenson, and Phelps
*The Essential Physics of Medical Imaging;* Bushberg, Seibert, Leidholdt, Boone

**Protocols and Testing Procedures**
ACR NM/PET Accreditation Documents and Procedures
ACR CT Accreditation Documents and Procedures
ACR Practice Guideline for the Performance of Therapy with Unsealed Radiopharmaceutical Sources
ACR Practice Guideline for the Performance of Adult and Pediatric Skeletal Scintigraphy
ACR Practice Guidelines for Radioembolization with Microsphere Brachytherapy Device (RMBD) for Treatment of Liver Malignancies
ACR-ASTRO Practice Guideline for the Performance of Therapy with Unsealed Radiopharmaceutical Sources

SNM Practice Guidelines for Breast Scintigraphy 2.0
SNM Practice Guidelines for Myocardial Perfusion Imaging 3.3
SNM Practice Guidelines for Parathyroid Scintigraphy 4.0
SNM Practice Guidelines for Thyroid Uptake Measurement 3.0
SNM Practice Guideline for Dopamine Transporting Imaging with 123I-Iopilumate SPECT 1.0
SNM Procedure Guidelines for Radionuclide Cystography in Children 3.0
SNM Procedure Guidelines for Sodium 18F- Fluoride PET/CT Bone Scans 1.0
SNM Procedure Guideline for Lymphoscintigraphy and the Use of Intraoperative Gamma Probe for Sentinel Lymph Node Localization in Melanoma of Intermediate Thickness 1.0

NEMA NU 1-2007: Performance Measurements of Gamma Cameras
NUREG-1556, Volume 9, Consolidated Guidance About Materials Licenses: Program - Specific Guidance About Medical Use Licenses

U.S. Nuclear Regulations 10 CFR 35.75: Release of individuals containing unsealed byproduct material or implants containing byproduct material
U.S. Nuclear Regulations 10 CFR 35.92: Decay-in-storage

**Journal Articles**
A Seret et al., Quantitative capabilities of four state-of-the-art SPECT-CT cameras. *European Journal of Nuclear Medicine and Molecular Imaging Research* 2012;2:45.
Stabin et al., OLINA/EXM: the second-generation personal computer software for internal dose assessment in

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T Pan et al., Attenuation correction of PET images with respiration-averaged CT images in PET/CT. *Journal of Nuclear Medicine* 2005;46(9):1481-7
CB Hruska et al., Nuclear imaging of the breast: translating achievements in instrumentation into clinical use. *Medical Physics* 2013;40(5)
E Frey et al., Accuracy and precision of radioactivity quantification in nuclear medicine images. *Seminars in Nuclear Medicine* 2012;42(3):208-18