CTE 1 (Technologists/SNMMI)
Monday, October 23, 8:00-9:45

Session Title
Quality Control and Protocol Standardisation - Tech Guide Launch

Chairs
Sebastijan Rep (Ljubljana)
David Gilmore (SNMMI, Boston)

Programme

8:00 - 8:15	Welcome and Opening of the Technologist's Track
8:15 - 8:40	Claudiu Pestean (Cluj-Napoca): Quality Control for PET Systems
8:40 - 9:05	Dusty M. York (SNMMI, Chattanooga): Optimisation of PET-CT – Acquisition & Reconstruction
9:05 - 9:30	Aljaz Socan (Ljubljana): Radionuclide Dose Calibrator

Summary
Quality control of the various instruments used in nuclear medicine, is part of the commitment covering the work of technologists. The attainment of high standards of efficiency and reliability in the nuclear medicine, as in other specialities based on advanced technology, requires an appropriate quality assurance and quality control programme. Hence, quality assurance and quality control in nuclear medicine should cover all aspects of clinical practice. Specifically, quality control is necessary in the submission of requests for procedures; imaging modalities planar gamma cameras, SPECT/CT and PET/CT, radiation protection of patients, preparation and dispensing of radiopharmaceuticals, quality control of dose calibrator, radiation hazards and accidents caused by faulty equipment; the scheduling of patients, methodology of the actual procedures, analysis and interpretation of data, optimization of acquisitions and the reconstruction of data, the keeping of record. A basic principle in the assurance and quality control of nuclear medicine instruments is that it should be undertaken as an integral part of the work of the nuclear medicine unit and by member of the unit staff themselves.

1. Zanzonico P. Routine Quality Control of Clinical Nuclear Medicine Instrumentation: A Brief Review. J Nucl Med. Author manuscript; available in PMC 2009 Jun 29.
2. IAEA. QUALITY CONTROL OF NUCLEAR MEDICINE INSTRUMENTS. VIENNA, 1991.
3. M Lyra, R Klett, W B Tindale. Guidelines on Quality Control for Nuclear Medicine Instrumentation. EANM, December 2007.
4. EANM Physics Committee., Busemann Sokole E, Płachcínska A, Britten A; EANM Working Group on Nuclear Medicine Instrumentation Quality Control., Lyra Georgosopoulou M, Tindale W, Klett R. Routine quality control recommendations for nuclear medicine instrumentation. Eur J Nucl Med Mol Imaging. 2010 Mar;37(3):662-71

Educational Objectives

- Basic understanding the principles of quality assurance and quality control of Nuclear Medicine instrumentation protocol standardization.
- Basic understanding the principles of optimization of acquisition and reconstruction procedure.
- Review the basic principles of a radionuclide dose calibrator.
- Describe the Quality Control tests of a radionuclide dose calibrator involved (Accuracy, Constancy, Linearity and Geometric) and their frequency of performance.

Key Words
Nuclear medicine, quality control, quality assurance

Take Home Message
Quality Control program and optimization of acquisition/reconstruction procedure is an important part of patient care that is often overlooked. With the implementation of QC tests and optimization of acquisition/reconstruction procedure to avoid potential errors in diagnostic procedures.