



Technologists' Mini Course 3

Technologists Committee

Wednesday, September 13, 10:15 – 11:15

Session Title

Phantoms Management

Chairpersons

Luísa Roldão Pereira (Kent, United Kingdom)

Christopher Bruneby (Kristianstad, Sweden)

Programme

10:15 – 10:35 **Sebastijan Rep** (Ljubljana, Slovenia): The use of phantoms in QC & QA

10:35 – 10:55 **Dorte Margrete Sørensen** (Odense, Denmark): Gamma Camera & PET-CT vs PET-MRI phantoms management

10:55 – 11:15 **Carla Abreu** (London, United Kingdom): Phantoms in practice & Computer-based phantom models

Educational Objectives

1. Present the principles of equipment quality control (QC) and Quality assurance (QA) in Nuclear Medicine
2. Overview of the types of phantoms used in Nuclear Medicine daily clinical practice
3. Characterise phantoms used for gamma cameras, PET-CT and PET-MR scanners
4. Characterise phantoms used for CT and MRI
5. Discuss the phantom study interpretation principles
6. Describe phantoms' applications in regular practice and research
7. Distinguish physical and computer-based phantom models
8. Summary

Summary

Quality control (QC) and Quality Assurance (QA) can be considered mandatory and complex procedures to preserve medical procedures' high quality and safety. All fields of medical imaging demand preserving QC and QA regulations in daily clinical practice. Nuclear Medicine (NM), due to the complexity of used equipment, demands a particularly challenging pathway of ensuring QC & QA preservation. Various phantoms must be used in each procedure to perform appropriate equipment evaluation.

Phantom can be a physical device containing radioactive solution scanned with the gamma camera, PET-CT, PET-MR scanners or computer-based models producing data representing those collected from scans. Each modality demands using a different type of phantom and radiotracer, accordingly to the equipment properties and the emission type (positron, non-positron).

The daily use of phantoms is unavoidable. Therefore, the Mini Course will present you with all possibilities of devices and will teach the audience how, when, and why to use a specific phantom.

Key Words

Imaging, Instrumentation, Nuclear Medicine, Phantoms, Quality assurance, QA, Quality Control, QC