



# Position Statement

## CT in the Nuclear Medicine Environment

Approved: February 1, 2013

### ACMDTT Position

Nuclear medicine imaging equipment that integrates SPECT imaging with a computed tomography (CT) component that is intended for limited use<sup>1</sup> is now considered to be a principle expectation of practice for nuclear medicine technologists.

1. Nuclear Medicine technologists do not require enhanced practice authorization to operate the CT component of hybrid imaging equipment if the included CT component is being utilized, in conjunction with nuclear medicine images, explicitly for the purposes of attenuation correction and anatomical mapping.

It is the responsibility of the practicing nuclear medicine technologist to ensure that they have the appropriate knowledge and skills to safely and effectively operate the above mentioned hybrid systems.<sup>2</sup>

2. Nuclear medicine technologists are required to obtain "PET/SPECT/CT and Contrast Media" enhanced practice authorization by the Registrar if they are:
  - operating imaging equipment utilizing the full, dedicated CT capabilities of the system; and/or
  - preparing and/or administering contrast media

### Background

Advances in technology have led to the advent of gamma cameras integrated with CT capability. Although the main clinical application, in the past, has been anatomical localization of radiopharmaceutical activity and attenuation correction, recent advances in the complexity of the technology have led to the use of these units for the production of images of superior quality. As such, nuclear medicine technologists require the technical expertise to produce images that would have historically been generated in a dedicated CT suite.

The *Health Professions Act (HPA)* identifies the practice of nuclear medicine technology as being uniquely distinct from the practice of radiological technology. With this perspective, the operation of all hybrid equipment that integrates radiological with nuclear medicine image acquisition technology needs to be considered carefully.

<sup>1</sup>this is defined as the operation of CT systems to produce images that will be used solely for the purposes of attenuation correction and/or anatomical mapping. For equipment-specific inquiries, and clarification, please contact the College.

<sup>2</sup>for a list of suitable learning resources to address possible knowledge gaps, please refer to Appendix A

The College protects and serves Albertans by supporting member provision of safe, competent and ethical patient care

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## Appendix A

### CT in the Nuclear Medicine Environment

The above mentioned position statement states that “it is the responsibility of the practicing nuclear medicine technologists to ensure that they have the appropriate knowledge and skills to safely and effectively operate the above mentioned hybrid systems”. It is acknowledged that knowledge gaps may exist in areas related to this practice. As such, the College has compiled a list of suitable resources for a nuclear medicine technologist who has no didactic training in the production of x-rays and the physical characteristics and operation of a CT scanner.

#### Recommended Resource

- SPECT/CT (CAMRT)

#### Other Resources

##### X-Ray production

- CT Imaging I (CAMRT)
- Computed Tomography 1: Physics and Instrumentation (BCIT - MIMG 7300)
- Computed Tomography 2: Clinical Applications (BCIT - MIMG 7301)

##### Cross-sectional anatomy

- Cross-Sectional Anatomy (NAIT - MXR102)
- Sectional Anatomy of the Abdomen and Pelvis (BCIT – BHSC 7601)
- Sectional Anatomy of the Thorax and Neck (BCIT – BHSC 7602)
- Sectional Anatomy of the Head (BCIT – BHSC 7603)
- CT Imaging II (CAMRT)
- CT Imaging III (CAMRT)