

# KINGSTON GENERAL HOSPITAL

## IMAGING SERVICES DEPARTMENT MANUAL

**Subject:** Safe Work Procedure for Computer Tomography **Number:** 17-001(1)

**Prepared by:** Director, Imaging Services

**Page:** 1 of 2

**Original Issue:** 2005.07

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### POLICY

Computed tomography is performed in two areas of Kingston General Hospital (KGH) for diagnostic, interventional, surgical and experimental purposes.

It is the policy of Kingston General Hospital that all authorized staff working with computed tomography equipment be aware of the following procedure to ensure compliance with all pertinent regulatory requirements and also to ensure that personal exposures are kept As Low As Reasonably Achievable (ALARA).

### PROCEDURES

#### A. Authorization to operate computed tomography equipment

Computed tomography (CT) equipment throughout KGH may only be operated by medical radiation technologists with current registration with the College of Medical Radiation Technologists of Ontario and in compliance with the Canadian Healing Arts Radiation Protection Act, Occupational Health & Safety, X-ray Safety and Safety Code 35. Operation of the machine includes plugging it in and setting it up.

#### B. Responsibilities

The person or persons authorized to operate CT equipment (see A) must ensure the following:

- Only authorized personnel are present in working areas.
- No one is present in the examination or control room other than those essential for the procedure when equipment is operated.
- That all doors to the scanner room and control room are firmly closed and physically secured prior to exposure and an approved caution sign on the door.
- That female patients of childbearing age (between 10 and 65 years of age) be asked whether there is any chance that they are pregnant. In the event of a suspected or actual pregnancy, the physician and radiologist must consider the risks and benefits of the examination in light of the potential dose to the fetus. The medical physics department can be consulted for dose determination to the fetus and the radiation protection department can advise on risks.
- In cases requiring interventional CT, the radiologist and his/her assistant should be reminded to stand away from the gantry and off axis during exposures.

#### C. Special Precautions

Prior to entering a CT room, authorized users must verify whether the scanner is in operation. To do this, use the following procedure prior to entering the room:

- Check whether the "x-ray on" light on the console is illuminated.
- Check whether the "x-ray on" light on the gantry is illuminated.
- Check whether the gantry is in motion.
- Listen for the audible "hum" of the machine when in operation.

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- Be vigilant, computed tomography techniques produce relatively high levels of scattered radiation. The best way to avoid exposure is by being careful every time you enter the room.

### D. Dosimetry

- All authorized personnel must wear Thermo Luminescent Dosimeters (TLD) or Optical Stimulated Luminescence Dosimeter (OSL) when in CT rooms or control areas.
- Personnel wearing portable shielding should wear their TLD or OSL at the appropriate location beneath the portable shielding (whole body TLD should be worn between neck and waist and under two layers of lead and the neck dosimeter is worn outside on the thyroid collar).

### E. Protection

- Any person in the CT room during exposure must wear a whole body lead apron and should wear a thyroid protector.
- Lead shielding is available for the hands but is not required when in the CT room at the time of exposure.
- Whenever possible, the patient should wear a lead apron during exposures.

### F. Reporting Incidents

- Any potential incidents must be reported to the Radiation Protection Officer or designate.
- All other applicable incident forms must be filled in. See the charge technologist to find out which forms are required.

Authorizing Signature:

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Dr. Annette McCallum  
Department Head