Diagnostic Services

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Scope of Practice

The practice of Medical Radiation Technology and Sonography is the use of prescribed forms of energy such as ionizing radiation, electromagnetism, and high-frequency soundwaves for the purposes of diagnostic and therapeutic procedures. The Technologists are responsible for evaluating images and data relating to the procedures and assessing an individual before, during, and after the procedure.

Cardiology Technology involves the non-invasive testing and monitoring of the functioning of the human heart under various conditions, the provision of basic patient care during these procedures, and the assessment and programming of implantable cardiac devices.

All Technologists are committed to providing a safe environment to deliver quality patient and family-centered care, engage in interprofessional collaboration and live life-long learning to ensure optimal patient outcomes.

EMG electromyography, (Registered EMG technologist). Under the guidance of a Neurologist, provides nerve conduction studies to support the diagnosis of neurological and neuromuscular diseases. EEG technician-provides care and services to demonstrate brain wave activity for diagnosis of seizures, traumatic brain injuries and neurological disorders.

Number of Members of Discipline:

SITE	FTE	POSITION
Charlton/ King/W5	110	Medical Radiation and Imaging Technologists, Diagnostic Medical Sonographers, Cardiovascular Technologists, Cardiovascular Technicians, Echo Sonographers.

Major Achievements

CARING

Clinical Practice:

- Encouraged staff with skills in multiple modalities to utilize and maintain these skills to better serve our patients and grow our services

Learning

Education:

Clinical Education

- Radiography accepts approximately 5 learners from the degree program at Mohawk/McMaster. There are 2 intakes per year. Clinical practicum 1 students that are with the department, focusing on orientation and new skill building from May-July. We then welcome another group of learners that are with the department from September until April. During that session they focus on improving skills, gaining confidence, and working with more complex exams and patients.
- MRI (Magnetic Resonance Imaging) welcomes learners most semesters. They will work with the team for 16 weeks. Typically, these learners come from another imaging modality and are taking a 2nd discipline program. We are looking forward to possibly starting to receive learners from the new 1st discipline program starting at the Michener Institute. These learners will have a variety of backgrounds and will participate in a much longer clinical placement to ensure that they are able to not only perform exams but also ensure that they have all the skills required to safely care for our patients.

LEARNING

Education:

Clinical Education Continued…

- The Ultrasound Department receives learners routinely as well. These students come during multiple stages of their training to learn the practical skills to go along with their didactic training. They can work in the Fontbonne area to enhance their obstetrics/gynecology scanning as well as work in the main Charlton department to gain experience in general ultrasound exams.
- The Nuclear Medicine/Positron Emission Technology (PET) Department is very excited to be accepting its first full time student from the Michener Institute, starting in May 2024. This is a great addition as we currently have a need for these technologists.
- Learners come to Cardiology to train as Cardiovascular Technologists or Echo Technologists. These learners could come as junior or senior learners to prepare them for working in the field.

Formal Teaching

- We have technologists who are contract teaching currently for the Mohawk/McMaster programs. 3 MRI technologists teach in their MRI Program and one in the Radiography Program.

Internal Education

- The Cardiology Department welcomes Anesthesiology residents and Periop fellows who are looking to learn focused views in echocardiography to be able to provide patient treatment.
- Additionally, we have Radiology residents, Radiology fellows, as well as Nuclear Medicine fellows. These learners will work with our physicians and technologists throughout the department. Radiology residents also shadow technologists, so they can understand what technologists do daily.

Research:

- The MRI Imaging Research Centre participates in approximately 20 active studies per month. The 4 MRI research technologists are Good Clinical Practice, Health Canada Safety Division 5, and Research Privacy trained. The technologists assist in protocol development, creating a standardized, reproduceable imaging study, this supports quality and best practice in research imaging.
- The PET department currently has approximately 10 active studies. These help to identify, diagnose, and monitor treatment responses.
- Technologists and Radiologists are involved in acquiring and reporting imaging studies across multiple modalities to support the many research initiatives here at St. Joes as well as external community partners.

BUILDING

Internal Education:

- Radiation safety and MRI safety continues to be provided to staff across the organization

BUILDING

Professional Practice Development:

- Lunch and learn sessions are provided routinely to staff. These allow staff to be educated in new technologies, procedures and opportunities available
- Rounds are provided and attended by staff in multiple modalities across the department

LEADING

- In mammography, there have been some technological advancements. These have been incorporated to enhance the patients' experience and move them through the breast care pathway more smoothly and efficiently. We have introduced new state of the art breast imaging technology designed to locate and target cancers regardless of the patient's breast density, which can reduce visibility of cancers when using standard 2D mammography. We have introduced: Digital Breast Tomosynthesis (3D technology), Contrast Enhance Spectral Mammography, Contrast Enhance Biopsy, Dueta (patient-assisted compression device) as well as, PowerLook PRO with iCAD (utilization of advanced Artificial Intelligence by the Radiologists).
- Ultrasound has added the Invenia ABUS (automated breast ultrasound system) to their department. This machine can help patients with dense breasts receive additional imaging information to work with mammography to increase breast cancer detection.
- The PET Department provides care and is expanding services to include cardiac sarcoid, viability and endocarditis imaging. The PET Department has worked collaboratively with departments throughout SJHH as well as regionally with the teams at HHS to prepare to accept sedated, pediatric patients for imaging.

Major Initiatives for 2024/25:

CARING

- The CT department has been selected to be one of the centres providing lung screening to patients requiring these procedures. We will also start accepting breast screening patients aged 40-49 in the fall of 2024.

LEARNING

- The Interventional Radiology team is working to provide Peritoneal Dialysis catheter insertion in the Interventional Angiography suites.

BUILDING

- Diagnostic Services will be adding new state of the art equipment throughout the department in 2024/25. Two new fluoroscopy suites will be installed starting in the spring of 2024. A new, replacement Radiography suite will be installed in the emergency department in spring 2024 followed by a CT scanner coming in summer 2024. In the fall of 2024, construction will then begin on a replacement for the existing Interventional Radiography suite as well as one of the current CT scanners.
- There is also an upgrade of the MRI scanner at W5th to make it state of the art.