



RADIOLOGICAL TECHNOLOGY PRECEPTOR GUIDE

TABLE OF CONTENTS

PROGRAM OVERVIEW 2	:
Preceptor Guide 2	
Introduction2	
Program Goals 2	
Pre-requisites	,
Academic Component 2	
Clinical Component 4	ŀ
CLINICAL COMPONENT	,
Pre-Requisites	,
Site Criteria5	,
Time Requirements 5	,
Preceptor Expectations	j
Preceptor Resources	j
Orientation7	,
Direction Levels	,
Evaluation7	,
Assessment Procedure	,
Evaluation Tools	,
APPENDIX A – ACADEMIC OBJECTIVES11	
APPENDIX B - SAFETY AND ORIENTATION CHECKLIST	
APPENDIX C - CLINICAL SITE PROPOSAL	
APPENDIX D - CLINICAL SITE AGREEMENT	ŀ



PROGRAM OVERVIEW

Preceptor Guide

The preceptor guide is intended for both the candidate and preceptor to gain a full understanding of the roles and responsibilities in supervision and evaluation.

Introduction

The NSCMIRTP Refresher Program in Radiological Technology provides radiological technologists who have not practiced for a five-year period or more the opportunity to re-attain professional competence. The refresher program includes an academic and clinical component. Both components must be completed within 18 months.

Program Goals

- Attain/demonstrate current knowledge in radiologic procedures, imaging equipment, radiation safety and protection practices, and patient care/ethics.
- Re-orient to the healthcare environment and the role of the radiological technologist in the healthcare team.
- Practice competently within the profession, meeting competencies as specified in the CAMRT Radiological Technology Competency Profile.
- Value the importance of continuing professional development.

Pre-requisites

Candidates for the refresher program must have:

- Passed the CAMRT certification exam; and
- Been a registrant of a professional licensing body where regulated, or a member of an association where unregulated, within Canada in the practice area of radiological technology;
- OR been approved by a regulatory body in your jurisdiction to take the program.

Academic Component

The academic portion of the refresher program is self-directed. Individuals are directed to the Required Materials and Objectives for each unit. Candidates are provided with learning activities and questions to complete to assess their theoretical competence. The topics covered and examined mirror the CAMRT competency profile.

Appendix A includes a comprehensive list of objectives and procedures covered in the academic portion of the program.

When all units are completed, candidates must write a supervised final exam. The exam is 150 multiple choice questions and includes all material from the academic portion of the refresher program. Candidates must attain a mark of 65% to proceed to the clinical portion of the program.

Topics covered and refresher exam weighting in the Academic Component are outlined in the tables below.

Competency Category	Minimum	Maximum	# Of Questions (Range)
1. Professional	5%	10%	8-15
2. Communicator 3. Collaborator	5%	10%	6-15
4. Care Provider	10%	20%	15-30
5. Leader	0%	0%	0
6. Scholarly Practitioner	0%	0%	0
7. Clinical Expert (further broken down below)	70%	85%	105-128
Integrate safe work principles and procedures into practice	9%	14%	14-21
Manage a variety of imaging systems	5%	10%	8-15
Integrate clinical principles			
into practice			
Perform diagnostic and			
therapeutic procedures	27%	32%	41-48
Administer substances			
required for clinical			
procedures			
Analyze image and data	27%	32%	41-48
quality and respond	2. /0	02/0	

Primary Weightings

Secondary Weightings

Common Pathologies, Anomalies and Conditions		Clinical Procedures	
Category	Weighting	Category	Weighting
Respiratory System	High	Respiratory System	High
Skeletal (Fractures)	High	Skeletal System	High
Skeletal (Other)	High	Digestive System	Medium
Cardiovascular	Medium	Urinary System	Medium
General	Medium	Computed Tomography	High
Gastrointestinal	Medium	Bone Mineral Density	Low
Neurological	Medium	Fluoroscopy	low
Endocrine	Low	Interventional Radiography	Low
Hematopoietic	Low	Mammography	Low
Reproductive	Low		
Urinary	Low		

Clinical Component

Candidates are required to secure their own clinical placements, which must be approved by the NSCMIRTP refresher program supervisor. Candidates and potential clinical sites are encouraged to reach out to the refresher program superior with any questions related to clinical site requirements.

A minimum of 420 clinical hours must be completed within a 6-month period. A designated preceptor will track clinical proficiency via the clinical summary to record successful attainment of required clinical competencies. If a clinical site is unable to deliver all required procedures, candidates may be required to arrange further clinical experiences at an alternate clinical site.

If a candidate is unsuccessful in meeting the clinical requirements in the allotted 420 hours, a one-time extension to a maximum of 210 hours of clinical time may be requested from the refresher program coordinator.



CLINICAL COMPONENT

Pre-Requisites

Prior to commencing the clinical component candidates must meet the following criteria:

- Successful completion of the academic component
- Proof of current CPR Basic Life Support for Healthcare Providers
- Proof of Professional Liability Insurance
- Additional requirements of the clinical site
- Additional requirements of applicable provincial regulatory body

Site Criteria

It is important when selecting a clinical site to ensure the required procedures are attainable. The process of site approval requires that the candidate submit a clinical site proposal to the refresher program coordinator. Once a clinical site is approved a clinical site agreement must be signed. The required documentation is in **Appendix C** and must be completed prior to commencing clinical.

Sites must meet the following criteria to be considered appropriate:

- There must be a variety of radiographic, fluoroscopic, mobile, CT and OR procedures performed.
- There must be a variety of equipment, capable of performing the required entry-to-practice exams.
- Clinical preceptor(s) must be available and willing to assist in meeting the learning needs of the candidate.
- In regulated jurisdictions, clinical preceptor(s) must be a registrant in good standing with their regulatory body. In non-regulated jurisdictions, clinical preceptors must be a practising member with CAMRT.
- A quality assurance program to monitor equipment performance must be in place.
- A radiologist must be available on-site a minimum of 50% of the time.

When considering a site, the availability of interventional procedures and mammography are considered an asset but are not required.

Time Requirements

Minimum Requirement: **420 hours**, completed within a 6-month period. Additional: When required, a one-time 210-hour extension may be granted.

Total: Total hours must not exceed 630.

Preceptor Expectations

Once a clinical site has been secured the director/manager of the department will assist the candidate in finding a preceptor. The preceptor should demonstrate a desire to actively participate in the continuing professional development of themselves and others.

The preceptor(s) is responsible for:

- Orienting the candidate to the department.
- Assessing performance level and providing ongoing feedback for continued growth.
- Ensuring proper supervision and support.
- Selecting clinical experiences to assist the candidate in achieving the required competencies.
- Facilitating growth by increasing responsibilities and promoting independent decisionmaking opportunities as the candidate gains competence.
- Assessing the candidate's performance in accordance with specific evaluation guidelines.
- Demonstrating professionalism through modeling of professional practice.
- Guiding candidate with reflective practice, gap analysis and learning plan throughout the clinical component.
- Providing formal evaluations and constructive feedback, through completion of required evaluation forms and ongoing discussions with candidate.

Preceptor Resources

It is recommended that preceptors review the suggested resources prior to candidates starting their clinical component. Preceptors must be aware that refresher program candidates are not students beginning their studies in MR technology. Refresher candidates have previously completed entry-to-practice requirements and may have many years of work experience in the field. Although the concepts presented are applicable for both types of learners, the preceptor techniques should be tailored accordingly.

Canadian Association of Medical Radiation Technologists. Effective Preceptorship: A Guide to Best Practice. <u>PreceptorGuidelines.pdf (camrt.ca)</u>

Dalhousie University. Preceptor eLearning Course. <u>Preceptor eLearning Course - School of</u> <u>Communication Sciences and Disorders - Dalhousie University</u>

Orientation

On the first day of the clinical component, it is compulsory that candidates are familiarized with hospital and department policies and procedures. The preceptor should assist the candidate with locating resources and interpreting departmental policies and procedures. An orientation checklist is provided in **Appendix B**.

Direction Levels

For the duration of the candidate's clinical experience, it is essential the preceptor appreciates that the candidate is participating in this program to regain competence after a lapse in practice. While the candidate is progressing through the clinical portion of the program it is required that they be properly supervised. This means even once the candidate has demonstrated competence, they must always have a technologist available to them.

As the candidate progresses through the program the preceptor must determine the required level of supervision. Candidates may perform at a higher level of independence for some procedures while still requiring significant assistance with other procedures.

Candidates are not licensed technologists and should never deem a study complete and ready for reporting or release a patient without first checking with the supervising technologist.

To guide the preceptor and the candidate, three levels and descriptions of direction/supervision are provided.

- 1) **Guided Decision Making:** The supervising technologist must always be in the room with the candidate. Decisions or procedures/tasks performed must be done through <u>direct</u> <u>supervision</u>.
- Supervised Performance: The candidate can make decisions and perform procedures/tasks accurately with <u>minimal supervision</u> or direction from the supervisor. The supervising technologist must always be present and checks to ensure all components of the procedure are completed accurately.
- 3) **Independent Performance:** The candidate can make all decisions and perform procedures/tasks independently and efficiently while under <u>indirect supervision</u>. The preceptor is always available to the candidate and checks the final product prior to submission for reporting.

Evaluation

Competency assessments should be completed throughout the clinical component of the program. Following the competency assessment guidelines candidates will be evaluated regularly for level of clinical performance. Procedures are signed off in the summary when the candidate has achieved competency as defined below.

Competence:

- Demonstrated ability to perform a procedure or task of diagnostic quality.
- Proven understanding of radiographic procedures demonstrating integration of theory to practice.

Candidate must:

- Provide the preceptor guide and all necessary documentation and tracking tools to the preceptor.
- Collect all completed documentation and evaluations and return to the refresher program coordinator at the conclusion of clinical.
- Track all clinical hours.
- Fulfill additional requirements specific to the selected clinical site (such as a Criminal Records Check or a Vulnerable Sector Check).

Assessment Procedure

The candidate will indicate to the preceptor when they feel competent to perform a clinical assessment for a specific procedure or examination. The preceptor will select an appropriate examination and the candidate will perform the examination under direct supervision. When a candidate meets the competency expectations the preceptor will complete the proper documentation with date, procedure type and signature.

Any cause for interruption or intervention by the preceptor during the competency assessment will result in a rating of "needs development". The candidate must be able to perform the procedure from start to finish unassisted. The candidate will then be required to perform the assessment at another time.

Preceptors will:

- Assess candidate performance and identify competencies met/not met.
- Provide the candidate with constructive feedback, identifying strengths and areas for development.

Evaluation Tools

The preceptor will give all original paperwork back to the candidate once completed. It is the responsibility of the candidate to ensure all original paperwork is sent to the refresher program coordinator at the completion of the clinical component. There are seven evaluation and tracking tools associated with the clinical component of the refresher program.

- Orientation Checklist
- Tracking of Clinical Hours
- Assessment of Clinical Performance self, formative, and summative evaluations
- Clinical Competency Assessment Rubric
- Clinical Assessment and Quality Control Tracking Table
- Program Feedback

Orientation Check List

With the assistance of the preceptor, the candidate must complete an orientation checklist on the first day of the clinical component. This ensures the candidate is aware of all safety procedures and departmental policies and that they always adhere to safe work practices.

Tracking of Clinical Hours

Candidates must complete the tracking table with the dates and hours worked. A total of 420 hours is required. Should the candidate not be successful in fulfilling the clinical requirement, a one-time request can be made to the refresher program coordinator for an additional 210-hour extension.

Assessment of Clinical Performance

- Self-evaluation must be completed by the candidate prior to each formative evaluation. The intent is to encourage the candidate to reflect on their strengths, skills, and areas for development. At the performance review, the candidate and preceptor ratings will be compared and discussed.
- 2) Formative Evaluation of a candidate's performance in clinical must be completed at approximately 150 hours and 300 hours during the practicum. This will provide formal feedback to the candidate on their progress. Assessment will focus on the performance of the candidate since the last clinical evaluation. Preceptors should discuss the evaluation with candidates and provide them an opportunity to add written comments.
- 3) Summative Evaluation of the candidate must be completed at the conclusion of the clinical component, which will consider the overall performance of the candidate during the clinical placement and their current ability to re-enter the clinical environment as a working technologist.

Clinical Competency Assessment Rubric

The Clinical Competency Assessment Rubric will be used throughout the clinical component of the program to help supervising technologists in assessing the candidate's competency in performing required procedures.



Clinical Assessment Tracking Table

The Clinical Assessment and Quality Control Tracking Table is a tool to track the progress of a candidate. Each clinical assessment and quality control assessment must be signed as they are successfully completed. All required procedures must be signed off to complete the clinical component of the refresher program.

Program Feedback

Feedback is an important element of program evaluation and contributes to continuous improvement of the refresher program. Candidates and preceptors can provide feedback at the completion of the clinical component. Completed forms should be forwarded to the refresher program coordinator.



APPENDIX A – ACADEMIC OBJECTIVES

Professional

- Describe the Provincial Regulator (if applicable) and CAMRT and Code of Ethics and relate it to clinical practice.
- Explain the radiological technologist's scope of practice, based on the candidate's jurisdiction, and specifically, based on the candidate's education and skill set.
- Discuss the CAMRT best practice guidelines for radiological technologists.
- Outline Medical Radiation Technologist (MRT) regulation in candidate's practising province or territory, including Standards of Practice.
- Identify ethical issues and actions appropriate to the practice of medical radiation technology.
- Discuss patient rights and legislation governing privacy of patient information and their implication on practice.
- Describe qualities of professional behavior.

Communicator

- Discuss the importance of verifying patient identity and obtaining informed consent.
- Examine the components required during an appropriate patient assessment and the factors that contribute to effective communication.
- Understand the use of verbal and non-verbal communication in clinical environments.
- Examine when to adapt communication strategies based on patient needs.
- Discuss how to identify clinically relevant details and provide accurate updates to the care team.

Collaborator

- Understand the radiological technologist's role in interprofessional teams.
- Discuss the importance of interprofessional collaboration.
- Understand what to communicate during the transfer of care for patients.
- Discuss conflict management techniques.

Care Provider

- Describe the safety measures for the patient and technologist when transporting and transferring patients.
- Explain the process of conducting relevant patient-centered care assessments.
- Understand patients' different developmental stages with provision of age specific care.
- Describe how to provide compassionate care based on the patient's physiological, cognitive, and psychological needs.
- Discuss correct administration of drugs including rights, routes, handling, and equipment.
- Discuss infection prevention and control standards.
- Explain the use of vital signs, including proper assessment, normal values and terms associated with deviations from normal.
- Explain the appropriate procedure to respond to changes in patient condition and medical emergencies.
- Describe the proper procedure and precautions when caring for patients with ancillary equipment.
- Demonstrate how to provide education and support to patients and their families.

Leader

- Describe how to give guidance and constructive feedback to students and less experienced technologists.
- Understand the importance of professional advocacy.
- Understand the importance of advocating for patient- and family-centered care.
- Discuss quality improvement practices.
- Understand how leadership can be applied to practice.

Scholarly Practitioner

- Appreciate why scholarly practice is an expectation of practice.
- Recognize the importance of reflective practice.
- Appreciate the significance of continual competence and professional learning.
- Identify research activities and relate them to evidence-informed changes in practice.
- Integrate best practices into personal practice.

Clinical Expert

Radiation and Occupational Safety

- Explain the concepts and application of standard precautions and disease transmission.
- Describe proper body mechanics.
- Describe the biological effects of exposure to ionizing radiation and compare organ/system sensitivity.
- Explain methods for adhering to the ALARA principles.
- Outline methods to reduce radiation dose to patients, personnel, and support persons in medical radiation technology.
- Review specifications for shielding apparatus, imaging rooms, and various types of imaging equipment.
- Understand the Safety Code 35 requirements applicable to radiological technology.

Patient Interventions

- Discuss proper process/technique related to venipuncture.
- Understand the radiological technologist's role in the administration of pharmaceutical agents.
- Understand the use, effects, and administration of contrast agents.
- Explain indications, contraindications, preparation, administration procedure and risks of contrast media use.
- Classify contrast media reactions and appropriate responses.
- Discuss contrast induced nephropathy (CIN) and outline methods to reduce risk.
- Demonstrate rectal tube insertion.
- Understand the process of sterile tray set up.
- Understand responsibilities related to patient interventions.

Radiography and Fluoroscopy Apparatus

- Explain the process of x-ray production and the structure and components of the x-ray tube.
- Describe attenuation, scatter and absorption, as applicable to x-radiation, patient dose, and image quality.
- Review the operating principles associated with CR, DR, image intensifiers, and flat panel detectors.

- Review the purpose, structure and application of grids, filters and other accessory equipment.
- Discuss theoretical knowledge of image acquisition and processing.
- Explain principles of exposure factors and their effect on image quality.
- Discuss computerized image manipulation techniques.
- Explain the concepts and relation of contrast, brightness, resolution, and distortion to image quality.
- Identify and describe causes of common image artifacts.
- Evaluate basic quality control procedures of imaging equipment and accessory equipment.

Clinical Procedures and Pathology – Skeletal System

- Discuss the anatomy, physiology, and pathologies of the skeletal system.
- Describe patient positioning, imaging system alignment, structures shown and radiographic criteria for skeletal projections.
- Identify special considerations for patient condition or population, including mobile imaging.
- Discuss commonly required modifications in positioning and exposure factors to improve image quality.
- Assess the use of alternate modalities for imaging structures.

Procedures:

Upper Extremity:

- Finger [PA, AP, PA oblique, Lateral]
- Thumb [PA, AP, PA oblique, Lateral]
- Hand [PA, AP, PA oblique, AP oblique, Lateral extension and fan]
- Wrist [PA, PA oblique, Lateral]
- Scaphoid [PA with ulnar deviation, PA axial]
- Forearm [AP, Lateral]
- Elbow [AP, AP obliques, Lateral, Lateral radial head, acute flexion]
- Humerus [AP, Lateral]

Shoulder Girdle:

- Shoulder [AP (neutral, internal, external), AP oblique (glenoid), PA and AP (Y), Inferosuperior and Suproinferior axial]
- Clavicle [AP, AP axial]

- AC joints [AP axial with and without weights]
- Scapula [AP, Lateral]

Lower Extremity:

- Toes [AP, AP oblique, Lateral]
- Foot [AP axial, AP oblique, Lateral, AP axial weight bearing, Lateral weight bearing]
- Ankle [AP, AP oblique, Lateral]
- Calcaneus [Plantodorsal axial, Lateral]
- Tibia/Fibula [AP, Lateral]
- Knee [AP, PA, AP obliques (medial, lateral), PA obliques (medial, lateral), Lateral, AP weight bearing, AP axial intercondyloid fossa, PA axial intercondyloid fossa]
- Patella [AP, PA, Lateral, Tangential]
- Femur [AP, Lateral]

Pelvic Girdle:

- Hip [AP, AP frog legs, Lateral (Lauenstein), Axiolateral]
- Pelvis [AP, AP axial (inlet, outlet), Acetabulum AP obliques]

Vertebral Column:

- Cervical vertebrae [AP (C1, C2), AP axial, Lateral, PA axial obliques, AP axial obliques, Lateral (hyperflexion, hyperextension), Lateral cervicothoracic (Swimmers)]
- Thoracic vertebrae [AP, Lateral, Lateral cervicothoracic (Swimmers)]
- Lumbar vertebrae [AP, Lateral, AP obliques, PA obliques, Lateral L5-S1]
- Sacroiliac joints [AP axial, AP obliques]
- Sacrum [AP axial, Lateral]
- Coccyx [AP axial, Lateral]
- Scoliosis series [PA, Lateral]

Thoracic Cage:

- Sternum [PA oblique, Lateral]
- Ribs [AP, PA, AP obliques, PA obliques]
- Sternoclavicular joints [PA, PA obliques]

Cranium:

• Skull [AP axial (Towne), PA axial (Caldwell), Lateral]

- Sinuses [Parietoacanthial (Waters), PA axial (Caldwell), Lateral]
- Facial Bones [PA axial (Caldwell), Parietoacanthial (Waters), Acanthioparietal (Reverse Waters), Lateral]
- Orbits [PA axial, Parietoacanthial (modified Waters), Lateral]
- Orbits Foreign Body [Parietoacanthial (modified Waters), Lateral]
- Nasal Bones [Parietoacanthial (Waters), Lateral]
- Zygomatic arches [Parietoacanthial (Waters), Tangential, AP axial (Towne), SMV]
- Mandible [AP axial (modified Towne), PA axial, AP, PA, Axiolateral, Axiolateral obliques]
- Temporo-mandibular joints [AP axial (modified Towne), Axiolateral (open and closed)]

Clinical Procedures and Pathology – Respiratory System

- Discuss the anatomy, physiology, and pathologies of the respiratory system.
- Describe patient positioning, imaging system alignment, mode of respiration, structures shown and radiographic criteria for respiratory system projections.
- Identify special considerations for patient condition or population, including mobile imaging.
- Discuss commonly required modifications in positioning and exposure factors to improve image quality.
- Assess the use of alternate modalities for imaging the respiratory system.

Procedures:

- Soft tissue neck [AP, Lateral]
- Chest [AP (supine, semi-erect, erect), PA, Lateral, AP lordotic, Lateral decubitus]

Clinical Procedures and Pathology – Digestive System

- Discuss the anatomy, physiology, and pathologies of the digestive system.
- Describe patient positioning, imaging system alignment, structures shown and radiographic criteria for GI projections.
- Identify special considerations for patient condition or population, including mobile imaging.
- Discuss commonly required modifications in positioning and exposure factors to improve image quality.
- Assess the use of alternate modalities for imaging the digestive system.

Procedures:

Radiography: Abdomen [AP supine, AP erect, Left lateral decubitus, Dorsal decubitus]

Fluoroscopy:

- Esophagus
- Stomach
- Small Bowel
- Large Bowel
- ERCP/biliary tree

Clinical Procedures and Pathology – Urinary System

- Discuss the anatomy, physiology and pathologies of the urinary system.
- Describe patient positioning, imaging system alignment, structures shown and radiographic criteria for urinary system projections.
- Identify special considerations for patient condition or population.
- Discuss commonly required modifications in positioning and exposure factors to improve image quality.

Procedures:

Radiography: Kidneys, ureters and bladder [KUB (AP)]

Fluoroscopy: Voiding Cystogram

Clinical Procedures and Pathology – Reproductive system

- Discuss the anatomy, physiology and pathologies of the reproductive system.
- Describe clinical indications, contraindications, patient preparation and procedures for imaging of the reproductive system.
- Describe patient positioning, imaging system alignment, structures shown and radiographic criteria for reproductive system projections.
- Explain indications, contraindications, preparation, administration, procedure and risks of contrast media use.
- Identify special considerations for patient condition or population.
- Discuss commonly required modifications in positioning and exposure factors to improve image quality.

Procedures:

Hysterosalpingography

Mammography [Craniocaudal, Mediolateral obliques]

Computed Tomography Apparatus

- Discuss the basic components and operating principles of a CT scanner.
- Explain how a helical and multidetector scanner works.
- Convert attenuation coefficients to Hounsfield Unit (HU) equivalents.
- Relate CT numbers to proper tissue equivalent.
- Identify the parameters set by the technologist in CT imaging.
- Demonstrate an understanding of factors affecting image quality in CT.
- Identify common artifacts in CT and their prevention.
- Describe post processing options for CT images.
- Discuss the use of CT in fusion imaging.
- Contrast radiation exposure in CT to routine general imaging procedures.
- Describe methods of dose reduction in CT.
- Describe a quality assurance program for a CT scanner.

Computed Tomography Clinical Procedures and Pathology

- Explain indications, contraindications, preparation, administration, procedure and risks of contrast media use.
- Classify contrast media reactions and appropriate responses.
- Discuss contrast induced nephropathy (CIN) and outline methods to reduce risk.

Procedures:

Head [enhanced and unenhanced] Neck [enhanced and unenhanced] Chest [enhanced and unenhanced] Abdomen [enhanced and unenhanced] Abdomen for urinary system Pelvis [enhanced and unenhanced] Extremities Spine Interventional Procedures Virtual Colonography

Bone Mineral Densitometry Apparatus

- Identify various methods of obtaining bone densitometry data.
- Describe different bone densitometry measuring systems.
- Explain QC measures for the BMD unit.

Bone Mineral Densitometry Clinical Procedures and Pathology

- Identify appropriate indications for performing BMD exams.
- Describe the procedure for performing a BMD exam.
- Discuss normal and abnormal BMD results.

Procedures:

Spine

Hip

Interventional Radiology Apparatus

- Select correct imaging parameters and techniques for the performance of cardiac and vascular imaging.
- Describe post processing options for cardiac and vascular images.

Interventional Radiology Clinical Procedures and Pathology

- Discuss the anatomy, physiology, and the pathologies of the cardiac and vascular system.
- Describe the purpose, indications, risks, patient education, preparation and post procedural care for cardiac and vascular procedures.
- Identify structures shown on cardiac and vascular images.
- Discuss benefits and patient outcomes from vascular interventional procedures.
- Explain indications, contraindications, preparation, administration procedure and risks of contrast media use.
- Classify contrast media reactions and appropriate responses.
- Discuss contrast induced nephropathy (CIN) and outline methods to reduce risk.

Procedures:

Angiography

Angioplasty

IVC filter

Embolization

Thrombolysis

Stent/shunt placement

Tube/line insertion

Joint injection

Aspiration/drainage

Biopsy

Radiofrequency ablation

Vertebroplasty/Kyphoplasty



APPENDIX B - SAFETY AND ORIENTATION CHECKLIST

Candidate Name:

Clinical Site:

The safety and orientation checklist are to be completed by the candidate and the preceptor upon the candidate's arrival in the clinical area. It is essential the candidate is aware of all safety procedures and departmental policies and always adheres to safe work practices. The following checklist is designed to help guide the candidate's orientation to the department. The preceptor will provide a tour of the clinical site and ensure all policies are followed.

The candidate will read the following hospital/departmental documents to apply procedures to practice as appropriate:

- Hospital/department organizational chart
- Magnetic resonance safety policy and procedures
- Disaster planning policies (bomb threat, mass casualty, pandemic, etc)
- Fire policy and procedure
- Emergency codes and cardiac arrest procedure
- WHMIS policy and procedures
- Incident reporting policy and procedures
- Protocol or procedures manual
- MRI Patient Safety Screening Form

Within Diagnostic Imaging, the candidate should locate:

- Crash cart, emergency equipment and exits, fire alarms, and fire extinguishers
- Patient reception and booking, patient changing area and waiting rooms, and patient washrooms
- Imaging areas/units (CT, U/S, etc), image processing area, reporting, other relevant areas

Preceptor Name:	_ Signature:
Date:	
Candidate Name:	_ Signature:
Date:	

APPENDIX C - CLINICAL SITE PROPOSAL

Candidate:

Anticipated Start Date:

Proposed Preceptor:

NOTE: If additional space is required, please attach to this form.

List all radiographic equipment available on site.

How many general radiography exams does the department perform monthly?

How many CT exams does the department perform monthly?

What type of mobile, fluoroscopic and OR procedures are performed?

If these are not deemed sufficient, how does the candidate propose competency will be gained in these areas?

Does the department participate in a quality assurance program?

Provide a basic description of the workings of the department:

Preceptor: Having reviewed the required clinical competencies outlined in the clinical guide, do you believe the candidate will have ample opportunity to gain competence during the clinical period? Explain.

Other comments or concerns:

Preceptor Signature:	Date:	
Candidate Signature:	Date:	
Approval NSCMIRTP refresher program coordinator: _		

Date: _____



APPENDIX D - CLINICAL SITE AGREEMENT

(between)

Site	Candidate
Name:	Name:
Signature:	Signature:
Address:	Address:

Role and Responsibilities of Clinical Sponsor/Site:

The site will:

- 1. Name one individual responsible to act as lead preceptor and be the contact person at the clinical site.
- 2. Receive verification from the Refresher Program Coordinator of candidate's successful completion of the *Academic Exam*.
- 3. Ensure that the physical resources available to the candidate are equal to those normally required in the current practice of the profession.
- 4. Ensure that precepting staff have been identified and adequately prepared to fulfill this role.
- 5. Ensure that precepting staff practice in the same area of practice as the candidate.
- 6. Ensure that precepting staff are physically present and available to assist the candidate in the performance of restricted activities.
- 7. Forward a verification of the candidate's completion of the clinical component to the Refresher Program Coordinator.
- 8. Not be obligated to provide any salary, medical benefits or other compensation whatsoever to the candidate.
- 9. Reserve the right to request a security clearance check from the candidate.
- 10. Reserve the right to request the removal of any candidate from its supervision by written notification to the Refresher Program Coordinator.

Role and Responsibilities of Upgrading Candidate:

The candidate will:

- 1. Become familiar with, and adhere to, all clinical site policies governing the conduct of staff on-site.
- 2. Act in accordance with the requirements of any regulation governing the profession.
- 3. Exhibit initiative to inquire for clarification, to perform tasks, and to seek opportunities to increase knowledge and skills.
- 4. Perform all duties in an ethical and professional manner.
- 5. Establish and maintain effective communication channels with preceptors, tutors, and instructors.
- 6. Pay any clinical site fees, if applicable, prior to commencement of the clinical component of the refresher program.

Clinical Component Projected Timeline:

Start date:	Projected end date:

Candidates Signature:	Date:
5	

Preceptor Signature: _____ Date: _____

This signed agreement will be provided to Refresher Program Supervisor. The candidate will receive a copy, and the clinical practicum site will retain a copy on file.