

Provincial Clinical Standard



Title: Radiation Therapy Quality and Safety Standards

Level: Provincial

Service Area: Oncology

Applicable to: These standards apply to healthcare providers and administrators within health authorities who administer radiation therapy in Manitoba including:

- CancerCare Manitoba (CCMB): 675 McDermot Ave, Winnipeg
- Western Manitoba Cancer Centre (WMCC): 300 McTavish Ave. East, Brandon
- Kleysen Institute for Advanced Medicine: 710 William Ave., Winnipeg
- Gamma Knife Radiosurgery: 820 Sherbrook St., Winnipeg

Approved by: CancerCare Manitoba Medical Council

Document Number: 635.105.100

Category: 635 – CancerCare Manitoba – Provincial Cancer Authority

Subcategory: 635.105 – Radiation Therapy

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1.0. Purpose

- 1.1. This set of standards establishes the requirements for the organization and delivery of safe and effective radiation therapy in Manitoba and serves as a benchmark for consistency and quality.
- 1.2. Development of these standards was undertaken for the purpose of improving cancer outcomes, supporting consistency in quality care provided across facilities and fostering a culture of continuous quality improvement. This standard outlines the foundational resources and requirements that need to be in place to achieve this purpose.

2.0. Scope

- 2.1. The scope of this document includes:
 - 2.1.1 Program organization and structure

- 2.1.2 Staff requirements including training and maintenance of competencies
- 2.1.3 Technology and equipment used to plan and deliver care
- 2.1.4 Required policies and procedures
- 2.1.5 Education and resources for patients and families
- 2.1.6 Quality processes

2.2. The scope of this document excludes:

- 2.2.1 Treatment recommendations
- 2.2.2 Care pathways/Clinical practice guidelines

3.0. Definitions

3.1. Defined Terms

- 3.1.1 **Clinical Practice Guidelines:** Systematically developed statements to assist practitioners and consumer decisions about appropriate health care for specific clinical circumstances. Clinical Practice Guidelines offer recommendations for care and help the practitioner determine the appropriateness of selected interventions. They are also referred to as parameters, practice policies, position papers, consensus statements, practice options and multidisciplinary guidelines.
- 3.1.2 **Dosimetrist:** A specialized healthcare professional who designs precise treatment plans to ensure accurate and effective radiation delivery to cancer patients. Note: In Manitoba this position is held by a Radiation Therapist with specialized training and referred to as a Treatment Planner.
- 3.1.3 **Major Radiotherapy Equipment:** Includes external beam treatment units including but not restricted to, linear accelerators, orthovoltage units and accessories, simulators and accessories, remote after-loading brachytherapy devices, and any other class II nuclear facilities.

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- 3.1.4 Patient Reported Outcomes: Any report of a patient's health status that comes directly from the patient without interpretation by clinicians or others. Examples of common PROs used in Canada include ESAS, EPIC, EORTC and Brief Pain Inventory.
- 3.1.5 Radiation Treatment Equipment: Includes radiation treatment planning, positioning, delivery equipment and all major accessories used in the Radiation Oncology Program. Specifically, this includes all teletherapy and brachytherapy treatment devices, treatment, simulation and imaging devices, treatment planning computer systems, electronic information systems that are integrated with the above equipment, and calibration and quality assurance devices used in relation to the above equipment.
- 3.1.6 Radiation Treatment Facility: The physical location where radiation treatment is administered.
- 3.1.7 Radiation Oncology Program: The personnel, equipment, information systems, policies and procedures, and activities required for the safe delivery of radiation treatment according to evidence-based and/or best practice guidelines.
- 3.1.8 Organization: The hospital, cancer centre or institution in which the Radiation Oncology Program resides.

3.2. Abbreviations

- 3.2.1 ASTRO – American Society for Radiation Oncology
- 3.2.2 CARO - The Canadian Association of Radiation Oncology
- 3.2.3 CCMB – CancerCare Manitoba
- 3.2.4 CNSC - Canadian Nuclear Safety Commission
- 3.2.5 CPQR - Canadian Partnership for Quality Radiotherapy
- 3.2.6 NSIR – National System for Incident Reporting
- 3.2.7 PRO - Patient Reported Outcome

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- 3.2.8 ROQ - Radiation Oncology Quality
- 3.2.9 RSO – Radiation Safety Officer
- 3.2.10 SBRT – Stereotactic Body Radiation Therapy
- 3.2.11 SRS – Stereotactic Radiosurgery
- 3.2.12 WMCC – Western Manitoba Cancer Centre

3.3. Professional Groupings

- 3.3.1 Nurse Navigator: Refers to a Registered Nurse (RN).

4.0. Standard Components

4.1. Program Organization

4.1.1 Organization Integration, Resources and Accountability

- 4.1.1(a) The Radiation Oncology Program works with the applicable organization's leadership to ensure adequate staffing levels for personnel required to safely deliver radiation treatment according to best evidence and practice guidelines.
- 4.1.1(b) The Radiation Oncology Program has clearly defined its reporting structure, and the responsibilities of personnel and committees, to ensure accountability for the quality of care it provides.

Source: Canadian Partnership for Quality Radiotherapy [CPQR], 2019.

4.1.2 Radiation Treatment Quality Assurance Program

- 4.1.2(a) There is a comprehensive quality assurance program that encompasses all aspects of radiation treatment planning and delivery that directly or indirectly impacts patient care.
- 4.1.2(b) There is a Radiation Oncology Quality (ROQ) Team responsible for monitoring adherence to written policies and procedures regarding

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quality assurance activities and oversight of the quality assurance programming. e.g. incident reports, non-compliance, image audits.

- 4.1.2(c) There is a process for the retention of documents pertaining to quality assurance activities.

Source: CPQR, 2019.

4.1.3 Radiation Oncology Quality Team

- 4.1.3(a) The ROQ Team has documented terms of reference and meets the following criteria:

Composition and organization:

- Comprised, at minimum, of a Radiation Oncologist, a Medical Physicist, and a Radiation Therapist with operation responsibility for quality assurance in the Radiation Oncology Program.
- Chaired by a Radiation Oncologist, Medical Physicist or Radiation Therapist
- Is a standing committee that meets at regular intervals, no fewer than four times per year
- Reports to the head of the Radiation Oncology Program and/or other committees or groups with responsibility for quality within the Radiation Oncology Program, cancer program, or organization

Duties and responsibilities:

- Monitors indicators of equipment performance and confirms that all equipment quality control procedures are adhered to, maintaining appropriate documentation.
- Monitors that all radiation treatment policies and procedures are adhered to and investigates instances of non-compliance through event reporting and regular policy and procedure updates to ensure they are current and applicable.

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- Reviews radiation treatment incidents, verifies that the incidents were appropriately managed according to the Radiation Oncology Program and/or organization policies and procedures. The committee ensures that the necessary steps were taken to prevent incidents from recurring, particularly for critical incidents or when a significant trend in the pattern of less severe incidents is identified.
- Oversees the reporting of incident data to local, provincial, national, and/or international organizations as required, with the aim of preventing similar incidents from occurring elsewhere.
- Defines and monitors, on a continuous basis, relevant ROQ quality indicators for the Radiation Oncology Program and reports indicator trends to the head of the Radiation Oncology Program and/or other committees or groups with responsibility for quality within the Radiation Oncology Program, cancer program, or organization.
Sources: Accreditation Canada, 2022; CPQR, 2019

4.1.4 Access to the Radiation Oncology Quality Team

- 4.1.4(a) The ROQ Team has a “blame-free” process for personnel to access the committee and to report concerns about radiation treatment quality or safety (CPQR, 2019).

4.1.5 Radiation Safety Program

- 4.1.5(a) There is a radiation safety program with written policies and procedures that ensure the safe use of radioactive devices and materials in compliance with:
- The [Nuclear Safety and Control Act](#).
 - All relevant [General Nuclear Safety and Control Regulations](#) as administered and enforced by the Canadian Nuclear Safety Commission (CNSC).

Source: CPQR, 2019

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4.1.6 Radiation Treatment Incident Management

- 4.1.6(a) There are written policies and procedures that address the reporting, investigation, action, documentation, and monitoring of radiation treatment incidents that occur at any point in the radiation treatment process from decision-to-treat through completion of treatment delivery.
- 4.1.6(b) Critical radiation treatment incidents are identified using the following criteria:
- Hardware or software errors that have a high probability of causing an unacceptable outcome for the patient or that pose an unacceptable risk to personnel or members of the public.
 - Errors resulting in >20% tumor under-dose or organs at risk overdose, relative to the intended dose to these structures over the course of treatment that, on the balance of probabilities, is likely to be associated with the development of significant acute and/or chronic side effects.
- 4.1.6(c) Critical radiation treatment incidents are reported as per requirements of local, provincial, and/or national organizations.
- 4.1.6(d) The program participates in the National System for Incident Reporting (NSIR) - Radiation Treatment.
- 4.1.6(e) Action is taken to prevent critical radiation treatment incidents from recurring and results of the incident investigation, and any quality improvement lessons are shared with members of the interprofessional team including: Radiation Oncologists, Medical Physicists, Radiation Therapists, Dosimetrists (Treatment Planner), Nurses, Nursing Assistants, and administrative staff.
- 4.1.6(f) There is a process to disclose medical errors to impacted patients and involve patients in incident investigation and the formulation of recommendations for preventing recurrence.

Source: CPQR, 2019

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4.1.7 Clinical Research

- 4.1.7(a) Patients are provided with opportunities to be engaged in clinical research activities related to radiation therapy (Accreditation Canada, 2022).

4.2. Personnel

4.2.1 Competence, Credentials, Certifications, and Licensing

- 4.2.1(a) There is a process for assuring that personnel have the necessary credentials and certifications from the relevant professional colleges, associations, or licensing bodies to fulfill their duties and that these are up-to-date.
- 4.2.1(b) There is ongoing education and training available to personnel on new developments in radiation treatment, quality assurance, and radiation safety.
- 4.2.1(c) Continuing education requirements of licensing organizations or professional associations are adhered to when applicable.
- 4.2.1(d) Continuing education activity is monitored as part of the employee performance evaluation and/or competency maintenance program.

Sources: Accreditation Canada, 2022; CPQR, 2019

4.2.2 Radiation Oncologists

- 4.2.2(a) Radiation Oncologists are licensed to practice medicine by the relevant provincial medical college or licensing authority and certified in Radiation Oncology by the Royal College of Physicians and Surgeons of Canada or the Collège des Médecins du Québec (CPQR, 2019).

4.2.3 Medical Physicists

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- 4.2.3(a) Medical Physicists are certified by the Canadian College of Physicists in Medicine or equivalent or are in the process of obtaining such certification (CPQR, 2019).

4.2.4 Radiation Therapists

- 4.2.4(a) Radiation Therapists are certified members of the Canadian Association of Medical Radiation Technologists – Manitoba (CPQR, 2019).
- 4.2.4(b) Radiation Therapists taking on the role of Dosimetrist (Treatment Planner) require clinical experience and additional training in designing and calculating radiation therapy plans.

4.2.5 Head of the Radiation Oncology Program

- 4.2.5(a) There is an identified head of the Radiation Oncology Program who has clearly defined responsibilities for all clinical aspects of the Radiation Oncology Program and has commensurate clinical and administrative experience to fulfill those responsibilities (Accreditation Canada, 2022; CPQR, 2019).

4.2.6 Radiation Safety Officer

- 4.2.6(a) A qualified individual who is certified by the CNSC, has been designated the Radiation Safety Officer (RSO) and has primary responsibility for all aspects of radiation safety.
- 4.2.6(b) The RSO reports directly to the CEO of the organization or senior leadership delegate (other than the head of the Radiation Oncology Program).
- 4.2.6(c) The RSO reports as necessary, and at least annually, to the cancer program or organization's quality committee or equivalent, on matters relating to radiation safety.

Sources: Accreditation Canada, 2022; CPQR, 2019

4.2.7 Radiation Safety Training

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- 4.2.7(a) There is a radiation safety training program for all personnel at a level appropriate to their job function, according to national regulatory guidelines set out in the CNSC [Regulatory Documents](#).
- 4.2.7(b) Participation in radiation safety training activity is monitored as part of an employee performance evaluation and/or competency maintenance program.

Sources: Accreditation Canada, 2022; CPQR, 2019.

4.3. Radiation Treatment Equipment

4.3.1 Authorized Users

- 4.3.1(a) Major Radiotherapy Equipment is operated by authorized users for authorized uses.
- 4.3.1(b) A list of authorized users is kept by the RSO.
- 4.3.1(c) Authorization is reviewed annually to ensure that users have sufficient training and experience to operate the equipment and maintain their status as an authorized user.

4.3.2 Equipment Quality Control Procedures

- 4.3.2(a) There are technical quality control policies and procedures for all radiation planning and treatment equipment and all major accessories, that describe the:
- tests to be performed
 - frequency of the tests
 - qualifications of the individuals performing the tests
 - tolerances associated with any measurement
 - procedures to be followed in the event that a test fails or a measurement falls outside an allowed tolerance

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- specific protocols to be followed for calibrating the radiation output of the equipment and the frequency of calibration

4.3.2(b) A qualified Medical Physicist (certified by the Canadian College of Physicists in Medicine or equivalent or are in the process of obtaining such certification) independently verifies and documents the implementation, analysis, and interpretation of the quality control tests of all radiotherapy equipment at least annually. Independent checks are documented.

Sources: Accreditation Canada, 2022; CPQR, 2019

4.3.3 **Responsibility for Equipment Quality Control**

4.3.3(a) Compliance with technical quality control policies and procedures is monitored by the ROQ Team (CPQR, 2019).

4.3.4 **Equipment and Software Training**

4.3.4(a) Education and training are provided on the safe and efficient use of radiotherapy equipment and software.

4.3.4(b) For personnel who require them, equipment and software instructions, user guides and safety bulletins are easily accessible at all times for each type of radiotherapy equipment and software in use.

4.3.4(c) The effectiveness of radiotherapy equipment and software training is evaluated and improved as required.

Source: Accreditation Canada, 2022

4.3.5 **Introduction of New Equipment and Procedures**

4.3.5(a) Key partners, including but not limited to, Shared Health Diagnostic Imaging, Neurosurgery, the Winnipeg Regional Health Authority, Prairie Mountain Health, and CCMB Radiation Oncologists and

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Medical Physicists, participate in the organization's process for selecting and prioritizing radiotherapy treatment and planning equipment as well as other devices used in care.

- 4.3.5(b) Provincial and federal regulations to register, install, and calibrate radiotherapy equipment are followed.
- 4.3.5(c) For new equipment (hardware and/or software) or treatment technique, a complete safety analysis is performed, and quality control procedures are implemented and tested prior to clinical use.
- 4.3.5(d) For new equipment (hardware and/or software) or treatment technique, all personnel involved with the calibration, operation or maintenance of the device or major accessory are trained in the:
 - operation
 - associated radiation safety issues
 - emergency procedures associated with a failure
- 4.3.5(e) For locally programmed hardware and/or software, a quality control procedure is implemented during installation and commissioning and tested prior to clinical use.

Sources: Accreditation Canada, 2022; CPQR, 2019

4.3.6 Servicing Existing Equipment

- 4.3.6(a) The safety and quality assurance of radiotherapy equipment is reviewed following maintenance, repair, upgrade, or damage, before the equipment is returned to clinical use.
- 4.3.6(b) There are records of equipment maintenance and downtime as well as upgrades, repairs, and other solutions to equipment issues.
- 4.3.6(c) When services are contracted from an external provider, all safety requirements are met and services documented.

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Source: Accreditation Canada, 2022

4.3.7 **Equipment Obsolescence**

- 4.3.7(a) Equipment or software that is unable to provide the functionality required for modern, standard-of-care patient treatment or does not meet the quality standard is defined to be obsolete and is targeted for replacement with contemporary equipment or software or major upgrade.
- 4.3.7(b) Equipment or software replacements or upgrades occur as per standard replacement cycles so as not to adversely affect the availability of quality radiotherapy services.

Sources: Accreditation Canada, 2022; CPQR, 2019

4.3.8 **External Calibration or Dosimetry Audit**

- 4.3.8(a) There is an independent audit of radiation treatment machine calibration or dosimetry at least annually.
- 4.3.8(b) Audit results are reviewed by the medical physics dosimetry group, and general outcomes and updates are shared with the head of the Radiation Oncology Program, the ROQ Team, and heads of the Radiation Oncology, Medical Physics and Radiation Therapy.

Sources: Accreditation Canada, 2022; CPQR, 2019

4.3.9 **Emergency Procedures**

- 4.3.9(a) There are written policies and procedures to be followed in the event of an emergency, whereby acute failure of either equipment or systems, has the potential to affect patient, staff or public safety (Accreditation Canada, 2022; CPQR, 2019).

4.3.10 **Radioactive Waste**

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- 4.3.10(a) There is a process for managing different types of radioactive waste (Accreditation Canada, 2022).

4.3.11 Radiation Exposure

- 4.3.11(a) Radiation exposure is monitored in compliance with regulations to ensure patient, personnel and public safety (Accreditation Canada, 2022).

4.4. Policies and Procedures

4.4.1 Practice Guidelines and Manuals

4.4.1(a) Policy and Procedure Manual

- Policies and procedures have a planned review date, with a regular planned review cycle.
- The Radiation Therapy Program has processes in place for revising, as well as controlling versions, including the dissemination of current versions to relevant personnel and the archiving of outdated versions.
- Policies and procedures are readily available to staff.

Sources: Accreditation Canada, 2022; CPQR, 2019

4.4.1(b) Clinical Practice Guidelines

- Radiation Oncologists participate in Disease Site Group (DSG) discussions related to the creation of new and the review/revision of existing clinical practice guidelines (CPQR, 2019).

4.4.1(c) Radiation Planning and Treatment Guidelines

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- The Radiation Oncology Program utilizes and regularly reviews radiation planning and treatment guidelines, including imaging considerations, to ensure they reflect current research and best practice information.
- There is a process in place to decide among conflicting guidelines or multiple recommendations.

Source: CPQR, 2019.

4.4.2 Radiation Treatment Wait Times

- 4.4.2(a) When indicated, 90% of patients have their first appointment with the Radiation Oncologist within 14 days of receipt of the initial referral to Radiation Oncology.
- 4.4.2(b) When indicated, 90% of patients start radiation treatment within 28 days from when the Radiation Oncologist deems them ready-to-treat meaning the patient is available, willing to receive treatment and is clinically ready for treatment.
- 4.4.2(c) Patient wait times are monitored monthly in relation to provincial, national, and/or professional guidelines.
- 4.4.2(d) Delays or deviations from expected timelines are promptly investigated by Radiation Oncology Program leaders, with appropriate preventive and corrective action(s) taken.
- 4.4.2(e) Wait times are reported to local, provincial, and/or national organizations as required.

Sources: CARO, 2000; CPQR, 2019

4.4.3 Individual Safety Policies and Procedures

- 4.4.3(a) Patient Identification
 - Patients are identified using at least two patient-specific identifiers before any radiation planning or treatment is provided.

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4.4.3(b) Authorization of Radiation Planning or Treatment Procedures

- There are policies and procedures for authorizing radiation planning, including imaging, and for authorizing a course of radiation treatment or any change to a previously authorized course of radiation treatment.

4.4.3(c) Pregnancy Status Prior to Radiation Planning and Treatment

- There is a process for confirming female patients of reproductive age are not pregnant prior to radiation treatment planning and delivery.

4.4.3(d) Implantable Electronic Devices

- There are policies and procedures to monitor patients with implantable electronic devices (e.g. pacemakers, implantable cardioverter defibrillator) that can be affected by varying levels and types of electromagnetic interference during radiation therapy planning or treatment.

Sources: Accreditation Canada, 2022; CPQR, 2019

4.4.4 Patient Engagement and Education

4.4.4(a) Informed Consent

- There is documentation of informed consent for radiation therapy prior to the delivery of treatment which includes ensuring that patients understand that their consent can be withdrawn at any time.

4.4.4(b) Patient Education

- The imaging, planning, and treatment processes are discussed with the patient prior to service delivery.

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- In addition to verbal communication, written or online general and disease specific educational material about radiation treatment planning, treatment delivery, symptoms, management of side-effects, and follow-up is provided to patients and their families at all points during the patient's care journey and there is an opportunity for questions.
- Patient education respects cultural beliefs and values, socioeconomic and ethnic background, literacy level, gender, language and functional abilities.
- The development and evaluation of radiation treatment specific education is done in collaboration with patients and their families.
- Education materials are reviewed and updated at least every 2 years to ensure they are reflective of best practice and current medical evidence.

Sources: Accreditation Canada, 2022; CPQR, 2019

4.4.4(c) Patient Portal

- Patients are offered access to an electronic patient portal, accessible via mobile app and/or website, as an additional method to communicate with their care team, receive messages including upcoming education events, view upcoming appointments, respond to questionnaires between visits and view blood work results.

4.4.4(d) Patient Assessment

- Each patient is assessed for previous cancer treatments and contraindications to treatment in partnership with the patient and family (Accreditation Canada, 2022).

4.4.4(e) Patient Reported Outcomes

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- Patient Reported Outcomes (PROs) are collected from patients treated with radiotherapy prior to a clinician encounter and at multiple time points throughout their care.
- There is a process for responding to and following up on concerning PROs.

Source: CPQR, 2019

4.4.4(f) Patient and Family Support

- Cancer Navigation Services are available to patients in all regional health authorities through self-referral or a clinical care team referral. Nurse Navigators offer information, guidance, and support from the time of a clinical suspicion of cancer through the diagnostic period and treatment, with the goal of providing seamless service delivery.
- Patients and families are provided with information on how to access supports for emotional/mental well-being and education.

4.4.4(g) Program Engagement

- There are mechanisms (active and passive) for patients and families to provide feedback regarding their RT experience.
- Patient and family feedback is acknowledged, considered and shared as appropriate.

Source: CPQR, 2019

4.4.4(h) System Engagement

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- Barriers that prevent patients from accessing RT services are considered and there is collaboration with patients and their families to identify ways to mitigate these barriers (CPQR, 2019). This may include the involvement of other support services e.g. language interpreters, transportation team, social work.

4.4.5 Radiation Oncology Peer Review of Treatment Plan

- 4.4.5(a) RT plans are generated to adhere to treatment policy and achieve predefined dose constraints on targets and normal tissues.
- 4.4.5(b) There is a multi-step process of Radiation Oncology and Medical Physics review and signoff of every plan prior to treatment delivery.
- 4.4.5(c) There is a mechanism in place that allows for peer review of radiation treatment plans (overall prescription, dose distribution, contouring of all structures, and the correct approach for the specific patient/disease) by another Radiation Oncologist. i.e. during quality or service rounds.
- 4.4.5(d) There is a policy in place that defines the timing of peer review, the triage process and the parameters that determine the need for peer review.
- 4.4.5(e) Targets for peer review:
 - 100% of plans are reviewed for the following:
 - i. Gamma Knife
 - ii. Stereotactic Body Radiation Therapy (SBRT)
 - iii. Brain Stereotactic Radiosurgery (SRS)
 - iv. Sarcoma
 - v. Radical H&N
 - vi. Cranio-spinal irradiation
 - vii. Seminoma
 - viii. Pediatrics
 - ix. Clinical trials
 - A minimum of 50% of all other cases are reviewed.

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Note: Routine cases that are unreviewed are clinically and technically less prone to error and the consequences of error.

- 4.4.5(f) There is documentation for cases that undergo peer review including the outcome of the recommendations e.g. plan changed or plan has not changed.

Sources: Accreditation Canada, 2022; CPQR, 2019; Princess Margaret Cancer Center, n.d.

4.4.6 **Review of Treatment Plan, Dose Calculations, and Patient Set Ups**

- 4.4.6(a) Radiotherapy treatment plans (dose calculations, field placement, including measurements taken on the machine to confirm that what is prescribed is what will be delivered) are independently reviewed/verified by authorized professionals (i.e., medical physicists, dosimetrists [Treatment Planners], and radiation therapists) prior to beginning treatment and when there has been a change in the treatment parameters.
- 4.4.6(b) There is a written procedure describing the minimum checks to be performed during the independent review and qualifications required to provide a second check.
- 4.4.6(c) There is a mechanism to ensure a treatment plan has had all the required reviews prior to the beginning of treatment.

Sources: Accreditation Canada, 2022; CPQR, 2019

4.5. **Personnel Availability and Emergency Radiation Treatment**

4.5.1 Radiation Oncology and Medical Physics Availability

- 4.5.1(a) When radiation treatment is being delivered, a Radiation Oncologist and a Medical Physicist are present at the Radiation Treatment Facility or are capable of responding in a timely manner.

4.5.2 Emergency Radiation Treatments

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- 4.5.2(a) There are policies and procedures guiding the planning and safe delivery of emergency radiation treatment that do not compromise quality and safety measures that apply to the routine treatment of patients.

Sources: Accreditation Canada,2022; CPQR, 2019

4.6. Outcomes and Data Use

4.6.1 Cancer Staging

- 4.6.1(a) Newly diagnosed patients receiving radiotherapy will be staged (Accreditation Canada, 2022; CPQR, 2019).

4.6.2 Nomenclature and Technical Terms

- 4.6.2(a) Consistent technical terms and nomenclature are used to ensure safe and efficient care and to allow for data sharing (Accreditation Canada, 2022).

4.6.3 Treatment Prescription

- 4.6.3(a) The radiation treatment prescription meets all criteria to deliver treatment:
- Follows recommendations set forth in [Standardizing dose prescriptions: An ASTRO white paper](#).
 - Clearly references the prescribed dose to a particular plan point or isodose line according to the applicable International Commission on Radiation Units and Measurements report
 - Includes sufficient information, to allow a qualified Radiation Therapist to deliver the treatment as intended without ambiguity, including, at a minimum:
 - (i) Dose and fractionation
 - (ii) Treatment site
 - (iii) Confirmation of laterality

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- Uses at least two patient-specific identifiers, which can include the patient's name, date of birth, medical record number, or photograph
- Is authorized by a Radiation Oncologist either in writing or by electronic signature

Sources: Accreditation Canada, 2022; CPQR, 2019

4.6.4 Radiation Treatment Records

- 4.6.4(a) Paper or electronic records of the radiation treatment plan are maintained with sufficient detail to allow the plan to be reconstructed as a means of estimating the radiation dose delivered to tumor targets or normal tissue.
- 4.6.4(b) Radiation treatment records are retained for periods of time as required by provincial and/or national legislation and/or professional guidelines when available.
- 4.6.4(c) The privacy and confidentiality of the medical and radiation treatment record is maintained at all times according to provincial or national legislation.

Sources: Accreditation Canada, 2022; CPQR, 2019

4.6.5 Medical Review of Patients Receiving Radiation Treatment

- 4.6.5(a) Patients receiving radiation treatment are evaluated at intervals appropriate to patient context during treatment by a Radiation Oncologist or designate.
- 4.6.5(b) A Radiation Oncologist or designate is available to see patients for medical or treatment-related issues that arise between scheduled review sessions and patients are informed of this availability.

Source: CPQR, 2019

4.6.6 Analysis of Peer Review Rates

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- 4.6.6(a) Data are collected about peer review frequency and timing for radiotherapy treatment plans and reported to relevant provincial and/or federal bodies (Accreditation Canada, 2022).

4.6.7 Analysis of Clinical Outcomes

- 4.6.7(a) Patients treated with curative-intent radiotherapy have their treatment-related toxicity outcomes reviewed.
- 4.6.7(b) Patients treated with curative-intent radiotherapy have their relevant disease control or survival outcomes reviewed.

Source: CPQR, 2019

4.6.8 Cancer Program Accreditation

- 4.6.8(a) The Radiation Oncology Program, as part of the interprofessional cancer program, is accredited by Accreditation Canada (CPQR, 2019).

5.0. Resources

- 5.1. [General Nuclear Safety and Control Regulations](#)
- 5.2. [Nuclear Safety and Control Act.](#)
- 5.3. [Regulatory documents](#)
- 5.4. [Standardizing dose prescriptions: An ASTRO white paper.](#)

6.0. References

- 6.1. Accreditation Canada. (2022). Cancer Care Standards Ver.14.
- 6.2. Canadian Association of Radiation Oncology. (2000). Definition of RT waiting: Manpower and Standards of Care in Radiation Oncology Committee.
- 6.3. Canadian Institute for Health Information. (2017). [National System for Incident Reporting - Radiation Treatment Minimum Data Set.](#)

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- 6.4. Canadian Nuclear Safety Commission. (2016). [Personnel Training](#). Reg Doc 2.2.2 Version 2.
- 6.5. Canadian Nuclear Safety Commission. (2021). [Radiation Protection Programs for Nuclear Substances and Radiation Devices Licences](#). Reg Doc 1.6.2.
- 6.6. Canadian Partnership for Quality Radiotherapy. (2021). [Guidance on the Use of Common Nomenclature in Canadian Radiation Treatment Programs](#).
- 6.7. Canadian Partnership for Quality Radiotherapy. (2020a). [Guidance on the use of Patient Reported Outcomes for Canadian Radiation Treatment Programs](#).
- 6.8. Canadian Partnership for Quality Radiotherapy. (2020b). [Patient Education Guidance for Canadian Radiation Treatment Programs](#).
- 6.9. Canadian Partnership for Quality Radiotherapy. (2016a). [Patient Engagement Guidance for Canadian Radiation Treatment Programs](#).
- 6.10. Canadian Partnership for Quality Radiotherapy. (2019). [Quality Assurance Guidelines for Canadian Radiation Treatment Programs](#).
- 6.11. Canadian Partnership for Quality Radiotherapy. (2016b). [Technical Quality Control Guidelines for Canadian Radiation Treatment Centres](#).
- 6.12. Evans, S.B. et al. (2016). [Standardizing dose prescriptions: An ASTRO white paper](#). *Practical Radiation Oncology* 6 (6), 369-381 (2016).
- 6.13. Government of Canada. (2000). [General Nuclear Safety and Control Regulations](#). SOR/2000-202.
- 6.14. Government of Canada. (1997). [Nuclear Safety and Control Act](#).
- 6.15. Government of Canada. (n.d.). [Regulatory documents](#).
- 6.16. Princess Margaret Cancer Center. n.d. Accreditation Quick Facts – Peer Review of RT Tx Plans.

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7.0. Contact(s)

- 7.1. **Document Sponsors:** Chief Medical Officer – CancerCare Manitoba
- 7.2. **Document Owners:** A/Director, Cancer Standards, CancerCare Manitoba

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- 05-May-2025 CCMB Radiation Medicine Academic Rounds - Review
- 04-Jun-2025 CCMB Clinical Programs Management Team - Endorsed
- 09-Jun-2025 CCMB Disease Site Group Council – Endorsed
- 26-Jun-2025 CCMB Medical Council – Approved
- 10-Nov-2025 Provincial Clinical Policy Committee - Endorsed

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