

Job Class Profile: Radiation Therapist I**Pay Level: LX-28 Point Band: 717-751**

Factor	Knowledge	Interpersonal Skills	Physical Effort	Concentration	Complexity	Accountability & Decision Making	Impact	Development and Leadership	Environmental Working Conditions	Total Points
Rating	5	4	4	6	4	4	4	2	6	
Points	233	67	25	29	120	87	83	43	64	751

JOB SUMMARY

The Radiation Therapist I performs various radiological diagnostic and therapeutic simulation procedures in the use of radiation to locate and treat cancerous tumors under the prescribed treatment plan of a radiation oncologist. Work involves the calculation of individual treatment dosages, the maintenance of treatment records, and the operation and routine maintenance of equipment.

Key and Periodic Activities

- Explains radiation therapy treatment procedures and side effects; administers radiation treatments to define tumors, according to physician's prescription; and assesses patients' side effects while on treatment.
- Performs and/or checks calculations to ensure the accuracy of treatment, interprets treatment plans, reviews treatment prescriptions, and maintains an awareness of tolerance dose levels.
- Maintains accurate records by recording parameters and patients' treatment.
- Performs quality assurance activities such as reviews charts, procedures, checks equipment, and monitors and evaluates the quality and appropriateness of patient care.
- Checks electronic portal, KV images, and Port Films as checked by the Oncologist, and takes action as necessary.
- Fabricates specialized treatment accessories (i.e. ex bolus, masks, alpha cradles, shielding, etc.)
- Calculates monitor units to be delivered on simple non-planned patients.
- Participates in orientation of new staff and facilitates orientation of other health professional staff and students throughout the department.
- Performs high dose rate brachytherapy treatments for cervical and breast cancers and assists physicians with inserting appropriate applicators.
- Participates in the Computer Tomography (CT) simulation process by assisting the physician in localizing tumor volume, delineating pertinent anatomy, documenting all treatment parameters and setup instructions, rechecking treatment plans and/or shielding prior to initial treatment, and prepares and injects contrast media.
- Liaisons with other departments and health care professionals to ensure overall care of patients receiving radiation therapy; this includes assessing patients needs and referring them to nutritionists, social work, and other health professionals as required.
- Participates in continuing education seminars, committees, and staff meetings; and provides

Key and Periodic Activities

- input into the development of departmental policies and procedures.
- Participates in weekend call for emergency treatment and irradiation of blood products.
- Compiles and submits statistical reports to the manager.
- Determines and orders appropriate supplies for treatment rooms.

SKILL

Knowledge

General and Specific Knowledge:

- Specialized clinical knowledge in radiation therapy procedures and techniques.
- Knowledge of treatment planning and calculation software.
- Technical and complex equipment/machines.
- Human anatomy and physiology
- Radiation and Workplace Health and Safety
- Quality assurance practices and guidelines including occurrence reporting.

Formal Education and/or Certification(s):

- Minimum: Undergraduate Degree or Diploma in Radiation Therapy and certification from the Canadian Association of Medical Radiation Technologists (CAMRT) in Medical Radiation Technology, MRT(T), and registration as a Registered Radiation Therapist (RTT).
- BLS (Basic Life Support) certification

Years of Experience:

- Minimum: 1 - 2 years

Competencies:

- Computer skills
- Maintenance and calibration of radiation and processing equipment
- Oral and written skills

Interpersonal Skills

- A range of interpersonal skills are used to listen, ask questions, gather and provide information, explain routine and communicate complex information and procedures to patients, students, and healthcare providers; gain the cooperation of employees to complete work, provide care/comfort/nurturing to patients; and to instruct, teach or train students.
- Communications occur with employees within the immediate work area, department and with outside agencies including physicians (oncologist), manager, students, suppliers and contractors, sales representatives, government representatives, external executives, professional associations and patients and family members.
- The most significant contacts are with patients and family members, physicians (oncologist), other therapists and manager.

EFFORT

Physical Effort

- The demands of the job occasionally result in considerable fatigue and require the need for strength and endurance.
- Regularly lifts or moves objects less than 10 lbs (i.e. supplies, linens, charts, etc.), and occasionally objects between 10-50 lbs (i.e. lead shielding, supplies, equipment, breast board, immobilization devices, and lifting beam modifying equipment), requiring strength and endurance. Pushes and pulls patients over 50 lbs in order to position/reposition them in the appropriate place to perform treatments.
- Regularly stand, walk, or sit for extended periods when performing procedures/treatments, or reviewing data on monitors.
- Fine finger or precision work is constantly required to work various controls on machines requiring very controlled movements. Also uses hand tools that require accurate control and steadiness. Gross motor skills are also required to reposition patients.

Concentration

- **Visual concentration** is constantly required to review computer screens when performing testing, when monitoring patients in the radiation treatment room to ensure their safety, and to ensure treatment parameters are the same.
- **Auditory concentration** is required constantly during patients' treatment. During patient treatments, stays outside the treatment room and communicates with the patient through an intercom system. Must also listen for unusual noises from within the machines. **Auditory concentration** is also required to communicate with other staff regarding patients' treatments.
- Other sensory demands such as **touch** are used when setting up treatments to reposition patients.
- The tasks that are **repetitive and require alertness** is dose calculations, chart write-ups, and performing certain procedures. A **higher level of alertness and attentiveness** is required to ensure radiation being delivered to patients' are correct and accurate, and to observe patients during treatment to ensure their health and safety.
- **Does not have control over their work pace** when there are emergencies, equipment malfunctions, and when there are reduced staffing levels. Therapists' are subject to **time pressures and deadlines** due to the complication of the treatments, which may go over the scheduled appointment. Other **time pressures** occur when there are emergencies and urgent patients that have to be scheduled. **Interruptions** occur from patients, family members, other therapists, or health professionals requesting information.
- **Eye/hand coordination** is required to operate and maintain equipment, to mark patient's body with ink marks for treatment preparation, and to make specialized lead shielding for patients to protect them from radiation during treatment.
- **Exact results and precision** are required to match patients' internal anatomy and markings (tattoos) within 5 mm or less to those taken in the simulator with the recordings and markings in the live treatment sessions. Some treatments require even closer results of between 3-4 mms. **Exact results and precision** are also required when doing calculations, and treatment set-ups (i.e. markings must align with the treatment room lasers). Radiation treatments once given cannot be corrected as they have the potential to harm a patient.

Complexity

- The tasks and activities are different/unrelated and require the use of a broad range of skills and

a diversity of knowledge.

- Complexity of work tasks vary but are related to various radiological diagnostic and therapeutic simulation procedures including calculation of individual treatment dosages, maintenance of treatment records and the operation and routine maintenance of equipment.
- Typical problems occur during treatment. For example, during the live session of the treatment process, patients must be in the exact position they were when their calculations were determined in the simulator, if not, therapists must continue to reposition patients until they are. Another problem occurs when the physical data does not match the treatment plan that was created specifically for them. Therapists' must troubleshoot and determine why and what changes need to be made. A third typical problem occurs when patients are not prepared properly, and this may mean canceling the treatment and/or rescheduling the patient.
- When addressing problems and solutions, consults with other therapists, radiation oncologist; and follows procedures, policies, and guidelines.

RESPONSIBILITY

Accountability and Decision-Making

- Work tasks are highly monitored and controlled.
- Works in a team environment and can make decisions related to their individual assignments as long as all areas of the workload are covered and work is equally distributed.
- Decisions that require supervisory approval are related to the purchase of equipment, changes in policies and procedures, and approval for funding to attend conferences or travel.
- Situations where discretion and judgment are used to interpret directions and apply guidelines are in relation to when equipment malfunctions and whether or not to cancel a select group of treatments. Other situations where a high degree of independent discretion and judgment are used are related to making recommendations to send patients for further assessments to other healthcare professionals (i.e. physician, nutritionist, social worker, etc.), contacting a physician for treatment related issues or changes, and making changes in treatments based on target volumes, and other factors. Within predetermined limits and procedures, has some discretion related to the daily treatment set-ups.

Impact

- Work activities impact the immediate work area, the department, outside the department, patients, and the public.
- The work could either negatively or positively impact the patients' treatment and well-being.
- The work impacts the following resources: equipment such as radiation machines, processes and systems such as the policies, procedures and practices, information, material resources such as supplies, corporate image, and the health and safety of patients.
- Examples of types of errors are failure to provide patients with proper safety shield during exposure to radiation (i.e. attenuator). This could result in a higher dose of radiation. Other errors could involve treating the wrong area of the patients' body or the wrong patient.
- These errors are mitigated as the work tasks are highly monitored and controlled through the provision of lead direction by senior therapists. Therapists work in teams with each person checking the work of another, and errors are generally detected immediately.

Development and Leadership of Others

- Not responsible for the supervision of staff.
- Provides development and leadership responsibilities such as on-the-job advice/guidance, and orientation to new staff. Works in a training center for radiation therapists and provides students with feedback on their performance, on the job training, and acts as a technical mentor.
- Does not perform any team or project lead activities.

WORKING CONDITIONS

Environmental Working Conditions

- Required to take special precautions or use safety equipment when performing treatments such as wearing radiation monitoring devices and to practice safety precautions and techniques.
- There is a moderate likelihood of receiving minor cuts, bruises or illnesses, fractures, injury or occupational illness resulting in a partial disability. There is no likelihood of receiving a total disability, if all safety precautions are followed.
- Constantly exposed to radiation, glare from monitors/screens, dirt/dust, and lack of privacy. Regularly, has limited lighting due to the treatments being performed. Occasionally, exposed to bodily fluids and waste, infectious diseases, odours, hazardous chemicals, sharp objects, and works with heavy machinery.