

Job Class Profile: Dosimetrist

Pay Level: LX-33 **Point Band:** 892-926

| Factor | Knowledge | Interpersonal Skills | Physical Effort | Concentration | Complexity | Accountability & Decision Making | Impact | Development and Leadership | Environmental Working Conditions | Total Points |
|--------|-----------|----------------------|-----------------|---------------|------------|----------------------------------|--------|----------------------------|----------------------------------|--------------|
| Rating | 6 | 6 | 3 | 6 | 6 | 5 | 5 | 2 | 4 | |
| Points | 280 | 100 | 19 | 29 | 180 | 108 | 103 | 43 | 43 | 905 |

JOB SUMMARY

The Dosimetrist is responsible for performing highly specialized and clinical work as a member of the radiation oncology team in the development of treatment plans for oncology patients undergoing radiation therapy treatment.

Key and Periodic Activities

- Devises patient specific radiation treatment plans using computer software that accurately models radiation doses within the patient. This process includes consultation with physicians to ensure patient specific details re: tumor location/definition and critical organ avoidance, contouring on CT scans organs at risk for treatment and devising optimal radiation beam arrangements.
- Provides detailed instructions to radiation therapists on how to implement the treatment plan accurately.
- Completes documentation (written and data entry) to ensure treatment objectives are documented for daily treatment as planned.
- Performs treatment planning dose calculations for planned and unplanned patients.
- Organizes work load and co-ordinates resources in the department to ensure all aspects of a patient's radiation treatment plan are completed prior to actual treatment (i.e. ensuring all contouring by Dosimetrist and oncologist are completed, co-ordinating with physicists to ensure patient specific QA is completed, co-ordinating patient appointments for CT scans simulator).
- Performs detailed quality assurance checks of treatment plans created by non-certified Dosimetrists.
- Consults with radiation therapists on the optimal treatment position for patients.
- Attends and facilitates weekly planning quality assurance rounds in which patient cases are discussed by members of the treatment team.
- Collaborates with medical physicists and radiation oncologist to generate computer treatment plans for brachytherapy to treat breast and gynecological malignancies.
- Provides support, teaching and technical advice to non-certified Dosimetrist, Therapists and students.

Key and Periodic Activities

- Fabricates patient specific radiation therapy accessories such as custom beam-convergent shields, custom wax moulds for placement on patient's skin.
- Compiles data for clinical trials.

SKILL

Knowledge

General and Specific Knowledge:

- Specialized clinical knowledge in radiation therapy and dosimetry procedures and techniques
- Knowledge of treatment planning and calculation software.

Formal Education and/or Certification(s):

- Minimum: Undergraduate degree or Diploma in Radiation Therapy supplemented by 2 years experience and RTT certification and completion of a 6 month course in Medical Dosimetry and successful completion of the exam for Certification in Medical Dosimetry (CMD)

Years of Experience:

- Minimum: 2 to 3 years of experience

Competencies:

- Oral and Written Communication Skills
- Computer Skills
- Facilitation Skills
- Time Management Skills

Interpersonal Skills

- A range of interpersonal skills are used to listen to information, ask questions to get information, provide routine information and direction to others, gain the cooperation of others, provide expert advice and/or counselling and instruct/teach/train students or interns. May also be required to make internal and/or external formal presentations, facilitate meetings or discussions and provide care or comfort to others.
- Communications occur with employees in the immediate work area (Oncologist, Physicist, and Radiation Therapists), department and organization, supervisors and managers. Interactions also occur with clients/patients, students, sales representative, suppliers/contractors, professional advisors and professional associations.
- Most significant interactions are with: Radiation Oncologist to gather information on treatment plan objectives and consult with during the planning process to ensure objectives are fulfilled; Medical Physicists to give them information on the patient's treatment plan/prescription so they can perform the necessary QA checks; and Radiation Therapists to give them information regarding the treatment plan/prescription to ensure precise daily set-up of the patient for treatment and consult /troubleshoot with therapist on issues with patient CT simulation and immobilization.

EFFORT

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| Physical Effort |
| <ul style="list-style-type: none"> — Physical effort includes constant fine finger/precision work using computer and mouse and in mould room making shields. — Majority of time is spent at a desk while using the computer. — Occasional standing and walking and lifting of materials in mould room from 10-25 lbs. |
| Concentration |
| <ul style="list-style-type: none"> — Visual concentration is required when using computer mouse and specialized software, entering data and preparing reports. — Auditory concentration is required during discussions and meetings. — Repetition requiring alertness is required when making contours which require repetitive movements with the mouse. — Additionally, incumbents often have to deal with time pressures and deadlines as patient treatment plans have specific due dates. There are interruptions such as lack of data to complete work. — Lack of control over work pace is felt due to the set time frames and need for treatments to a volume of patients. — Higher than normal levels of attentiveness or alertness is required in radiation planning and calculations for dosage level as an overdose or under dose could be fatal. — Eye/hand coordination is required when operating the mouse and using hand tools in the mould room. — Exact results and precision are required when calculating radiation dose plans for patient treatments and computer contouring critical structures using a mouse. |
| Complexity |
| <ul style="list-style-type: none"> — Work tasks and activities are generally quite different but allow for the use of similar skills and knowledge. — Problems can range from those with obvious solutions to those requiring some creative solutions. — Typical challenges or problems relate to the creation of Radiation Treatment Plans that maximize the dose to tumour volume and treats everything an Oncologist requires and minimizes overdose to critical organs. The Dosimetrist has to draw on experience and clinical expertise to achieve the best plan for a given patient. — Typically, can refer to other team members such as Oncologist, Physicist and consult professional journals, treatment planning textbooks and professional associations. There are also organization and/or department policies in place to help guide practices. |

RESPONSIBILITY

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| Accountability and Decision-Making |
| <ul style="list-style-type: none"> — Clinical judgment and discretion is used in the treatment planning process and determining how the patient is to be treated, however treatment plans are approved by the oncologist and medical physicist before implementation. |

- Requires approval for tasks such as funding for purchases, travel claims, meetings, changes to policy/guidelines/procedures, overtime and time off.

Impact

- Generally has impact within work area, department and outside the organization on patients. Additionally, there are impacts on equipment, material resources, health and safety of patients.
- The most significant impact of error and potential inadequate treatment, which could lead to minor or major impairment or even death, is felt by patients. Errors could highlight the need for changes in processes, Quality Assurance, etc. Mistakes could also have an impact on corporate image.
- Errors are typically identified within hours of problem identification and there are controls, professional review, technical guidelines and procedures in place to help mitigate any errors.

Development and Leadership of Others

- There is no supervision of staff.
- May be required to provide on-the-job advice/guidance, orientation to new employees, training to students/interns on rotation, and check and review the work of other colleagues.

WORKING CONDITIONS

Environmental Working Conditions

- May be required wear gloves, apron, aspirator when in the mould room.
- There is limited likelihood of injury or illness.
- Constantly exposed to glare of a computer screen and lack of privacy.
- Occasionally exposed to limited ventilation, hazardous chemicals, radiation and toxic substances.