

Research Study

Title: Exploring Barriers to MRT(T) Participation in Multidisciplinary Clinical Practice Groups; A Survey Study

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Purpose: Clinical Practice Groups (CPGs) within a Radiation Medicine Program (RMP) are designed to provide leadership in improving patient care by reviewing and incorporating evidence-based guidelines into practice by auditing treatment and quality assurance metrics, and by developing practice-changing research activities. A key strength of the RMP CPGs are their multidisciplinary composition; having representatives from radiation oncology, medical physics, radiation therapy and radiation nursing allowing CPGs to engage and benefit from the insights and expertise of all RMP members. This collaborative model leads to more comprehensive patient-centered care. In recent years we have unfortunately noticed reduced participation from treatment unit Medical Radiation Therapists (MRT(T)s) in CPGs, therefore the aim of our survey is to explore the barriers to radiation therapist involvement.

Method: A Clinical Specialist Radiation Therapist, Radiation Therapy Manager and a Radiation Oncologist drafted questions for a staff survey. The 45 question survey was sent to all frontline radiation therapy staff, excluding members of the leadership team (managers/supervisors, resource therapists, treatment planners) on February 9th, 2022 and closed on March 3rd, 2022. All responses were anonymous. The survey included questions on staff demographics, meeting functionality, staff coordination, agenda items and communication as well as perceptions of representation. The results were collected and analyzed using an electronic survey distributed by SurveyMonkey.

Results: 92 invitations were sent to MRT(T) staff working our institution with 69/92 (75%) response rate. 75% of responses were from full time employees, 15% part-time and 10% casual. Of those who responded 47% had served or currently serving on a CPG. Only 27% of those who had served or currently serving on a CPG agreed or strongly agreed their participation was valued comparing to those respondents who never served on a CPG where 44% agreed or strongly agreed that MRT(T) participation was valued. 33% of those respondents who had served or currently serving on a CPG agreed or strongly agreed they had impact on CPG activities while 53% of those respondents who never served on a CPG agreed or strongly agreed MRT(T) participation had impact. 81% of respondents felt MRT(T)'s are under-represented compared to other professional groups on CPGs. Of those who had never been on a CPG, only 16% responded they would be interested in being a MRT(T) representative in the future. Responses indicate that virtual meetings offer opportunities as well as limitations to staff to attend meetings. Current and future barriers for MRT(T) involvement were identified as scheduling problems, unreliable staffing and timing of meetings. Respondents indicated that management should bear responsibility of scheduling, coordinating of staff coverage and shift changes.

Conclusion: We identified a number of potential barriers to MRT(T) involvement in CPGs in our survey, ranging from perceptions of under-representation, value and impact of MRT(T) participation. Other barriers noted were timing and location of meetings, technology limitations, unreliable staffing coverage for MRT(T) attendance by management.

Practice Innovation / Initiative

Title: Filling the Gap: Improving Communication between the Dentistry and Radiotherapy Departments

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Aim: Patients with head and neck cancer (HNC) should have a consultation with a dentist experienced in radiotherapy side effects prior to the initiation of radiotherapy, ideally before the Computed Tomography (CT) simulation scan. In our institution, patients frequently had a CT simulation and dental consultation on the same day, resulting in confusion as to whether to proceed with or delay the simulation. Additionally, some patients who had dental extractions after simulation required a repeat-simulation due to a change in the resting jaw position, which subsequently delayed the initiation of radiotherapy. The aim of this quality improvement (QI) initiative was to prevent unnecessary re-simulations and treatment delays for HNC patients by improving the communication between the Departments of Dentistry and Radiotherapy.

Process: An email communication template was developed collaboratively between the Departments of Dentistry and Radiotherapy. The template included information on: the date of planned extractions; which teeth were to be extracted; whether the extractions would cause a change to the resting jaw position; and the suggested number of days for healing. Between October 2020 and February 2022, 126 HNC patients had a Dentistry consult. Of these, 91 required dental extractions for which emails were sent by the dentist to the Clinical Specialist Radiation Therapist (CSRT) to triage 70 of the patients. If a patient required a potential intervention, the CSRT notified the Radiation Oncologist (RO) and a collaborative decision was made to: delay simulation or treatment start; proceed with treatment with mandatory review of first day treatment verification images by the RO and/or CSRT; include an oral assessment by the RO during the CT simulation appointment; order a re-simulation; or proceed without intervention. The dosimetric impact of 7 patients who had dental extractions after simulation was also analyzed by the HNC medical physicist.

Benefits/Challenges: The benefit of a new channel of communication between the two Departments allows RTTs and ROs to appropriately identify which patients require a delay in CT simulation to prevent re-simulations or delay in treatment initiation to account for post-extraction healing. The main challenge involves the referral pathway as ROs often enter the referrals for Dentistry and CT simulation at the same time. This can result in patients being seen and dental extractions being carried out after their CT simulation. A future QI initiative will be undertaken to improve the referral pathway.

Impact/Outcomes: As triaged by the CSRT, 32/70 patients (46%) required an intervention, in which 8 patients had their CT simulation rebooked after dental extractions and 8 patients had their radiotherapy initiation delayed. Of the 7 cases with a dosimetric evaluation, only 3 showed insignificant increases to hotspots when the high dose volume was adjacent to the extraction volume and none of the cases had any significant dose increases to adjacent organs at risk. From this experience, a decision tree was developed collaboratively with the HNC Radiation Site Group that identified 5 clinical scenarios of HNC patients who require dental extractions and the possible outcomes or decisions required by the ROs. A change to practice was implemented in which the CT simulation RTTs were made responsible for triaging the email communications from the Dentistry team. As a result, this QI initiative increased awareness amongst the RTTs on the impact of dental extractions and promoted workplace autonomy and collaborative decision making.

National Innovation Snapshot

Title: Integrating Digital Media into the Radiation Therapy Clinic (Modernizing our Music)

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Background: Radiation therapy departments often provide in-bunker music for patients during radiotherapy delivery to improve the patient experience and reduce anxiety related to the procedures. Historically, this practice was limited by the available hardware in each clinical location as well as the library of donated cassettes and compact discs shared between locations. Recognizing these limitations, this process had evolved to Therapists using their personal hardware (such as cell phones) to expand the music selection available to better meet the needs and preferences of our patients.

Innovation: In collaboration with the Digital Support Team, our department completed a market assessment of commercial vendors who could provide a more diverse and robust music streaming service. Over a 7-month period the team engaged in a departmental needs assessment, product and software evaluation, hardware restructuring as well as exploring new funding sources. The change required a significant transition in hardware to support the new audio streaming service. Moving from 14 portable CD players to Bluetooth enabled speakers and integrated web browser access to Cloudcover Music on the treatment room workstations.

Progress/Outcomes: The implementation of Cloudcover Music in our radiotherapy department expanded music access from 14 clinical locations to 23 which includes all MR and CT Simulators. Replacement of all existing hardware streamlined access to two different configurations and reduced the time required to customize each patient's experience. Subscribing to a cloud-based music service also expanded access to a more diverse music selection to meet patients' needs including international music styles, which is important for our diverse patient population. We built upon this experience with music streaming technology to include television and media streaming (Disney+) for our pediatric patients.