



# Surveillance of patients after palliative radiation, how to make it feasible

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In a journal dedicated to palliative care, it is always encouraging to see papers focusing on palliative radiotherapy (PRT) as PRT is a crucial but often underused element of symptomatic oncology care.

PRT can offer a rapid, cost-effective, and efficient method for alleviating focal symptoms in patients with incurable cancer (1). By targeting either primary tumors or metastatic deposits, PRT is able to provide significant symptom relief without necessitating frequent hospital visits, invasive procedures, or prolonged recovery periods (2). PRT is widely utilized, with up to 40% of patients referred to radiation clinics receiving treatment with palliative intent for an array of symptoms, including pain, bleeding, spinal cord compression, superior vena cava obstruction, skin ulcers, and symptomatic brain metastases (1,3,4). The side effects of PRT are generally minimal, but when they do occur, they often manifest after treatment has concluded. Additionally, the therapeutic benefits of PRT may not be immediately evident post-treatment. Consequently, patients might experience issues at home without the immediate support of knowledgeable healthcare providers (HCPs). Delayed symptom relief, radiotherapy-related side effects, and persistent or new cancer-related symptoms can significantly impair a patient's quality of life (QoL) and may lead to a negative perception of PRT's effectiveness.

Although the responsibilities of a radiation oncologist

extend beyond the completion of a patient's radiotherapy course, they are typically not tasked with the long-term systematic surveillance of patients. Unfortunately, other HCPs often lack sufficient knowledge of radiotherapy, leading to suboptimal utilization of PRT and/or inadequate management of radiation-induced side effects (5,6).

Herein lies the value of interventions such as the one described by McLean-Thomas *et al.*, who performed a feasibility trial of a nurse-led surveillance program for patients treated with PRT for painful bone metastases, organized by the radiotherapy department (7). PRT is a standard treatment for painful bone metastases, with an overall response rate of about 60%. However, PRT for bone metastases is also associated with a well-known side effect: the pain flare, which occurs in up to 40% of patients. Therefore, the choice to focus a trial on this population is understandable (8-11).

The aim of this trial was short-term post-PRT follow-up to identify patients with pain, who could benefit from optimization of their pain management, re-irradiation or PRT on a new localization. Patients in the trial received follow-up telephone calls by a trial-nurse at 1, 4, and 8 weeks post-treatment in order to follow their pain response post-treatment. The first call was already a standard practice in their department, so only the 4- and 8-week calls were evaluated in the trial. At the 4-week call, pain response was

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reviewed, and those with persistent or recurrent pain were referred back to the radiation oncologist for possible re-treatment. The patients who reported pain relief at 4 weeks, were called again at 8 weeks for further assessment and potential re-referral if needed.

The trial proved very popular among patients, with all eligible participants (N=20) wanting to participate, leading to early recruitment closure. Of the 20 patients recruited, 14 completed their treatment and their initial week 1 call. Six patients had to be excluded, with 4 transitioning to hospice care and 2 passing away before the week 1 call. The feasibility threshold was met for the 14 remaining patients: 85% responded to the week 1 call, 83% to the week 4 call, and 83% to the week 8 call, with only 6 patients remaining in the trial by the 8-week mark. Six patients were referred back to their radiation oncologist for pain recurrence, with 4 of the 6 re-referrals taking place after the week 4 call, with a variety of outcomes from discussions of adherence to prescribed medications to additional PRT courses. Five of the 14 patients died during the trial period.

While this follow-up strategy seemed to work for patients, it was not the case at the nurses' end. First of all, the feasibility threshold of  $\geq 90\%$  of calls performed within 3 business days of the target date was not met: only in 63% the calls to the patients were made within 3 business days of the anticipated date. The highest percentage of the calls taking place within the set time frame was the 1-week call (82%), which was not a trial call but standard of care. Unfortunately, it is not clear why it was difficult to perform the planned calls in the foreseen time-period. Considering the calls were performed within a trial setting by trial-nurses, one would assume that these nurses would have time allocated to calling these patients. Additionally, with only 14 patients included in the trial at the beginning of the trial, and a mere 6 at the end, the time needed to call these patients would be rather limited. Even so the nurses in the trial reported the calls to be too time consuming. The median time of each call was about 16 minutes, with the week 1 call at a median of 10 minutes, the week 4 call at 14 minutes and the final call at a median of 20 minutes. However, it should be noted that if a translator was needed, the calls were considerably longer. These results are in contrast to other telephone-based, nurse-led surveillance programs used to evaluate cancer pain and radiation-related toxicities that have been successfully implemented (12). Nurse-led telehealth interventions for patients with cancer have been reported to improve patient's self-care, provide more timely access to resources for symptom management

and HCPs, and increase convenience and flexibility (13).

That being said the progressive shortage of nurses in recent years may have made nurse-led follow-up interventions increasingly challenging, an argument that is also made in this feasibility trial. Given that a sudden increase in nursing staff is unlikely, innovative approaches to optimize the use of available nurses' time and expertise are essential for continuing to reap the benefits of their involvement in care. Instead of a telephone-based follow-up system for all patients, active follow-up could be targeted to selected patients. For example, electronic follow-up methods, such as electronic patient-reported outcome measures (ePROMs), could be used to identify patients in need of additional care, with telephone-based or face-to-face consultations scheduled for only those patients who indicate problems or questions.

However, such a system would still require active follow-up of patients, potentially placing a considerable time demand on the HCPs responsible for follow-up. Alternatively, a patient-centered approach that emphasizes self-monitoring and self-care can facilitate the sustainable implementation of symptom monitoring in daily clinical practice. A recent trial assessing the effect of patient-reported symptom monitoring on health-related quality of life (HRQoL) in lung cancer patients found that both reactive (patient receives alert) and active (HCP receives alert) approaches are equally effective in improving HRQoL (14).

Still, even in a reactive follow-up approach, there should be HCPs responsible for and available to patients. McLean-Thomas *et al.* suggest dedicating patient follow-up to a nurse navigator. Indeed, continuous support from a nurse navigator during the advanced cancer trajectory could provide patients with a stable care figure they can rely on for a multitude of problems. However, a nurse navigator from a medical oncology department or palliative care team may not have the knowledge required for follow-up of radiotherapy, as discussed above. On the other hand, a nurse navigator from within the RT department may not be adequately equipped to handle the multifaceted challenges faced by palliative patients, including physical, psychological, social, and spiritual needs. The latter situation also seems a factor in why the intervention by McLean-Thomas *et al.* was deemed unfeasible: the nurses in the trial were asked to follow the pain response to radiotherapy but encountered an array of questions and complaints not related to the radiotherapy, which made the telephone consultations longer than anticipated and probably unsatisfactory and maybe even frustrating and burdensome for these nurses.

The problem with the patient population referred for PRT is that their needs are complex. The spectrum of patients ranges from those with a good performance status and a prognosis of several years, actively undergoing treatment, to those receiving best supportive care in their final weeks of life. The American Society of Clinical Oncology (ASCO) guidelines recommend involving an interdisciplinary, specialist palliative care team early in the cancer trajectory to ensure patients benefit from comprehensive palliative care (15). So, developing systematic follow-up after PRT within a multidisciplinary, oncological care team may be the way forward. In this team, that would be responsible for all patients with advanced cancer, a nurse navigator could take on the role of a care coordinator, allocating different problems to different team members. Different expertise is necessary at different points of the disease trajectory, with the medical oncologist and radiation oncologist taking up a more prominent role in the beginning and the palliative care experts becoming progressively more involved as the patient progresses, all under the caring guidance of the care coordinator. By working together, different HCPs can learn from each other with other specialties, such as palliative care physicians, becoming more aware of the indications and opportunities of PRT and HCPs active in radiotherapy becoming more equipped to deal with the complex issues faced by palliative patients (16-18).

This approach could not only improve patient care, but could also have a positive impact on healthcare systems and prove cost-effective (19,20). Currently, cancer care is associated with a significant financial burden for healthcare systems. Given the limited resources in healthcare, attention to the diminishing of costs and optimal use of resources associated with comprehensive symptom-management interventions could persuade policymakers to invest in dedicated personnel to make this possible. Because, as the study by McLean-Thomas *et al.* highlights, there is value in systematic follow-up for patients receiving PRT. However, expecting nurses working in radiation oncology to support all patients after PRT on top of their existing workload would be impossible.

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## References

1. Spencer K, Parrish R, Barton R, et al. Palliative radiotherapy. *BMJ* 2018;360:k821.
2. Lutz ST, Jones J, Chow E. Role of radiation therapy in palliative care of the patient with cancer. *J Clin Oncol* 2014;32:2913-9.
3. Wu SY, Singer L, Boreta L, et al. Palliative radiotherapy near the end of life. *BMC Palliat Care* 2019;18:29.
4. Berrang T, Samant R. Palliative radiotherapy knowledge among community family physicians and nurses. *J Cancer Educ* 2008;23:156-60.
5. Parker SM, Wei RL, Jones JA, et al. A targeted needs assessment to improve referral patterns for palliative radiation therapy. *Ann Palliat Med* 2019;8:516-22.
6. Mackillop WJ, Kong W. Estimating the Need for Palliative Radiation Therapy: A Benchmarking Approach. *Int J Radiat Oncol Biol Phys* 2016;94:51-9.
7. McLean-Thomas L, Fakhoury K, Ross RB, et al.

- Prospective surveillance of patients after palliative radiation for painful bone metastases: a feasibility study. *Ann Palliat Med* 2024. doi: 10.21037/apm-24-10.
8. Alcorn S, Cortés ÁA, Bradfield L, et al. External Beam Radiation Therapy for Palliation of Symptomatic Bone Metastases: An ASTRO Clinical Practice Guideline. *Pract Radiat Oncol* 2024;14:377-97.
  9. Imano N, Saito T, Hoskin P, et al. Pain Response Rates After Conventional Radiation Therapy for Bone Metastases Assessed Using International Consensus Pain Response Endpoints: A Systematic Review and Meta-Analysis of Initial Radiation Therapy and Reirradiation. *Int J Radiat Oncol Biol Phys* 2023;116:739-46.
  10. Gomez-Iturriaga A, Cacicedo J, Navarro A, et al. Incidence of pain flare following palliative radiotherapy for symptomatic bone metastases: multicenter prospective observational study. *BMC Palliat Care* 2015;14:48.
  11. van der Velden J, Willmann J, Spalek M, et al. ESTRO ACROP guidelines for external beam radiotherapy of patients with uncomplicated bone metastases. *Radiation Oncol* 2022;173:197-206.
  12. Chow E, Fung KW, Bradley N, et al. Review of telephone follow-up experience at the Rapid Response Radiotherapy Program. *Support Care Cancer* 2005;13:549-53.
  13. Kwok C, Degen C, Moradi N, et al. Nurse-led telehealth interventions for symptom management in patients with cancer receiving systemic or radiation therapy: a systematic review and meta-analysis. *Support Care Cancer* 2022;30:7119-32.
  14. Billings NE, Tromp VNMF, Aaronson NK, et al. Quality of life after patient-initiated vs physician-initiated response to symptom monitoring: the SYMPRO-Lung trial. *J Natl Cancer Inst* 2023;115:1515-25.
  15. Sanders JJ, Temin S, Ghoshal A, et al. Palliative Care for Patients With Cancer: ASCO Guideline Update. *J Clin Oncol* 2024;42:2336-57.
  16. Lam TC, Tseng Y. Defining the radiation oncologist's role in palliative care and radiotherapy. *Ann Palliat Med* 2019;8:246-63.
  17. Lo Presti G, Roncador M, Biggiogero M, et al. Radiation oncologists role, training and perceptions in palliative care: a systematic review. *Rep Pract Oncol Radiother* 2020;25:939-42.
  18. Vargas A, Torres C, Küller-Bosch A, et al. Palliative Care Physicians and Palliative Radiotherapy, Knowledge and Barriers for Referring: A Cross-sectional Study. *J Pain Symptom Manage* 2020;60:1193-1199.e3.
  19. Isenberg SR, Lu C, McQuade J, et al. Economic Evaluation of a Hospital-Based Palliative Care Program. *J Oncol Pract* 2017;13:e408-20.
  20. Isenberg SR, Lu C, McQuade J, et al. Impact of a New Palliative Care Program on Health System Finances: An Analysis of the Palliative Care Program Inpatient Unit and Consultations at Johns Hopkins Medical Institutions. *J Oncol Pract* 2017;13:e421-30.

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