Virtual Winter School 2022
Career Development – The Science, The Strategies, The Practice
Project Gallery Abstract Submission Form

ABSTRACT SUBMISSION FORM

Title:	Transition from TBI to TMI
Author:	
Department and Institution:	
Contact email, phone:	
Theme (select all that apply): ☒ Project Management ☐ Professional Preparation ☐ Mentorship ☒ Quality Improvement	 ☒ Intradepartmental Leadership ☒ Interprofessional Collaboration ☐ Advocacy and Strategic Development ☐ Other
Skills used (select all that apply): ☒ Communication ☒ Project Management ☒ Leadership ☐ Other	 ☒ Teamwork ☒ Problem Solving ☒ Change Management
Abstract text (max. 500 words) including critical success factors and/or change management strategies that enabled success:	**Critical Success Factors:** Clear definition of scope of project, delegation of tasks, teamwork, communication amongst team members, continued analysis and feedback At our centre, 15-20 patients per year were treated with total body irradiation (TBI) prior to bone marrow transplant. Since 2004, these patients received TBI using extended distance parallel-opposed fields. The machine used for these treatments was scheduled for decommissioning in 2015, which necessitated the need for development of a new technique. It was decided to proceed with VMAT-based total marrow irradiation (TMI), a new method that was in use in a few select centres. This was a departure from the previously used procedure in every way. TBI plans used hand calculations based on physical measurement of patient dimensions, attenuators designed from planar images, and open fields directed at a patient on a stretcher. Our TMI procedure would eventually include two full-body CT scans with immobilization, contouring of over twenty OAR and target structures, VMAT optimization, plan verification, and precise positioning. Our committee was convened in late 2013 with members from radiation oncology, physics, dosimetry, and radiation therapy. We worked closely with hematology to meet the tight time restrictions of scheduled bone marrow transplants. This meant estimating how long each step in our treatment preparation and delivery would take and managing resource allocation. We coordinated communication and education among all groups throughout our process to gather input and share new developments.

	We treated our first patient in December 2015, and then shifted our focus to learning from each case to improve our procedures. We held meetings to review our progress and troubleshoot problems after each case. Finally, as this is a new technique, it's been vital to share our work with the wider scientific community. We have delivered several invited talks and published four refereed abstracts and one full-length manuscript describing our work.

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ABSTRACT SUBMISSION FORM

Title:	Clinic and CT Workflow Refinement Project
Author:	
Department and Institution:	
Contact email, phone:	
Theme (select all that apply):	
☐ Project Management	☒ Intradepartmental Leadership
☐ Professional Preparation	☐ Interprofessional Collaboration
☐ Mentorship	☐ Advocacy and Strategic Development
☐ Quality Improvement	☐ Other
Skills used (select all that apply):	
☒ Communication	☒ Teamwork
☐ Project Management	☒ Problem Solving
☐ Leadership	☒ Change Management
☐ Other	
Abstract text (max. 500 words) including critical success factors and/or change management strategies that enabled success:	**Critical Success Factors:** Stakeholder messaging, team engagement and developing a positive culture in the team **Change Management Strategies:** Project charter and plan-do-study-act approach **Staff Training/Skill Development:** Brief orientation on PDSA concept and value **Abstract:** Elderly skin cancer patients have clinical presentations that are diverse and frequently need multi-disciplinary consultations when attending clinic and radiation treatment planning. Due to personal factors a minimal number and efficient appointments are advantageous for these patients. We engaged multiple Oncology Leadership members to propose developing PDSA project to refine workflow for radiation treatment workup appointments for these skin patients. A project charter was developed, refined through stakeholder meetings and used as a reference document though out the project. Metrics were outlined to track Clinic and CT appointment length, number of handoffs during planning, day one treatment appointment length, through stakeholder engagement we also added patient and staff surveys as feedback mechanisms. Timelines were purposefully tight to ensure staff engagement as well as to fit between other radiation program projects. Team engagement was kept at the forefront with biweekly meetings and frequent touchpoints with core members to ensure they felt supported. Meetings had a standing agenda that was populated with PDSA structure and metrics were reviewed. Minutes contained decisions and action items.

	Team members stayed accountable to their action items and aligned with the project goal. As project lead, there were a few times where I had to fill in the gaps to ensure project momentum. Ultimately, the project was completed on time, with a reduction of all metrics and no increases in any balancing metrics. We collected positive feedback from patient families and staff. Additionally, and unexpectedly, staff felt more empowered to discuss challenging cases after the project across the radiation oncology disciplines after the project was completed. Presentations and project debrief enabled understanding within the team of the positive impacts and communicated to Oncology Leadership about the challenges related to complex cases and how they can affect the clinical workflow. From my perspective, I learned that a structured well-defined communication method was a good way to approach this project. The team felt comfortable with the predictability of the project operations. I also learned that the ability to step in to help others when needed was invaluable to ensuring success in the project. This quickly became the culture within the team. Lastly, the reporting to Oncology Leadership empowered the team to share their frontline perspective with data to backup their work.

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ABSTRACT SUBMISSION FORM

Title:	Integration of Gross Anatomy Laboratory Sessions in Medical Physics Curriculum
Author:	
Department and Institution:	
Contact email, phone:	
Theme (select all that apply): ☒ Project Management ☒ Professional Preparation ☒ Mentorship ☒ Quality Improvement	 ☒ Intradepartmental Leadership ☒ Interprofessional Collaboration ☐ Advocacy and Strategic Development ☐ Other
Skills used (select all that apply): ☒ Communication ☒ Project Management ☒ Leadership ☐ Other	 ☒ Teamwork ☒ Problem Solving ☒ Change Management
Abstract text (max. 500 words) including critical success factors and/or change management strategies that enabled success:	**Critical Success Factors:** Clear guidance from leadership, clear expectations in interdepartmental collaborations, concerted effort to measure the outcome of the implemented change **Change Management Strategies:** Clear objectives, set timelines, dedicated time for data analysis, multiple iterations that lead to clarified communication **Staff Training/Skill Development:** Cost-benefit analysis, learning of quantitative and qualitative study methods, and learning effective methods of survey design **Background** Gross anatomy laboratory sessions with hands-on activities using specimens are essential for teaching anatomy in the medical field. However, they are not seen in medical physics programs. The objective of this pilot study was to explore the educational potential of integrated gross anatomy laboratory sessions tailored to the medical physics curriculum. **Methods** The study included 21 medical physics and 11 radiation oncology participants. It was conducted over four 2-h laboratory sessions on pelvic, thoracic, and head and neck anatomy. A radiotherapy applicator device and augmented reality tools were brought in to focus on radiological anatomy and radiation therapy. Students' lab experiences were evaluated through post-laboratory surveys using a mixed methodology. Qualitative data from short-answer questions were analyzed using an inductive coding approach. Quantitative data from Likert scale questions were analyzed with descriptive statistics. **Results** All participants reported gross anatomy laboratory sessions as a superior method of learning anatomy compared

	with a single didactic course (mean Likert: 4.38; median = 5; SD = 0.74). Participants also expressed greater comfort with radiological anatomy and the lab environment with gradual exposure from pelvic prosections to full-body cadavers. Lastly, all participants showed enthusiasm for multidisciplinary activities. **Conclusion** Carefully designed gross anatomy laboratory sessions were very well received by medical physics students as they transition into a clinical role in healthcare. This pilot study serves as a foundation for future studies exploring anatomical education in medical physics. These sessions will continue to be offered at our school and could be adopted also by other medical physics departments in their courses.