



O13:102

## Improving Outcomes in Soft Tissue Sarcoma with Coordinated Surgery and Intensity Modulated Radiotherapy (IMRT)

Jay Wunder<sup>1</sup>

<sup>1</sup> Mount Sinai Hospital, Univ. of Toronto, Canada

External-beam radiation is frequently used in the local management of soft tissue sarcomas, but preoperative or postoperative treatment differs substantially in short and long term toxic effects. We previously showed in a randomized clinical trial that preoperative radiation is associated with less long-term radiation morbidity and improved long-term functional benefits for patients with extremity soft tissue sarcoma, but compared to post-operative radiation, is also associated with a higher rate of wound healing complications. We devised a study to determine if a coordinated plan of preoperative image-guided intensity-modulated radiotherapy (IMRT) and surgical resection could reduce morbidity, including wound complications, by minimizing the radiation dose to uninvolved tissues in adults with lower extremity soft tissue sarcoma. The risk of wound healing complications was lowered through the use of IMRT, as was the need for tissue transfer for wound closure and the need for subsequent operations for wound complications. Good limb function, a low risk of long term radiation-related complications, and a low rate of local recurrence were maintained through the use of preoperative IMRT. Implementation of a coordinated plan of image guided IMRT and surgery for extremity soft tissue sarcoma may help minimize the risk and severity of complications, and thereby improve patient outcomes.

E-mail (main author): [jwunder@mtsinai.on.ca](mailto:jwunder@mtsinai.on.ca)