Improving cancer therapy for animals and people

An OVC scientist is asking fundamental questions about the biology of tumour metastasis and seeking new ways to use conventional chemotherapy and radiation therapies that may lead to more effective cancer treatments for animals and people.

Dr. Tony Mutsaers puts his unique skill set to work as a researcher in the Department of Biomedical Sciences and as an oncology specialist in the Department of Clinical Studies and the Mona Campbell Centre for Animal Cancer.

“There are so many strengths to the clinical oncology we practice with dogs and a growing awareness of the potential for our research to answer questions of broader clinical relevance,” Mutsaers says. “It’s exciting to be right in the centre of it.”

After graduating from OVC, Mutsaers worked in clinical practice before completing a three-year veterinary oncology residency at Purdue University. After working in Australia, he returned to Canada to study biomarkers for targeted cancer drugs at Sunnybrook Research Institute, which led to a PhD in biophysics from the University of Toronto. He then completed post-doctoral studies on bone cancer and leukemia in Australia before returning to Guelph in 2011.

At OVC, Mutsaers is leading or collaborating on several projects looking at various aspects of cancer. In particular, he is investigating how three common canine cancers respond to high doses of radiation delivered in a short timeframe, compared to the conventional approach that emphasizes small, frequent doses over a longer period of time.

This research, supported by the OVC Pet Trust Fund, builds upon investments in the tumour bank initiative and OVC’s expertise in growing new cell lines from tumour samples. It is also made possible by the cancer centre’s linear accelerator (linac). The linac is equipped with on-board imaging that allows clinicians to precisely target tumour cells with higher doses of radiation without harming normal, healthy tissue.

“This research will answer important questions that will feed back into the clinic and provide data for the bigger picture.”