

Proposed Fellowship Project(s) at Odette Cancer Centre:

Patient Population: The Prostate Cancer Center at the Odette Cancer Center sees approximately 1300 localized prostate cancer consults per year and follows approximately 5000 prostate patients per year. Patients have been treated with one or a combination of 3D-CRT, IGRT, HDR brachytherapy, and seed brachytherapy using standard and hypofractionated treatment prescriptions. A MR simulator has been installed in 2010. In addition, TSRCC has a specialized surveillance clinic where one of the world's largest and most mature surveillance patient cohorts are followed.

Research Question: This fellowship will be tailored to the individual's interest and includes the potential for a Master's in Science (2 years) or Diploma (1 year) in Clinical Epidemiology at the University of Toronto. Potential projects include:

1. Evaluating the toxicity, patient-reported outcomes and efficacy of hypofractionated SBRT techniques for prostate cancer
2. Defining dosimetric and genetic predictors of radiotherapy toxicity
3. The utility of routine bone scans in prostate cancer patients on active surveillance
4. Inducing indolence with macrobiotic (e.g. selenium, Vit E, lycopene, Vit D) or pharmacologic (e.g., 5-ARI, statins, hypoglycemic) interventions for prostate cancer patients on active surveillance
5. Evaluating tomotherapy against other high-precision techniques for the treatment of prostate cancer

Methods: The ultimate methods will be determined by the interests of the fellow. They could range from simple retrospective studies with multivariate analyses; prospective data collection and prediction using linear regression or artificial neural networking; or the design and management of clinical trials.

Clinical Experience: For clinical exposure, the Fellow will become experienced in prostate seed and HDR brachytherapy, hypofractionation, IGRT, tomotherapy, high-precision delivery techniques as well as active surveillance for prostate cancer.