

MEng Project Opportunities

Project #1: Understanding Patient Outcomes and Quality of Life Post-Percutaneous Coronary Intervention for Chronic Total Occlusion	
Project Description	Scarborough Health Network (SHN) is home to the regional cardiac centre for Scarborough-Durham with a comprehensive range of cardiac services provided to the local and surrounding communities. One of the several complex procedures conducted at SHN includes chronic total occlusion (CTO) percutaneous coronary intervention (PCI), which is a specialized procedure for treating complex coronary artery blockages that have been present for more than three months. The CTO PCI is an alternative to heart bypass surgery that is intended to offer faster recovery given its minimally invasive technique. This program started approximately 10 years ago at SHN, and some initial quality of life studies were conducted at the outset. The objective of this study is to investigate whether the CTO PCI procedure improves patient quality of life, comfort, and overall well-being. Findings from this study will help to inform the future trajectory of this program.
Desired Skills	<ul style="list-style-type: none"> • Qualitative research skills • Experience working with patients
Faculty advisor	Prof. Alfred
SHN Mentor(s)/ Project Lead(s)	Dr. Chris Li, Dr. Shane Parfrey, Janet Traverse
Key Deliverables	<p>Milestone 1 – Complete literature review and REB application (Dec 2025)</p> <p>Milestone 2 – Complete retrospective data analysis of past patients who have undergone complex ablations; assess recurrence rates; conduct patient surveys 6 months/12 months post-procedure (June 2026)</p> <p>Milestone 3 – Finalize results and academic product. Present findings (August 2026)</p>
Grading distribution	Literature review and REB application (20%), data collection and analysis (40%), completion of project deliverables and academic product (30%), and participation in project and research meetings (10%)
Application	Please submit CV, unofficial transcript, and a single paragraph describing your interest in the project in one file in a single email to Prof. Alfred (Myrtede.alfred@utoronto.ca)
Expected start	Fall 2025