REB Form:

Complete Project Title:

Needs Analysis and Time Flow Study to Assess Endoscopic Ear Surgery

Short Title:

Needs Analysis for Endoscopic Ear Surgery

Lay Summary:

Endoscopic ear surgery is a minimally invasive technique that differs from the traditional microscopic surgery due to differences in visibility and the need for one-handed surgery. This application seeks to shift current clinical practice in surgery for chronic middle ear disease by creating novel instrumentation that will facilitate the practice of endoscopic ear surgery by understanding surgeon’s needs. Practitioners of endoscopic ear surgery will be surveyed to reveal the barriers they faced when adopting the technique, and that they continue to experience in endoscopic ear surgery. A comprehensive assessment of existing instruments, including intra- operative time-flow analysis, will be used to identify potential design limitations of currently available instruments. Innovative solutions to these barriers will be developed including on-line focus-group based discussions, concentrating on enhancing multi-functionality of instruments to be operated easily with one hand.

Objectives of the study:

The needs assessment will comprise two separate parts: (a) a time-flow analysis in the operating room of the PI and (b) a survey of endoscopic ear surgeons’ experience.

a) The time flow analysis will measure the duration of predetermined steps during the surgery as well as the number of changes between instruments. This will aim to measure the efficiency of current endoscopic ear surgery and provide areas where instrumentation redesign is required. The time flow analysis will be recorded by the MASc. student during the PI’s surgeries.

b) Survey.A qualitative assessment of the challenges in endoscopic ear surgery caused by limitations in current instrumentation will be completed by performing an on line survey of surgeons that perform endoscopic ear surgery.