Success Story

Neurosurgeon at St. Mike's first in Canada to use 3D camera to remove brain tumour

In October, the Toronto doctor who pioneered an international standard in neurosurgery became the first surgeon in Canada to use a 3D camera to remove a brain tumour.

Dr. Michael Cusimano first made headlines 17 years ago when he became the first neurosurgeon in the world to remove tumours by endoscopic surgery, a minimally invasive procedure that sends a video lens along with instruments through both nostrils and into the brain.

The 3D camera, not much larger than a grain of sand, was used on a 75-year-old man. The surgeon scooped out a walnut-sized tumour on the patent's pituitary gland at the base of the skull. The tumour was causing the patient to go blind. The entire surgery, which includes head and neck procedures, took about four hours.

For this procedure a VSii miniature microscope, developed by a company called Vision Sense, was used. This microscope provides a 3D image, and the best possible images, for the surgeon performing the operation. Currently, with minimally invasive neurosurgery, a scope only provides a 2D image, but with a 3D camera the image displayed is much clearer and robust, allowing a neurosurgeon to see more, and with greater detail.

"We're excited by it. It's a natural evolution to surgery," says Dr. Cusimano. "The technology opens a whole new world of opportunities for advancing surgery because it allows us to basically put our eyes into the patient. In a profession where seeing in micromillimetres counts, the new technology will also make a big difference to new surgeons, allowing them to better judge distances."

Health Canada approved the 3D endoscope this past spring, and some neurosurgeons across Canada have expressed interest in the device. It is being used in the US, Israel, Italy and other hospitals across Europe.