

The pain, pressure and fatigue of chronic sinusitis can be debilitating for an estimated 15 percent of all North Americans, but fast-paced technical innovations are giving surgeons effective new ways to treat this ongoing condition.

While acute sinusitis is a temporary inflammation of the sinus cavities, chronic sinusitis occurs when the mucus membranes lining these hollow spaces become infected and fail to drain properly. The result is a permanent, persistent infection that significantly decreases patients' quality of life and can only be cured through surgery.

In the early 1990s, specialists began using endoscopes to enter the sinuses through the nasal cavities, while image guided sinus surgery, also known as Computer Assisted Sinus Surgery (CASS), provided enhanced visibility (and precision) in these dark, narrow passages. Now, a new wave of technical developments are enabling surgeons to work faster, minimize complications, and enhance cure rates for a wide range of chronic sinus conditions.

Dr. Amin Javer is a board certified otolaryngologist specializing in sinus disease, and was the first endoscopic-trained surgeon in Canada. "Our cameras, scopes, screens and all the surgical technology has improved drastically," says Javer. At False Creek Healthcare, 4K images now guide the team as they open blocked passageways and remove infected tissue. "You can almost see the blood vessels and the blood cells on the screen," says Javer. "It's that clear."

Sleeker instruments simplify complicated surgeries and reduce the need for extended anaesthesia. Five years ago, the drill bits used to remove bony sinus tumours ran at speeds up to 12,000 RPM. Today's 80,000-RPM drills are not only more effective, but can help to complete a formerly five-hour procedure in about 60 minutes.

Enhanced endoscopic technology has also made it easier for surgeons to straighten deviated nasal septums. According to Javer, nearly everyone breaks their nose at least once before age 10 and many re-break it again in adulthood, but only 30 per cent of people develop breathing and drainage problems as a result of this angled cartilage.

Traditional septum repairs use a headlight that can only illuminate the bottom third of the nasal passage. With image guided endoscopic nasal septal reconstruction, surgeons insert a probe into the septum to gain full visibility as they remove, straighten and reconstruct the broken bone - increasing the success rate from 60 to 100 percent.

About 18 months ago, Javer and his team began performing a 10-minute procedure that uses "cold heat" or patented Coblation® technology to shrink swollen turbinates - the bony pouches that project from the nasal wall into

each nostril. Surgeons used to cut or resection the turbinates to minimize swelling. With submucous turbinate coblation, a probe inserted under the thickened mucous membrane delivers a 60-70-degree Celsius blast that vaporizes fatty tissue. "It's smoother, less painful and less damaging to the tissues," says Javer.

Results are usually permanent for patients who have coblation in tandem with a septal repair. Most people with enlarged turbinates due to allergic rhinitis will need a repeat procedure in about 2-3 years, but should not experience symptoms or need allergy medications until that point. "I have one patient who flew in from Dubai to have this done," says Javer. "Now he emails me every three months to say, 'I can still breathe!'"