Pain prevention

Humber's innovative pain management programs are preventing long-term, post-surgery opioid abuse.

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On the list of painful operations one can recover from, joint replacement surgery is near the top. It can take weeks for all of the swelling, inflammation and bruising to subside, which makes doing daily tasks nearly impossible. Naturally, many physicians prescribe pain medications to help their patients feel more comfortable, but that comes with its own challenge: potential opioid dependence. One McGill University study found that six per cent of surgical patients become opioid users post-surgery, while 70 per cent of unused tablets are at risk of being sold to others.

Physicians across the globe are trying to find new ways to mitigate pain without the use of medications, to varying degrees of success. However, there is one newer approach that looks promising – the Continuous Outpatient Interscalene Nerve Block (COIN). The program, a first in Canada and developed at Humber River Health in 2018, uses a nerve-blocking local anaesthetic to numb post-shoulder surgery pain.

With shoulder replacement surgery, for instance, a catheter is inserted just above the joint before surgery, which then administers the nerve-blocking medication continuously for three days. Patients are discharged the same day with the catheter still attached, with minimal pain and without opioids. The anaesthesiologist calls the patient daily to ensure everything is in working order, and at the end of the three days when the nerve block is finished, it can be removed at home, without a follow-up appointment.

Working with orthopaedic surgeons, the department also developed blister packs to organize oral medications, like anti-inflammatories, into separate capsules to help patients manage their recovery at home. "We were the first in the GTA to use nerve blocks to facilitate same-day discharges," says Dr. Joseph Koval, Humber's Chief of Anaesthesia. "They provide excellent pain control post-surgery. Once the catheter is removed, patients can manage with just oral medications."

Dr. Kyle Waldman, an anaesthesiologist at Humber, saw one patient who, under a different physician's care, became addicted to opioids after a shoulder replacement surgery. The patient, who came to Humber for a second surgery, was nervous about potentially relapsing. Dr. Waldman alleviated the patient's fears after speaking with him about COIN.

"Using COIN fully transformed the experience for this patient," he explains. "He did not use one milligram of opioids after his surgery. COIN really provides the best of both worlds for patients – getting the top-line medical care with the benefit of recovering comfortably at home."

Thanks to the innovation of COIN, only 20 to 30 per cent of Humber patients are now using opioids to manage pain one month after surgery, compared to the 80 to 90 per cent of patients who typically need medication after surgery, according to provincial data.

Three years after the introduction of COIN, the Department of Anaesthesia created SKiP, a similar program but for those undergoing knee replacement surgery. Like COIN, it delivers a nerve-blocking local anaesthetic through a catheter, says Dr. Koval.

Given that according to the Canadian Centre on Substance Abuse, Canada is the second-largest consumer of opioids per capita in the world, Humber's pain mitigation measures will play a crucial role in stopping post-surgical opioid dependence. "These really reduce the need for narcotics," says Dr. Koval. "And that allows patients to have a much better recovery." ✚

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