

Inexpensive drug saves blood and money

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Using an inexpensive drug for every hip or knee replacement since 2013 has helped St. Michael's Hospital reduce its number of red blood cell transfusions performed during these surgeries by more than 40 per cent without negatively affecting patients, according to new research.

The drug tranexamic acid, known as TXA, prevents excessive [blood](#) loss during surgeries.

TXA had been shown to be effective in orthopedic, trauma and cardiac patients but less than half of eligible patients at St. Michael's received this drug because of a previous province-wide shortage. The drug was given only to patients at high risk of requiring a blood transfusion.

The TXA shortage ended in early 2013 and, in October 2013, St. Michael's anesthesiologists started giving TXA to every eligible patient undergoing hip or knee replacement. A total of 402 patients received the drug.

"We wanted to optimize TXA's use in patients undergoing hip or knee replacements because these procedures often result in high blood loss and frequently require transfusions," said Dr. Greg Hare, an anesthesiologist at St. Michael's. "The drug costs about \$10 per patient, while the average cost of transfusing one unit of blood is \$1,200."

Making TXA use mandatory for eligible patients undergoing hip or [knee replacement](#) reduced the hospital's transfusion rate for those surgeries from 8.8 per cent to 5.2 per cent (more than a 40 per cent reduction).

Canadian data suggests the 2014 hip and knee arthroplasty was about nine per cent.

Patients who received TXA did not experience any increase in adverse events, such heart attack, stroke or blood clots. There was no difference in mortality rates or length of hospital stay.

"Other hospitals and surgical centres should consider making TXA mandatory for similar surgeries because it can improve quality of care, decrease the need for blood transfusions and even save money," said Dr. Hare, who is also one of the founders of St. Michael's Centre of Excellence for Patient Blood Management.

"Making TXA mandatory for eligible patients has made care more efficient, ensuring the best possible care for our patients," he said.

For this study, TXA was not used in [patients](#) identified to be at risk of [blood clots](#), stroke or any other cardiovascular issues.

Dr. Hare said the transfusion rate was already low at St. Michael's because of the hospital's commitment to blood management and the Ontario Transfusion Coordinators (ONTraC) program, which is administered by St. Michael's.

The study was published today in the *Canadian Journal of Anesthesia*.

Provided by St. Michael's Hospital

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