King of cardiac

Clinical practice guidelines are supposed to lead to better patient care, not to premature death.

So when a 2008 study revealed that beta-blockers, a decade-old standard of care in heart attack prevention, could trigger major stroke and even death in non-cardiac patients post-surgery, the medical world was turned upside down.

Co-led by PJ Devereaux, CE&B professor and a scientific leader at the Population Health Research Institute, it was the world's largest randomized trial of its kind. For every 15 patients prevented from having a heart attack, the research showed that eight others would die and five would have a stroke.

"With 200 million adults undergoing major non-cardiac surgery globally each year, hundreds of thousands of people may have been affected," he suggests.

It was the first of several large-scale clinical trials Devereaux has conducted that are yielding important new information about what works and what doesn't to prevent heart attacks after surgery.

As a result, we now know that aspirin, considered beneficial in preventing and managing heart disease, not only fails to reduce the risk but increases major, life-threatening bleeding by almost 25%; that clonidine, used to treat high blood pressure, increases the risk of hypotension and cardiac arrest; and that a simple blood test can identify patients at high risk of dying within 30 days after surgery.

> "My goal is to make surgery safer for everyone"
>
> – P.J. Devereaux

As one of the world's leading experts in perioperative management, Devereaux is spearheading a paradigm shift in the way hospital patients are monitored after surgery. He plans to test a continuous monitoring system that will provide an early warning to hospital personnel that a patient is in trouble, and have non-cardiac surgery patients undergo MRIs to see if they've suffered a covert stroke, which can impact cognitive function.

His hope is that patients may one day be measured for a biomarker that can predict whether they will have complications during surgery.

Says Devereaux: "We need to explore the potential of new technologies that can alert us earlier to patients who are at risk. My goal is to make surgery safer for everyone."