

Aspirin prevents venous thromboembolism following major orthopedic surgeries, study finds

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A multicentre, double-blind, randomized, controlled clinical trial of patients who underwent total hip or knee replacement surgery showed that aspirin was as effective as rivaroxaban, the standard anti-coagulation

medication, at preventing post-operative venous thromboembolism (VTE). Montreal's Jewish General Hospital (JGH) was among the participating institutions. The results were published in the *New England Journal of Medicine*.

"We have always been very concerned about preventing [blood clots](#) in [patients](#) following major orthopedic surgery," said Dr. David Zukor, chief of orthopedics at the JGH and one of authors of the study. "It is the leading cause of preventable in-hospital death, so we always administer preventive therapy in conjunction with such surgeries. Rivaroxaban is known to be effective, but the great advantage of aspirin is that it is far less expensive, easily available, and has an excellent safety profile."

All 3424 patients enrolled in the trial (1804 for hip replacement and 1620 for knee replacement) took rivaroxaban for five days after surgery before being randomized either to receive aspirin (1707 patients) or to continue with rivaroxaban (1717 patients). Eleven in the former group and 12 in the latter experienced VTE. The most worrisome complication from anti-coagulants is bleeding. In this trial, rates of clinically important bleeding were less than 1.5% and did not differ significantly between the two groups. All bleeding events occurred at the surgical site, as opposed to other, potentially more dangerous, regions such as the brain or gastrointestinal tract.

"These results are important," asserted Dr. Susan Kahn, Director of the Centre for Excellence in Thrombosis and Anticoagulation Care at the JGH and a leading expert on VTE, who was also a researcher on the study. "The protocols for preventing clots following major orthopedic surgery are well established. However, we are always interested in determining whether there are better options for treating our patients. We could well see aspirin emerge as a practical alternative to more expensive anticoagulants."

Both Drs. Kahn and Zukor agree on the need for additional clinical [trials](#) that would see a randomized group of patients prescribed aspirin exclusively as a preventative, so as to test its efficacy directly against a regimen of [rivaroxaban](#).

During the course of the trial, all patients undergoing hip or [knee replacement](#) at the JGH were offered the opportunity to participate.

More information: David R. Anderson et al. Aspirin or Rivaroxaban for VTE Prophylaxis after Hip or Knee Arthroplasty, *New England Journal of Medicine* (2018). [DOI: 10.1056/NEJMoa1712746](https://doi.org/10.1056/NEJMoa1712746)

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