

# Long-acting opioids may be unnecessary in study of total knee replacement

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In a new study, researchers have found that replacing long-acting with immediate-release opioids after total knee replacement surgery resulted in comparable pain management but less nausea-medication usage and less need for residential rehabilitation after hospital discharge.

The results of this small study, a Rutgers Nursing doctoral program project for lead author Anoush Kalachian, support a broader trend toward better management of prescription opioids, which directly resulted in the deaths of nearly 17,000 Americans in 2021 and can spur the use of illegal opioids.

The research is [published](#) in the journal *Pain Management Nursing*.

Widespread changes in [opioid](#) use patterns for knee replacement patients would have a significant impact on total prescription numbers. American surgeons replace roughly 790,000 knees per year, according to the American College of Rheumatology.

"Studies have shown that extended-release or long-acting opioids increase the risk of opioid dependence and possible addiction because of the greater concentration of the drug and the longer time that they remain in the body," said co-author Judith Barberio, a clinical associate professor at the Rutgers School of Nursing and a co-author of the study.

"If you can move from long-acting to immediate-release opioids without increased pain or other adverse effects, that's a win. This quality improvement project suggests it's possible to do that when recovering from a total knee replacement."

The study utilized a surgeon's change in practice to evaluate pain control and [patient outcomes](#) in a small group of patients undergoing [total knee replacement](#). The researchers compared outcomes for 36 of the surgeon's patients who underwent treatment just before the switch from extended- to immediate-release opioids with 34 comparative patients whose knee replacements took place after the new protocol was implemented.

The average pain score (on a scale of 1 to 10) was statistically identical for the two groups, but patients on long-acting opioids used significantly more medications to combat nausea and vomiting when compared to the patients on short-term opioid protocol.

"Requiring fewer antiemetics may not seem like a major difference, but it greatly enhances patient experience," said Jill Cox, a clinical professor at the Rutgers School of Nursing. "Feeling nausea to the point that you need medical intervention can be unpleasant and may increase your [pain](#) and impact your rehabilitation."

The differing need for care at discharge was a major difference, too. Patients who received short-acting opioids were more likely to go straight home after their hospital stays. Those in the long-acting opioid group were more likely to go to residential rehab. Long-acting opioids might play a role in hindering immediate post-operative participation in [physical therapy](#) as a result of the impact on cognitive function and balance, limiting their ability to quickly return to their usual activities of daily living.

**More information:** Anoush Kalachian et al, Eliminating Extended-Release Opioids from a Postoperative Pain Protocol for Total Knee Replacement Patients, *Pain Management Nursing* (2024). [DOI: 10.1016/j.pmn.2023.12.016](#)

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