

Study finds IV and pill form of acetaminophen work equally well after hip replacement

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Credit: Hospital for Special Surgery

Pain management after surgery is a vital part of patient care, and research in this field is ongoing at Hospital for Special Surgery (HSS) in New York City. One study set out to compare acetaminophen, commonly known as Tylenol, in the intravenous versus pill form as part of the overall pain management plan after hip replacement.

The researchers found that both forms of acetaminophen worked equally well. The paper, titled, "IV vs. Oral Acetaminophen as a Component of Multimodal Analgesia After Total Hip Arthroplasty: A Randomized, Double Blinded, Controlled Trial," was presented today at the American Academy of Orthopaedic Surgeons Annual Meeting in Las Vegas.

The study has also been published online in advance of print publication in the *Journal of Arthroplasty*. "At a time when [health care costs](#) are increasingly under the microscope, the study supports the use of oral acetaminophen, which is

less costly and less invasive to administer," said Dr. Geoffrey Westrich, the Director of Research for the Adult Reconstruction and Joint Replacement Service at HSS who presented the study.

More than 500,000 hip replacements are performed in the United States each year. Although narcotic medication is often part of the pain management plan after [surgery](#), the opioid epidemic has prompted researchers to look for ways to minimize their use.

"A multifaceted pain management plan is standard for all patients having joint replacement surgery at HSS," explained Dr. Westrich. "Known as 'multimodal analgesia,' it entails the use of several different anesthetic agents and medications both during and after surgery to control pain and reduce side effects."

All 154 patients in the study had [hip replacement surgery](#) at HSS. They all received the standard multifaceted pain control protocol after surgery and were randomly assigned to one of two groups. One group received intravenous acetaminophen, while the other group was given the oral pill form. Neither the [patients](#) nor their doctors knew which individuals were receiving intravenous versus oral acetaminophen. Those getting IV acetaminophen also received a placebo in pill form, and those given oral acetaminophen received a placebo IV solution.

When they launched the study, the researchers thought intravenous [acetaminophen](#) might provide a benefit in terms of [pain management](#), as it reaches the blood stream more quickly than the pill form. But the study found that both worked equally well.

"Patients in both groups had low pain scores with

activity, minimal opioid-related side effects, and limited opioid usage," Dr. Westrich said. "The big picture highlights multimodal analgesia overall as an effective method of [pain](#) control after joint replacement surgery."

"How to optimize multimodal therapy for a given patient remains a 'Holy Grail' of research for this field," said Dr. Jacques YaDeau, an anesthesiologist at HSS and study author. "At HSS, there is [ongoing research](#) on this topic, including both randomized trials and 'big-data' analysis."

More information: Geoffrey H. Westrich et al, IV vs. Oral Acetaminophen as A Component of Multimodal Analgesia After Total Hip Arthroplasty: A Randomized, Blinded Trial, *The Journal of Arthroplasty* (2019). [DOI: 10.1016/j.arth.2019.02.030](#)

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