

# Injections for knee osteoarthritis—'subtle but significant' impact of revisions in clinical practice guidelines

May 18 2018

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Recent updates in evidence-based recommendations have led to changes in the use of steroid and hyaluronic acid injection for patients with osteoarthritis of the knee, reports a study in the May 16, 2018 issue of *The Journal of Bone & Joint Surgery*. The journal is published in partnership in the Lippincott portfolio by Wolters Kluwer.

Although guideline revisions based on new evidence have stopped or reversed trends towards increased use of injections for [knee osteoarthritis](#), these treatments remain commonly used, according to the new research by Nicholas A. Bedard, MD, of University of Iowa Hospitals and Clinics, Iowa City, and colleagues.

## Guideline Changes Reflect Questions on Injections for Knee Arthritis

The researchers evaluated the impact of updated guidelines for nonsurgical treatment of knee osteoarthritis, issued by the American Academy of Orthopaedic Surgeons (AAOS) in 2008 and 2013. The study focused on two common treatments to reduce knee pain: corticosteroid (steroid) injection, intended to reduce inflammation; and [hyaluronic acid](#), intended to supplement the natural fluids within the knee joint.

Dr. Bedard and colleagues analyzed an insurance database of more than

1 million patients with knee osteoarthritis treated between 2007 and 2015. Overall, about 38 percent of patients received at least one steroid injection and 13 percent had at least one hyaluronic acid injection.

Before the first clinical practice guideline, the rate of steroid injections was rising steadily. In the 2008 guideline, the AAOS suggested that steroid injection could be given for short-term pain relief of knee. After this "Grade B" recommendation—reflecting some limitations of the evidence—the rate of increase in steroid injection slowed significantly.

By 2013, there was new conflicting evidence on effectiveness of steroid injection. In response, the AAOS stated that it could not make any recommendation for or against the use of steroid injection. After this revision, the trend in steroid injection leveled off. Use of steroid injection continued to increase in patients under age 50—perhaps reflecting attempts to avoid total [knee replacement surgery](#) in this younger age group.

Recommendations for injection of hyaluronic acid were also revised during the study period. In 2008, the AAOS stated that there was no evidence on which to base a recommendation on hyaluronic acid injection, either for or against. This recommendation slowed a previous trend toward increased use of hyaluronic acid.

By 2013, there was new evidence showing no benefit of hyaluronic acid compared to inactive placebo, prompting a strong recommendation against the use of this treatment. After this revision, the rate of hyaluronic acid injection declined significantly.

There was a significant decrease in hyaluronic acid injections performed by orthopaedic surgeons and pain specialists—but not by primary care physicians (such as general internal medicine doctors) or non-surgeon musculoskeletal specialists (such as rheumatologists or sports medicine

physicians). Overall, orthopaedic surgeons performed two-thirds of hyaluronic acid injections. Trends in steroid injection did not differ by specialty.

Evidence-based guidelines play an important role in ongoing evaluation of medical treatments. The new findings suggest that guideline updates for knee osteoarthritis have had a "subtle but significant" impact on clinical practice. Rates of steroid injection leveled off after the AAOS concluded that no recommendation could be made, while the rate of hyaluronic acid [injection](#) decreased in response to a recommendation against this procedure.

Some of the same studies that questioned the effectiveness of these treatments also reported that they account for a large proportion of [treatment](#) costs for knee osteoarthritis. Injections given shortly before [total knee replacement](#) surgery may even increase the risk of infection. Dr. Bedard comments, "We hope that this project helps to shed light on the important clinical practice guidelines created by AAOS and further encourages providers to follow these recommendations, share them with their patients, and utilize them as a guide to improve the value of care provided to patients with [knee osteoarthritis](#)."

**More information:** Nicholas A. Bedard et al. Impact of Clinical Practice Guidelines on Use of Intra-Articular Hyaluronic Acid and Corticosteroid Injections for Knee Osteoarthritis, *The Journal of Bone and Joint Surgery* (2018). [DOI: 10.2106/JBJS.17.01045](https://doi.org/10.2106/JBJS.17.01045)

Provided by Wolters Kluwer Health

Citation: Injections for knee osteoarthritis—'subtle but significant' impact of revisions in clinical practice guidelines (2018, May 18) retrieved 20 April 2024 from

<https://medicalxpress.com/news/2018-05-knee-osteoarthritis-subtle-significant-impact-clinical.html>

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