

Ultrasound Improves Effectiveness of Knee Injections

By: [HEIDI SPLETE](#)

FROM THE ANNUAL MEETING OF THE AMERICAN COLLEGE OF RHEUMATOLOGY

ATLANTA – Ultrasound guidance led to a significant increase in the number of noneffusive knees with osteoarthritis that responded to corticosteroid injections, based on data from a randomized trial of 94 knees. The findings were presented at the annual meeting of the American College of Rheumatology.

The accuracy rate for knee injections in OA varies widely, said Dr. Wilmer Sibbitt, professor of rheumatology and neurology at the University of New Mexico Health Sciences Center in Albuquerque.

Injections of medication or removal of fluid from the knee joints have historically been guided by the physician's hands-on examination of the knee, but ultrasound guidance is becoming more common as a way to improve accuracy, said Dr. Sibbitt.

"Ultrasound is being used presently for injections, and there aren't good outcome studies to determine whether this increased accuracy provides better results, and whether it increases or reduces costs," he said in an interview.

Dr. Sibbitt and colleagues randomized adults with knee OA to receive joint injections guided by ultrasound or with the conventional palpation guidance. For the sonographically guided injections, the researchers used a one-handed reciprocating procedure device syringe that enabled them to hold the ultrasound transducer in one hand and the dual chamber syringe in the other. The injection consisted of 80 mg of triamcinolone acetonide.

The researchers evaluated patients' pain at baseline, during the injection, 2 weeks later, and 6 months later, using an established pain rating scale.

Compared with the conventional injection group, ultrasound-guided injections yielded a 48% reduction in pain during the injection, and a 42% reduction in pain scores at follow-up.

In addition, significantly more knees in the ultrasound group than in the control group responded well to the injections and significantly fewer knees in the ultrasound group than in the control group did not respond well.

The researchers also evaluated the cost-effectiveness of ultrasound-guided injections. The ultrasound-guided injection was associated with a \$48 reduction in patient costs per year, and a \$593 reduction in outpatient costs per year.

The study was limited by its small size, and additional research is needed to confirm the results. But the findings suggest that sonographic needle guidance improves the performance, clinical outcomes, and effectiveness of knee injections for OA patients, Dr. Sibbitt said.

Dr. Sibbitt disclosed receiving consulting fees from multiple companies including Becton Dickinson, Ferring Pharmaceuticals, Avasca Medical, and Meditech Duopross. He also disclosed stock, stock options, or bond holdings in multiple companies including Celgene, Apple, Avasca, and Java Inc. He has received research grants from the National Institutes of Health.