

Clinical trial shows implantable shock absorber relieves knee pain, delays knee replacement

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A new implantable device that works as a shock absorber may soon give those with progressing knee osteoarthritis a new option to reduce pain, improve functionality and delay the need for a total knee replacement. Credit: The Ohio State University Wexner Medical Center

Knee pain is commonly caused by osteoarthritis, a chronic condition that affects approximately 14 million Americans of all ages. If physical therapy and over-the-counter pain medication don't relieve the pain, treatments involve injections, surgery or even a total knee replacement.

Results from a multi-center clinical trial, presented today at an orthopedic symposium in Boston, show a new implantable shock absorber can relieve pain and improve function. Dr. David Flanigan, an orthopedic surgeon at The Ohio State University Wexner Medical Center, enrolled patients in the trial at the medical center and was first in the U.S. to implant the MISHA Knee System made by Moximed.

"There really hasn't been much to offer for knee arthritis between the more basic options like medications, therapy and injections all the way to joint replacement," said Flanigan, who is also a professor of orthopedics at the Ohio State College of Medicine "This shock absorber could be an in between step patients need."

The device involves a piston that anchors to the inner side of the [femur](#) and tibia bones with a small plate. Trial data showed significant reduction in [pain scores](#) and improvement in function scores for more than 90% of the 81 trial participants. The shock absorber had a success rate of 86% compared to the most common procedure, high tibial osteotomy, which has a success rate of 66% and is typically used to treat symptomatic osteoarthritis of the medial compartment of the knee.

"When you're walking, doing activities, it's going to take away about 30% of that shock or stress on the knee every time you put weight on your leg," said Flanigan. "You see patients who are struggling just to walk and have pain on a daily basis. They have this device, go through rehabilitation and then they're walking and getting back to activities that are really important to them."



Dr. David Flanigan examines the knee of a patient at The Ohio State University Wexner Medical Center. Flanigan was the first surgeon to implant an experimental shock absorber device to relieve pain and improve functionality of those with progressing knee osteoarthritis. Credit: The Ohio State University Wexner Medical Center

Chuck Stenger of New Albany, Ohio was the first person to receive the [shock absorber](#) device three years ago. Today, the retired firefighter says he's doing exceptionally well and is grateful he had the opportunity to try the device.

"Before participating in the clinical trial, I was told I was probably a candidate for a knee replacement, and I didn't think I was quite ready for

that yet," Stenger said. "Three days after the implant procedure I was walking around, and with a little therapy I'm back to golfing, taking long walks and just living life without constant pain in my knees."

The two-year collective clinical trial data has been submitted to the U.S. Food and Drug Administration and is under regulatory review.

Provided by Ohio State University Medical Center

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