

# Procedures to repair knee cartilage show promise in treating patients over 40

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Patients who have cartilage damage in their knees often experience pain and are unable to engage in sports and other activities they enjoy. Two studies at Hospital for Special Surgery (HSS) find that cartilage restoration procedures are a viable treatment option for patients over 40 years old.

"Various [cartilage](#) restoration procedures have demonstrated success rates ranging from 50 to 90 percent, but the majority of reported results were in patients ages 30 and younger," said Riley J. Williams, III, MD, senior study author and director of the Institute for Cartilage Repair at Hospital for Special Surgery. "Our studies are the first to look at outcomes of three specific procedures used to repair damaged cartilage in patients over 40."

The research, presented at the annual meeting of the American Academy of Orthopaedic Surgeons, found that procedures using different types of cartilage "plugs" relieved pain and improved function in patients with articular cartilage damage.

Articular cartilage is the smooth, white tissue that covers the ends of bones where they meet to form a joint. It can be damaged by injury or normal wear and tear. Because cartilage does not heal on its own, various surgical techniques have been developed to repair the damaged area, but with mixed results.

Patients in the HSS studies had degenerative changes in their cartilage

and isolated areas of pain and swelling, characteristic of arthritis. Most of the patients did not meet the criteria for total knee replacement. Cartilage restoration is not intended for patients with advanced bone-on-bone arthritis.

The first study included 35 patients whose damaged cartilage was under their kneecap. The second study included 61 patients whose [cartilage damage](#) was at the end of their femur bone in the knee joint. The mean age in both studies was 51.5, and participants had no knee injury other than the cartilage lesion. All had a minimum follow-up of two years after surgery.

Dr. Williams performed cartilage restoration surgery using various types of "plugs" to fill in the hole, or damaged area. More than half of the patients received a synthetic plug. The other patients received either a donor cartilage plug or a small plug of cartilage transferred from another healthy area of their knee that did support their weight.

At the average follow-up of 3.5 years, the vast majority of patients reported higher activity levels and decreased pain, as well as a high degree of satisfaction with the procedure, according to Dr. Williams. There were no statistically significant differences in outcomes among the different treatments.

"For the first time, this middle-aged group of athletic individuals may have some good options to repair cartilage lesions," Dr. Williams said. "In addition to improving their quality of life, this may help them delay the need for a knee replacement down the road. "

Provided by Hospital for Special Surgery

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