



from degenerative diseases to sports injuries, damaged knees are getting help from surgical advances

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e start out crawling on them. Scuff them with scrapes and cover them in grass stains as kids. Then we spend decades bending, kneeling, running, squatting and twisting. From scrubbing floors to proposing marriage to plain-old getting old, our knees take a beating, and it's no wonder that sometimes they suffer.

In the past decade, the knee has benefited from advances in technology and techniques. Here are three surgical procedures helping patients get back on their feet faster.

minimally invasive knee replacement

When the surfaces of the knee joint wear out from arthritis, injury or general wear and tear, the grinding of bone on bone causes pain, swelling and difficulty with simple tasks like going up or down stairs.

In the procedure, the damaged bone and cartilage are removed and replaced with metal and plastic prosthetics.

WHY IS IT BETTER TODAY THAN 10 YEARS AGO?

"Materials technology has changed our success rates," explains Bal M. Rajagopalan, M.D., a board-certified orthopedic surgeon who



specializes in knee surgery and is a fellow of the American Academy of Orthopaedic Surgeons. "We're now able to better replicate the normal rotation of the knee. The way it was done before was not taking rotation during flexion into account, causing materials to wear out faster."

Surgeons today also take away less bone. "Now, I really consider it knee resurfacing," he says. "By preserving bone, you're preserving the ligaments that give your knee stability."

WHAT'S SO GREAT ABOUT IT? Because of minimal tissue damage and a smaller incision, patients typically go home sooner, recover more quickly and get back to normal activity sooner.

"But it's not just making a small incision," Rajagopalan says. "It's about respecting the tissue. If you're gentle and respect the tissue in the knee, patients will heal faster and feel better sooner." >

meniscal repair

Weekend warriors and others who twist, tweak or somehow injure their knees often experience a tear in the meniscus, the knee's shock absorber. A rip of this moon-shaped piece of cartilage can cause pain, swelling, instability and locking.

WHY IS IT BETTER TODAY THAN 10 YEARS AGO?

"Just 10 to 15 years ago, surgeons would take out the whole meniscus," says Tim Hewett, Ph.D., a spokesman for the National Academy of Sports Medicine. Without that cushion, the patient was almost guaranteed to develop osteoarthritis of the knee in less than a decade.

Today, a torn meniscus can be repaired arthroscopically, a technique that requires only a buttonhole-sized incision, to completely restore those shock absorbers.

WHAT'S SO GREAT ABOUT IT? Meniscal repair allows you to keep that cushion and protect your joint, which is particularly beneficial if you're younger than 55.

"If you go in and just take out the ripped piece of cartilage, you can get the athlete back to their sport faster," Hewett says. "But long term, patients benefit from saving the meniscus."

anterior cruciate ligament (acl) reconstruction

The ACL is one of four main ligaments in your knee. Its main job is to prevent the tibia from sliding in front of the femur, but it also provides stability for your knee as it rotates. That's why ACL injuries are common among soccer players and skiers.

In the surgery, the ACL is replaced with a tendon, either from a cadaver (allograft) or with the patient's own hamstring, quadriceps or patellar tendon (autograft).

WHY IS IT BETTER TODAY THAN 10 YEARS AGO?

"ACL reconstruction used to be a two-plus-hour surgery and the patient spent four days in the



hospital with the knee immobilized," Rajagopalan says.

Today, the surgery is typically done arthroscopically, meaning patients usually go home the same day. A newer procedure called a double-bundle graft is more closely replicating the original anatomy of the knee.

WHAT'S SO GREAT ABOUT IT? In the past, an ACL injury could signal the end of competitive sports—or any sports for that matter.

But these new techniques can help restore strength and stability. With proper rehabilitation—lasting four to six months or more—many athletes can return to normal activities. [vev](#)

knee know-how

Find everything you need to know about keeping your knees healthy at the American Academy of Orthopaedic Surgeons' website, [saveyourknees.org](#).

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keep your knees injury free

Tim Hewett, Ph.D., a spokesman for the National Academy of Sports Medicine, works with athletes to identify problems that can make knees more injury-prone.

Here are a few ways to help protect your knees:

1. Being quads dominant—using your quadriceps more than your hamstrings, glutes and calves—can put pressure on your knees. Build strength in the backside of your legs with hamstring curls and squat jumps.

2. Build symmetry in your legs by working on single-leg balancing and hopping.

3. Work on controlling the motion of your trunk to keep your weight centered over your hip, knee, ankle and foot. Dynamic core stability training such as multidirectional crunches or working on a Swiss ball are best for training these muscles.