

All bent out of joint

Knee & shoulder injuries can hit anyone who exercises, not just an athlete like Tiger Woods

► **The specialist: Dr. James Gladstone, co-chief of sports medicine & associate professor of orthopedic surgery**

An orthopedic surgeon at Mount Sinai for 11 years, Gladstone does research on cartilage regeneration and performs six to eight surgeries a week, specializing in arthroscopic shoulder and knee procedures.

► **The big story:**

Golf legend Tiger Woods, who had arthroscopic surgery on his left knee in April, tested his body and beat the odds with his incredible win at the U.S. Open on Monday. But for us mere mortals, sports injuries can do lasting damage if precautions aren't taken.

► **Who's at risk:**

Sports injuries can happen to anyone who exercises, though some groups are at a higher risk of particular injuries. For instance, Gladstone tends to see shoulder dislocations in younger patients, but rotator-cuff tears tend to be "across the spectrum," usually as the result of traumatic injury.

ACL (anterior cruciate ligament) injuries — tears in one of the ligaments in the knee — are very common. "I see that in anyone from 14 to 50 on a regular basis," says Gladstone. ACL tears tend to happen in twisting, pivoting sports like football, basketball, baseball, soccer and skiing. Women are four to eight times more prone to this type of injury. Doctors aren't sure why, but it's thought to be due to a combination of neuromuscular coordination, women's particular alignment of pelvis and leg, and hormonal factors.

One common scenario Gladstone sees is the weekend exerciser — people who don't run during the week but then run 5 miles on Saturday and 7 on Sunday. They come to the doctor complaining of knee pain. Gladstone says the key is exercising more often, even if it is for shorter sessions: "If you can make time for yourself to work out four days a week — even for as little as 20 minutes a day — you can stay in good maintenance shape and prevent injuries down the road."

► **What you can do:**

Stretch.

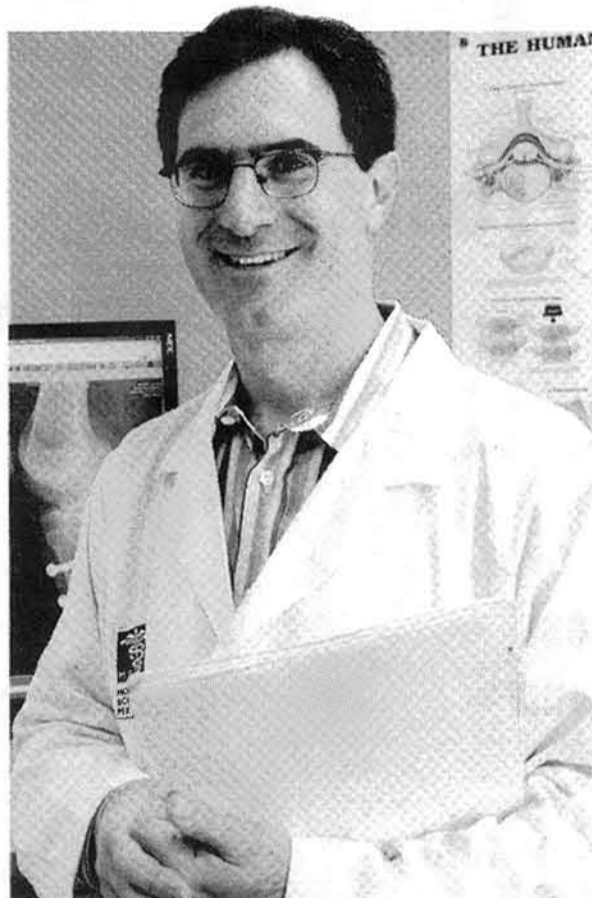
Staying flexible can prevent a lot of injuries. Gladstone recommends "low-load, long-duration stretches." "The idea," he explains, "is you're taking an elastic band, and really give it a good stretch. Doing jerky, or quick stretches are of no benefit — 15, 20, 30 seconds is what you need. It just takes extra time." Stretch before and after exercise.

Think in terms of heat and ice.

Warming up helps before exercise, and icing helps afterward. "If you're nursing an injury, use a heating pad for about 10 minutes before you exercise," says Gladstone. "Afterward, stretch and ice it down."

Cross-train.

Overuse injuries are extremely common, especially as people age. "Some people can't do the same exercise five times a week," says Gladstone. "Try to switch it up." Runners can add in biking, swimming, weights — or Pilates and yoga, which combine stretching and muscle strengthening. "Some of the people I see who are in the best shape do Pilates and yoga," says Gladstone.



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► **Signs and symptoms:**

Gladstone says there is an easy rule of thumb to follow about sports injuries: "The key is — if it hurts, pay attention to it. If it doesn't show improvement in a week, definitely come in and see the doctor." If the degree of pain isn't severe, he recommends taking Advil and staying off it for a week or so. Most nonserious injuries that are causing soreness go away in two to three days.

Usually people notice a meniscus tear — the most common knee injury — because of sudden pain, localized to the inner or outer side of the knee at the joint line. Sometimes the knee will hurt to the touch or hurt when you change directions by squatting, or turning. Another warning sign is swelling, which can be moderate or heavy.

Unlike knee problems, shoulder injuries tend not to cause swelling. Instead, they show up as an aching sensation. Often, people find that it hurts when they try to lift their arm up and put it behind their back.

► **Traditional treatment:**

Doctors have developed extremely successful surgeries for repairing the ACL, a knee ligament that is stressed during quick starting, stopping, jumping and pivoting. "ACL tears used to be career-ending," says Gladstone. "Now you can get back to doing what you want to be doing."

Because a ligament can't be stitched back together, it must be replaced by a tendon. The replacement tendon can be one of the patient's own (this is called an autograft) or a tendon taken from a cadaver (called an allograft). Using an autograft removes the risk of disease transmission, which is very small, but not zero. Using an allograft is less damaging to your own tissues.

"Cartilage is the white, protective covering on the end of the bone," says Gladstone, "and the body doesn't have a way to regrow its own cartilage." Treatment options range

BY THE NUMBERS

American doctors perform somewhere between **100,000** and **200,000** ACL reconstructions a year.

There were **478,000** total knee replacements and **234,000** total hip replacements done in **2004**.

Americans made **163,796,000** trips to the ER for musculoskeletal problems in **2005**.



Tiger Woods was on top of his game at U.S. Open, despite knee surgery. Dr. Gladstone (l.) is researching ways to treat knee injuries.

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from cleaning up the loose flaps arthroscopically to doing a cartilage repair procedure.

Rotator cuff injuries are most often repaired arthroscopically, which means through small "poke holes" in the skin. This procedure avoids the need to make large incisions and having the surgeon cut through muscle, so it's much less invasive. At this point, arthroscopic surgery is so effective most patients go into the hospital and return home on the same day.

► **Research breakthroughs:**

Gladstone is the principal investigator on a FDA Phase II Clinical Trial that is testing a new cartilage sponge that could improve the way doctors respond to cartilage damage, which is currently very difficult to fix. "Seeded" with cartilage cells from the patient's own body, the biologic sponge helps repair articular cartilage defects in the knee. Gladstone's project will compare the new biologic sponge to the microfracture method and osteochondral plug transplants, the two procedures now most commonly done.

Within the last year at Mount Sinai, doctors have been trying a procedure called "all inside" ACL reconstruction, which makes requires no incisions other than the small arthroscopic entry points, and drills the bone tunnels from within the joint.

► **Questions for your doctor:**

If you have a complete grasp of your injury, ask your doctor, "Do I have to have surgery?" It's not a silly question — there are situations where someone might weigh the costs and benefits and opt not to have surgery. Another vital question is, "What will the recovery period be like?" It is good to know up-front what you can expect from rehab, and to what extent you can hope to return to activities that you did before. Don't expect that getting surgery is a one-step solution. Says Gladstone, "Seventy-five percent of getting well can be in the rehab."