What Happens 20+ Years After ACL Surgery?

Physical Therapy in Baton Rouge for Knee

Studies show that a torn anterior cruciate ligament (ACL) that isn't repaired can leave the knee unstable and at risk for gradual degeneration of the joint. Surgery to reconstruct the ligament and repair any damage done to the meniscus is supposed to protect the joint. But does it really?

In this report, a surgeon from France who has been following 100 of his patients gives us a run down on how they are doing 20 to 25 years after reconstructive surgery. Results from this patient group have been routinely reported in the past at regular intervals.

Throughout the follow-up years, certain risk factors that could affect outcomes have also been evaluated. For example, data has been analyzed on the effects of age, surgical delay, joint laxity or looseness after surgery, removal of the entire meniscus, and damage to the joint cartilage. Mostly what they were looking at was how much degeneration occurs in the joint and whether any of those risk factors contributed to the problem.

There were over 400 patients in the initial study but some have died, others have moved, and a fair number didn't want to still be part of the study after the first 10 years. Of the 100 who are still in the game, the age range when surgery was done was between 14 and 43 years old.

Everyone had the same surgical technique performed. The surgeon used a patellar tendon graft to replace the damaged ACL. An extra bit of support was provided by taking a piece of the iliotibial band from alongside the leg and attaching it to it to either side of the lateral (outside edge) of the joint. This procedure called a lateral tenodesis is no longer part of the ACL routine reconstruction. During the ACL reconstructive surgery, the condition of the joint articular cartilage was evaluated and rated. Any problems with the meniscus were taken care of (repaired whenever possible).

Although the surgical procedure didn't change much over the years, postoperative rehab has undergone some major changes. For example, up until 1980, patients were placed in a plaster cast with the knee in a slight bit of flexion to protect the healing tissue. The leg was immobilized this way for a full six weeks. After 1980, a removable splint was applied, which the patient could take off when not walking. Knee flexion was allowed from right after the surgery throughout all the phases of rehabilitation.

Now 20 or more years later, more than half (57 per cent) rate their results as excellent. Another 27 per cent say they have good results. Only 16 per cent said that they felt their outcomes were poor to fair. Patients who had damage to the articular cartilage or meniscus were more likely to have less knee function. And between 10 years post-op and the current study 24 years later, there's been an increase in the number of these patients with osteoarthritis.

Osteoarthritis was judged based on X-rays by looking at the size of the joint space and presence of bony spurs around the joint. Narrowing of the joint space was seen as a result of degenerative deterioration, especially in those patients who had medial meniscus damage or removal. Patients who waited three or more years to have surgery after injuring the ACL were more likely to develop osteoarthritis later.

The patients with osteoarthritis were also less satisfied with their results. They were more likely to experience pain and other symptoms and have lower knee function. Participation in sports and recreation
was less in the group with osteoarthritis.

As with most studies that go for a very long time, the surgeon could look back and see some things that were missing. For example, although the medial side of the joint (side closest to the other knee) was examined and gauged for arthritic changes, no one really kept track of what was going on in the lateral compartment (side of the joint away from the other knee). It's also common for adults to gain weight over time and this change in body weight wasn't accounted for in analyzing the results either.

All-in-all the results 20+ years after ACL reconstructive surgery have been pretty good for this group of patients. The biggest problem has been arthritic changes that have caused pain and loss of knee function. Only 15 per cent of the group with osteoarthritic changes had similar changes in the other knee. So it wasn't the case that they would have ended up with arthritis anyway. The loss of the meniscus and damage to the joint cartilage were the biggest factors in the development of osteoarthritis.