

# What's the Latest News on Meniscus Injuries?

## Physiotherapy in Ottawa Area for Knee

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Has your Doctor or physiotherapist at Physiocare Physiotherapy & Rehab Centre diagnosed your knee with a meniscal tear? This article provides an up-to-date review of the types of treatment being used for your injury, from therapy to surgery.

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Five years ago, Dr. Goldblatt, orthopedic surgeon and professor at the University of Rochester School of Medicine (New York) wrote an article on meniscal (knee) injuries. It was published in the Journal of Musculoskeletal Medicine. Today, Dr. Goldblatt and two other orthopedic surgeons update that information here. More and more efforts are being made to save the damaged cartilage, first through conservative (nonoperative care) and when necessary, using surgery to repair the torn tissue whenever possible.

There are multiple levels of protective cartilage and soft tissues in and around the knee. The meniscus is one of them. Shaped like a crescent or horseshoe-shape, there are two of these thick, stiff pieces of cartilage in each knee. They are designed to help separate the joint, assist with smooth motion, transfer load, and generally, protect the joint. Modern treatment no longer just removes a torn or damaged meniscus. Long-term studies have shown over and over that this type of aggressive treatment puts the joint at risk for faster and worse wear and tear often leading to knee arthritis.

Arthroscopic surgery has made it possible to correct the problem by repairing the meniscus with a minimally invasive procedure. The updated technology has been aided by new treatment techniques such as meniscal regeneration and meniscal transplantation. Although most patients are candidates for meniscal repair, two groups must be considered separately: those who need or want a more conservative approach without surgery and those who qualify for meniscal regeneration and transplantation. Let's take a look at the way treatment is chosen for each patient.

In the case of nonoperative care, the surgeon considers the age and activity level of the patient. Older adults who aren't very active may do just fine with a rehab program of modified activity and strengthening exercises. The surgeon looks at how long the patient has had this problem (acute versus chronic). The chances of healing in a long-term injury (one that occurred months to years ago) are less than in a more recent injury.

What's the condition of the joint? How bad is the tear? Could it heal on its own? Small tears along the edges of the cartilage have a better chance of healing because there is a better blood supply there. An MRI will help show how much blood supply there is and give the surgeon an additional tool when predicting who might get better with nonoperative versus surgical care. Tears on the inner aspect of the meniscus (especially large tears in multiple directions) don't heal well and often need a little surgical help.

Sometimes patients are advised to try a conservative (rehab) program first. If symptoms are resolved and activities can be resumed, then great -- surgery won't be needed. But if after a trial of rehab lasting up to three months, there's no improvement or pain persists with activities, then it's time to think about surgery. The most successful operations are performed within the first 10 to 12 weeks after the injury first occurs.

When it comes to surgery, the goal is to save the meniscus but also stabilize the knee. It may be possible to repair the tear and/or reattach the torn edges. The surgeon shaves down any ragged edges in a procedure

called debridement. Debridement may be all that's needed to stimulate a healing response. In some cases, the surgeon may opt to suture loose edges back in place or even remove part of the damaged meniscus.

By taking a look at the cartilage using an arthroscope, it's possible to see what condition the meniscus is in and how much degeneration has occurred. Too much degeneration and the meniscus won't heal itself and can't be saved. Likewise, if the tear is too long, too deep, or too displaced, then it might be necessary to actually remove part (or all) of the cartilage. This procedure is called a meniscectomy. No matter what, the surgeon always tries to preserve tissue and knee function.

The most difficult injuries to deal with are large tears in more than one direction (vertical and horizontal) and bucket handle tears. With a bucket handle tear, half the meniscus has pulled up away from the rest -- like a bucket handle lifting up away from the bucket. One end of the meniscus can get folded back on itself.

For severely damaged menisci, meniscus repair implants may be possible. This procedure is fairly new and was first used about 10 to 15 years ago. Since then, two procedures have gained in popularity: meniscal allograft transplant and collagen meniscal implants. An allograft transplant uses meniscus donated by others (like an organ donor). Collagen implants use collagen (the basic building block of soft tissues) from animal (cow) tendons. The collagen provides a scaffold that fills in with meniscus-like tissue and fibrous cartilage cells. Collagen implants have two important advantages over allografts: they are widely available and don't require a tissue match.

When considering which treatment approach to take, it's important to consider the success rates (outcomes) for each procedure. That's where researchers are working now to match the right patient with the procedure that will yield the best results. Over time with improved techniques, better patient selection, and matching each patient to the most appropriate procedure, success rates have improved dramatically.

For example, meniscal repair in young patients with a stable knee and tear in the outer portion of the meniscus is 80 to 95 per cent successful. Athletes in this group are able to get back into full sports action at a level equal to before the injury. Partial meniscectomy in someone who has good articular cartilage underneath has a 90 per cent chance of successful healing. This same procedure is only successful 60 per cent of the time when there's damage underneath the torn meniscus or when the knee is unstable or misaligned.

Removing any portion of the meniscus will eventually result in degenerative changes in the joint. This may not happen for five to 10 years, and it is somewhat dependent on how active the patient is -- more activity puts added stress on the joint and increases the risk. Hopes are pinned on meniscal transplants and implants for future successful results. It's always better if the patient can form his or her own, durable, stable meniscus. Meniscal substitutes of this type aren't perfect yet. Future efforts will be directed at finding alternatives that will result in normal, healthy meniscal tissue that will hold up over time under joint contact and force.

Reference: John P. Goldblatt, MD, et al. Managing Meniscal Injuries: The Treatment. In *The Journal of Musculoskeletal Medicine*. December 2009. Vol. 26. No. 12. Pp. 471-477.