

KNEE MENISCAL REPAIR

Patient Information & Exercise Folder

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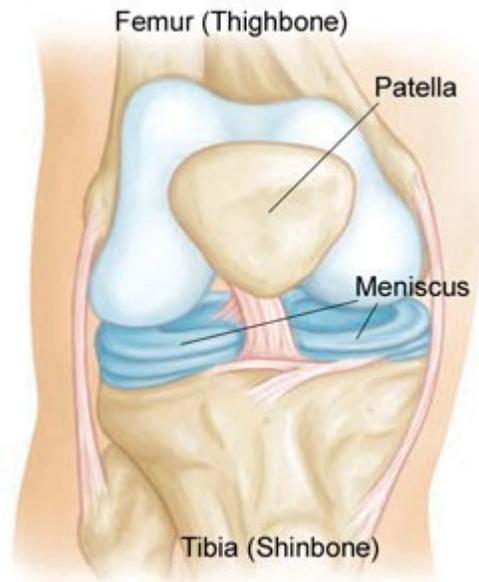
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Your knee is the largest joint in your body and one of the most complex. Because you use it so much, it is vulnerable to injury. Because it is made up of so many parts, many different things can go wrong.

Meniscal tears are among the most common knee injuries. Athletes, particularly those who play contact sports, are at risk for meniscal tears. However, anyone at any age can tear a meniscus. When people talk about torn cartilage in the knee, they are usually referring to a torn meniscus.

Anatomy



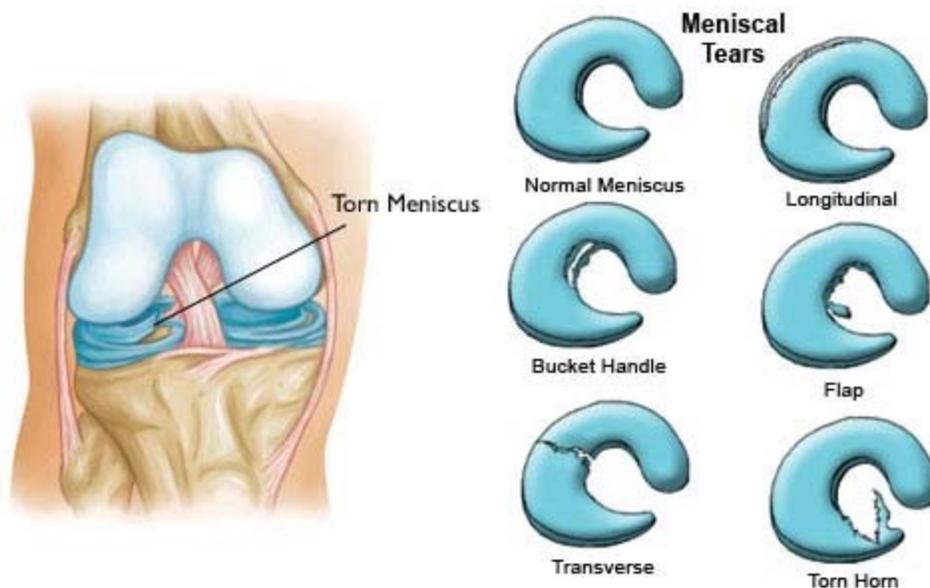
Normal knee anatomy

Three bones meet to form your knee joint: your thighbone (femur), shinbone (tibia), and kneecap (patella).

Two wedge-shaped pieces of cartilage act as "shock absorbers" between your thighbone and shinbone. These are called meniscus. They are tough and rubbery to help cushion the joint and keep it stable.

Description

Menisci tear in different ways. Tears are noted by how they look, as well as where the tear occurs in the meniscus. Common tears include longitudinal, parrot-beak, flap, bucket handle, and mixed/complex.



Common types of tears

Sports-related meniscal tears often occur along with other knee injuries, such as anterior cruciate ligament tears.

Cause

Sudden meniscal tears often happen during sports. Players may squat and twist the knee, causing a tear. Direct contact, like a tackle, is sometimes involved.

Older people are more likely to have degenerative meniscal tears. Cartilage weakens and wears thin over time. Aged, worn tissue is more prone to tears. Just an awkward twist when getting up from a chair may be enough to cause a tear, if the menisci have weakened with age.

Symptoms

You might feel a "pop" when you tear a meniscus. Most people can still walk on their injured knee. Many athletes keep playing with a tear. Over 2 to 3 days, your knee will gradually become more stiff and swollen.

The most common symptoms of meniscal tear are:

- Pain
- Stiffness and swelling
- Catching or locking of your knee
- The sensation of your knee "giving way"
- You are not able to move your knee through its full range of motion

Without treatment, a piece of meniscus may come loose and drift into the joint. This can cause your knee to slip, pop or lock.

Doctor Examination

Physical Examination and Patient History

After discussing your symptoms and medical history, your doctor will examine your knee. He or she will check for tenderness along the joint line where the meniscus sits. This often signals a tear.

One of the main tests for meniscal tears is the McMurray test. Your doctor will bend your knee, then straighten and rotate it. This puts tension on a torn meniscus. If you have a meniscal tear, this movement will cause a clicking sound. Your knee will click each time your doctor does the test.

Imaging Tests

Because other knee problems cause similar symptoms, your doctor may order imaging tests to help confirm the diagnosis.

X-rays. Although X-rays do not show meniscal tears, they may show other causes of knee pain, such as osteoarthritis.

Magnetic resonance imaging (MRI). This study can create better images of the soft tissues of your knee joint.

Treatment

How your orthopaedic surgeon treats your tear will depend on the type of tear you have, its size, and location.

The outside one-third of the meniscus has a rich blood supply. A tear in this "red" zone may heal on its own, or can often be repaired with surgery. A longitudinal tear is an example of this kind of tear.

In contrast, the inner two-thirds of the meniscus lacks a blood supply. Without nutrients from blood, tears in this "white" zone cannot heal. These complex tears are often in thin, worn cartilage. Because the pieces cannot grow back together, tears in this zone are usually surgically trimmed away.

Along with the type of tear you have, your age, activity level, and any related injuries will factor into your treatment plan.

Nonsurgical Treatment

If your tear is small and on the outer edge of the meniscus, it may not require surgical repair. As long as your symptoms do not persist and your knee is stable, nonsurgical treatment may be all you need.

RICE. The RICE protocol is effective for most sports-related injuries. RICE stands for Rest, Ice, Compression, and Elevation.

- **Rest.** Take a break from the activity that caused the injury. Your doctor may recommend that you use crutches to avoid putting weight on your leg.
- **Ice.** Use cold packs for 20 minutes at a time, several times a day. Do not apply ice directly to the skin.
- **Compression.** To prevent additional swelling and blood loss, wear an elastic compression bandage.
- **Elevation.** To reduce swelling, recline when you rest, and put your leg up higher than your heart.

Non-steroidal anti-inflammatory medicines. Drugs like aspirin and ibuprofen reduce pain and swelling.

Surgical Treatment

If your symptoms persist with nonsurgical treatment, your doctor may suggest arthroscopic surgery.

Procedure. Knee arthroscopy is one of the most commonly performed surgical procedures. In it, a miniature camera is inserted through a small incision. This provides a clear view of the inside of the knee. Your orthopaedic surgeon inserts miniature surgical instruments through other small incisions to trim or repair the tear.



Arthroscopic treatment of meniscal tears

Rehabilitation. After surgery, your doctor may put your knee in a cast or brace to keep it from moving.

Once the initial healing is complete, your doctor will prescribe rehabilitation exercises. Regular exercise to restore your knee mobility and strength is necessary. You will start with exercises to improve your range of motion. Strengthening exercises will gradually be added to your rehabilitation plan.

For the most part, rehabilitation can be carried out at home, although your doctor may recommend physical therapy.

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Recovery

Meniscal tears are extremely common knee injuries. With proper diagnosis, treatment, and rehabilitation, patients often return to their pre-injury abilities.

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Meniscus Repair Rehabilitation Protocol

Programme varies depending upon the site and repair procedure.

You might be given a brace to use

ROM

0 – 30 deg for 2 weeks

0 - 60 deg for 2-4 weeks

0- 90 deg for 4-6 weeks

Pre-Op Instructions

1. Gait training instruction with crutches.
2. Instruction in immediate post-op exercises.

Post-Op: Day of surgery at home.

1. Ice & elevation of knee. Compression wrap should be worn to control swelling.
2. Do not allow incisions to get wet while bathing.
3. Range of motion exercises:
 - a. Ankle range of motion (ABC's), and
 - b. Heel Slides (**Do Not Flex Past 90° for 4 weeks**)

You might be advised to do

4. Begin strengthening exercises as tolerated:
 - a. Quadriceps and hamstring sets,
 - b. Straight Leg Raises (SLR): supine, Abduction, Adduction, Prone, and
 - c. Seated knee extension, hip flexion, standing knee flexion, and Terminal Knee Extensions.
5. Ice before and after exercise and 20 minutes every 2 hours while awake.
6. **Non-weight bearing with crutches for 4 weeks.**

Post-Op: Day 1

1. Continue ice, elevation, and compression wrap.
2. Continue range of motion exercises 2 - 3 times per day and add:
 - a. Stationary bike riding with seat height as low as tolerable with low resistance.
4. Continue strengthening exercises.
5. Ice before and after exercises and 20 minutes every two hours while awake.

Post-Op: Day 2 - 7

1. Continue ice and elevation.
2. Continue range of motion exercises.
3. Continue strengthening exercises by utilizing PRE principle and add:
 - a. Weight to all SLR's, Knee Extension, Knee Flexion, Hip Flexion, and TKE's.
5. Ice before and after exercise and continue use of compression wrap.

6. Physician examination 6 - 8 days post-op for evaluation and suture removal.

Post-Op: Week 1 - 3

1. Continue ice and elevation as needed.
2. May shower or bathe after sutures have been removed.
3. Continue range of motion exercises to 90° of flexion limitation.
4. Continue strengthening exercises.
5. Ice before, if indicated, and after exercise.

Post-Op: Week 4 - 8

1. May apply lotion to incisions sites using heel of thumb and pressure as tolerated.
2. Continue range of motion exercises progressing past 90° to achieve full motion.
3. Continue strengthening exercises, and add:
 - a. Heel raises with balance assistance,
 1. Progressing to elevated or one-leg heel raises.
 - b. Partial squats with balance assistance,
 1. Progressing depth as tolerated, and
 2. Progressing to single leg squats.
 - c. Side Step-Ups,
 - d. Stair Climber exercises, and
- d. Begin Walk-Jog program on smooth, flat surface, walking curves as tolerated at 6 weeks.
4. Return to full activities when:
 - a. Range of motion and girth measurements are bilaterally equal,
 - b. Bilateral strength measurements are 85% or better, and
 - c. Clearance by treating physician.

Patients heal at different rates, possess various pre-operative deficiencies, and require specific attributes to perform normal function. Due to these factors, this protocol must be individualized to each patient to allow for optimal return to desired activities.