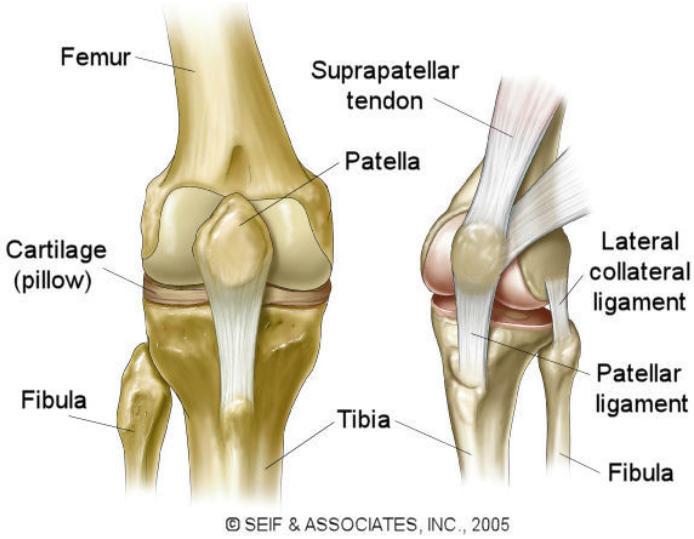
Knee Pain, General

The knee is the complex joint between your thigh and your lower leg. It is made up of bones, tendons, ligaments, and cartilage. The bones that make up the knee are:

- The femur in the thigh.
- The tibia and fibula in the lower leg.
- The patella or kneecap riding in the groove on the lower femur.



CAUSES

Knee pain is a common complaint with many causes.

A few of these causes are:

- Injury, such as:
  - A ruptured ligament or tendon injury.
  - Torn cartilage.
- Medical conditions, such as:
  - Gout
  - Arthritis
  - Infections
- Overuse, over training or overdoing a physical activity.

Knee pain can be minor or severe. Knee pain can accompany debilitating injury. Minor knee problems often respond well to self-care measures or get well on their own. More serious injuries may need medical intervention or even surgery.

SYMPTOMS

The knee is complex. Symptoms of knee problems can vary widely. Some of the problems are:

- Pain with movement and weight bearing.
- Swelling and tenderness.
- Buckling of the knee.
- Inability to straighten or extend your knee.
- Your knee locks and you cannot straighten it.
- Warmth and redness with pain and fever.
- Deformity or dislocation of the kneecap.

DIAGNOSIS

Determining what is wrong may be very straight forward such as when there is an injury. It can also be challenging because of the complexity of the knee. **Tests to make a diagnosis may include:**

- Your caregiver taking a history and doing a physical exam.
- Routine X-rays can be used to rule out other problems. X-rays will not reveal a cartilage tear. Some injuries of the knee can be diagnosed by:
  - **Arthroscopy** a surgical technique by which a small video camera is inserted through tiny incisions on the sides of the knee. This procedure is used to examine and repair internal knee joint problems. Tiny instruments can be used during arthroscopy to repair the torn knee cartilage (*meniscus*).
  - **Arthrography** is a radiology technique. A contrast liquid is directly injected into the knee joint. Internal structures of the knee joint then become visible on X-ray film.
  - **An MRI scan is** a non x-ray radiology procedure in which magnetic fields and a computer produce two- or three-dimensional images of the inside of the knee. Cartilage tears are often visible using an MRI scanner. MRI scans have largely replaced arthrography in diagnosing cartilage tears of the knee.
- Blood work.

- Examination of the fluid that helps to lubricate the knee joint (*synovial fluid*). This is done by taking a sample out using a needle and a syringe.

TREATMENT

The treatment of knee problems depends on the cause. Some of these treatments are:

- Depending on the injury, proper casting, splinting, surgery or physical therapy care will be needed.
- Give yourself adequate recovery time. Do not overuse your joints. If you begin to get sore during workout routines, back off. Slow down or do fewer repetitions.
- For repetitive activities such as cycling or running, maintain your strength and nutrition.
- Alternate muscle groups. For example if you are a weight lifter, work the upper body on one day and the lower body the next.
- Either tight or weak muscles do not give the proper support for your knee. Tight or weak muscles do not absorb the stress placed on the knee joint. Keep the muscles surrounding the knee strong.
- Take care of mechanical problems.
  - If you have flat feet, orthotics or special shoes may help. See your caregiver if you need help.
  - Arch supports, sometimes with wedges on the inner or outer aspect of the heel, can help. These can shift pressure away from the side of the knee most bothered by osteoarthritis.
  - A brace called an "unloader" brace also may be used to help ease the pressure on the most arthritic side of the knee.
- If your caregiver has prescribed crutches, braces, wraps or ice, use as directed. The acronym for this is **PRICE**. This means protection, rest, ice, compression and elevation.
- Nonsteroidal anti-inflammatory drugs (NSAID's), can help relieve pain. But if taken immediately after an injury, they may actually increase swelling. Take NSAID's with food in your stomach. Stop them if you develop stomach problems. Do not take these if you have a history of ulcers, stomach pain or bleeding from the bowel. Do not take without your caregiver's approval if you have problems with fluid retention, heart failure, or kidney problems.
- For ongoing knee problems, physical therapy may be helpful.
- Glucosamine and chondroitin are over-the-counter dietary supplements. Both may help relieve the pain of osteoarthritis in the knee. These medicines are different from the usual anti-inflammatory drugs. Glucosamine may decrease the rate of cartilage destruction.
- Injections of a corticosteroid drug into your knee joint may help reduce the symptoms of an arthritis flare-up. They may provide pain relief that lasts a few months. You may have to wait a few months between injections. The injections do have a small increased risk of infection, water retention and elevated blood sugar levels.
- Hyaluronic acid injected into damaged joints may ease pain and provide lubrication. These injections may work by reducing inflammation. A series of shots may give relief for as long as 6 months.
- Topical painkillers. Applying certain ointments to your skin may help relieve the pain and stiffness of osteoarthritis. Ask your pharmacist for suggestions. Many over the-counter products are approved for temporary relief of arthritis pain.
- In some countries, doctors often prescribe topical NSAID's for relief of chronic conditions such as arthritis and tendinitis. A review of treatment with NSAID creams found that they worked as well as oral medications but without the serious side effects.

PREVENTION

- Maintain a healthy weight. Extra pounds put more strain on your joints.
- Get strong, stay limber. Weak muscles are a common cause of knee injuries. Stretching is important. Include flexibility exercises in your workouts.
- Be smart about exercise. If you have osteoarthritis, chronic knee pain or recurring injuries, you may need to change the way you exercise. This does not mean you have to stop being active. If your knees ache after jogging or playing basketball, consider switching to swimming, water aerobics or other low-impact activities, at least for a few days a week. Sometimes limiting high-impact activities will provide relief.

- Make sure your shoes fit well. Choose footwear that is right for your sport.
- Protect your knees. Use the proper gear for knee-sensitive activities. Use kneepads when playing volleyball or laying carpet. Buckle your seat belt every time you drive. Most shattered kneecaps occur in car accidents.
- Rest when you are tired.

SEEK MEDICAL CARE IF:

You have knee pain that is continual and does not seem to be getting better.

SEEK IMMEDIATE MEDICAL CARE IF:

Your knee joint feels hot to the touch and you have a high fever.

MAKE SURE YOU:

- Understand these instructions.
- Will watch your condition.
- Will get help right away if you are not doing well or get worse.

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