



# Dealing with Knee Problems

Sometimes we may not give much thought to our body until it begins to hurt or cause mobility issues. Many people will experience knee pain as they grow older or experience an injury. The knees are important in keeping us mobile and stable while providing support for the body. Both flexibility and stability are needed to stand, walk, run, crouch, jump and turn. Did you know other parts of the body help the knees do their job, including:

- Bones
- Cartilage
- Muscles
- Ligaments
- Tendons

If any of these parts are injured, the knee may hurt and may not be able to do its job properly.

## WHAT CAUSES KNEE PROBLEMS?

**Mechanical knee problems can be caused by:**

- A direct blow or sudden movement that strains the knee
- Osteoarthritis in the knee, resulting from wear and tear on its parts

Inflammatory knee problems can be caused by certain rheumatic diseases, such as rheumatoid arthritis and systemic lupus erythematosus (lupus). These diseases cause swelling that can damage the knees permanently.

## HOW ARE KNEE PROBLEMS DIAGNOSED?

**Doctors diagnose knee problems by using:**

- Medical history
- Physical examination
- Diagnostic tests (such as x-rays, bone scan, CAT scan, MRI, arthroscopy and biopsy)

## TYPES OF ISSUES THAT CAN CAUSE KNEE PAIN AND INJURY

### ARTHRITIS

The most common type of arthritis of the knee is **osteoarthritis**. In this disease, the cartilage in the knee gradually wears away. Treatment includes:

- Medicines to reduce pain, such as aspirin and acetaminophen
- Medicines to reduce swelling and inflammation, such as ibuprofen and nonsteroidal anti-inflammatory drugs (NSAIDS)
- Exercises to improve movement and strength
- Weight loss

**Rheumatoid** arthritis is another type of arthritis that affects the knee. In rheumatoid arthritis, the knee becomes inflamed and cartilage may be destroyed. Treatment includes:

- Physical therapy
- Medications
- Knee replacement surgery (for a seriously damaged knee)

## CARTILAGE INJURIES AND DISORDERS

**Chondromalacia** (pronounced KON-dro-muh-lay-she-uh) occurs when the cartilage of the knee cap softens. This can be caused by injury, overuse or muscle weakness, or if parts of the knee are out of alignment. Chondromalacia can develop if a blow to the knee cap tears off a piece of cartilage or a piece of cartilage containing a bone fragment.

The **meniscus** (meh-NISS-kus) is a C-shaped piece of cartilage that acts like a pad between the femur (thigh bone) and tibia (shin bone). It is easily injured if the knee is twisted while bearing weight. A partial or total tear may occur. If the tear is tiny, the meniscus stays connected to the front and back of the knee. If the tear is large, the meniscus may be left hanging by a thread of cartilage. The seriousness of the injury depends on the location and the size of the tear.

### Treatment for cartilage injuries includes:

- Exercises to strengthen muscles
- Electrical stimulation to strengthen muscles
- Surgery for severe injuries

## LIGAMENT INJURIES

Two commonly injured ligaments in the knee are the anterior **cruciate** ligament (ACL) and the **posterior cruciate** ligament (PCL). An injury to these ligaments is sometimes called a “sprain.” The ACL is most often stretched or torn (or both) by a sudden twisting motion. The PCL is usually injured by a direct impact, such as in an automobile accident or football tackle.

The medial and lateral collateral ligaments are usually injured by a blow to the outer side of the knee. This can stretch and tear a ligament. These blows frequently occur in sports such as football or hockey.

### Ligament injuries are treated with:

- Ice packs (right after the injury) to reduce swelling
- Exercises to strengthen muscles
- A brace
- Surgery (for more severe injuries)

## TENDON INJURIES

Tendon injuries range from tendinitis (inflammation of a tendon) to a ruptured (torn) tendon. Torn tendons most often occur from:

- Overusing a tendon (particularly in some sports). The tendon stretches like a worn-out rubber band and becomes inflamed.
- Trying to break a fall. If thigh muscles contract, the tendon can tear. This is most likely to happen in older people with weak tendons.

One type of tendinitis of the knee is called jumper’s knee. In sports that require jumping, such as basketball, the tendon can become inflamed or can tear.

### Treatment for tendon injuries includes:

- Rest
- Ice
- Elevation
- Medicines such as aspirin or ibuprofen to relieve pain and reduce swelling
- Limiting sports activity
- Exercise for stretching and strengthening
- A cast, if there is a partial tear
- Surgery for complete tears or very severe injuries

## WHAT KIND OF DOCTORS TREAT KNEE INJURIES?

Injuries and diseases of the knees are usually treated by an orthopedist (a doctor who treats problems with bones, joints, ligaments, tendons and muscles).

## HOW CAN PEOPLE PREVENT KNEE PROBLEMS?

Some knee problems (such as those resulting from an accident) can't be prevented. But many knee problems can be prevented by doing the following:

- Warm up before playing sports
- Make the leg muscles strong by doing exercises, such as walking up stairs, riding a stationary bike or working out with weights
- Avoid sudden changes in the intensity of exercise.
- Increase the force and duration of activity slowly
- Wear proper shoes for the activity you are performing
- Maintain a healthy weight

### REFERENCES:

*What are Knee Problems?* (2010) U.S. Department of Health and Human Services. National Institute of Arthritis and Musculoskeletal and Skin Diseases, Bethesda, Maryland