Chondromalacia

The joints formed by the ends of bones are covered with a tissue called articular cartilage. The cartilage helps to cushion the bones and allows them to glide smoothly against one another, thus allowing for smooth movements of the joints.
Sometimes, the cartilage softens and breaks down. This condition is called chondromalacia. The cartilage loses its ability to protect the ends of the bones as the joint moves. The ends of the bones can rub together, causing pain.
Chondromalacia can affect any joint, but the most common location is inside the knee. It usually begins as a small area of softened cartilage. Eventually, more of the cartilage softens, and the softened cartilage can crack or shred into a mass of fibers. In severe cases, the damaged cartilage can wear away completely. If this happens, the exposed bony surface can grind painfully against other knee bones. Also, bits of cartilage can float inside the joint, further irritating the cells that line the joint. In response, these cells produce fluid inside the joint (called a joint effusion).

Chondromalacia is usually related to injury, overuse, poorly aligned muscles and bones around the joint, and other lesions of other knee structures. Sometimes it may be present alongside different conditions such as osteoarthritis or rheumatoid arthitis:
Chondromalacia affects mostly young adults. It is especially common in runners, joggers, skiers, soccer players, cyclists and other athletes who repeatedly stress their knees. Also, workers who spend a lot of time kneeling – particularly carpet layers, tile setters and floor layers – are more likely to develop this problem.

Symptoms

The most common symptom of chondromalacia is a dull, aching pain inside joint. This pain can get worse when performing specific movements and activities. For example, your knee may be painful and stiff when you stand up after watching a movie or after a long trip in a car or plane.
Chondromalacia also can make your joint "catch" meaning you suddenly have trouble moving it past a certain point, or "give way" (buckle unexpectedly). In some cases, there might be swelling of the joint. You can also experience creaky sound or grinding sensation when moving the joint, however painless creaking sounds do not always mean that cartilage is damaged.

Diagnosis

Your doctor will make physical examination of the joint consisting of visual assessment, palpation of the joint, check – up of the range of motion and special physical tests which can sometimes bring slight discomfort.
Your doctor may order X-rays. If your symptoms are severe or unusual, your doctor also may order a computed tomography or magnetic resonance imaging scan.

Expected Duration of Treatment

Because articular cartilage heals poorly, chondromalacia usually is a permanent problem.
Depending on the extent the cartilage wear you might expect improvement within weeks/months.

The healing process result in formation of the scar tissue which resembles native cartilage, however of diminished capacity to withstand forces applied to the joint.

Treatment

Nonsurgical treatments can relieve pain within a few months. Available modalities include:

- Applying ice after exercise and as needed for pain or swelling
- Taking a nonsteroidal anti-inflammatory drug or other pain relievers
- Starting an exercise program to strengthen the muscles around your knee
- Avoiding high-impact exercises, kneeling and squatting
- Using tape or brace (only if ordered by treating physicians)
- Specific medications may enhance cartilage recovery. These are: tablets, intraarticual

injections of specific gels and even factors taken from your blood. Please consult your doctor in this regard.

You will be probably referred to physical therapist that can use different techniques to relieve the pain and improve healing process.

If nonsurgical treatments fail, or if you have severe symptoms, joint arthroscopy ("small-hole" surgery) may be performed. If the cartilage is softened or shredded, damaged layers can be removed during the surgery, leaving healthy cartilage in place. Sometimes it is necessary to make some holes in underlying bone as new cells may come from inside and form scar tissue. This procedure is called microfracturing. When done, you should follow specific aftertreatment pathway to avoid unnecessary complications. Doctor also can surgically correct the alignment of the bones or perform autologous chondrocyte implantation.

Prevention

You can reduce your risk of chondromalacia by preventing means. To do this:

- Warm up and stretch before you participate in athletic activities.
- Do exercises to strengthen the leg muscles around your knee, especially the muscles in your thigh called the quadriceps.
- Increase the intensity of your training program gradually. Never push yourself too hard, too fast.
  Wear comfortable, supportive shoes that fit your feet and your sport. Problems with foot alignment can increase your risk of knee injuries. Ask your doctor about shoe inserts that can correct alignment problems.
- If you ski or if you play football or soccer, ask your doctor or trainer about specific equipment that can help to reduce your risk of knee injuries.
- If you often kneel on hard surfaces when you work, wear protective knee pads.