

AthletiHINTS



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Knee Cartilage Injuries

Introduction

The knee is the largest joint in the body and is subjected to an enormous workload during many sports. The cartilage of the knee serves as the “shock absorber.” There are two types of cartilage in the knee. The articular cartilage or hyaline cartilage is the smooth white cartilage on the end of the bones. The meniscus cartilage is a fibrocartilage and is the c-shaped pad between the bones. It is important to differentiate the type of cartilage injury, because not only is the treatment different for the various types of cartilage injury, but the prognosis or expected outcome varies as well.

Meniscus injuries

Meniscus injuries or tears usually occur from a twisting episode, such a rapid change in direction when the knee is partially bent.

Meniscus tears will cause pain along the joint line and often cause swelling and catching or locking. Meniscus tears are named according to the shape of the tear, such as flap or “parrot beak,” or “bucket handle.” The blood supply to the meniscus is very poor, and an injury to the meniscus will rarely heal by itself.

An athlete with a damaged meniscus who wants to continue in sports usually will require arthroscopic surgery. Arthroscopic surgery (arthroscopy) uses a small instrument with a camera and magnifying device and tiny instruments to trim or repair the meniscus. Torn cartilage on the inner edge of the c-shaped meniscus is usually trimmed and removed, while outer edge tears can be repaired because the outer edge receives blood supply.

Articular injuries

Articular cartilage injury may be acute, from a twisting episode, but more often is due to wear and tear over time. Articular cartilage has very poor reparative ability, but new treatments for acute isolated injury include cartilage transfer from another joint location as well as cartilage culture procedures. These are technically demanding procedures and should be done by a sports medicine orthopedist with specialty training in this procedure.

Prevention

Most acute knee injuries are caused by freak accidents and are therefore difficult to prevent. However, several preventative measures can be taken by athletes to avoid acute knee injuries. Most importantly, athletes should engage in a conditioning program to develop both strength and flexibility in the musculature surrounding the knee joint. Strong thigh muscles can offer some effective protection against forces that would ordinarily twist the knee beyond its normal range of motion.

Appropriate footwear is another important factor to prevent acute knee injuries. The trend has gone away from shoes with a small number of long cleats such as in football, and athletes are now advised to wear footwear with a greater number of shorter cleats, which prevents the foot from becoming too firmly fixed to the playing surface.