

KNEE DISLOCATION

DESCRIPTION

This is a sprain (tear) of multiple (usually 3 of the 4) major ligaments of the knee. The four knee ligaments are the anterior cruciate ligament (ACL), posterior cruciate ligament (PCL), medial collateral ligament (MCL) and lateral collateral ligament (LCL). Knee dislocations usually require injury to both cruciate ligaments and one collateral ligament. Ligaments are structures that help keep the normal relationship of the femur (thigh bone) and the tibia (leg bone). They allow motion until certain extremes and any motion beyond these extremes result in ligament sprain. Injury to multiple ligaments results in difficulty in performing sports and even with day to day living.

FREQUENT SIGNS AND SYMPTOMS

- One or more pops are usually heard or felt at the time of injury, an inability to continue after the injury, and knee swelling noticed within 6 hours after the injury. There may be a deformity of the knee
- Inability to straighten knee.
- Knee giving way or buckling, often there is swelling with repeated giving way.
- Occasionally locking may exist when there is concurrent injury to the meniscus cartilage.
- Rarely, injury to nerves (numbness, weakness, paralysis) or discoloration or coldness (due to artery injury) of the foot and ankle

CAUSES

Force that exceeds the strength to the ligament. This injury usually is the result of a severe injury, though it may be a result of a non-contact injury (stepping in a hole in the ground hyperextending the knee and twisting).

RISK INCREASES WITH

- Sports that require pivoting, jumping, cutting or changing direction (basketball, gymnastics, soccer, volleyball) or contact sports (football, rugby), sports on uneven terrain (cross country running, soccer)
- Poor physical conditioning (strength/flexibility)
- Improper equipment

PREVENTIVE MEASURES

- Appropriate warm-up and stretching before practice and competition
- Appropriate conditioning including thigh, leg and knee flexibility, muscle strength and endurance
- Proper technique
- Proper equipment (length of cleats for surface)

EXPECTED OUTCOME

If untreated, usually giving way and recurrent injury to the knee with sports and often even with daily activities. Injury to the arteries and/or nerves have a higher risk of poor outcome. Often surgery is required for knee stability. Some athletes never return to sports participation after this injury, though the prognosis is much better when there is no injury to the artery and nerves.

POSSIBLE COMPLICATIONS

- Frequent recurrence of symptoms, such as knee giving way, instability and swelling
- Injury to the meniscal cartilage, resulting in locking and swelling of the knee.
- Injury to other structures of the knee, including the bone and articular cartilage, resulting in knee arthritis.
- Injury to other ligaments of the knee
- Knee stiffness (loss of knee motion)
- Permanent injury to nerves (numbness, weakness, paralysis) or arteries
- Amputation of the leg due to nerve or artery injury

GENERAL TREATMENT CONSIDERATIONS

Initial treatment consists of medications and ice to relieve pain and reduce the swelling of the knee. Walking with crutches is often recommended. Bracing or casting may also be recommended initially. Rehabilitation of these injuries usually concentrates on reducing knee swelling, regaining knee range of motion, regaining muscle control and strength, functional training, bracing (often) and education, such as avoiding sports that require pivoting, cutting, changing direction and jumping/landing. Properly timed surgical repair or reconstruction (replacement) of one or both of the ligaments in the hands of an experienced orthopaedic surgeon has the best chance for an optimal result. Artery injury requires immediate surgical attention. Some athletes never return to sports, though often this depends on the associated injuries and the demands of the sport.

MEDICATION

- Non-steroidal anti-inflammatory medications, such as aspirin and ibuprofen (do not take if surgery planned in 7 days or less), or other minor pain relievers, such as acetaminophen, are often recommended. Take these as directed by your physician. Contact him/her immediately if any bleeding, stomach upset or an allergic reaction occurs.
- Stronger pain relievers may be prescribed as necessary by your physician. Use only as directed and only as much as you need.

HEAT AND COLD:

- Cold is used to relieve pain and reduce inflammation. Cold should be applied for 10-15 minutes every 2-3 hours for inflammation and pain, and immediately after any activity which aggravates your symptoms. Use ice packs or an ice massage.
- Heat may be used prior to performing stretching and strengthening activities prescribed by your physician, physical therapist or athletic trainer. Use heat pack or a warm soak.

NOTIFY OUR OFFICE IF

- Symptoms get worse or do not improve in 6 weeks despite treatment
- After injury or surgery any of the following occur:
 - You experience pain, numbness, coldness or blue, gray or dusky discoloration in the foot or toenails
 - Signs of infection including fever, increased pain, swelling, redness, drainage or bleeding in the surgical area.
- New, unexplained symptoms develop. Drugs used in treatment may produce side-effects.

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