Sports Related Knee Injuries Essay, Research Paper

Sports have been around for a very long time. The Maya used to play a game with a rubber ball similar to basketball. The nobility in the medieval era played a primitive form of tennis. Most civilizations have had a sport of some kind. Sports are a way for us to get exercise and expend energy. However, in modern society, sports have become much more competitive and more popular. There are now numerous professional sports leagues and every year, millions of people go to see professional sporting events. Nowadays in football, as a man on the defensive line, your goal is to try and smash the quarterback, whereas 30 years ago, the goal was to just to win the game. This change in mindset, to be more aggressive and more intimidating, has happened in many sports such as basketball, hockey and soccer. This is in part due to the advancement of equipment technology. With more protection you can push yourself harder and longer, but many people push too much. Because of this new, harder and more intense way of playing, the rate of injuries has gone up. And by far, the most effected limb has been the knee.

The anterior cruciate ligament (ACL) is the most commonly injured ligament of the knee. The ligament is most commonly injured during an athletic activity. Due to the fact that sports are an increasingly important part of day to day life in the United States, the number of ACL injuries has steadily increased over the past few decades. Many sports have been associated with ACL tears. Those sports requiring the foot to be planted and the body to change direction rapidly (such as basketball) carry a high incidence of injury. Football, of course, is the most common source of an ACL tear. Football combines the activity of planting the foot, rapidly changing direction and the threat of bodily contact. Downhill skiing is another frequent source of ACL tears, especially since the introduction of ski boots that come higher up the calf. These boots move the forces caused by a fall to the knee rather than the ankle or lower leg. The ACL injury usually occurs when the knee is forcefully twisted, or hyper-extended. Many patients recall hearing a loud pop when the ligament tears, and feel the knee give way. This injury has received a great deal of attention from orthopedic surgeons over the past 15 years and very successful operations to reconstruct the torn anterior cruciate ligament have been performed.

The tearing oh the posterior cruciate ligament is another sports related knee injury, though less common than the ACL. This injury can occur when the knee is forcefully twisted or hyper-extended, but other ligaments are usually injured or torn, before the posterior cruciate ligament (PCL) is torn in these injuries. The most common way for the PCL alone to be injured is from a direct blow to the front of the knee while the knee is bent. If the tibia moves too far back the PCL can rupture. This is a common cause of injury to the PCL during an automobile accident. As the automobile strikes another and stops suddenly, the front passenger or driver slides forward. The bent knee hits the dashboard just below the kneecap. This forces the tibia backward on the femur tearing the PCL. The same force can occur during a fall on the bent knee, where the force of the fall on the tibia pushes it back against the femur and tears the PCL. The PCL may not be the only ligament injured when the knee is injured violently, such as a severe hyperextension injury where the knee is forced backwards (bends in the opposite direction that is should). This injury may occur when the foot is planted on the ground and the knee is struck from the front, (such as with a car bumper, or another player in soccer or football). It is not uncommon to see several ligaments injured in addition to the PCL during a true knee dislocation.

Cartilage tears are another type of knee injury and can be very painful. The most common cause is an abnormal twist in your knee while your weight is on the leg. In each case, your knee is bent at the moment of injury. A sudden stress with the knee bent, even when you are not standing on the leg, can be enough to tear the cartilage. Cartilage tears can also be caused by a sudden over- stress when your knee is straight, for instance if you miss a drop kick in rugby.

The collateral ligaments can also be injured in sporting activities, such as skiing or football. This usually occurs when the lower leg is forced sideways; either towards the other knee (medially) or away from the other leg (laterally). A blow to the outside of the knee while the foot is planted can put stress on the medial collateral ligament (MCL) and result in a tear of the ligament. Slipping on the ice can cause the foot to slip outward, taking the lower leg with it. The body weight pushing down causes a force on the whole leg — just like bending a green stick. The MCL may be torn in this instance because the force hinges the knee open putting stress on the MCL. One way to injure both the medial collateral ligament and the lateral collateral ligament is to twist the upper leg in one direction and the lower leg in the opposite direction.

Knee injuries are an epidemic. They are present now more than ever. Players and athletes are pushing themselves harder and longer and are suffering the consequences. Maybe we need to slow down and return to the principals of the old games. We should play games for fun and to try and injure the other players. We need to change the way we think about playing sports.

1. Anatomy of the Knee. 9/26/96. Available:

http://www.aaos.org/wordhtml/pat\_educ/kneeanat.htm

2. Questions & Answers. 2000. Available:

http://www.intelli.com/vhosts/aossm-isite/html/main.cgi?sub=134&cooked=56626-@JOXP-IT&prof=&origsite=http://www.intelli.com/vhosts/aossm-isite&origcount=&origsub=134&origloc=main.cgi&sub=134

3. Knee Injuries and Disorders. 10/20/00. Available:

http://www.nlm.nih.gov/medlineplus/kneeinjuriesanddisorders.html