



# Acute Knee Injury

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**KNEE INJURIES ACCOUNT FOR 15% OF ALL SPORTS INJURIES AND ARE COMMON IN ULTIMATE DUE TO THE FREQUENCY OF CUTTING, JUMPING, AND COLLISIONS. THIS ARTICLE WILL ADDRESS ACUTE INJURIES (VS. OVER-USE INJURIES) AND ACL INJURY PREVENTION. THIS COLUMN IS NOT MEANT TO REPLACE MEDICAL EVALUATION FOR YOUR HEALTH PROBLEMS. ALWAYS SEEK MEDICAL HELP FOR WORRISOME OR PERSISTENT SYMPTOMS.**

Just after a knee injury, the muscles around the knee spasm (fixed in contraction) and the injured area swells in an attempt to protect the knee. This makes a reliable examination difficult. Thus when evaluating knees a history of the injury and symptoms are often most important.

Warning signs of a serious injury are shown in Table 1. The warning signs are suggestive only, not diagnostic. Knees are complicated. You can view a diagram of the inner knee in Figure 1. Definitive diagnosis of a severe injury requires a doctor and often an MRI.

Initial treatment is RICE: Rest, Ice, Compress, Elevate. Ice for 20 minutes four times a day until the swelling stops. Avoid heat. Compress by wrapping the knee from below to above the joint. Elevate to at least waist level. Repeat this treatment any time the knee starts to hurt again. While waiting for your doctor's appointment you can control the pain with ibuprofen 600-800mg three times a day or Tylenol if ibuprofen bothers your stomach. You can do the exercises in Figure 2 to keep your knee strong and reduce swelling. Your doctor will usually order an x-ray because 6% of acute knee injuries have an associated fracture and then determine whether you need an MRI.

## ACL INJURY PREVENTION

ACL injury is a continual hot topic for athletes. Women are five times more likely to tear their ACL than men. There is debate about why and the best answer seems to be a combination of factors including anatomy, hormones, and movement dynamics. Prevention aims to change movement dynamics and is effective in both men and women.

An imbalance that favors the ligaments, quadriceps, or one leg can predispose an athlete to ACL injuries. Prevention programs use combinations of plyometrics, balance training, and single leg lifting. When doing jumping exercises make sure you are using good posture with your chest leaned forward over your bent knees. Throughout a jump, go straight up with no excessive side-

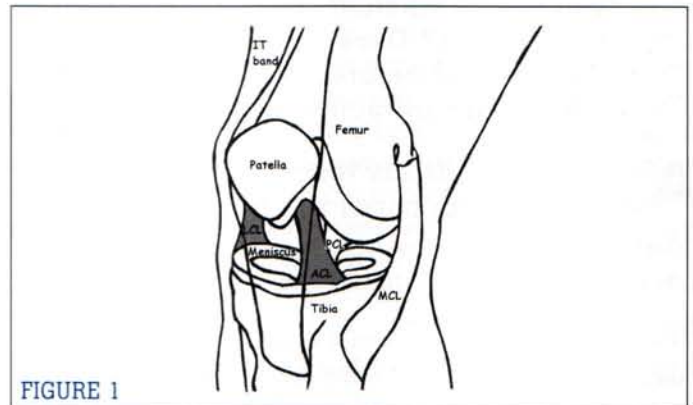


FIGURE 1

to-side or forward-backward movement and land softly using toe-to-heel rocking with bent knees, easing into recoil position for the next jump. Use single leg lifting to identify imbalances between your legs. You should be able to lift with your hamstrings at least 60%-70% of the weight that you can lift with your quadriceps.

One successful prevention program the Santa Monica ACL Tear Prevention (PEP) program can be found at [www.aclprevent.com/pepprogram.htm](http://www.aclprevent.com/pepprogram.htm). A study that enrolled 1435 female soccer players showed a 70% reduction in ACL injuries. This program has been modified for Ultimate and can be found at [injurytimeout.org](http://injurytimeout.org).

Overall, improve your landing biomechanics after jumping, increase your hamstring strength, and make sure that both of your legs are equally as strong; doing all three of these tasks will decrease your risk of an ACL injury.

### References

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**TABLE 1:  
WARNING SIGNS OF SEVERE INJURY AND CORRELATED COMMON INJURIES**

**Mechanism of injury**

- Twisting/cutting → ACL or meniscus tear
- Side impact → MCL or LCL tear, patellar dislocation
- Collision → anything

**Pain**

- NOT very painful → complete tear
- Lots of pain → partial tear
- Location, severity, and onset are important to remember
- Sounds
- "pop" that the athlete hears → ACL tear
- loud pop that surrounding players can hear → patellar dislocation
- crack → fracture

**Inability to weight bear** → serious injury

**Feeling of instability** → common symptom, frequently seen in complete ligament tears

**Immediate swelling** → common symptom, frequently seen in ACL tear and patellar dislocation

**True locking** (when you cannot move your leg) → meniscus tear, loose piece of cartilage or bone fragment from a fracture within the knee joint

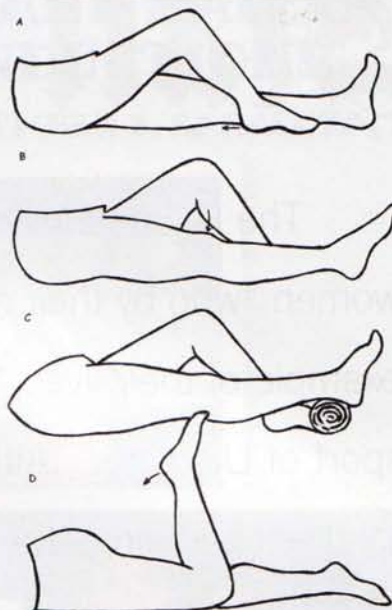


FIGURE 2

**LOOKING FOR A BACK ISSUE/ELECTRONIC VERSION OF INJURY TIME OUT COLUMN?**

Visit the Resources section of the UPA web site (<http://www.upa.org/sportdev/resources>) for a direct line to Dr. Nuwer's web site Injury Time Out. In addition to columns found in prior issues of *USA Ultimate*, players can find valuable information prepared by health care professionals and geared specifically to Ultimate players.

**UPA 2008 CLUB CHAMPIONSHIP SERIES – LIVE STREAMING OF FINALS GAMES**



For the first time ever, each of the 4 UPA Club Championship finals games (Masters, Open, Mixed, Women) were streamed live over the internet and available for real-time viewing by all UPA members. For those of us who in years past were relegated to feverishly hitting the 'refresh' button on the score reporter, this signified a marked improvement in keeping up with live action in Sarasota.

The UPA outsourced the production of the live streaming video to UltiVillage, who in recent years has emerged as the premier provider of Ultimate related video media. Over 3000 unique visitors from all over the world tuned in to watch all or some portion of broadcast, however about a third of our viewers indicated they were watching in small viewing parties, so the total number of viewers could be much larger. About 60% of those surveyed indicated they tuned in specifically to watch a friend or a family member compete. The other 40 percent? Pure fans.

One of the biggest challenges of the project was to ensure that the field site had sufficient network bandwidth to upload the video to the video hosting service. In order to achieve this, the UPA had to coordinate with the Sarasota Polo club to set up special gateway device to enable a dedicated outdoor wi-fi radio link with the cooperation of the Sarasota Polo Club. The effort and the cost turned out to be well worth it. Here was some of the feedback we received from our viewers:

*"It literally sent chills down my spine to be sitting at home in Bloomington, IN watching the finals"*

*"In my 10 years of membership, the live stream of the finals*

*was the most valuable thing the UPA has provided me with that didn't involve playing"*

*"The men's game started at 6am Vancouver time, and not only did I get up to watch it, but about 5 or 6 others I saw that morning also got up to watch it."*

The feedback we have received so far has encouraged us to continue supporting endeavors like this in the future. However, along with these accolades we received some great suggestions for improvements. Among them:

- Technical: greater bandwidth (for better video resolution and audio quality); Updated score with stats on the same page as the video; online instructions and troubleshooting.
- Video: more camera angles; replays; onscreen graphics
- Audio: "spotters" on the field to relay info up the announcers (to identify players, relay calls, etc.); more experienced/professional announcers.
- Competition: "hand signals" from observers when calls are made to add some professionalism to the production.
- Marketing/Promotion: better job getting the word out (more prominence on UPA website, better notifications prior to the event); 'slicker' graphics on video page with info on what the event is, who is playing.

We'd love to continue to hear more! Please visit the 2008 Club Championships web page (<http://club2008.upa.org/>) to tell us more.

For those who missed the streaming, highlights of the Finals and all rounds of competition are still available at: <http://club2008.upa.org/videos>