



Body Awareness

Physical Therapy

The Body Beat

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The Anterior Cruciate Ligament

The anterior cruciate ligament, or ACL, is a frequently torn ligament in the knee. The function of this ligament is to connect the femur (thigh bone) to the tibia (lower leg bone), and to help provide stability within the knee joint as we move from side to side, twist and pivot. It is frequently injured during sports when a player turns quickly with the foot planted, or if the player is tackled on the outside of the knee, which pushes it inward.

A person who tears their ACL will usually experience immediate swelling, moderate pain, and may hear a loud pop. The knee may continue to be painful for up to 4 - 8 weeks. Pain and swelling will usually subside, and the person is left without one of the main stabilizing structures of the knee. A person may function without an ACL. In fact, many people do. Strengthening the hamstrings and quadriceps will help the knee to become more stable. Without an ACL, side to side, twisting and pivoting movements must be made cautiously. If your daily activities are fairly sedentary, and do not incorporate these types of demanding motions, surgery may not be the

only option. Physical therapy may be appropriate.

Research indicates that there may be factors that attribute to a person's likelihood to tear their ACL. Women are much more likely to tear an ACL than men. Many research studies show this could be due to increased relaxin, a hormone produced during the menstrual cycle. Some sources say that women's wider hips may lead to ACL tears. The tendency for wider hips leads to a larger angle from the hip to ankle joint, and the knee is the pivot point. The greater the angle, the greater strain is placed on the outside of the knee. Other factors that may lead to tears is the slope of your intercondylar notch. This is a space in the knee in which the anterior and posterior cruciate ligaments pass. This may place your ligament at risk for friction along the notch if it has a large slope.

Many people, especially athletes, do opt to undergo surgery. A ligament is not a structure that will heal over time. There are many options for surgical procedure. Different surgeons take different approaches based on the demands placed on the knee, and the individual's body type. Two common graft sites for

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ACL repair are from the hamstring and patellar tendon, with the patellar tendon being the most frequent. The patellar tendon is located just below the knee cap and extends down to attach to the tibia. With a patellar tendon ACL graft, the middle third of the tendon along with a bony piece is taken. The surgeon then drills holes in the femur and the tibia. The new tendon is threaded into the holes and anchored into the bone with screws.

After surgery you can expect to be very sore. Believe us, Chrissie had both knees reconstructed, and Kristen had one. The pain and swelling will subside as you progress through the healing phases. Usually patients begin physical therapy within one to two weeks after surgery. Full rehabilitation after an ACL surgery can take 6-8 months. With hard work one can expect to return to all activities without complication.

Q'N'A

Your questions answered by the Licensed Physical Therapists of Body Awareness Physical Therapy.

Q. How soon can I run after ACL surgery?

A. If all goes well, a typical patient with an ACL reconstruction will be able to run between 4—6 months after surgery. This timeline varies greatly because the knee must be stable in static positions before attempting a dynamic activity like running. If you cannot perform adequate stability exercises throughout your lower extremities, such as a single leg stance and six-inch step downs, you are not ready to run.

Each individual progresses differently so make sure you clear running with your doctor and physical therapist prior to initiating a running program.

Q. Will I be able to do everything I did before surgery?

A. There is no reason a person status post ACL reconstruction can't do all their previous activities. After completing your rehabilitation program, your knee is structurally strong enough to withstand normal forces. Your comfort level and stamina for specific activities will gradually increase over the next year. One year after surgery you should not notice any difference compared to the non-operated side. This will vary if there were complications or if high amounts of arthritis were also found.

Q. What types of exercises can I do at the gym after ACL surgery?

A. In the first few weeks following ACL surgery your knee will be very stiff. You may be on a continuous passive motion (CPM) machine to help you regain motion in your knee. This machine moves your leg to a preset position, while you are relaxed. Check with your doctor. You will begin exercises that will help gain knee flexion and extension motions, and exercises that will strengthen your muscles, without putting stress on your joints.

Two to four weeks post-surgery your doctor may clear you to begin the stationary bike with little or no resistance. The upright bike is more beneficial for range of motion gains, but the recumbent bike will allow you to ride with less compression on the joint.

At 4—8 weeks post-surgery, closed chain exercises may be initiated if proper quadriceps recruitment is demonstrated. Modified squats or step downs are examples of closed chain exercises (foot on the ground).

At 12—16 weeks post-surgery, balance training may be included. Walking on uneven surfaces or trails will increase your balance and kinesthetic awareness.

Beyond 16 weeks, your program will be tailored to your specific needs at home or in the gym. Remember these are general guidelines. Always check with your doctor and physical therapist first.

BODY AWARENESS GRADUATE OF THE MONTH

Graduate of the Month: Emily Kash

Emily was playing soccer when she made a quick change in direction and tore her Achilles tendon. This is the tendon that connects your calf muscle to your heel. She actually didn't know it was torn until about a week later. She immediately underwent surgery to repair the tendon.

When Emily first came to therapy she was still in a walking boot. After three months of hard



work in physical therapy she is back to running and taking spin classes at the gym!

I would not be walking, let alone running, if it weren't for Kristen Wiggins and the wonderful therapists at Body Awareness. Not only did it help me stay in shape and speed up my recovery, but I had a great time going there!

Emily Kash

Community Corner

Medicare Cap Update

As you may recall, our last newsletter urged each of you to contact your congressional representatives regarding the physical therapy cap that was to be reinstated as of January 1, 2003. We have some good news in regards to this topic. We have just been informed that the cap will not go into effect until July 1, 2003 due to implementation procedures needing to be set up by Medicare to track benefit payments. This is good news because it will give congress a chance to possibly eliminate the cap before the July 1, 2003 implementation date.

Take advantage of this extension should you need physical therapy services. You may want to think about having a needed surgery that will require more physical therapy than the cap allows. Examples are total joint replacements and reconstructive surgeries. If congress does not revoke this cap on physical therapy services, it is a long-term cap for every year to come.

I hope that each of you, as well as your friends and family, have made efforts to let congress know how unacceptable the \$1500 cap is for physical therapy and speech therapy combined. If you have not had a chance to write a letter or call, please do so in the near future. If you would like more information about whom to contact, call (292) 224-2131 and ask to be connected to your state congressmen.

For those of you that have taken action, we thank you. For those who have not, please do. Your health care is at stake. If we allow this to happen, what do you suppose they will take away next?

Have a question for our **Q'N'A** column or a suggestion on what you would like to see in the *Body Awareness Body Beat*?

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Healthy Hints

Strong knees are stable knees, so here are a few tips to help strengthen correctly.

1. Most physical therapists believe the best way to strengthen is to perform exercises in closed chain. This means your feet are on the ground, as compared to in the air, like leg lifts. When feet are on the ground, you use your body weight to help strengthen. Whenever performing closed chain exercises, make sure that as your knees bend, they do not pass in front of your big toes. The knees should stay over the ankles. Also make sure the knees do not move out to either side. They should stay directly in line with the 1st and 2nd toes of each foot.
2. A popular exercise at the gym is the leg extension machine. This is not an ideal exercise because of the high amount of stress that it places on the under side of the knee cap (patella). To minimize stress on the patella, only do this exercise from 0-30 degrees of knee flexion.
3. Squats are also a great way to strengthen knees, with or without a bar or weights. Place a chair behind you, just to cue you in the right direction. Stand with feet hip distance apart. Knees are in line with big toes. Bend at your hips and maintain a flat back as you bend at your knees. If you are doing the exercise correctly, your knees will be straight over your ankles, in line with your 1st and 2nd toes, back flat, and buttocks will be a few inches from the chair. To return to standing, squeeze your buttocks, and straighten your hips. Try to hold for 10 seconds, working your way up to three sets of ten.



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