

Big League Injuries

By Colleen Leonard

Getting back in the game after an ACL injury

If you're an athlete or sports fan, you may have already heard the term "ACL tear." It's among the most common of all sports-related knee injuries. At least 80,000 ruptures or tears happen each year, and half of those happen to young people who play sports.

The tears are often painful. They can also be very frustrating, as they frequently take a long time to heal. But what exactly is the ACL? And how does it affect the way you move?

Ligaments, Knees—and Surgeries

Your knee has four *ligaments*, which are cords made of tissue. These ligaments connect your thighbone to your shinbone. The ligaments also line up your bones and help control the way you move. The *anterior cruciate ligament* is called the ACL for short. It limits the lower leg's side-to-side movement and the knee's movement from front to back. It also prevents the shin from moving too far forward.

ACL injuries sometimes require surgery. Nicole Alexandra Lesko, a student and all-star cheerleader in Brunswick, N.J., tore her ACL during a practice. Nicole, then 15, had surgery to repair her knee. After the operation, Nicole went through intensive physical therapy. "I did a lot of exercises that I felt improved my strength, like lunges, balancing activities, and using weighted balls," Nicole says. "I really started to notice the difference in my strength level." After eight months of physical therapy, she was back with the team and competing at full force.

Surgery isn't for everyone, especially kids who haven't finished growing. Many doctors have younger patients wear knee braces and do physical therapy instead. Orthopedic surgeon Robert Arciero, chief of the sports medicine division at the University of Connecticut Health Center, says fixing an ACL tear involves the *growth plate*—that's a part of bone that hasn't finished forming yet. Once a teen's growth plates are "closed," he says, the surgery to fix an ACL is the same as on an adult.

Staying on Top

While an ACL injury can put you on the sidelines, there are things you can do to help prevent injuries, including exercising and learning how to properly move your body. Nick Lombardo, a 12-year-old from Jamestown, N.Y., skis, runs track, and plays football and basketball. He says he first learned about ACL tears from his football coach. At practices, Nick's coach has the team sprint and run longer distances to help build muscle and prevent injury. "I also took skiing lessons when I first started out," Nick says. "[The instructors] showed me how to not cross my skis so that I don't get hurt."

Experts say that exercise is the number-one prevention technique. Lynn Pantuosco Hensch, an assistant professor at Westfield State College and a soccer coach, says single-leg exercises, exercises that require you to change direction, and exercises that encourage soft landings and balance are all helpful. Talk to your teacher or coach for more ideas, such as using hoops, ladders, and boxes as training tools.

Those techniques will help keep many people from getting hurt, Arciero says, but won't stop all injuries from happening.

Mary Allen Watson, a professor at Westfield State College in Westfield, Mass., says knowing the symptoms of an ACL tear is important. "Usually the knee has significant swelling within the first four hours," she says. "Often, the athlete hears or feels a 'pop.' "

If you do get hurt, don't forget to lean on others. The healing process from an ACL tear can be tough. But Nicole found that her recovery from injury helped her get stronger. "An ACL injury doesn't have to mean the end of your athletic career," she says.

Spot Yourself: Tips to Avoid Injury

Reflect on things. Use a mirror to monitor your knee position as you jump and land. Ask your coach, teacher, or doctor for specifics about your best form.

Go to the videotape. Make a video of yourself on a camera or phone, and watch it with your coach or doctor. This works well for fast jumps and landings.

Get the shot. Ask someone to snap a picture of you in action. You'll clearly see the positioning and alignment of your leg and knee.

Stay Safe

To safeguard your knees, follow these three tips offered up by the pros:



Anderson Ross/Getty Images

Know your risk factors. ACL injuries happen more often to teens and young adults, and to females (probably in part because of the way girls land and pivot, because of hormones, or because some girls move differently after the normal weight gain of puberty). Injuries most commonly happen to people who play basketball, football, or soccer; those who perform gymnastics; and those who ski. Wearing cleats during aggressive cutting or pivoting activities may increase your risk too.

Participate in a training program year-round. Stretching, aerobic exercise, and strength training can do wonders. "My soccer coach runs strength and conditioning programs every year, which are helpful for ACL [injury] prevention," adds 14-year-old Jenna Fisher of Longmeadow, Mass.

Work on every body part. Coach Lynn Pantuosco Hensch says building core strength (your middle section and abdominals), leg strength, and balance is vital. "The stronger your core, the better the all-around support of your body," she says.

Name: _____ Date: _____

1. What types of physical therapy activities could help an ACL injury?

- A surgery
- B pushups
- C lunges
- D jumping

2. Which of the following was NOT listed as a way to prevent ACL injury?

- A knowing which sports have the most ACL injuries
- B training all year round, even when the sport isn't in session
- C building up core strength and balance
- D sitting home and watching TV

3. What word would the author most likely use to describe Nicole?

- A pessimistic
- B lazy
- C depressed
- D determined

4. Read the following sentences and answer the question below: "After the operation, Nicole went through intensive physical therapy. 'I did a lot of exercises that I felt improved my strength, like lunges, balancing activities, and using weighted balls,' Nicole says."

In the sentence the word **intensive** means

- A weak
- B athletic
- C concentrated
- D easy

5. The primary purpose of this passage is to

- A describe ACL injuries and help young athletes prevent them
- B persuade young athletes that ACL injuries should not require surgery
- C analyze the different causes for ACL injuries
- D compare the types of medical professionals that treat ACL injuries

6. What are the symptoms of an ACL tear?

7. The passage suggests some ways to watch yourself play your sport to avoid ACL injury. How could seeing yourself in the mirror, on video or in a picture help you avoid injury?

8. The question below is an incomplete sentence. Choose the word that best completes the sentence.

ACL injuries happen more often to women _____ they need to work harder than men to prevent them.

- A but
- B because
- C so
- D yet

9. Answer the questions based on the sentence below.

Experts say that exercise is the number-one prevention technique, because an active body and strong muscles helps prevent injuries.

Who? experts

(say) What? _____

Why? _____

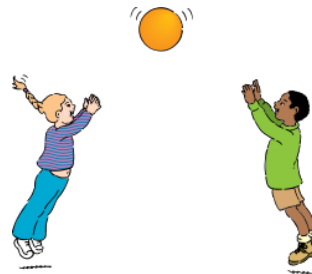
10. Read the vocabulary word and definition below and complete questions 10a, 10b, and 11.

Vocabulary Word: significant (sig · nif · i · cant): a large amount.

10a. Read the five sentences below and underline the word **significant** in each sentence.

1. When the boy woke up on his birthday, he saw a significant amount of toys waiting for him to open.
2. After the rain storm, there was a significant increase in the number of worms on the ground.
3. The difference in size between the tower and the homes was significant, as the tower was so much taller than any other building for miles.
4. When the kids entered the candy shop, they were amazed at the significant number of different types of candy. It would take a year to eat it all!
5. This year there was a significant amount of snowfall, as it had snowed more than in the past 10 years.

10b. Which image shows people that do NOT seem to have a significant difference in age?



11. Do you think there would be a significant change in your life if you lived in a different country? Explain.

Teacher Guide & Answers

Passage Reading Level: Lexile 910

Passage Text Structure: Enumerative – the writer includes a list, giving examples of something. This text structure is often combined with cause/effect or problem/solution

Passage Summary: “Big League Injuries” describes ACL injuries, which are a common sports-related injury. The passage defines ACL, and provides information about injury treatments and prevention tips.

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- B training all year round, even when the sport isn't in session
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- D compare the types of medical professionals that treat ACL injuries

6. What are the symptoms of an ACL tear?

Suggested answer: In paragraph 9, Mary Ellen Watson says that usually there is significant swelling in the knee within the first 4 hours of the injury, and that often athletes feel or hear a “pop.” [paragraph 9]

7. The passage suggests some ways to watch yourself play your sport to avoid ACL injury. How could seeing yourself in the mirror, on video, or in a picture help you avoid injury?

Suggested answer: By looking at what you are doing, you can spot what you are doing well and what could be improved in your form in order to avoid injury. By looking in the mirror for example, you can see what you look like as you feel how your body is positioned. [paragraph 11]

8. The question below is an incomplete sentence. Choose the word that best completes the sentence.

ACL injuries happen more often to women _____ they need to work harder than men to prevent them.

- A but
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- C so
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9. Answer the following questions based on the sentence below.

Experts say that exercise is the number-one prevention technique, because an active body and strong muscles helps prevent injuries.

Who? experts

(say) What? **that exercise is the number-one prevention technique**

Why? **because an active body and strong muscles helps prevent injuries**

10. ReadWorks recommends that you teach this vocabulary word to the whole class out loud using the four steps listed below.

Vocabulary Word: significant

Step 1: Introduce the word

- a. Teacher writes the word on the board and divides it into syllables: (sig · nif · i · cant)
- b. Teacher says: "This word is significant. What is the word?" [All students reply together out loud: "significant."]

Step 2: Provide a child-friendly definition

- a. Teacher says: "The word significant means a large amount."
- b. Teacher says: "In the passage, the author describes the significant swelling at the knee that happens when you have an ACL injury. In other words, the knee swells a large amount."
- c. Teacher says: "What is the word?" [All students reply together out loud: "significant."]

Step 3: Practice the word

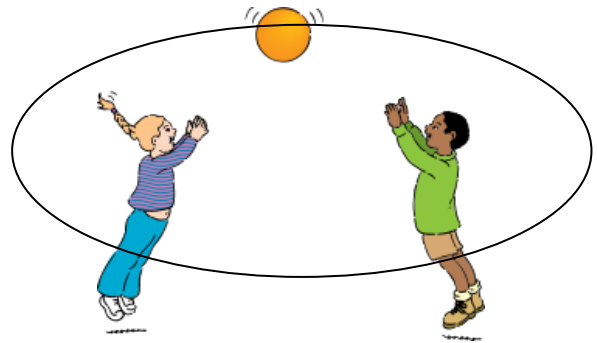
Teacher provides examples and additional opportunities to repeat the word. Read the 1st sentence out loud to your students. Begin reading it again and when you come to the vocabulary word prompt students to say the vocabulary word out loud. Then, finish reading the sentence out loud to your students.

- 10a.**
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 5. This year there was a significant amount of snowfall, as it had snowed more than in the past 10 years.

Step 4: Check for student understanding

This step can be completed as a whole class activity or as an independent practice.

- 10b.** Which image shows people that do NOT seem to have a significant difference in age?



- 11.** Do you think there would be a significant change in your life if you lived in a different country? Explain.

Suggested answer: Yes because the culture and language would probably be different which would affect my way of life.

Suggested Additional Vocabulary: frequently, intensive, monitor, aggressive, conditioning