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Lake Forest resident

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Dr. Brian J. Cole, MD discusses his patient's incredible recovery inside.



# DEFYING THE ODDS

Meniscal transplant breathes life into athletic hopes of 16-year-old Lake Forest resident

*By Katie Morell*

“ Getting her back into competitive sports would be an added, yet more uncertain, bonus. ”

**O**n a warm afternoon this past July, Chet Baker was startled by the sound of his 16-year-old daughter Kristen bounding down the stairs. That day marked just five months since she'd undergone a meniscal, or cartilage, transplant—three months too early for her to be moving around at such a quick pace.

"Where are you going?" Baker asked his daughter just before she pushed through the front door.

"She told me she was going out for a run. Outside of putting a harness around her and chaining her to the door, she was going to go."

Not that Kristen's actions were all that shocking. Since she'd been old

enough to play sports, she'd exhibited the drive of an Olympic athlete, which has earned her the family nickname Iron Maiden. But for someone with such a strong will, Kristen hasn't had it easy.

Back when she was about a year old, Baker noticed something a little abnormal in his daughter's gait. "She couldn't lock her knee out; she'd just stand on her tippy toes," he says. "We thought she'd grow out of it." She didn't. And young Kristen was taken to the doctor.

"I was born with too much cartilage in my left knee, which is a condition called discoid meniscus," says Kristen. By the time she was four, she'd had her entire meniscus surgically removed, but with a warning. "The doctor told my parents that if I ever chose to participate in high-impact sports when I was older, I would probably have a problem," she says.

Fast-forward to 2009 and cross-country tryouts at Lake Forest High School. Kristen was an amazing athlete by then and made the varsity team as a freshman. "I was superexcited to make varsity, but halfway through the season, my knee was swelling a ton, and I could feel bones grinding against each other as I ran," she recalls. "It was awful; I was in so much pain; it hurt to put any pressure on it. I would come home and cry."

**B**aker soon learned of Dr. Brian J. Cole, section head at the Cartilage Restoration Center at Rush University Medical Center. An appointment was made, and by late October 2010, Baker was sitting in his office.

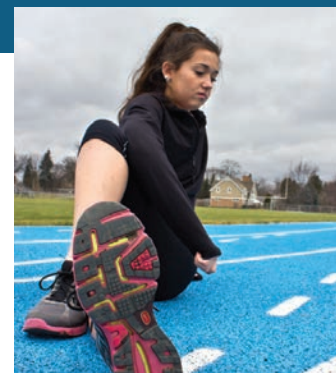
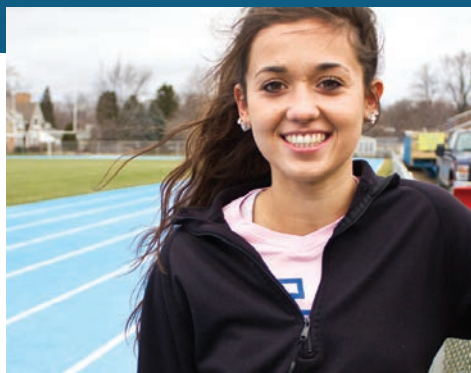
"Most people do well after having part of their meniscus removed. Kristen's case was rare," says Cole. "She was having problems with the activity of daily living and problems with higher-level activities. This procedure [meniscal transplant] had the likelihood of improving her

"To perform a transplant, it is necessary to obtain a meniscus that is the same size as the original and then precisely place it in the same position as the original meniscus. Our instruments help prepare both the transplant tissue and the patient's knee, which allows the meniscus a precise and secure fit."



MENISCUS TRANSPLANT SYSTEM DEVELOPED BY DR. BRIAN COLE AND DR. JACK FARR





PICTURED:  
KRISTEN BAKER  
PHOTOS BY:  
ELIZABETH NORDSTROM



quality of life. Getting her back into competitive sports would be an added, yet more uncertain, bonus.”

**T**he Bakers had come to the right place. About 10 years ago, Cole and colleague, Dr. Jack Farr, medical director of the Cartilage Restoration Center of Indiana in Greenwood, Ind., codeveloped instrumentation to improve that exact procedure. The instrumentation, which resembles a chisel and file with guides, allows surgeons to arthroscopically prepare the knee for the transplant. Then, a cadaver meniscus is cut to fit the recipient and is fashioned with a rectangular bone bridge. This bone bridge portion of the meniscal transplant is guided into a slot that the instruments create in the patient’s knee, which is in line with the prior meniscus. This instrumentation has streamlined the procedure and is now used in many restoration centers across the country.

“Think of the meniscus as a C-shaped pad in between thigh (femur) and shin (tibia) bones on each side of the knee,” says Farr. “To perform a transplant, it is necessary to obtain a meniscus that is the same size as the original and then precisely place it in the same position as the original meniscus. Our instruments help prepare both the transplant tissue and the patient’s knee, which allows the meniscus a precise and secure fit.”

Cole says this has cut the procedure’s operating time by about half—to 90 minutes. “And now it can be done pretty much all arthroscopically instead of having to open up the knee.”

On Jan. 26, 2011, Kristen arrived at the hospital a ball of nerves. “Dr. Cole told me that there were no guarantees that I would be able to run again; that if I continued playing high-impact sports, there was a chance the meniscus could pop out,” she says.

Kristen went through with the surgery and went home the same day in a brace from her mid thigh to her toes. She stayed off her leg for six weeks and then started physical therapy twice a week. Five months later, she was feeling well enough to increase her activity levels. That is when she surprised her dad by going on a run.

By August she was at cross-country training camp. “I was nervous because I was so out of shape, but the more I ran, the better I felt,” she says.

**C**ole is pleased with Kristen’s progress. “She’s had a great recovery,” he beams. “She’s a model patient and has had a wonderful outcome. The only question is: How long will it last? The survivorship of a cadaver meniscus is about 75 percent after 10 years.”

Kristen is hedging her bets by not trying out for lacrosse in the spring and going for the crew team instead. “I don’t know if I’m going to like it or not, but I’m excited to try.”

For now, she is thrilled to be pain free. “I plan to run forever,” she says. “I’ve never been able to work out without having some kind of pain, and running like this is the best feeling. It makes me so happy.”

And that’s reason enough for Dad to not argue when she wants to run. ♦