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ACL injuries alarmingly high among teenage girls

By Ed Flink
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Two years ago, Dr. Michael Brand returned from an April vacation and discovered seven new patients, all with something in common.

They all were teenage girls, high school athletes who'd torn their anterior cruciate ligament within a three-day span during the outset of spring practice.

Bad knees might be good for business, but Dr. Brand decided then it was time to address what he calls an "epidemic" of knee injuries to female athletes. "Even though we're orthopedic surgeons and that's the way we make our living, we're not looking for 13- and 14- and 15-year-old girls. We never want to see these kids and that's what we're seeing. We're seeing young girls with significant knee ligament injuries at a very high rate," he said. "We see so many more girls than guys. They talk about two to eight times the injury rate. It's real. I would say it's closer in my practice to six to eight times. I don't even remember the last male that I've done an ACL on from soccer."

Dr. Brand is among the featured speakers who will appear at a program entitled "ACL Injury Prevention for the Female Athlete" on Wednesday night at the O'Neill Center in Danbury from 5-8 p.m. It is open to area students, parents, coaches and clinicians.

Presented by the Western Connecticut Sports Medicine Society, it will include D. Ross Henshaw, M.D., Chris Geier, PA-C and Dr. Brand, M.D., of Danbury Orthopedics Sports Medicine; Valory Ramsdell, P.T., of Western Connecticut Physical Therapy; and a representative from The Edge Performance Training.

"With Title IX, the explosion of females playing sports both at the collegiate and interscholastic levels has taken off so there's so many more girls at risk," Dr. Brand said. "A lot of us who are interested in sports medicine are trying to be proactive and minimize the risk by trying to teach females exercises and conditioning. It's actually a very hot topic. These injury prevention programs it seems are becoming effective in bringing down the injury rate, especially in the high school and college age athletes."

The team physician for Western Connecticut State University's athletic programs. Dr. Brand started working with three area high schools last year. "Being a member of the Sports Medicine Society, people talk about trying to get something going in your community. Last year we did it at Immaculate, Newtown and Ridgefield and it significantly brought down the rate of knee injuries. So now we'd like to get the word out to the rest of the community. The key is you have to have the trainers, the coaches, the parents on board," Dr. Brand said.

The target is girls between 13 and 16 years old.

"Our goal is we never want to see an injured athlete, period. But we especially don't want to see the injured teenaged female athlete because there are a whole lot of growth issues and things in their knee which is what we're trying to avoid," Dr. Brand said. "I think if we can get the word out to the coaches and trainers and parents that if you do even a bare boned preventative offseason conditioning

program that it probably does make a difference."

The program takes only 15 to 20 minutes, three times a week. Continuing to work out in the off-season is critical.

"Most of these girls...they start one to two weeks before the beginning of the season. They really need to be doing these pliometric drills for the entire year," Dr. Brand said. "Ultimately the parents are the ones responsible. If I had a teenaged daughter who was very into soccer and wanted to keep playing through high school then I would train her. I would make sure the coaches on her team are very involved doing some sort of injury prevention program."

Numerous reasons are cited for the high rate of ACL injuries in girls, including what's known as the Q angle. "It's the angle which is formed by the knee in relation to the hip," said Dr. Brand, who estimates he's done between 700 and 800 ACL surgeries. "And I've done maybe 10 bilateral -- both sides -- and all 10 have been in girls," he said.

Research has shown a major difference in how these injuries occur. With guys, knee injuries are often the result of a hard tackle or some type of collision. With girls, that's not the case. "Most of the girl ACL injuries are from deceleration or non contact. We almost never see a contact injury in female athletes," Dr. Brand said. "They have poor body mechanicals. They land with a straight leg. They don't land in an athletic position."

Included in the presentation will be video tapes that show the vulnerability of girls' knees. Weight training at an earlier age is suggested to strengthen the affected muscles. "When you have a girl jump down from a box, their knees actually collapse. They sort of become a little knock kneed. That's one of the things we try to train," Dr. Brand said. "I think that the real key is neuro-muscular training, trying to get the girls to fire the right muscles, plus just to get stronger. "The guys are already in the weight room lifting by the time they're sophomores. I always ask at these seminars how many of you have actually been in a weight room, ever, and most of the time the answer is none. So we try to get them to strengthen their quadriceps and hamstring muscles."

According to Dr. Brand, girls "have grossly deficient hamstrings in relation to their quadriceps. It's really about body mechanics and getting a little big more athletic."

Knee injuries have been most prevalent in soccer, field hockey and basketball, with lacrosse joining the list as the sport grows in popularity.

"Lacrosse is a biggie because lacrosse is just soccer with a stick in your hand. We're seeing a lot of lacrosse injuries. We're seeing a lot of field hockey injuries. The sheer numbers are almost mind boggling," Dr. Brand said.

NOTE: Admission to the program is complimentary and refreshments will be served.