

# Women can be more prone to knee injuries

**Workouts can be modified to help women avoid the pain of serious ligament damage**

By Danielle Gillespie for the Emerald

In the past three years, Danna Bubalo, a University sophomore, has made three trips too many into the operating room for the same surgery.

Bubalo first tore her anterior cruciate ligament in her left knee as a senior in high school playing basketball. A year later she blew out her right knee participating in the same sport.

As if two surgeries were not enough, she went on to re-tear the ligament in her right knee the following year.

"If I had known this was going to happen, I would have lifted weights more or done more preventive exercises," Bubalo said.

Susan Verscheure, a Ph.D. student in sports medicine at the University, said the best method for

preventing ACL injuries in women is developing the hamstring muscles, which tend to be weaker than the opposing quadriceps muscles, causing strain on the ACL.

"The best time to start weight and exercise programs is probably in high school and college when women become more active with sports and are practicing every day," Verscheure said. "Athletes should not fear getting injured, but at the same time coaches and people of all age levels should be aware of the risk."

The ACL is located in the knee joint and attaches to the femur in the thigh and the tibia in the shin.

An injury occurs to the ACL when an athlete forcefully twists or hyperextends the ligament. Any sport with quick lateral movements can cause an ACL injury. For example, an athlete participating in sports such as basketball, football, skiing, snowboarding, tennis, soccer and volleyball have a higher susceptibility to knee injury.

When people tear their ACLs, they do not necessarily need to have surgery. However, if people opt against surgery, it could result in a decrease in activity levels.

Usually, orthopedic surgeons repair the ACL with a graft from the patellar tendon and rehabilitation takes about six months. ACL tears have been one of the leading injuries among women in the past few years.

According to an article in the February 2001 edition of "Sports Illustrated for Women," female athletes are six times more likely to suffer from an ACL injury than males, and 1.4 million women have suffered from ACL injuries in the past decade.

Verscheure said scientists have three leading theories about the cause of ACL injuries among women: the effect of a woman's menstrual cycle on the joints, hip-to-knee alignment and quadriceps-versus-hamstring ratios.

"None of these theories have

been proven 100 percent and they are still up for debate, but scientists hope to provide answers from research soon so that they will be able to give advice on prevention methods," Verscheure said.

Some scientists believe that the fluctuations in estrogen during different phases of the menstrual cycle can be a cause of ligament tears. Scientists have found estrogen in torn ACL grafts removed from the knee during surgery and begun research in this area. So far, they have discovered that different estrogen levels at separate points in a woman's menstrual cycle change the laxity in the ligament.

When the ligament has less laxity, it's at a higher risk of ACL injury because it is tighter and more prone to hyperextension.

A woman's knee-to-hip alignment can be another cause of ACL tears.

In women, scientists call the angle between the hip and the knee joint the "Q" angle because of its in-

ward tilt. This tilt on each side of the body is formed because a woman's hips are wider than her knees. This results in more pressure on the ACL.

Men tend to have narrower hips, making their knees and hips aligned in a straight angle, which provides more stability. Women also have weaker hamstrings than quadriceps, which can cause ACL injuries because the hamstrings decrease sheer force on the ACL.

Men tend to have a 1-to-1 ratio between the strength in quadriceps and the hamstrings. The closer the ratio between the quadriceps and hamstrings, the less likely a person will tear the ACL.

Bubalo said she wishes she would have been more conscious of the high susceptibility to ACL tears in women.

"I think that a lot of women should be more aware, and coaches need to change the ways females work out, because our bodies are different than males'," Bubalo said.

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# Intramural leagues offer fun, revelry to students spring term

**The competition level of intramural sports is less than more official Duck teams, and they're still fun**

By Nick Kulmac for the Emerald

This spring there are no excuses. It's time to get up, get outside and get active. With spring term on the horizon, the time for blaming winter weather for a lack of activity is past.

The University presents several different intramural sports that students can get involved in for spring. Intramural leagues offered include softball, soccer, ultimate Frisbee and four-on-four grass volleyball.

Each sport will be divided into three skill levels, with leagues for co-ed, women's and men's teams. Each team will play three league games and take part in a single-elimination tournament to determine a league champion.

Win or lose, being part of a team can be very beneficial for students, according to student employees at the Student Recreation and Fitness Center. "Intramurals offer a positive way of socializing with friends without getting into trouble. Becoming part of a team is a good way to make friends, and it's fun," said Faith Mikita, a science major and recreation center employee.

The league organizers who set up the intramural activities said getting involved in intramural sports is extremely valuable for students.

Brent Boothby, a law student and league organizer, said he be-

lieves students can benefit from intramurals in many ways. "Students can do it for the competition, and it is also a way to relieve the stress of schoolwork while getting outside and enjoying spring weather. It also serves as another opportunity for students to play sports after high school."

Katy Chenoweth, a volunteer at the recreational sports office, agreed. "It's only as competitive as you want it to be, and it is something fun to do with friends."

Intramural sports are open to all University students, faculty, and staff, as well as Northwest Christian College students.

For more information on intramural leagues, call the Recreational Sports office at 346-4113, or visit 102 Esslinger from 8 a.m.-5 p.m. Monday through Friday.

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**GET active!** SEE YOU at the REC

**FITNESS WORKOUT SCHEDULE - Winter 2001**

	MON	TUE	WED	THU	FRI
12:00-12:50	Basic Step Debbie		Basic Step Rorey		Basic Step Rorey
1:00-1:50					Floor Aerobics Wendy
2:00-2:50					
4:00-4:50					
5:00-5:50	Body Sculpt Jamie	Intermed. Step Debbie	Body Sculpt Jamie	Intermed. Step Wendy	
6:00-6:50	Intermed. Step Rorey	Kickbox Aerobics Debbie	Intermed. Step Jamie	Kick Box Aerobics Wendy	

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REGISTRATION begins April 2nd, 102 Esslinger, 8 a.m.-5 p.m.  
CLASSES RUN FROM April 9-June 8, 2001 (9 weeks)  
Classes meet in Room 41 of the Student Rec Center  
For more information call 6-4113 or drop by 102 Esslinger.

**Spring term intramural schedule**

**Softball:**  
Minimum number of players per team: 10  
Start Date: April 13  
League times: Tuesday, Thursday and Friday at 4, 5 and 6 p.m., and Sunday noon to 6 p.m.  
Fee: \$45 per team  
Entry deadline: \*Lottery  
Note: Up to 60 teams can participate. Games will be seven innings, with time limits.  
\*A manager meeting will be held Tuesday, April 10, in 102 Esslinger, where lottery numbers will be picked to determine scheduling priority.

**Soccer:**  
Minimum number of players per team: 9  
Start Date: April 24  
League times: Monday and Wednesday at 4, 5 and 6 p.m., and Sunday 11 a.m.-6 p.m.  
Fee: \$45 per team  
Entry deadline: \*Lottery  
Note: Up to 60 teams can participate. Games will be composed of two 20-minute periods and held at Southbank Field.

**Ultimate Frisbee:**  
Minimum number of players per team: 7  
Start Date: April 30  
League times: 4 p.m. and 6 p.m. Monday, Tuesday, Thursday and Friday.  
Fee: \$30 per team  
Entry deadline: April 26  
Note: Up to 30 teams can participate. Game winners will be decided by the first team to score 15 points.

**Four-on-four grass volleyball:**  
Minimum number of players per team: 4  
Start Date: May 2  
League times: 4-7 p.m. on Wednesdays.  
Fee: \$20 per team  
Entry deadline: April 27  
Notes: Up to 30 teams can participate. Matches are scheduled on Gerlinger Field, with rainy-day back-up in recreation center courts 4 and 5.  
League times subject to change.

\*A manager meeting will be held Wednesday, April 18, in 102 Esslinger, where lottery numbers will be picked to determine scheduling priority.