

The numbers on female ACL tears are astounding. Over 1.4 million women have been afflicted in the past 10 years alone — twice the rate of the previous decade. It is estimated that more than 30,000 high school and college age females will rupture their ACL every year. In the last 15 years, ankle sprains have decreased by 86 percent while knee ligament injuries have increased by 172 percent.

Much speculation exists on the cause of the higher non-contact ACL injury rate in females, with hormones, biomechanics and environment some of the common culprits named. While researchers have been unable to definitively pinpoint the exact cause for the increased incidence in females, they have been able to develop a series of specific stretching, strengthening, flexibility and balance exercises that have been shown to significantly reduce injury rates.

“PEP works by retraining the nervous and muscle system in female athletes to be more efficient, and as a result, reduce the potential for non-contact ACL tears,” said **Andy Duncan, P.T., A.T.C.**, director of sports rehabilitation at USM.

Beginning in late August, USM trainers will begin working with teams at each of the 24 high schools to teach the PEP program. It consists of a specialized warm-up program that must be completed two to three times a week, and includes exercises and training to increase muscle strength, plyometrics (active strengthening like jumps), agility, balance and flexibility. The program takes about 20-25 minutes to complete.

“We stress quality versus quantity with the girls. These exercises are so precise that they must be done properly or they will not receive any benefit at all,” Duncan said. “In effect, we are re-teaching the muscles how to fire and respond to signals from the nervous system. At the end of six weeks, if the program is done correctly and consistently, these athletes will have a much better chance at preventing an ACL tear.”

Sample PEP Exercises

- Warm-ups: Jog, slides, backpedals
- Strengthening: Lunge walk, ball bridge, calf raise
- Plyometrics: Lateral, front/back and single leg hops, rebound jumps, scissor jumps
- Agility: Shuttle and pivot runs
- Stretching Hamstrings, quads, calves, groin and hip flexors

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