ACL Prevalence in Female Athletes

Why Females? Why rising statistics?

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"It won't happen to me, I'll never get hurt! I'm a strong athlete and have been playing for years." Words such as these are often heard coming from young female athletes when discussing injuries including ACL tears. No one ever wants to consider having her sport season ended early due to an injury. No one wants to think about having to do rehabilitation exercises for months and months post-surgery just to attempt to get back to where they were pre-injury. No one wants to dream of a scholarship going down the drain because an injury prevented her from being recruited.

When it comes to female athletes, knee injuries are likely if proper biomechanics are not learned. As unfortunate as it is, if not properly trained, a female athlete does not have to worry about if she will have a knee injury, but rather *when* it will occur.

Since Title IX in 1972, there has been an increasing trend of women participating in competitive and recreational sports. It has been seen that there has also been in increase in ACL injuries in females due to gender differences and predisposing factors. It is estimated that 38,000 women sustain ACL tears per year and high school females have nearly five times the incidence of knee surgery as high school males. Knee surgery accounts for 70% of all the surgeries performed on female athletes.[1] Health care costs for the surgical treatment and rehabilitation of ACL injuries are estimated at $17,000 per athlete. The financial burden of this national health care epidemic is further magnified by the traumatic effect of potential losses of entire seasons of sports participation, future scholarship funding, and professional earnings, coupled with the ensuing effects on the athlete's mental health and academic performance.[1]

The increase in risk for a female athlete to sustain a knee injury compared to a male athlete stems from a variety of pre-disposing factors. ACL injuries are multifactorial. There are intrinsic or not changeable factors such as alignment, hyperextension, physiologic rotary laxity, ACL size, femoral notch size and shape, hormonal influences, inherited skills, and coordination. There are also extrinsic or changeable factors which may include strength, conditioning, shoes, and motivation. Finally, one may have a combination of the two factors including proprioception, neuromuscular, order of firing, and acquired skills.[2] On a positive note, we can deal with extrinsic and combined factors and gain room for prevention and change.

Prevention of injuries does not come with desire alone, but with the combination of desire and a strong work ethic. A female athlete must choose to put time in training to overcome factors that might otherwise lead to a non-contact knee injury.

Females are anatomically different than males and develop through their youth at a very different rate. Changes in the female body throughout adolescence cause changes in neuromuscular patterns that

directly effect how a young girl moves and plays a game. In order to prevent injury, she must train in a way that reinforces proper technique and biomechanics which will then carry over to her every day sport play.

There is no reason a young female athlete should not enjoy every second of playing a sport she loves without knee pain. At a young age, a healthy girl should be able to participate daily and not have to worry about needing to take breaks to rest her legs because they hurt so badly. With all the knowledge available regarding knee injury prevention, every girl should be able to play as long as she wants.

In an effort to prevent all non-contact knee injuries in young female athletes, more emphasis needs to be put on proper training and pre-habilitation rather than waiting until it is too late and an injury has occurred.

Let's work together for an injury-free experience. I'm ready to evaluate and coach you to success! You deserve a healthy knee and athletic success!!

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[1] Toth AP, Cordasco FA. Anterior cruciate ligament injuries in the female athlete. *Journal of Gender-Specific Medicine.* 2001;4:25-34.
[2] Ireland M. The female ACL: why is it more prone to injury? *Orthop Clin N Am*. 2002;33:637-651.

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