

# Pain in the knees? Orthotics can help

**T**he startling amount of knee injuries in women and girls has puzzled doctors, therapists and trainers for decades.

Estimates are that girls and women are five to seven times more likely to tear an anterior cruciate ligament than their male counterparts.

The ACL is one of the main knee stabilizers. High-impact sports with a great deal of running, jumping and direction changes – such as basketball, soccer, volleyball and softball – are notorious for causing these problems.

The question remains as to why. In the past, it was easy to blame this difference in knee injuries to a few basic reasons: Girls weren't as experienced as boys in playing these sports, and girls didn't have the strength boys had.

These reasons made sense years ago. However, over the last few decades, these explanations have lost all credibility. Female athletes today have been training in their sports and have every bit the experience boys have. Young women who play soccer and volleyball at serious levels even at adolescent ages are every bit as strong as boys.

Anthony Edward, editor

**Dr. Robert Weil**

The Sports Doctor



of Biomechanics magazine (biomechanics is the science of body and sports motion), mentions in his editorial from last month that often it's seen on middle and elementary school playgrounds boys running and jumping so much more commonly than girls, and that these early experiences get young male bodies more ready for the demands sports have on their knees.

He mentions a recent orthopedic conference on these gender differences in which coaching and training techniques are also mentioned as potential concerns, along with the above lack of girls' experience with routine sports playground activities.

Being a licensed youth soccer coach, Edwards mentions that he's never received any specific ACL injury prevention instruction, let alone along gender differences.

So what about the anatomical differences? Looking back

over the last three decades as a sports podiatrist, I've seen some of the top girls and women in all sports. It's been my experience that knee problems of all types – including runner's knee, jumper's knee and knee tendonitis – have always been more common in females. Anatomically, the wider hips of females and the subsequent angle difference of knee alignment are significant.

Also, the tendency of females to be more flexible also plays an important role in explaining these injuries. In some of my past columns in this space, I've stressed the significance of the role of foot mechanics and the effect on knees. Pronation of the foot (rolling inward) and the secondary internal rotation of the lower leg is part of the normal mechanics during running and jumping. With the combination of wider hips and increased gait flexibility, knee stress is increased with twisting and torque.

Orthotics (custom shoe inserts to control excessive foot pronation and enhance foot and leg alignment) have been used with great success for knee problems with both genders. At least

40 percent of the female athletes I've seen as patients, from Sports Performance volleyball players to top figure skaters to soccer players, come to me with knee overuse problems.

Almost never have I seen these girls suffer ACL injuries while in orthotics, and I'm talking 25 years and hundreds of athletes.

Of course, the use of orthotics doesn't replace aggressive strengthening, proper training and proper sports technique for both sexes. But my belief is that proactively including optimum foot biomechanical control with orthotics is smart sports medicine.

You don't need foot pain or dramatic foot imbalance. If your daughter is a serious running, jumping athlete, pay attention to the role of the foot and prevention effect of orthotics. Quite often this can prevent serious knee problems.

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