

Girls' knee problems are often foot-related

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By DR. ROBERT WEIL Columnist

Hey wait a minute, not only girls, but everyone! Persistent knee pain, especially when it's not related to trauma or specific injury, is often aggravated by foot mechanics. Whether it's the youth athlete, baby boomers, or senior citizens, foot type (flat feet, high arches, etc.) affect the knees. By the way, since most foot types are inherited, it's not unusual to see generations with the same mechanical foot-related problems -- back problems included!

The startling amount of knee injuries in women and girls has puzzled doctors, therapists, and trainers for decades. Estimates are that females are five to seven times more likely to injure or tear the anterior cruciate ligament than their male counterparts. The ACL is one of the main knee stabilizers. High impact sports with lots of running, jumping, and direction changes like basketball, volleyball, soccer, or softball, are notorious for these injuries. The question remains as to why.



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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 muscle strength boys had. These reasons made sense 15-20 years ago, but since 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 serious sports seriously, even at adolescent ages, are pound for pound every bit as strong as boys.

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 -- runner's knee, jumper's knee and knee tendonitis related to rapid growth -- have always been more common in females. Anatomically, the wider hips in females and the subsequent angle difference of knee alignment are significant. Also, the tendency of females to be more flexible also plays a role in explaining these problems and injuries.

In past articles, I've stressed the significance of the role of foot mechanics and their 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. When pronation is excessive (flat feet for example), stress and twisting torque to the knees is increased. Wider hips and increased flexibility add to this joint stress.

Orthotics, custom shoe inserts to properly position the foot, can control excessive pronation and enhance leg and knee alignment. I've seen excellent results with both male and female athletes when orthotics are used, especially in conjunction with proper conditioning and strengthening. Almost 40 percent of the female athletes I've seen as patients -- from Sports Performance volleyball players to top figure skaters to soccer players -- come in with knee overuse and tendonitis problems. Almost never have I seen these girls suffer the dreaded ACL injuries while in orthotics, and I'm talking 25 years and hundreds of athletes.

Of course, the use of custom 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. Enhanced performance is usually associated with optimum alignment.

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

- Good luck to Naperville's world champion figure skater Evan Lysacek in his quest for a third national title this month and that gold medal at the Winter Olympics.

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