



**Alisha Tatham**, shooting guard for the Canadian women's basketball team, on the shock and the pain. Why more women than men shred their ACLs. ILLUSTRATION BY BRYAN CHRISTIE

AS ALISHA TATHAM COLLAPSED to the floor, she heard a violent sound. The shooting guard for the Canadian women's basketball team had been on a breakaway in a 2009 exhibition game in Havana, Cuba, when an opposing player cut her off. The next thing she remembers is pain. "My right knee just gave out," she says. "It was excruciating."

The sound Tatham heard was the tearing of her anterior cruciate ligament (ACL), one of four ligaments inside the knee that connect the tibia to the femur. ACL injuries are common to both men and women in non-contact sports such as basketball and soccer—activities involving sudden stopping, changes in direction or landing from jumps. But studies indicate that women are two to four times more prone to ACL ruptures. Dr. Doug Richards, team physician for the Canadian women's basketball team, estimates that, at any given

## 400

**PERCENT**  
The greater risk of ACL injury for women playing basketball, compared to men: "We're not talking about five percent or 20 percent," says Richards.

time, two or three players in the national team's 12-woman rotation will have scars on their knees from ACL surgery.

**BENT OUT OF SHAPE** The ACL prevents the knee from shearing forward and bending sideways, and according to Richards, women are more susceptible to this lateral bending of the knee, **1** known as a valgus force. "Women, on average, have knees that are bent in a bit more," says Richards, "because the pelvis **2** is wider." Sudden stops and cuts result in a tendency to rotate the body and bend the knees further inward. **3** If the knee collapses sideways, the ACL can shred. The width of the small notch inside the knee, which houses the ACL, may also play a role. A narrower notch, common in women, may increase the likelihood of a ruptured ligament. Some studies suggest that women may be more vulnerable

to ACL tears during certain phases of the menstrual cycle, possibly because hormones may affect ligament laxity. Richards, though, isn't convinced. "The evidence," he says, "is not conclusive."

**BOUNCING BACK** Once the ACL is torn, reconstructive surgery is usually required. A portion of a person's own tendon, often from the hamstring, is grafted in place. This graft is eventually replaced as a new ligament grows in. Recovery is slow—athletes are regularly out for at least six months—but Richards estimates that nine out of 10 return to high-level competition. Tatham was back after eight months. "A lot of women I knew were tearing their ACLs, and I was hoping that wouldn't happen to me," she says. To protect against a similar injury in the future, she says, working the knee is now "part of my everyday routine." **SN**