

# ACL Injury Prevention



## WILLIAMSBURG

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Joe Flannery, DPT, CIMT, received his undergraduate degree from George Mason University and his DPT from the Medical College of Virginia. He has an advanced certification as a Certified Integrated Manual Therapist (CIMT), a whole body approach that helps in determining the physical causes of functional impairments and the interplay between various musculoskeletal regions of the body and dysfunction. In his spare time, Joe participates in recreational basketball and soccer in Williamsburg.

Proper strengthening and conditioning combined with good form or mechanics can reduce the risk of knee injuries during participation in basketball. An injury to the anterior cruciate ligament (ACL) can result in a lengthy recovery based on the extent of the injury. After a sprain of the ACL or other ligaments of the knee, a 6 week recovery period is typical. If the player tears their ACL, which will require surgery to return to athletics, then 4 months is a common amount of time from surgery to return to basketball.

The ACL is stressed when the shin bone (tibia) moves forward on the thigh bone (femur), when the tibia rotates inwards towards the center of the body, and when a force is applied to the knee causing the inside of the knee to gap apart known as a valgus force. When you see your basketball players squatting just before a jump shot and their knees come together, they are placing all three of the previously mentioned stresses on their ACL. These mechanics are more common in female basketball players, and chronic stress resulting in inflammation weakens ligaments increasing the risk of ligament failure.

Avoiding ACL failure can occur by correcting faulty mechanics of the knees just before a jump shot. Coaching athletes by correcting the behavior is the first step. If the player continues to bring their knees together, a strengthening program to the hip abductors (the side hip muscles that lift the legs out to the side) and groin stretching can correct the poor mechanics. Foot dysfunctions can cause this problem by the feet over pronating or flattening out. When the feet over pronate the tibia rotates inwards and can result in the knees coming together during shooting. Arch supports or orthotics can prevent over pronation of the feet, and an evaluation by a licensed physical therapist can assess the mechanical cause of the problem, and determine the best course of action to prevent and recover from ACL, knee or any joint/muscle dysfunction or injury.



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