

## Research Roundup

### ACL Injuries in Wakeboarding

Wakeboarding has become increasingly popular since its beginnings in the 1980s and is listed as a possible inclusion for the 2020 Olympics. Throughout the past 20 years, wakeboarding has become more intense and incorporated new tricks with bigger air, more flipping and more twisting. Landing these “big air” tricks is leading to an increased number of non-contact anterior cruciate ligament (ACL) injuries while landing on the water, suggesting the injuries are due to direct or twisting contact with the water, not another object. One study published in *The American Journal of Sports Medicine* surveyed orthopaedic surgeons and wakeboarders and found both groups separately reported that the most common wakeboarding injuries are ACL tears. Other common injuries reported were fractures, shoulder dislocations, ankle sprains, and eardrum ruptures. Many people believe that because the athletes are landing on water, which is a softer surface, injuries will not occur. According to researchers, however, this is not true.

Another study focused on ACL injuries in wakeboarders and attempted to analyze the mechanism of ACL injury to help with future prevention. Of the participants, 75.67% described a pop or buckle feeling when landing in the water. Researchers believe the risk of ACL injury stems from the athlete’s feet being perpendicular to the direction of motion and landing with the feet flat. This motion also occurs in snowboarding, which has a low rate of ACL tears, but snowboarders usually land on a slope, whereas wakeboarders land on a horizontal surface. Currently, researchers are studying releasable bindings to see if they may help decrease the force on the knee.

Usually, ACL tears are associated with planting, cutting and pivoting sports such as soccer and basketball. ACL tears prevented 71.15% of wakeboarders from returning to wakeboarding without surgery. This suggests that knees with damaged ACLs cannot handle the extreme pounding and forces associated with wakeboarding.

Since wakeboarding is far from an organized sport and is performed individually on lakes across the country, it is difficult to receive large amounts of information regarding wakeboarding injuries. There is, however, enough information to show that wakeboarding is a high impact sport that may include a high risk for injury, especially injury to the ACL. As wakeboarding continues to grow, researchers hope to discover more about the mechanisms of injury associated with wakeboarding in order to help prevent future injury.

