



Are Synthetic Playing Surfaces As Safe as Natural Grass?

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Synthetic playing surfaces were initially developed in the 1960's with the reported advantages over natural surfaces of being a durable, versatile surface, less affected by weather conditions, allowing multi-sport use, having easier maintenance, and being more cost-effective. However, the early generation surfaces did not provide much shock absorption and allowed for increased traction between the surface and athletic shoes, predisposing athletes to more impact type injuries such as concussions and non-contact twisting injuries such as ACL tears.

The new generation surfaces such as Field Turf were developed to decrease the injury rates found in the early generation artificial surfaces. These newer surfaces more closely replicate natural grass in terms of consistency and are more compliant with greater shock absorption compared to the older surfaces.

Several studies have investigated whether Field Turf is as safe as natural grass. At the lower levels of football competition, including high school, it appears that Field Turf is as safe or, in some cases, safer than natural grass in terms of overall knee ligament injuries. Another study showed that even at the collegiate football level, Field Turf is just as safe. However, studies looking at the highest levels of competition, including professional football, have shown an increased rate of knee injuries, including ACL tears and overall knee injuries when playing on artificial surfaces. In terms of knee injuries in soccer, investigations have shown that, at the collegiate level, Field Turf is as safe or safer than natural grass. Finally, the concussion rate and the severity of concussions appear to be

the same on both surfaces, with the concussion rate actually being less on Field Turf at the high school level.

Overall, Field Turf does not seem to substantially increase an athlete's risk of injury at the high school and collegiate level compared to natural grass. However, there does appear to be an increased risk of injury at the professional football level on Field Turf. More studies need to be performed to more completely evaluate the safety of Field Turf at the highest levels of competition.

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