

The latest dirt on artificial turf and sports injuries

From high school fields to professional stadiums, synthetic turf is in arenas across the country.



While synthetic turf requires less maintenance than their grassy counterparts, thus making them more economically feasible, there are questions concerning the impact of these fields on sports safety. Do synthetic turf fields have any impact on sports injuries, and if so, are they safer or more dangerous than grass fields? Recently, the American Orthopaedic Society for Sports Medicine (AOSSM) published a paper that reviewed current literature with the goal of finding an answer.

In order to answer this question, AOSSM described two categories for synthetic playing fields: first and second generation turf (developed before or during the 1970s, such as AstroTurf) and third generation turf (developed during the 1990s, such as FieldTurf). The type of playing field has a large impact on the incidence of sports injuries due to their ability to cushion an impact between the athlete and the field. FieldTurf absorbs a large portion of the energy produced by an impact between the athlete

and the field because of the presence of infill, whereas AstroTurf does not contain a large amount of infill and therefore does not provide any surface that decreases the impact of a fall. In addition to the type of turf employed, AOSSM also categorized sports leagues into three categories defined by the level of play—high school sports, college sports and professional sports—where the professional level is the most strenuous and the high school level is the least strenuous.

When examining the effect of synthetic fields and grass fields on knee injuries, there is no definitive answer with respect to which field is safest. One paper that examined the differences between an artificial field and a grass field at the high school level found that grass fields had a higher rate of knee injury than fields with FieldTurf; however, this finding may be due to the high schools' lack of resources for maintaining the quality of their grass fields. Another study that looked at the differences between modern synthetic turf and grass fields at the NFL level found that the prevalence of ACL sprains on FieldTurf was 67 percent higher than the prevalence of ACL sprains on natural grass; however, a study that examined the difference between FieldTurf and natural grass with respect to ACL injuries at the level of collegiate soccer found that FieldTurf had a smaller incidence of ACL injuries than grass fields. Therefore, the data surrounding modern artificial turf and regular grass with respect to knee injuries is inconclusive, and more studies must be performed in order to find a definitive correlation.

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