

Turf Fields and Soccer Injuries

So do turf fields really cause more injuries than grass fields? The answers may surprise you.

Injury Rates

Turf fields have come a long way. The older, first and second generation, fields led to increases in leg and knee injuries as well as more severe head and neck injuries when players contacted the ground.

Research results on injury rates on the new, third generation, turf fields were released in 2006 and 2007. Both these studies found that there was no overall difference in the risk of injuries between turf and natural grass fields. The studies did find a tendency towards more ankle sprains on the turf fields. Other research has shown that turf fields have a higher “twist out” or grip on the shoe than do grass fields - a possible explanation for the tendency towards ankle sprains.

Fields tend to pack down with prolonged use and with wet weather. Clubs will defibrillate their turf fields to reverse the packing effect. A packed field will result in higher twist out forces.

Soccer boots with round cleats will have less twist out than the new molded blade style cleats. Some clubs have even banned the use of blades on turf fields.

Another preventative strategy is to add a more thorough strength and conditioning program early into the players' training regimen. See your local physiotherapist or athletic trainer to learn about ankle strength exercises, deceleration drills, balance and agility training. A little prevention will go a long way.

The Environment

Turf fields require far less water than grass fields and no fertilizers or pesticides. Some companies even use recycled rubber in their turf field pellets. One such recycled material comes from car tires and this could pose a health problem down the road.

A physician in New York recently looked at the rubber pellets used in turf fields. Lab work showed the presence of compounds called PAH's, some of which are cancer causing. Furthermore, the samples tested in New York found the PAH's at levels over and above soil contamination limits. Researchers now want to look at the possibility that players, especially children, may absorb some of these harmful chemicals.

Cleaning Turf Fields

Turf fields tend to accumulate bacteria from blood, sweat, spit, animal visits to the park and who knows what else. Clubs must clean their turf fields with the use of chemicals that will kill the microbes growing within the pellets and grass blades.

When a player breaks the skin on a turf or any other field for that matter, the wound should be thoroughly cleansed to avoid infection

Temperature

A University of Missouri turf expert took temperature readings on a third generation turf field on a 98 degree day. He found the surface temperature to be 173 degrees and the head level height temperature to be 138 degrees. On very hot days athletes are practically playing in an oven.

Hydration for health and sport performance is a large and well researched topic that deserves an additional mention here. Hydration requirements will be even greater when playing on turf on a warm or hot day.

The question also arises whether the PAH's above may be inhaled over and above the contact players make with the pellets when running and sliding.

Bottom Line

- Turf fields are great for all weather use
- Wear round cleats over blades to decrease twist out forces
- Learn ankle strength, balance, agility and deceleration exercises to prevent injuries
- Hydrate well on all days but especially on turf fields on hot days
- Don't leave your water bottle laying in the turf field
- Disinfect all wounds received on turf (and grass) fields
- Be aware that some of the pellets used in the turf may pose a health risk that to this point is not well known.

Yours in Health and Sport,

JR Justesen

JR is a physical therapist, a player, coach and father. He has worked in amateur and professional soccer and has also written a book on soccer safety available free of charge at www.goal-tek.com. Articles are also available on the website www.parkwayphysiotherapy.com