



# SPORTS INJURIES

## GRASS VS SYNTHETIC TURF

WHAT DOES THE SCIENCE SAY?

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# What is an Athletic Trainer?

- ❖ An Athletic Trainer is a certified and licensed health care professional who practices in the field of sports medicine.
- ❖ Athletic Training is recognized by the American Medical Association as an allied health care profession.
- ❖ Athletic Training encompasses the prevention, examination, diagnosis, treatment and rehabilitation of emergent, acute or chronic injuries and medical conditions.

# Comparison

## Our Field

Inconsistent surface

ruts, holes, slope changes

Hard surface

DUST (airborne dirt, goose droppings,  
fertilizer)

Mud, slippery surface

Lost playing time, less playable hours

Embarrassment

## Turf

Consistent surface

Padded, shock absorbing surface

Extra drainage, stable surface

Less schedule changes, more  
playable hours

PRIDE! More participation in athletics!



# ASSOCIATION OF ARTIFICIAL TURF AND CONCUSSION IN COMPETITIVE CONTACT SPORTS: A SYSTEMATIC REVIEW OF META- ANALYSIS

BMJ Open Sport Exerc Med. 2020 May 26;6(1)

**Conclusion:** Analysis of published data demonstrates a decreased incidence of Head injury and concussion when contact sports are played on artificial turf. This difference was most marked for sports such as rugby and American football. However, artificial turf has no association with the incidence of head injury or concussion while playing soccer.

Just at MVRHS, I have managed....  
over 450 concussions!

on average...

- ❖ recovery is about 3-4 weeks
- ❖ some recoveries took over 2 years
- ❖ time away from school
  - 3-7 Days out of school
  - another 3-5 half days out of school
  
- ❖ long term effects
  - mental impairment (processing, long term, short term, and working memory)
  - balance and coordination changes
  - emotional problems (exacerbation of depression and anxiety)
  - Migraines, chronic headaches



# A PROSPECTIVE ANALYSIS OF THE INJURY INCIDENCE OF YOUNG MALE PROFESSIONAL FOOTBALL PLAYERS ON ARTIFICIAL TURF

Asian J Sports Med. 2016 Mar 5;7(1)

**Conclusions:** In professional youth soccer injury rates are reasonably low. Muscle injuries are the most common type of injuries while groin and thigh the most common locations. Artificial turf pitches don't seem to contribute to injury incidence in young football players.



# THE INFLUENCE OF PLAYING SURFACE ON INJURY RISK IN ITALIAN ELITE RUGBY PLAYERS

Muscles Ligaments Tendons J. 2017 May 10;7(1):180-185.

**Conclusion:** In elite Italian rugby players, artificial turf seems to be safe in regards to traumatic injury while it seems to be a risk factor for overuse injuries.



# SHOE AND FIELD SURFACE RISK FACTORS FOR ACUTE LOWER EXTREMITY INJURIES AMONG FEMALE YOUTH SOCCER PLAYERS

Clin J Sport Med. 2016 May;26(3):245-50.

**Conclusions:** Half of the acute lower extremity injuries affected the ankle Or knee. Grass surface and wearing cleats on grass increased training injuries.

**Clinical relevance:** The majority, 64%, of female youth soccer players' acute injuries involve the ankle and knee and injury prevention strategies in this age group should target these areas. When considering playing surfaces for training, communities and soccer organizations should consider the third-generation artificial turf a safe alternative to grass.



## COMPARISON OF THE INCIDENCE, NATURE AND CAUSE OF INJURIES SUSTAINED ON GRASS AND NEW GENERATION ARTIFICIAL TURF BY MALE AND FEMALE FOOTBALL PLAYERS. PART 1: MATCH INJURIES

Br J Sports Med. 2007 Aug;41 Suppl 1(Suppl 1):i20-6.

**Conclusions:** There were no major differences in the incidence, severity, nature or cause of match injuries sustained on new generation artificial turf and grass by either male or female players.



## COMPARISON OF THE INCIDENCE, NATURE AND CAUSE OF INJURIES SUSTAINED ON GRASS AND NEW GENERATION ARTIFICIAL TURF BY MALE AND FEMALE FOOTBALLERS. PART 2: TRAINING INJURIES

Br J Sports Med. 2007 Aug;41 Suppl 1(Suppl 1):i27-32.

**Conclusions:** There were no major differences between the incidence, severity, nature or cause of training injuries sustained on new generation artificial turf and on grass by either men or women.



# RISK OF INJURY IN ELITE FOOTBALL PLAYED ON ARTIFICIAL TURF VERSUS NATURAL GRASS: A PROSPECTIVE TWO-COHORT STUDY

Br J Sports Med. 2006 Dec;40(12):975-80.

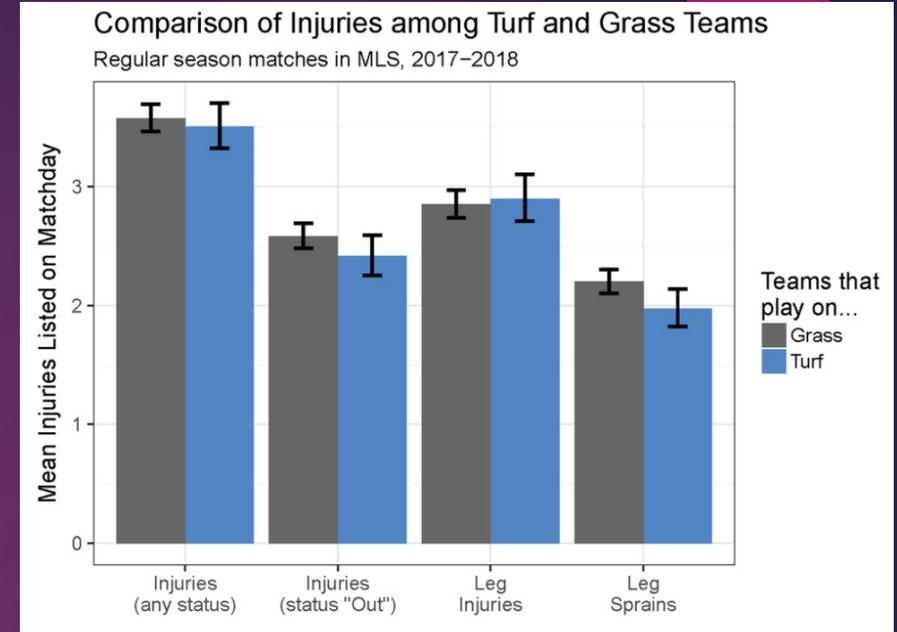
**Conclusions:** No evidence of a greater risk of injury was found when football was played on artificial turf compared with natural grass. The higher incidence of ankle sprain on artificial turf warrants further attention, although this result should be interpreted with caution as the number of ankle sprains was low.



# TURF AND INJURIES: THE DATA HURTS

January 14, 2019

<https://www.americansocceranalysis.com>



The superstar is not alone in his perception. I remember being disappointed not to see Thierry Henry play at CenturyLink Field in 2013. In fact, a group of Canadian researchers surveyed 99 MLS players back in 2011 and found that the vast majority (93%) said they believe third-generation artificial turf (FieldTurf) increases the risk of injury.

But here's the rub (heh): **it doesn't**.

Over the next who-knows-how-many-words-this-will-end-up-being, I'll try to convince you that there's no difference in injury risk playing on FieldTurf vs natural grass.

I'm going to do it the only way I know how: with science.

# Bottom Line

- ▶ The conditions of the game and practice fields are not safe for our student athletes.
- ▶ Most studies compare turf to pristine natural grass fields used by only one team, not fields used by multiple teams for multiple seasons.
- ▶ There is no possible way to maintain the fields we have with the amount of use each field takes.
- ▶ Turf may actually be safer than a natural grass field.

We strive to provide the very best athletic equipment and sports medicine supplies for the safety of our student athletes.

This should include a new turf field!

**GO VINEYARD!**