

Sprague Field Task Force  
Sports Injuries Sub-Group

**REPORT OF THE SPORTS INJURIES SUB-GROUP**

The mission of the Sports Injuries Sub-Group was to review available studies that examined sports injuries suffered on synthetic turf with sports injuries suffered on grass. A bibliography of those studies is attached to this report. The Sub-Group then consulted with Dr. Leo Troy, a sports medicine specialist, who is affiliated with: Mount Auburn Hospital Brigham and Women's Hospital, the Faulkner Hospital and Newton-Wellesley Hospital. He also serves as the Team Doctor for Weston High School Football. Dr. Troy appeared at the December 5, 2007 meeting of the Sprague Field Task Force. He offered the following observations:

- Early turf fields (Astroturf) had too much traction. This caused tortional injuries to knees and ankles. The newer turf offers longer sees the same kind of earlier generation turf injuries (knee and ankle - tortional from cleats getting stuck).
- Based upon his review of the studies in the bibliography, Dr. Troy believes that the studies show slight difference in favor of synthetic turf; most recent studies show fewer ligamentous injuries on synthetic turf, but the difference is not significant enough to say one is better than the other. He stressed, however that all the studies were conducted on good quality grass fields.
- Fields using silicates tend to be a little harder.
- Skin abrasion-type injuries occurred slightly more on turf but at the same rate as on less than premium natural grass fields.
- More sever head injuries had a higher incidence on natural grass.
- Dr. Troy emphasized that the synthetic turf fields offer a significant advantage in preventing injuries because athletes can practice their sports before the season begins (in Wellesley, baseball, softball, spring soccer and lacrosse players rarely have access to the fields before the beginning of the season); Dr. Troy believes that many of the injuries he sees are

due to athletes engaging in competitions without adequate training.

The sub-group thanks Dr. Troy for his time and effort.

The sub-group incorporates Dr. Troy's observations as the findings of this subgroup. Furthermore, we would like to offer the following observations:

- Our focus is elementary through high school-aged athletes, playing recreational and interscholastic sports - not college or professional athletes, as is the case in many of the studies.
- In some cases, studies are referring to the "old generation" of synthetic turf. We believe there is a significant difference between the old generation turf and the newer "infill" style turf.
- Most studies compare synthetic turf with premier natural grass fields. Wellesley's fields are not premier and suffer from chronic overuse.

Respectfully submitted:

Greg Mils

Tom Harrington

Carl Fleischer

## Bibliography

1. British Journal of Sports Medicine, 41 Supplement 1:i27-i32, August 2007- Study: *Comparison Of The Incidence, Nature And Cause Of Injuries Sustained On Grass And New Generation Artificial Turf By Male And Female Football Players. Part 2: Training Injuries*. By: Fuller, Colin W 1; Dick, Randall W 2; Corlette, Jill 2; Schmalz, Rosemary 2.
2. The American Journal of Sports Medicine, 32: 1626-1638 (2004) – Study: *Incidence, Causes, And Severity Of High School Football Injuries On Fieldturf Versus Natural Grass. A 5-Year Prospective Study*. By: Michael C. Meyers, PhD, FACSM and Bill S. Barnhill, MD.
3. British Journal of Sports Medicine, bjsm.2007.036665. Report: *Risk Of Injury On Artificial Turn And Natural Grass In You Female Football Players*. BY Kathrin Steffen, Thor Einar Andersen, Roald Bahr.
4. Journal of Sports Science and Medicine (2007), Suppl. 10, p. 40-43. Study: *Risk Factors For Overuse Knee Extensor Mechanism Disorders In Adolescent Soccer Players*. By Hiroaki Kinoshita, Shumpei Miyakawa, Naoki Mukai and Ichiro Kono.
5. British Journal of Sports Medicine, bjsm.2006.027623. Study: *Risk Of Injury In Elite Football Played On Artificial Turf Versus Natural Grass: A Prospective Two-Cohort Study*. By: J. Ekstrand, T. Timpka, M. Hagglund.
6. SchoolDesigns.com, November 17, 2007 – Article: *Greener Grass*. By: T.A. (Tadd) Clarkson.