

ATHLETIC PLAYING TURFS - AN ATHLETIC TRAINER'S PERSPECTIVE

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At 8500 Kirby Avenue in Houston, Texas, stands a 20th century engineering achievement, the 25 year old architectural wonder which has become a hallowed athletic shrine. Sports fans around the world know the Houston Astrodome today, a monument to engineering genius known by true blue Oiler fans and players as the "House of Pain" because of the domination and punishment dealt opponents by the Oilers in recent years.

As a certified athletic trainer, I view that steel and concrete, modern coliseum with sarcasm as the home surface of pain and injuries. Scientific evolution affects your profession and mine; for your membership you learn of new maintenance procedures and new products. As an athletic trainer I must learn of new injury protection techniques. There are new injury treatments and surgical procedures. Our two diversely different professions share a very common connection. I suspect that natural turf growers know little about sports medicine even as I know little about turf management. We now deal with things like cardio-vascular conditioning, transcutaneous electrical nerve stimulations (TENS) and anterior cruciate ligament reconstruction and rehabilitation. I have been a Lion trainer for 24 years and a long time Lions fan. One comment about that is the circus is over and the real attraction about to start. The common vision of the athletic trainer is an overweight, bald, cigar smoker with a bucket and sponge who climbs into the ring for the Wednesday or Friday night fights. The certified athletic trainer today is much more, a certified paramedical health care professional. We are men and women who work in physical therapy clinics. The majority of us use the traditional setting--training rooms. Regardless of the level of competition, trainers share the same disciplines: conditioning, prevention, first-aid, treatment, rehabilitation. More recently we spend more time with social and health problems and counseling. Since my knowledge is limited relative to your field, in the remaining time we will discuss only the trainers view of artificial turfs and natural turfs.

It has been 35 years since high school biology. I remember hearing about water, soil, nutrients and ultra-violet light which are necessary for growing turf. My intent here is not to antagonize or criticize the men and women of your profession who cannot grow grass in domed stadiums like the Astro, Super, Silver, King, Humphrey, Carrier, Uni and soon to be completed Atlanta domes. Amazingly, it was done once. Few know that in 1965 the Astrodome had a natural turf. The reason it was removed was not due to the failure of turf expertise. The dome roof was constructed of plexiglass. It was so bright the players could not see the baseball so the panels were painted. The lower light intensity resulted in death of the turf. Of course Yankee ingenuity prevailed. We cannot cure the common cold but we invented a synthetic surface for gladiators on which to battle on Friday, Saturday and Sunday in the fall.

My first experience with artificial turf was at Riverfront Stadium Cincinnati in 1970. This was a new era in modern football. Owners, GM's and

the administration felt artificial turf provided a beautiful turf which was always green and provided good eye appeal. It was smooth and consistent with no holes or ridges; allowed low cost maintenance and multiple usage. The clean surface pleased equipment men and mothers. Others, and the customary cynics, formed a John Madden mentality. It was unamerican to play this traditional American game in a test tube pure environment. The game lost its stoic identity because gone were the muddied faces and uniforms of the victors and the conquered. The new era did begin but did not result in what was expected by some. The great shoe controversy exists yet today. The best shoes were deemed to provide traction and support on artificial turf. We were warned of elbow and knee abrasions from artificial turf. Today appropriate pads and sleeves protect elbows and forearms from painful abrasions. But we never anticipated the number of bloody toe nails.

Thru the 1970's more artificial turf fields were installed which generated an increased number of exposures. Like everything else, studies were conducted and observations recorded. Trainers discovered two interesting or distressing factors. The speed of players increased and the size of players increased. On the artificial turf these speeds increased even further. For example in a 40 yard dash coaches timed players: a 180 pound defensive back ran 4.8 on grass and 4.7 on artificial turf, a 2% increase. By contrast a 260 pound defensive lineman ran 5.2 on grass and 4.8 on artificial turf, a 7% increase. A simultaneous phenomenon was occurring: the defensive backs and wide receivers are the same size and speed as 10 years earlier (180 pounds) but the linemen are now 285 to 300 pounds because of increased emphasis on weight training programs and as a result of uncontrolled steroid abuse. Simply translated the laws of physics tell us that increased speed and increased mass increase the impact. This does not infer the game is more violent. The increased speed evolved for two reasons. Some suggest, controversially, that today we have better athletes and there is more scientific coaching and training. More likely the turf shoes provide better traction. The modern artificial turf shoe provides instant traction and improved body control. The players can run more erect and at full speed which results in increased impact.

The second result of improved traction is easily prevented. The problem is blood under the big toe nail. The shoe stops instantly while the momentum of the foot continues. The toes jam into the end of the shoe with the nail forced into the nailbed. The simple remedy is to cut the toe nails. Increased grip and insufficient sole support results in stretching the tissue on the bottom of the foot and fracturing of the sesmoid bones, which crushes the bone on top. It is painful and career threatening. Because the foot moves in the adhered shoe there are increased blister problems. We can correct this with tube socks and by improving shoe fit.

A silent marketing senario also occurred. With the emphasis on speed, coaches, scouts and players demanded light shoes for greater speed. Light shoes provide less valueable shoe support resulting in increased ankle, arch and toe injuries. To lose a key player to injury is a coaches nightmare and dramatically affects team success. The most common misconception of the uninformed about artificial turf is that it remains too hard. It was scientifically proven by Monsanto that the natural turf infield of the Baltimore Colts was harder than any artificial turf field. Firmness is of less concern than traction but hardness still produces problems.

Subjectively, I see a difference on Monday mornings,. The injury rate and severity are the same with artificial and natural turfs. But there is a marked increase in general body soreness after a game on artificial turf. Records prove increased use of whirlpool, sauna, steam room and aspirin consumption. The majority of players polled prefer natural turf for both practice and game fields. The increased traction and firmness translates into increased body discomfort. There is an increase in leg fatigue and generalized stress transmitted to ankles, knees, hips and backs. We can tell there is an immediate difference on natural turf. Inclement weather, conflicting schedules, etc. force workouts on artificial turf. Players must wear sneakers and reduce practice time and intensity. Some institutions wet the fields to reduce stress.

Athletes general opinion of artificial turf once was summarized by one player's comic statement that if we cannot eat or smoke the stuff, we should not play on it. But having a player die in a game or helping a player thru substance and a marital crisis reinforces the fact that we have moral and legal obligations to the athletes. An extremely distressed coach may address the player by stating nobody cares about you or how bad the field is, and people pay only to see a great performance and the "game". Attitudes like that cannot be tolerated. Regardless of supposed toughness or extreme salaries there is a moral and legal obligation to athletes to provide the ultimate levels of safety which technocracy can provide. Consider yourself as successful athletes. Your major concerns are health, career, and longevity which relates simply to more earning power.

Artificial turf will retain a place in athletics because of financial advantages and other considerations. Therefore, continued research or regulations are necessitated. If we correct the overall abrasiveness we can reduce the potential and severity of turf burn. It is still a painful health hazard if it occurs. Eliminate painted end zones or improve the paint quality. Paint is desired by TV and bowl committes, but it makes end zones abrasive and hard. We need paints which do not alter the normal texture of the turf. We should standardize degrees of shoe traction. By nature games will remain competitive. To remain competitive, speed will not be relinquished. Speed is a direct factor of traction. Football, by its very nature is dangerous. The experiences, lessons and personal growth of young men playing football outweighs the risks of the game. They are safer on the football field than in an automobile. It is statistically proven there is no increased risk of more serious injury on artificial turf compared to natural turf.

This is my attempt to explain my views and opinions as they relate to athletic training. Athletic practices and games on natural turfs create minimal problems for athletic trainers. We are preoccupied with problems on artificial turfs and are oblivious to problems on natural turf. Maybe we ignore this becaus this was always part of football. This trainer prefers a return to natural turf whenever possible. There are less problems for trainers not from laziness but because of the effects on athletes as previously discussed. As you become more expert in providing quality natural turf maybe we can assume we will competitively eliminate the manufactured product. Coaches continue to seek perfect everyday practice and game fields. There is a failure to understand your problems. You can't regulate uncontrollable factors such as rain, sun, wind and soil. Coaches practice on

the same spot and fail to move to other fields. Coaches and trainers should expect a well drained, consistent base with improved durability of turf. The field should be free of unsafe, exposed sprinkler heads and other unnecessary obstacles. There is a need for adequately trained maintenance personnel.

Thank you for the invitation to address your professional conference. It is a privilege to represent my profession. Hopefully I have enhanced your knowledge of the concerns and problems my profession faces as we interface with your expertise.