

THE KILLING FIELD

The Scott Halbrook story is a worst-case scenario. It should be required reading for all athletic turf managers. In this exclusive WEEDS TREES & TURF interview, Scott's dad and lawyer reveal the grim details of *death on a bad field*.

by Heide Aungst, associate editor



The shock of his only son's death left Alan Halbrook numb.

Scott Halbrook, a healthy, good-looking 19-year-old athlete, was too young to die. Because he was killed practicing the sport he loved—baseball—Scott's family cannot forget the accident.

At Marist High School in Eugene, Oregon, Scott lettered in football, basketball, and baseball. When offered a baseball scholarship at Oregon State University in Corvallis, Scott took the first step toward realizing a longtime goal — playing professional baseball.

But the dream ended tragically before Scott even had a chance to play a game for the Beavers.

On March 2, 1982, Oregon's soggy spring weather forced coach Jack Riley to hold baseball practice on the AstroTurf of Oregon State's Parker Stadium. (AstroTurf is a synthetic turf manufactured by the Monsanto Co. The team regularly played on natural turf.)

Local newspaper reports said Scott, playing left field, was injured in a collision with the shortstop while both were running for a short pop fly to the outfield. Scott died of head injuries three days later.

Scott's family—parents Alan and Betty, sisters Alana, Vinci, Janice, and Vicki—had no reason to doubt the story he heard of Scott's death...until the anonymous phone calls started.

The caller, according to Halbrook, said the artificial turf in Parker Stadium needed to be replaced. It wasn't the actual collision that killed Scott—it was the impact of Scott's head

on the worn-out AstroTurf.

The original AstroTurf field was installed in 1969, replaced in 1974, but problems were detected, and it was replaced again in 1976. During that replacement, however, the old pad was left down.

When the Halbrooks searched for answers, Oregon State quickly cut off all communication. Halbrook obtained a test which had been conducted shortly after Scott's death. The test, done by a Monsanto competitor, showed the field to be intolerant to a human body falling on it.

Oregon's state adjuster offered a \$5,000 payoff — "in good faith" — to Halbrook's family.

Halbrook filed suit against Oregon State, Monsanto, and Sports Install Inc., a subsidiary of Monsanto.

Attorney Dan Holland of Eugene uncovered internal Monsanto documents concerning the condition of Parker Stadium. One, dated November, 1981 (four months before Scott's death), rated the field in serious need of repair, judging by Monsanto's own grading system. Holland says the Monsanto inspector later claimed that the drop-test machine, a device used to measure field hardness, was broken that day, so he rated the field by walking on it.

Another document said the field was as hard as frozen sod or hard-packed clay.

Still another document, dated January, 1982 (two months before the accident), blatantly stated, "This field needs to be replaced!" Later, there was a question as to whether that document should have been dated January, 1983.

Monsanto's defense in the case has been that Scott's head injury was caused by the collision, not when his head hit the AstroTurf. "There's a real debate over whether the death

blow was caused by him running pell-mell into the shortstop," says Frank Vible, Monsanto's assistant general counsel.

Despite the debate, the suit was settled out of court in September, 1985. The amount of the settlement cannot be disclosed.

How hard is hard?

The Halbrook case may seem like the artificial vs. natural turf controversy is again being dredged to the forefront. That issue has been endlessly hammered into the ground it covers.

There's no denying the lush, green color of artificial turf shows up beautifully on TV...mud is non-existent...and it takes the abuse of rock concerts, tractor pulls, and rodeos, along with the usual sports wear-and-tear.

It also survives in domed stadiums.

But there's no denying the increased injury rates—from "turf toe" and infected abrasions to serious head injuries—its (yawn) predictability...and the scorching heat emitted from the artificial turf on hot days.

There's always room to debate. But, in the best interests of the players, the artificial and natural turf industries should stop arguing and each take a critical look at the questions raised by the Halbrook case:

- *How hard is hard?*

- *Should there be a standard for athletic fields?*

"There's a real question out there," Holland says. "To what extent does the hardness of the field play a part in injury?"

"The tendency is to blame something else...the athlete's condition, the risk of injury inherent in the sport, the equipment, the particular way the fall or injury occurred. Where do you draw the line?"

In researching the case, Holland found studies and cases involving abrasions and turf toe, but little on hardness.

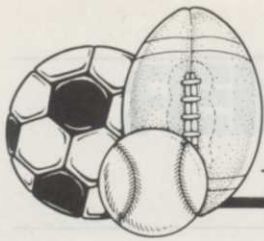
"I was really shocked at the lack of information about field hardness," Holland says. "The bottom line is...is hardness an issue? That was the whole focus in the case and we found that it is an issue, so we tried to define the issue."

No excuse

Field hardness is becoming such an issue, in fact, that researchers at Penn State University have begun studying the hardness of natural fields.

Holland turned up several impact studies,





and Halbrook dished out thousands of dollars for private studies to support his case.

Halbrook, a mechanical engineer, became consumed with the studies and documents trying to find answers to his son's wrongful death. "I read every one of them at least half a dozen times," Halbrook says.

They also discovered that in 20 years of making AstroTurf, Monsanto had never established a standard for hardness. But, then, neither had any other artificial turf manufacturer or the American Society of Testing Materials (ASTM), which has standards for most man-made products.

"Their excuse for failing to establish a standard in 20 years was to say that there's no standard on natural turf," Holland explains. "That's an improper perspective. They've created a product, put it in a different environment, and it works in a different way."

But Dr. Eliot Roberts, executive director of The Lawn Institute, says establishing a standard for natural turf fields will be necessary soon. With litigation getting out of hand, a law suit against a poorly-maintained natural turf field may not be far off.

In fact, it's difficult to even get university turf researchers to say, flat out, that natural turf fields are always safer than artificial turf fields.

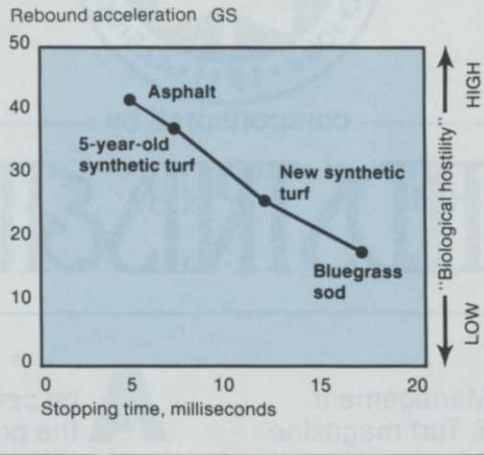
What may be true is that a new artificial turf field could be safer than a poorly-maintained natural turf field. But without standards in either industry, researchers hesitate to make blatant statements.

One of the most critical studies addressing this issue was published by Dr. Douglas Bower and Bruce Martin in *Medicine and Science in Sports* in 1974. The study, "Impact absorption, new and old AstroTurf at West Virginia University," looked at impact absorption effects on four surfaces: sod (well-maintained Kentucky blue grass about 1 1/2 inches high); new AstroTurf (glued down to 5-year-old underpad); old AstroTurf; and asphalt.

The study found the "new AstroTurf surface approximates, but does not equal, a grass field in impact absorption capability...5-year-old AstroTurf surface has significantly decreased ability to absorb impact compared to the new AstroTurf."

IMPACT ABSORPTION OF SURFACES

Rebound acceleration and stopping time of a 16-pound indoor shot put on four surfaces, West Virginia University, 1974.



Alan Halbrook (right) and attorney Dan Holland examine less than half the documents in the case of Scott Halbrook's death.

The West Virginia study showed after only five years the surface had decreased dramatically. Parker Stadium's AstroTurf was six years old, the pad underneath eight. Besides the usual wear, ultraviolet light can break down synthetic surfaces and bacterial degradation can literally eat away the pad.

A standard for all

Dr. Bower, chief of sports medicine at West Virginia University Medical Center, completed an updated study in July. His results have not yet been published. But Bower is a big advocate of standards in all sports fields.

"I would like to see a standard for playing surfaces for specific sports," says Bower. "If artificial surfaces can meet that, fine."

Of course, Bower points out, a standard for a baseball field would differ from a football field or soccer field. But, he says, the standards should be set using good natural surfaces, not artificial turf, as a guideline.

Bower's research is unique. Although most companies "test" their own products, little objective research has been conducted.

Monsanto's Vible says he doesn't believe a standard is necessary for artificial turf, because it is "an essentially safe product."

"There is no vehicle for producing a general standard," Vible says. "There is no artificial turf trade association. ASTM has standards most of us abide by."

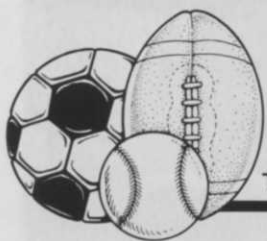
Holland points out, however, that ASTM has test standards, not safety standards, which take into consideration human tolerance. Besides, there's no requirement for companies to abide by test standards.

Penn State University graduate students Trey Rogers and Rich Henderson, under the di-

rection of soil science professor Don Waddington, are measuring natural field hardness with a portable Clegg impactor. With this instrument, Rogers and Henderson will test fields under different conditions.

They will try to determine exactly how much affect various turf management methods, such as aeration and mowing height, actually have on the hardness of the field. Besides management methods, the researchers will check if turf species and root systems affect field hardness.

Henderson's tests so far have shown a decreased peak



Scott Halbrook

deceleration with the presence of turf and with core cultivation.

If the research is conclusive, it could help determine a standard on natural fields.

"The hardness aspect comes into the play of the game," says Waddington. Many players claim, for example, that the evenness of artificial turf allows them to run faster.

Protective instincts

How much does the field actually affect play? Halbrook argues that players adapt their actions to field conditions.

But, he questions, when kids are put on artificial turf, do they realize they're essentially playing on asphalt, or does the green carpet make it seem like grass? If an athlete thinks he's playing on grass he may lose his natural protective instincts to defend himself in a fall.

"If you're playing basketball in the street, you know you're playing on asphalt," says Holland.

"I can't believe that if Scott knew he were playing on frozen turf or hard packed clay that he wouldn't have put his elbow down," says Halbrook. "When you aerate it loosens the soil, makes it less compacted. The grass is yea-high," he says, signalling an inch or two with his fingers. "You water it to maintain it. Everything you do to maintain a nice green field gives cushion to the field. That also gives

more shock absorbancy. If it's brown, it shows immediately."

If a standard for athletic field hardness is established, all athletes would be aware of the type of surface they are playing on and its degree of hard-

ness, whether artificial or natural.

Athletic field managers, researchers, and artificial turf manufacturers need to work together in establishing such hardness standards. Because one death is one too many. **WT&T**

AN ACT OF GOD?

You've heard it before. Injuries are beyond your control. But experts tell WT&T that the athletic field manager can make his field safer. Here's how.

by Heide Aungst, associate editor

At high schools and grade schools throughout the country, it's a well-kept secret. Those who dare to whisper the truth are quickly hushed.

"It's an act of God," they're told. God's will.

But injuries on natural athletic fields are not all "acts of God." The truth is that many could be prevented. Injuries are frequently caused by poor field construction, cheap seeding, and haphazard management practices.

Young athletes, at the mercy of "responsible" adults, are falling on jagged rocks, twisting ankles in undulations, and tackling each other on hard, compacted fields.

Penn State University has published possibly the only study dealing with the relationship of field maintenance to injuries. In December, 1984, professors Don Waddington (soil science), John Harper (agronomy extension), Chauncey Morehouse (physical education/director of the Sports Research Institute), and William Buckley (health education), published the study "Turf management, athletic-field conditions, and injuries in high school football."

The researchers evaluated varsity and practice fields at 12 Pennsylvania high schools for soil properties, field surface (undulations, stones, roughness), vegetative characteristics, and maintenance factors. They collected injury data throughout the season. (Only 10 schools turned in complete injury statistics.)

Of the 210 injuries reported, 44 (20.9 percent) may have been caused by field conditions.

Waddington says the study has been criticized for being on such a small scale, but it clearly illustrates that a connection exists between field conditions and some injuries.

The problem results from school administrators assigning someone, such as a janitor, without proper knowledge, to care for a field. Administrators often cite budget restrictions as the reason for failing to hire qualified field managers.

"My attitude is you can't afford not to pay someone," says Dr. Henry Indyk, extension specialist in turfgrass management at Rutgers University. "I can use the same philosophy in hiring a teacher in the school system. An athletic field is a very important part of a kid's education."

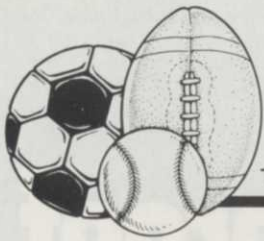
The budget also is to blame for lack of proper equipment and fertilizer.

Some corners can be cut to manage a safe athletic field at low cost. But, other factors should never be neglected.

Get advice

The first step in either building or renovating a field is to consult a local extension agent. "I don't know how many people know we're here," says Dr. Dave Chalmers, extension agronomist at Virginia Tech. "We're recognized more in rural areas, than urban."

Extension agents can be found at



Dr. Don Waddington has studied the connections between injuries and field conditions.



Dr. Tom Turner says turf-type tall fescues are highly adaptable in the transition zone.



Dr. Dave Chalmers recommends seeking the advice of extension agents.

fore they start because they use the wrong soil," says Dr. Joe Duich of Penn State University.

Soil tests provide the manager with a chemical analysis to see how much fertilizer is needed and an analysis of the soil's physical properties to determine the percentage of sand, silt, and clay.

Dr. Eliot Roberts, executive director of The Lawn Institute, says a good sports field should have about 85 percent sand. The sand promotes drainage, which is also a key to a well-maintained athletic field. But, he warns, mixing in small amounts of sand will act like cement and clog a field.

"Too little sand can be more harmful than doing it right," Roberts explains. "Either go all the way or leave it alone."

For athletic fields which need help, but are hindered by budget constraints, Roberts recommends grading or contouring the surface. This is done with a grooving machine, such as the Ditch Witch.

The grooving should run from goal line to goal line, perpendicular with the flow of the water off the surface (toward the sidelines). The slits should run parallel to each other, every six feet, and be 18- to 24-inches deep.

The soil should then be hauled

any land grant university, which usually has the main agriculture school in the state. Athletic turf seminars sponsored by the local extension service are becoming more popular.

Rev up community support

Most extension agents consult free of charge which is an advantage to schools with low budgets. Schools that can't get in touch with an extension agent can often get free advice through a local golf course superintendent or landscape contractor. When pinching pennies, borrow equipment from concerned superintendents or contractors.

Community education can be difficult to achieve, but is important to any field managers. Indyk advises that if administrators don't listen, go to the PTA. Concerned parents have a way of getting action when it's a matter of their children's safety.

Aerate often

Aeration is perhaps the biggest factor in maintaining a safe playing field. Every field, regardless of age, needs aeration to loosen the compacted soil. "Aeration is the difference between failure and success," Indyk says.

"We find the tendency is to not aerify anywhere near enough," says Roberts. He recommends aerifying, about three inches deep, in five different directions, "as often in the spring and fall as it is visually evident that the grass is weak because the ground is hard."

The cores on the field need to be broken to work as a top dressing, which stimulates grass growth. Breaking the plugs also helps keep the field level.

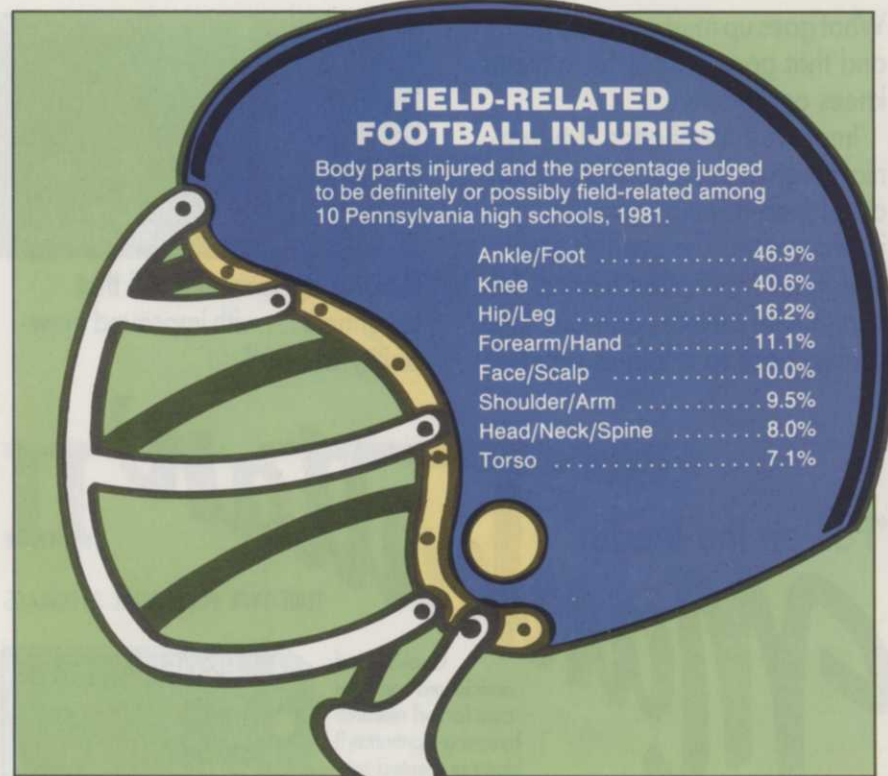
Roberts recommends dragging a

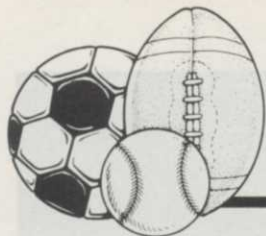
chain-link fence over the cores to break them up. An upside-down harrow will also work (see WT&T "Job-talk" April 1986).

Sample the soil

While aeration can help many fields, some fields need complete renovation. An extension agent can complete soil tests which are necessary in evaluating the type of maintenance a field needs. Although many managers concentrate solely on turf quality, soil needs to be a primary focus in an athletic field.

"The majority of fields are dead be-





FOR SAFER TURF....

away, and the grooves filled with sand. The sand helps trap water and carry it into the soil. Roberts says the best time to renovate a field is in early spring or fall.

"There isn't really a good time, since most fields are used year 'round," he says. "But it should be done when the grass grows best. The summer is too hot and it doesn't heal rapidly."

Seed selection

The variety of seed used on an athletic field makes a difference. Roberts emphasizes the necessity to always choose a name variety. "There's a bunch of these name brands out, and there's not a great deal of difference," Roberts says.

New varieties provide improved insect and disease resistance. Common varieties or blends don't guarantee enough cushion to a field, he says.

On cool-season fields, Roberts recommends using bluegrass (Adelphi, Baron, Touchdown, Glade, Merit, Midnight, Aspen). Bluegrass spreads by rhizomes. It holds together well under use and also forms a good sod. The rhizomes will automatically fill in divots in the field.

Turf-type tall fescue (Rebel, Houndog, Mustang, Olympic, Falcon, Apache) doesn't have the rhizomes found in bluegrass. Roberts describes it as a "clump-type" turf. It needs to be seeded close together. Despite the fact that it won't form sod, turf-type tall fescue does offer improved disease and insect resistance and provides a rugged cover.

Dr. Tom Turner, extension turf specialist at the University of Maryland, says turf-type tall fescues are best to use in the transition zone.

"In Maryland, we're strongly pushing turf-type tall fescues," he says. "You have to irrigate bluegrass in Maryland for it to survive well. It's too hot and humid in the summer."

Turner says Maryland is "in a hotbed of anti-pesticide groups." With improved insect resistance, the turf-type tall fescues offer a good compromise.

Perennial ryegrass (All*Star, Repel, Manhattan II, Citation II, Fiesta, Pennant, Derby, Palmer) also doesn't spread by rhizomes, but, Roberts says, it is ideal for overseeding, repairing, or renovating a field. Several new varieties of ryegrass contain endophytes, which naturally fight insects.

Ryegrass can be blended with



Dr. Eliot Roberts

In order to build or maintain a good athletic field, Dr. Eliot Roberts, executive director of The Lawn Institute, suggests following these five guidelines:

1. **Land**—First assess the grade/slope of the land.

2. **Soil**—Take core samples to determine the depth of the topsoil, subsoil, and rock layer. Determine the mixture of sand, silt, and clay. To promote drainage, good fields should be about 85 percent sand. (See related story for an easy way to renovate a poorly constructed field) Check the physical properties of the soil such as the particle size.

While looking into the soil, consider how it will work with the installation of drainage, tile lines, and the irrigation system.

3. **Consultant**—Bring in a consultant or local extension agent who is knowledgeable in the design of drainage and irrigation systems. If you haven't determined the properties of the soil, use the consultant to do that at the same time.

4. **Seed**—Select a name seed variety with improved disease and insect resistance. The turf should be able to compete with weeds and take wear. Stay away from common varieties and blends.

Bluegrass works best in cool-season grass areas because it spreads by rhizomes. Turf-type tall fescues are recommended for areas in the transition zone because of insect resistance and drought tolerance. Ryegrasses are good for overseeding and repairing.

Most southern states use bermudagrass on athletic fields. Bahiagrass and kikuyagrass also work in some regions.

5. **Maintain**—After constructing a good athletic field, maintenance should not be neglected. Aeration is the number-one priority for any field. Aeration should be done as often as necessary in the spring and fall, in five directions, at a 3-inch depth.

Irrigation and cultural treatments can be determined by the soil analysis and turf variety used.

If you have any specific questions, be sure to consult your local extension agent.

WT&T

bluegrass, but Roberts advises against mixing it with tall fescues. "The ryegrass is more aggressive and tends to colonize," he explains. "It doesn't make for a uniform surface."

In warm-season turf regions, bermudagrass is most commonly used on sports fields. Some gulf coast states use bahiagrass. Several regions of Southern California use kikuyagrass, despite the fact that the Soil Conservation Service has outlawed it because it spreads into agricultural crops.

Centipedegrass won't take the wear of an athletic field. St. Augustinegrass and zoysiagrass get too thatchy and spongy to work well.

To manage a good athletic field, just remember:

The key to top turf

To manage a good athletic field, just remember GRASS.

Get advice from a professional consultant or extension agent;

Rev up community support for the needed budgets or equipment;

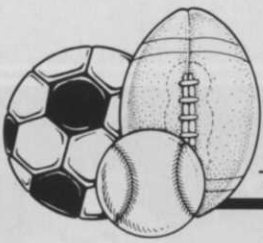
Aerate a good field regularly and often; but, if the field needs help;

Sample the soil and renovate the field if necessary;

Select seed carefully, using name varieties only;

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EDITOR'S NOTE: Special thanks to Dr. Fred Grau of the Musser Turfgrass Foundation and Dr. Eliot Roberts of The Lawn Institute for their time and effort in providing the WT&T staff with background information used in this series of articles.



ARE YOU LIABLE?

The courts are taking a broader view of liability, so conscientious athletic field managers should be taking daily walks around fields.

by Heide Aungst, associate editor

The game: Texas Christian University at Alabama.

The date: October 26, 1974.

The play: TCU's tailback carries the ball on an end sweep. An Alabama player pushes the tailback out of bounds from the front. Another chops his legs from behind. The tackle flips the tailback.

End of play.

Former TCU tailback Kent Waldrep watches that play over and over again. Not on videotape, but in his mind.

That play left him paralyzed from the neck down.

"I'll remember that moment the rest of my life," Waldrep says. "I can think and visualize exactly what happened and what I felt like it was yesterday."

What he felt the moment his head hit the artificial turf was nothing. Nothing.

Then, within minutes, the tremendous pain started.

He spent a month in an Alabama hospital, then went to an acute spinal cord injury center in Houston for three months. He even became one of the few Americans permitted to receive experimental treatments in the Soviet Union.

Through all the physical pain, Waldrep had to endure the emotional trauma of starting life over in a wheelchair.

And, there were more frustrations. Less than a year after the accident, TCU officials stated they would no longer be responsible for his medical bills. An attorney advised him not to sue TCU.

But Waldrep did file suit in 1976 against the manufacturer of the artificial turf in Alabama's stadium.

The case was settled out of court in 1984, and, as is common in settlements, he can't talk about the case, even to mention the company he sued. But *Sports Illustrated* reported the suit was against American Biltrite, the manufacturer of Poly-Turf and the contractors who put it down.



Kent Waldrep: Paralyzed on artificial turf.

Although most law suits involving athletic fields focus on artificial turf fields, suits on natural fields may not be far off.

Going to court

Jim Leatzow, senior vice president of Financial Guardian Insurance, says field managers need to be aware that cases involving playgrounds and parks also affect athletic fields.

"The courts are taking a broader view of responsibility," Leatzow warns. "They hold a degree of liability and responsibility if someone is hurt because something is not properly maintained. The courts will ask, 'Is there something that could have been done to prevent the injury?'"

Leatzow cites a case involving a swing set which was set in concrete. The soft cover around the swing set had worn away because no one had maintained it. A child, misusing it, slid down the end support pipe and broke his leg. His parents sued and won a sizeable amount.

Leatzow says it didn't matter if the child was misusing the equipment. The court only looked at the fact that

the child was hurt because the covering had not been properly maintained.

The same type of suit could happen because of holes, ruts, and bare spots on a field from improper maintenance.

Leatzow says the No. 1 precaution for field managers is common sense.

"By that I mean look for the foreseen problem, like equipment which is not up to snuff," he explains. "Make sure the field is properly lighted, no lights are burned out."

Besides the mechanics of a field, the actual field condition is important. Eliminating hard bare spots, holes, and rocks in the field should be a primary concern. Poor drainage is also a major problem. If someone were to sink into a spot, twist and break a leg, a field manager could become the center of a lawsuit.

"All you have to do is walk around," Leatzow says. "You should be making daily inspections of all athletic facilities."

Critics say the responsibility for an injury on a natural turf field would be too difficult to prove. But Leatzow points to the *Deep-Pocket Theory*.

The theory, more formally known as *The Doctrine of Joint and Several Liability*, allows an injured party to collect regardless of whom is at fault.

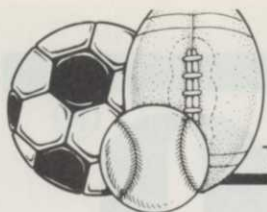
An example of this occurred in California when a drunk driver, racing to cross railroad tracks before a train, ran off the road and into a gas station. The station exploded, injuring a man in a nearby phone booth.

The man sued. He collected from the phone company.

Profit motivated

In the case of artificial turf, it may take an actual court case to get standards or improvements, but even out-of-court settlements impact on liability insurance.

"The vast majority of cases never get to court," Leatzow says. "The insurance industry is profit motivated. For that reason, it's more expedient at



Insurance expert Jim Leatzow says athletic turf managers are liable for injuries on natural turf.

times to settle out of court, rather than fighting the case on principle."

In the Halbrook case, college baseball player Scott Halbrook hit his head on Monsanto's AstroTurf (see accompanying story), allegedly causing his death. Monsanto assistant general counsel Frank Vible says the company offered a settlement in September, 1985, for purely economic reasons.

"It was not an admission of guilt," Vible says. "We felt that the economics indicated that it would be a lengthy trial and there would be a lot of sympathy for the plaintiff."

Dan Holland, attorney for the Halbrook family, says they decided to accept the settlement because Monsanto offered enough money.

"None of us will ever know if we made the right decision," adds Alan Halbrook, Scott's father. "But I got the information I went after."

Opponents of artificial turf say it will take a well-publicized case which actually goes to court before

anything will be done about the problems with artificial turf. Most of the cases are settled out of court with a non-disclosure clause.

No choice but to settle

Waldrep feels he had no choice but to settle. When TCU cut off its financial

support, Waldrep was left without medical insurance. The bills had to be paid.

"I couldn't afford to go to court and lose," he says of his decision to settle. "I wish it could have been me. It was an extremely hard decision...almost like giving up, and I've never given up on anything in my life."

Although Waldrep's and Halbrook's cases were serious, a vast number of lawsuits today aren't. Leatzow feels there should be an incentive not to sue frivolously. In Europe, if someone sues and loses the case, the loser is then responsible for the other party's attorney's fees.

Without such incentives, athletic field managers need to be extra cautious about properly maintaining an athletic field.

Rash lawsuits could make it difficult for schools to get liability insurance. Not having insurance could put some sports programs in jeopardy.

As the old adage goes, "An ounce of prevention..." **WT&T**

One wheelchair is too many

by Dr. Kent Kurtz

"Why is it that people wait until someone gets hurt to fix a playing field?"

Jeff Wishard, 26, speaks from his wheelchair:

"Neither the doctors, coaches nor my teammates are really sure how my accident happened. One theory is that, on impact, my head may have been forced down into the ground.

"The practice field was in real poor condition. That particular field was used for many activities other than football, and was extremely hard. The only maintenance to the field was a weekly mowing.

"When the field was wet, it was muddy. During the hot, dry weather in the fall, the surface was hard and traction was very poor. It was comparable to the farmer's field adjacent

Jeff Wishard: "Neither the doctors, coaches nor my teammates are really sure how the accident happened. One theory is that, on impact, my head may have been forced down into the ground."

to the school."

Some people are beginning to question whether the satisfaction of making a desperation tackle or scoring a touchdown is really worth the risk of becoming a paraplegic or quadriplegic.

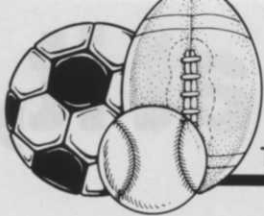
The incidence of catastrophic injuries (those that result in permanent spinal cord disability) is not large when based upon player populations of 100,000. Data indicate that, in 1984, 1.575 million football young men played college and high school football, but only 0.38 percent were injured severely. Most spinal injuries occur during regular games to defensive players, and the majority are associated with blocking and tackling.

Such is the case of young Wishard, who suffered through a football field injury which has left him a quadriplegic.

Wishard lives in Davis, Ill. (pop. 550). Parents Ron and Sandy own an automotive body shop and gasoline

Dr. Kent Kurtz, executive secretary of STMA, is a WT&T advisor.





station. His mother works for an optometrist. The Wishards are a typical hard-working, middle class Midwestern family who are well-liked and very active in the community.

When Wishard was injured 11 years ago, the family was not prepared for the hospital bills, the special care required, the anxiety that followed or the weeks, months, and years of learning to adjust to a new kind of life.

Tragedy strikes

On Oct. 15, 1975, the Dakota High School freshman/sophomore football team was going through a normal

Some people are beginning to question whether the satisfaction of making a desperation tackle or scoring a touchdown is really worth the risk of becoming a paraplegic or quadriplegic.

practice session.

Wishard recalls the day vividly.

"We had just finished our calisthenics on the Dakota practice field and our coach, Jeff Clark, was conducting what was called the 'hamburger' drill," he recalls. "As the defensive player, I was supposed to jump up (from the ground), turn around and tackle the offensive player. On my first attempt, I slipped on the hard, bare soil surface and by the time I recovered the offensive player had gotten passed me."

The coach told Wishard to try again.

"All I can remember from my second attempt is falling to the ground in pain and calling for the coach. I laid on my back while my helmet, socks and shoes were being removed. I knew something serious was wrong and I think the coach and team manager knew I had a broken neck. When they ran a pencil along the bottom of my feet to see if I had any sensations and I didn't, they called an ambulance."

In the next few hours, he went from hospital to hospital. Wishard re-

members seeing his mother at Freeport Hospital.

"When I awoke again, I was being transported to Rockford Memorial Hospital. During the ride, the shock subsided and I hurt real bad. My father was waiting at the Rockford hospital, and I'll never forget the shocked expression on his face. He was as white as a ghost," recalls Wishard.

Wishard soon learned that he had a broken neck, several fractured cervical vertebrae and would probably be a quadriplegic the rest of his life.

Wishard's injury seemed to bring more parents out to Dakota football games during the fall of 1975—perhaps because parents became more concerned or aware of their youth's welfare. They might have wanted to make sure their sons were receiving adequate instruction on the basic football fundamentals.

No better today

The maintenance of football fields in the Northwest Illinois Conference has not been upgraded or improved significantly since the Wishard injury.

Eleven years later, inspection of the Dakota High School football practice and game fields reveals hard, compacted surfaces, several grassy and broadleaf weeds and a maintenance program geared to a weekly mowing. Watering, fertilizing, aerifying, weeding, and the introduction of new turf-type grasses is apparently non-existent.

Minor injuries, and some serious such as broken legs or arms, twisted ankles, broken knuckles and knee injuries continue at Dakota and other conference schools because of rough terrain and poor quality turf.

Two prominent researchers feel that catastrophic football injuries may never be completely eliminated. But a united effort involving coaches, players, administrators, researchers, physicians, trainers and equipment manufacturers is required to identify the problems and then take the necessary preventative measures.

Hope for tomorrow

The purpose of the Sports Turf Manager's Association (STMA) is to provide knowledge and education to improve athletic field conditions throughout the United States, Canada and other countries. STMA is making a concerted effort to get grounds supervisors and personnel to become

members and to join forces to combat unsafe athletic facilities everywhere by providing quality fields for the youth and athletes.

STMA would like every athletic field manager to come together to solve problems, learn about new ideas and techniques, and find ways to further reduce severe athletic injuries.

STMA has long advocated that the easiest way to reduce injuries is to provide a well-turfed practice facility and game field. Selecting and using the adapted turfgrass species, fertilizing often enough and correctly, providing adequate water for the turfgrass plant, mowing at the correct height, and aerifying and topdressing to encourage deeper roots, a more resilient surface and a non-compacted soil medium can go a long way toward reducing sports-related injuries.

WT&T

Preventing, not promoting, the injury

by Ken Kuhajda, managing editor

A high school football player suffers a serious injury; not an abrasion or a bump. He tears up his knee.

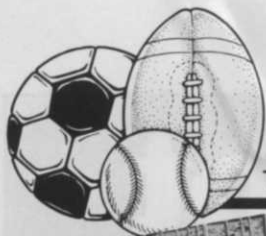
His parents in the stands don't give a second thought to the condition of the natural grass field. After all, their son is hurt.

But would that player have been injured so seriously if the field were in better condition?

Data on whether a field's condition contributes to an injury is hard to find. At the playground, grade school, and high school levels, there haven't been many studies conducted.

"It's one of those things people just don't want to talk about," says Dr. Eliot Roberts, director of The Lawn Institute. "If there is a tie-in between field conditions and a young person's injury, it's not discussed much. The school systems just have too many other problems."

Adds Dr. Bill Knoop, Texas Agricultural Extension Service turfgrass specialist: "Some people don't want to document the relationship between field conditions and injuries because of the liability question."



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Educating turf managers is one of the goals of the Musser Foundation. Ads like this help.

However, one well-known study suggests that yes, the field's condition does make a difference in the number and severity of injuries.

Revealing research

Penn State University performed a study in 1983 that found roughly 20 percent of all football injuries (in four categories) sustained by Pennsylvania high school players could have been "prevented or perhaps rendered less severe by more favorable field conditions."

Penn State extension agronomist Dr. John Harper II notes that most of the injuries judged to be related to field conditions involved the lower extremities (the hip/leg, knee, and ankle/foot).

The study concludes: "The results indicating that one of five injuries may be field-related should be an incentive to construct and maintain high quality playing surfaces."

Another study had similar findings. Carol Ann Comly studied 10 Pennsylvania high schools in 1981 to determine the specific cause of some 35,000 injuries recorded at the schools. (See Chart, p. 26.)

Dr. James Garrick, director of San Francisco's Center for Sports Medicine at St. Francis Hospital, agrees that field condition does make a difference. But he adds an asterisk.

"I suspect it does, but it's awfully difficult to sort out." Garrick suggests there's a give-and-take trade-off on all surfaces.

"People complain about fields being too hard, but a player's cleats don't get down into the hard field so there's less locking and less twisting-type injuries," he says. "But there are problems with bumps and bruises so it's sort of a trade off. By the same token, a good grass field will allow the cleats to escape if you put pressure on the foot," thereby causing fewer injuries, he says.

However, Garrick notes, "I think most people will agree that a well-maintained natural field is the best surface."

Practice fields worse

There's little doubt that improper maintenance is contributing to the problem. Harper and colleagues compared playing conditions on practice and game fields at 12 secondary schools in Pennsylvania and found practice fields were used far more yet maintained far less.

The study reported just 25 percent of the practice fields and 75 percent of the game fields were aerified to relieve compaction.

Little fertilizer was used on either practice or game fields. Not one school reported using herbicides on its practice field.

"We know how to grow the grass to provide the reliable footing needed by athletes," says The Lawn Institute's Roberts. "The bad fields can be corrected without a lot of expense. The fields just need to improve a little each year."

Free information

In Texas, Knoop provides many high schools with football field maintenance information at no charge. He says the injury rate of participating schools has dipped.

"The testimony of the coaches I've worked with indicate that as their fields improve, the number of injuries decrease," says Knoop. "I have several coaches who've not had serious injuries in years because of the good field conditions. Some of the coaches at smaller schools tell me they couldn't put a team on the field because they had so many injuries before they went on our program."

"There's no doubt in my mind" that a field's condition plays a role in injuries, says Comly, now a physical therapist. "As a (athletic) trainer, one of the first things you do is go out onto the field ahead of the team and look

for potential trouble spots," she notes.

Adds Roberts: "It's my strong opinion that field condition is a major factor in injuries. The evidence is there, but the problem is not being able to document."

Slow-moving research

Roberts began researching the relationship of good turf to fewer injuries in 1964 while at Iowa State University. Since that time, there have been few studies on the subject.

There is much research available on the increased injury rate on synthetic surfaces. Never has a study revealed fewer injuries sustained on synthetic surfaces, says Garrick.

(The average career span of an NFL player has dwindled from 4.2 to 3.6 years, according to a survey by the NFL Players' Association. Seventeen of the 28 teams play on synthetic turf.) However, research on the conditions of natural turf fields and injuries has moved at a snail's pace. "It's been going on a long time but not much progress has been made. We need to educate the people taking care of the fields, we have to convince people that we need improved fields," says Roberts.

"Even if you eliminate just one percent of the injuries, it's worth it." **WT&T**

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The booklet *Athletic Fields—Specification Outline, Construction and Maintenance* is available from:
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