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THE SPIKELESS SHOE CONTROVERSYu

David A. Oatisu[1]

Records indicate that as early as 1921, it was recognized that metal spiked golf shoes caused damage to putting green turf and physical structures such as clubhouse floors, benches, etc. Despite this, spiked shoes have remained popular because of golfers' desire for traction and perhaps also because of tradition. Spikeless alternatives have gained popularity at various times in the last fifty years or so, but, for one reason or another, the spikeless alternatives have eventually fallen into disfavor and the metal spikes have continued to be the footwear option most commonly used by golfers. Several new spikeless footwear options have been introduced in the last couple of years, and their benefits have been widely publicized. This has raised golfers' awareness of the issue to an all time high. Some confusion has accompanied the greater awareness as numerous claims have been made regarding the virtues of the spikeless alternatives and the potential problems associated with their use. My purpose today, therefore, is to dispel rumors and provide factual information on this controversial issue.

At least six separate studies on various shoes have been conducted, with the earliest dating back to 1948. Of the six studies, four were conducted by the United States Golf Association, one was conducted at Ohio State University, and the last was conducted (and is ongoing) at the University of Rhode Island. Though conducted over a span of nearly fifty years, the studies have produced remarkably similar results, and traditional metal spiked shoes have consistently been shown to be the most damaging footwear option available. The following are brief summaries of the various projects:

1948 Shoe Studyu

Conducted by the USGA

This study was conducted due to concerns over a recently developed "lug sole" (described as being somewhat similar to a molded, rubber, artificial turf shoe). This brief study compared the impact of steel versus lug soles on putting green turf.

esults : Worries over damage caused by the lug sole were proven to be unfounded. In fact, the lug soles were shown to cause considerably less damage than the traditional metal spikes.

1958 Shoe Studyu

Conducted by the USGA

This study was conducted because of concerns over the potential damage caused by the recently introduced "ripple sole" shoes (similar to the shoes still available and often worn by umpires). Traditional metal spike shoes, lug soles, and ripple sole shoes were compared in this study.

esults : The worries were again proven unfounded as the study showed that the ripple soled shoes caused less damage than both the lug and the traditional metal spiked shoes.

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1965 Shoe Studyu
Conducted by the USGA

This study compared three different types of metal spikes, including the traditional metal spikes, metal spikes with a recessed shoulder, and a prototype metal spike.

esults : Though not clearly described in the literature, a prototype metal spike was found to cause tremendous damage and never went into production. Interestingly, the recessed metal spike was shown to cause considerably less damage than the traditional metal spikes.

1982 USGA Shoe Studyu
Conducted by the USGA

In this more intensive study, four different shoes were compared under a variety of conditions. Traditional metal spikes were compared to three spikeless shoes, including mini-suction cups and two different types of multi-stud shoes.

esults : The metal spike shoes were again found to be the most damaging shoe, whereas the mini-suction cup shoe was shown to be the least damaging.

The 1982 study was highly publicized and greatly fueled the spikeless movement. Interestingly, shoe manufacturers responded by producing a variety of new spikeless athletic shoes, some of which were not specifically designed for golf. Nonetheless, these shoes found their way onto golf courses and the resulting damage prompted some courses to actually ban spikeless shoes. The issue received little attention until the early 1990s and the development of the latest spikeless shoe products, which prompted additional studies.

1994 Shoe Studyu
Conducted at Ohio State University

This was a study comparing the effects of Softspikes versus metal spikes on ball roll.

esults : Although Softspikes and metal spikes increased ball roll compared to the control, trueness was negatively affected by the metal spikes. This was especially true as ball speed declined.

1995 Shoe Study (Ongoing)u
Conducted at University of Rhode Island

Researchers at Rhode Island compared a variety of shoe options, including traditional metal spikes, recessed spikes, Softspikes, metal spikes of different lengths, and a variety of other spikeless alternatives. The objective was to determine their impact on turfgrass quality, soil compaction, and ball roll.

esults : The traditional spiked shoes caused the most damage, whereas recessed spikes caused considerably less injury. Spikeless shoes caused even less damage.

All of these six studies have shown that metal spiked golf shoes are the most damaging footwear option used over the years. Based on this evidence, it makes great sense to encourage

golfers to experiment with the spikeless options so many benefits will result. The following are just a few:

- improved playability (resulting from a smoother, truer putting surface)
- reduced turfgrass wear injury
- reduced wear to peripheral items such as tee markers, benches, wooden structures (bridges and steps), golf carts, mats, carpets, flooring, thresholds, etc.
- noise reduction; metal spikes make quite a racket on asphalt and concrete surfaces
- increased comfort; golfers also report that many spikeless shoes are easier to walk in and even report reduced back stress.

The bottom line is that courses that have banned metal spikes and have adopted the spikeless policy report overnight and overwhelming improvements in the overall health and playing qualities of their putting green turf. We can only guess at the long-term benefits.

Opponents of the spikeless move cite liability as a major concern and often argue that traction is inadequate with the spikeless options. In compiling the information for this presentation, I contacted Mr. John Dana of the Fowler Insurance Company, which currently insures over 550 golf courses. I put the liability question directly to him. After much discussion, he provided some interesting information:

- "By far," the most number of falls resulting in insurance claims were caused because people were *wearing spikes*! Mr. Dana cited tile floors as a primary culprit for falls, as are smooth concrete, uneven flooring, frayed carpeting, etc. His opinion was that "going spikeless" could actually reduce liability for a course if it were done properly.
- The key is to make the golfer "assume the risk." Mr. Dana suggested making the spikeless policy part of the dress code and warned not to specify a certain type of spikeless shoe. Banning the use of metal spikes is far preferable to specifying a specific type of spikeless shoe. The golfers must be alerted to this policy up front, and Mr. Dana suggested even printing it on tournament entry blanks, etc.
- For guests or outings, Mr. Dana recommends changing spikes for the golfers, but warns that offering to replace the metal spikes at the end of their round was of *critical importance*. It is another way to reduce liability. If the golfer chooses not to have the spikes replaced, they are reducing your liability should they slip while wearing the shoes at some other time.

While most agree that the traction provided by spikeless shoes is not as good as that usually provided by metal spikes, the advantages of reduced wear and improved playability are attractive enough options that many golfers are experimenting with the spikeless shoes. It should also be noted that traction is reasonably good with many of the spikeless shoes, but it may require some time to become accustomed to them. If you recall when you first started wearing metal spikes, you may remember that you experienced a period of adjustment in getting used to the

metal spikes. You learned to walk in a different way, picking up your feet so that you did not scuff the turf. I believe the same is true of going spikeless. You have to become accustomed to the slight reduction in traction and greater care must be taken when walking up steep wet slopes and other difficult terrain.

It should be noted that damage due to metal spikes, a problem at all times of the year, is accentuated during the winter simply because the turf cannot recover. Therefore, it is wise to at least ban the use of metal spikes during the winter months if the greens are kept open. This can reduce wear injury substantially. I am not aware of research that proves conclusively that metal spike golf shoes lead to annual bluegrass invasion, but common sense suggests it in some cases. After all, annual bluegrass is an opportunistic invader and once it is provided an opening, it can become established and proliferate quite rapidly. Thus, if you have a pure stand of creeping bentgrass on your greens and wish to keep it so, banning the use of metal spikes is an especially good idea. This brings up a good point. Creeping bentgrass is far more prone to spiking than annual bluegrass, so the improvement in playability by going spikeless will be relative to the creeping bentgrass populations in your greens.

Claims have also been made regarding reduced disease occurrence due to going spikeless. I do not believe this claim is currently supported by sound research, though common sense suggests that it may be a possibility. Annual bluegrass is more susceptible to disease than creeping bentgrass, and if spikes do promote annual bluegrass, it follows that spikes could promote more disease.

Because of all of the benefits, the move away from the use of metal spikes appears to be gaining momentum. What can we expect in the future? First of all, the shoe manufacturers are well aware of the information I have just presented and many are actively trying to develop turf-friendly shoes with adequate traction. Thus, you can expect to see lots of new spikeless entries to the market place in the next couple of years. If history is any teacher, some of the new shoe designs may well be *more damaging than metal spikes*. This was definitely the case after the 1982 study. This is something to be prepared for, but for now, going spikeless seems to be an easy way to improve both the health and playability of your putting green turf.