A Survey of New Jersey High School Football Officials Regarding Spearing Rules

Jonathan F. Heck, MS, ATC

Abstract: Football officials play an important role in the prevention of catastrophic head and neck injuries. Officials alone can use the spearing penalty as a deterrent to players during football games. The purpose of this study was to determine the officials' perspectives on the spearing rules and their level of enforcement. In a stratified random sample, 100 high school officials from New Jersey were surveyed. The officials returned 100% of the questionnaires. Each official worked an average of 27 games during 1992. Forty-seven percent of the officials did not call any spearing penalties. A New Jersey official called an estimated one spearing penalty in 20 games. The officials were most likely to call a spearing penalty on a late hit and least likely to call one on a ball carrier. The officials' opinions varied greatly regarding the spearing rules. The level of enforcement found in this study was extremely low. The possibility exists that officials are either overlooking or not recognizing a significant number of spears. Individual athletic trainers, state athletic training associations, and the National Athletic Trainers' Association should take steps to improve the enforcement level of the spearing penalty.

Reduction in the incidence of catastrophic head and neck injuries in football¹⁸⁻²¹ has been attributed to several factors, including the implementation of the spearing rules in 1976, ^{1,2,7,9,10,14,19-21} coaching methods that have taught safer contact techniques, ^{1,9,10,14,19,20} and better medical

Jon Heck is Head Athletic Trainer at Richard Stockton College in Pomona, NJ 08240.

care. 9,10 An intriguing question relates to exactly why the spearing rule has been effective. The most obvious explanation is that the rule has caused a reduction in the incidence of spearing. Spearing rules could have caused this reduction in two ways: 1) influencing coaches to teach safe contact techniques, and 2) influencing officials to penalize incidents of spearing during games.

Authors^{4-6,13} have begun to take a closer look at the level of enforcement of spearing rules. Officials alone can use the spearing penalty as a deterrent to players during football games. They therefore have a crucial role in the prevention of severe head and neck injuries.^{4-6,9,13,14} The purpose of this study was to determine high school officials' perspectives on spearing rules and their level of enforcement.

Methods

I selected a stratified random sample of 100 high school football officials from the four regional chapters in New Jersey. The selected sample represented 12% of the total active officials. I chose the officials from the New Jersey State Interscholastic Athletics Association's 1992 Directory of Officials. 12

I designed 25 questions (24 close-ended) for the questionnaire. The majority of the questions were based on the Likert scale. I mailed a questionnaire, an optional comment page, and a postage-paid return envelope to the home address of each official. I coded each questionnaire and all respondents remained anonymous. As many as five follow-up letters were mailed, each of which included the same material as the original mailing, with the addition of a new cover letter.

Results

Response rate was 100%; 95% of the questionnaires were completed. Five officials did not answer the questions because they were not active in New Jersey during 1992. One official did not respond to the final seven questions; for those questions, 94 responses were used. Fifty-three percent of the officials also used the optional comment page to provide additional information and explanations.

Games and Spearing Penalties

Three officials (3.2%) did not respond to the number of games officiated or the number of spearing penalties called. The 92 respondents officiated a total of 2,474 games in 1992, including high school, college, and Pop Warner. Each official worked an average of 27 games. The officials estimated that they had called 125 spearing penalties in the 2,474 games, an estimated one spearing penalty in 20 games during 1992. Forty-one (44.6%) of the officials did not call any spearing penalties during the 1992 football season (Table 1).

One of the officials who called eight penalties indicated that he called six as late hits and only two of the calls were actual spearing penalties. Another official commented that, overall, there are not a lot of spearing penalties called. Several felt that the penalty is easier to call now because it no longer carries an automatic ejection. Another said that many officials shy away from the ejection penalties. One official asserted that there was no spearing to call.

Seventy-nine (83.2%) of the officials believed a ball carrier could spear. Many commented that when a ball carrier lowers his head to gain that extra yard, offi-

Table 1.—Football Officials' Estimates of the Number of Spearing Penalties They Called During 1992

Penalties Called 0	Officials		
	41	(45%)	
1–2	39	(42%)	
3-6	9	(10%)	
7–10	3	(3%)	
11+		0	
Total	92	(100%)	

Each official worked an average of 27 games.

cials should consider it spearing. One official believed that a spear occurred only when the ball carrier attempted to punish the tackler, while another thought ball carrier spearing is possible, but very unlikely. One official said ball carrier spearing is not a penalty by rule; another commented, "By rule, it is a penalty." One of the 16 (16.8%) officials who thought ball carriers could not spear, clarified his answer: "By definition, a ball carrier can spear, but, speaking practically and in terms of enforcement, I answered no."

Officials were also least likely to call a spearing penalty on a ball carrier than on other players (Table 2). Most commented that they had never seen a spearing penalty called on a ball carrier or called one themselves. Only one official indicated that he had called a spearing penalty on a ball carrier, although not in 1992. Several believed coaches would not easily accept this call or it would be very difficult to "sell." Two officials said it would have to be extremely obvious that the ball carrier was intending to injure the tackler to call this penalty. One official stated he probably would not be asked back to officiate next season if he made this call. Another said, "In some instances, officials can be severely chastised because such a call is strange, although it may be technically correct." A third official commented, "Until we educate coaches about ball carrier spearing. it would be a difficult call." He also thought it would require courage and commitment on the part of all officials to enforce the penalty consistently.

Two officials commented that coaches teach ball carriers to put their heads down before contact in order to protect themselves. One further believed that to instruct ball carriers to do anything to the contrary might expose them to injury.

Forty-seven (48.5%) officials were likely or very likely to call a spearing

penalty on a blocker (Table 2). Again, several officials commented that this would be a tough call to make. One thought it would have to be extremely obvious to be "sold." Another official commented that if he made this call, coaches and fans would "run him out of town." A third official indicated that officials rarely, if ever, call the spearing penalty in a blocking situation.

Several other officials brought up the "free blocking zone." Comments ranged from "spearing in this zone is a gray area" to "not calling a penalty in this area because momentum is not at peak levels." One official felt that, within the framework of blocking, spearing was next to impossible. Numerous officials also indicated that regardless of who spears, officials should call the penalty.

Officials were most likely to call spearing penalties on late hits and tacklers (Table 2). Regarding the late hit situation, two officials said it was the most critical time for officials to call the penalty and when they call it most. Another official said he would have no problem calling a spear in this situation since he would have to believe it was a punishing tactic.

Given a situation in which an official thought an athlete accidentally speared, 49 (51.5%) were still likely or very likely to call the penalty (Table 3). There were 46 officials (48.5%) who were less likely to call the spearing penalty in this situation. Several officials indicated that, instead of calling the penalty, they would tell the athlete to keep his head out of the contact or warn the athlete of the potential for severe injury. Other officials commented that accidental spearing is still a penalty. Several officials thought the ball carrier's actions or change of direction could force or lead a tackler to spear. They indicated they would not consider this a penalty. One official stated, "In my eyes, spearing is the use of the head alone, with the hands at the side, in an attempt to punish another player."

Thirty-two (34%) of the officials believed there was little or no spearing going on in football (Table 4). There were 42 officials (44.7%) who disagreed with this statement and 20 (21.3%) were undecided. Several officials said coaches have done a great job in reducing the use of the helmet as a weapon. There were also several officials who thought that coaches were doing a poor job. Some officials felt that coaches taught and condoned tackling with the head. They said comments used by coaches such as "drive your head through the man" or "stick your hat in his numbers" have to be taken out of football. One official believed coaches teach tackling in preseason but not throughout the year. He thought it should be mandatory to cover it every week. Numerous other officials commented that intentional spearing has decreased over the years but it still happens. Another official indicated that, as the level of play increases, so does the amount of spearing.

The survey revealed that officials were slightly more likely to enforce the butt-blocking rule than the face-tackling rule (Table 3). Fifty-eight (61.1%) were at least likely to enforce the butt-blocking rule compared to 55 (58.5%) for the face-tackling rule. One official thought face tackling was rare. Numerous others stated they had never seen the penalty called. Other officials thought face tackling was difficult to enforce, because it could be the result of evasive maneuvers by the ball carrier. Another official thought the nature of the game makes face tackling an extremely difficult call.

Interpretation of the Rules

Sixty-five officials (68.4%) thought the rules were easy to interpret, while 30 (31.6%) thought they were not (Table 4). Numerous officials felt the rules were "hazy" regarding intent (if an athlete speared accidentally). Similarly, one official indicated that the "no call" on accidental or incidental spearing should be better defined.

Fifty-eight officials (61.7%) believed that, overall, the spearing rules were written in a way that allows easy en-

Table 2.—How Likely Officials Were to Call a Spearing Penalty on Late Hits, Tacklers, Blockers and Ball Carriers

Player	Very Likely	Likely	Somewhat ely Likely Unlikely		
Late Hit	81 (85%)	10 (11%)	3 (3%)	1 (1%)	0
Tackler	38 (40%)	38 (40%)	11 (12%)	7 (7%)	1 (1%)
Blocker	20 (21%)	27 (28%)	19 (20%)	25 (26%)	4 (4%)
Ball Carriers	7 (7%)	22 (23%)	18 (19%)	31 (33%)	17 (18%)

Table 3.—How Likely Officials Were to Call the Face-Tackling Penalty, Butt-Blocking Penalty, and a Penalty on an Accidental Spear

	Very Likely	Likely	Somewhat Likely	Very Unlikely	
Face-Tackle	22 (23%)	33 (35%)	21 (22%)	16 (17%)	2 (2%)
Butt-Blocking	19 (20%)	39 (41%)	23 (24%)	12 (13%)	2 (2%)
Accidental Spear	12 (13%)	37 (39%)	22 (23%)	19 (20%)	5 (5%)

forcement (Table 4). Twenty (21.3%) believed the rules were difficult to enforce and 16 (17%) reported that they were undecided. One official indicated that the rule as written is fine, but coaches should help enforcement by accepting the penalty more readily. Another official indicated that the rule is clear, but that the enforcement is inconsistent. He thought spearing was an area where "preventive officiating" (warning players without calling a penalty) has gone too far; "... officials should just call the penalty." Other officials thought the penalty involved a great deal of judgment. Regarding judgment, an official stated, "For some officials to understand illegal head-first contact, you would have to draw many pictures of spearing, face tackling, and butt blocking."

Relating to judgment, I asked the officials if trying to decide on an athlete's intent or determining whether a spear was purposeful made the rule difficult to enforce. Thirty-nine officials (41.5%) thought deciding on intent made the rule difficult to enforce, whereas 48 officials (51.1%) did not agree. Seven (7.4%) indicated they were undecided (Table 4). The majority of comments related to whether the ball carrier's actions caused the accidental or unintentional spear by the tackler. Several other officials indicated that intent should not be a factor in calling the penalty.

Regarding head-first contact, 48 officials (50.5%) believed that "all" headfirst contact was illegal. In contrast, 37 officials (39%) did not agree and 10 (10.5%) were undecided (Table 4). One official indicated that when he and other officials observe head-first contact and judge it accidental, they warn the player to keep his head out of contact. Several other officials commented that head-first contact can be legal if it is caused by the movements (change of direction) of the ball carrier. Another official believed that all officials do not interpret head-first contact as a penalty, but they should recognize it as such. One official believed that, in order for it to be illegal, it had to be intentional by the player. To the contrary, another official thought that no "accidental" head-first contact was possible.

I asked the officials if the severity of the spearing penalty (15 yards, ejection optional) made them very selective in enforcing the penalty. Sixty (63.3%) did not believe it mattered, while 31 (32.6%) believed it was an influencing factor (Table 4). Only 22 officials (23.4%) thought they would be more likely to enforce the spearing penalty if it were less severe. These two questions elicited the most comments. One official thought that many officials disguise these penalties as late hit calls because of the ejection. Another official said that ejection is tough

because the athlete is also out for the next game. Other comments included: "15 yards and ejection are so severe, it lessens the effectiveness of the penalty"; "too many officials feel spearing is a part of the game, and are very selective in calling the penalty." One official commented, "High school teams cannot come back quickly from a 15-yard penalty. This is the first reason officials don't call the penalty. The second reason is officials don't truly understand a spear and its potential effect on the spearer." Other officials thought the penalty should be severe because of the injury potential.

Regarding changing the severity of the penalty, many officials thought the yardage of the penalty should not be a factor in throwing the flag. One official believed the penalty should be an automatic ejection. Many other officials suggested modifications in the penalty relating to intentional and unintentional spearing (similar to the face mask penalty in college). Generally, these suggestions included 5 yards for accidental spearing, 10 yards for intentional spearing, and 15 yards and ejection for purposeful spearing with the intent to injure.

I asked the officials to identify the most accurate definition of spearing. Fifty-three (56.4%) said an athlete had to "intentionally" use the crown of his helmet for a spear to occur (Table 5). Forty-one (43.6%) of the officials defined spearing as occurring when a player only "initiates" contact with the crown of his helmet.

Dangers of Spearing

I asked the officials if spearing was the primary injury mechanism of severe cervical spine injuries. Seventy-two (75.5%) of the officials reported that it was; 20 (21.3%) were undecided; and 3

Table 4.—Officials Responses Regarding Statements About Spearing

	Strongly Agree	Agree	Undecided	Disagree	Strongly Disagree
All head-first contact is illegal. (n = 95)	20 (21%)	28 (30%)	10 (11%)	32 (34%)	5 (5%)
Spearing rules allow easy enforcement. $(n = 94)$	9 (10%)	49 (52%)	16 (17%)	18 (19%)	2 (2%)
Spearing is primary cause of severe spinal injuries. $(n = 95)$	25 (26%)	47 (50%)	20 (21%)	3 (3%)	0
Little or no spearing in football. $(n = 94)$	3 (3%)	29 (31%)	20 (21%)	37 (39%)	5 (5%)
Injuries can occur regardless of intent to use the head. $(n = 94)$	34 (36%)	57 (61%)	3 (3%)	0	0
Deciding on intent makes penalty difficult to call. $(n = 94)$	7 (7%)	32 (34%)	7 (7%)	42 (45%)	6 (6%)
Penalty severity makes you selective in calling it. $(n = 95)$	8 (8%)	23 (24%)	4 (4%)	45 (47%)	15 (16%)

Table 5.—Officials Choice of the Most Accurate Definition of Spearing

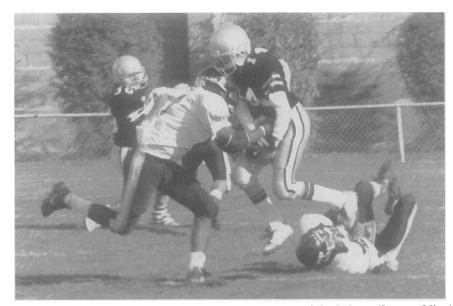
Any Player Who:		Officials		
Initiates contact with the crown of his helmet	41	(44%)		
Intentionally initiates contact with the crown of his helmet	32	(34%)		
Intentionally attempts to harm an opponent with the crown of his helmet	21	(22%)		
Total	94 (100%)			

(3.2%) did not think so (Table 4). Ninety-one (96.8%) of the officials thought that head and neck injuries could occur regardless of the athlete's intent to use his head. The remaining three (3.2%) were undecided (Table 4).

The questionnaire also asked the officials whom the spearing rule was designed to protect. The majority of the officials commented that it was designed to protect both players, but 53 (55.8%) thought its primary purpose was to protect the athlete who spears, and 33 (34.7%) thought it was designed to protect the athlete who gets speared. Ten (10.5%) of the officials did not answer the question correctly. One official believed the rule was written to protect the player who gets speared, but was more dangerous to the player who spears.

Discussion

The high school Official Football Rules¹¹ defines the rules pertaining to head-first contact as follows. Spearing is the intentional use of the helmet in an attempt to punish an opponent. Face tackling is driving the face mask, frontal area, or top of the helmet directly into the runner (Figure). Butt blocking is a technique involving a blow driven directly into an opponent with the face mask, frontal area, or top of the helmet as the primary point of contact either in close line play or in the open field. These penalties are considered an illegal personal contact and carry a 15-yard penalty. If the foul is flagrant, an official can eject the player. The rules also define an illegal personal contact as occurring when a player intentionally uses his helmet to butt or ram an opponent.



Initiating contact with the face mask or frontal aspect of the helmet (face-tackling) is a 15-yard penalty.

I was surprised at the definition of spearing in the high school rule book; it does not mention initiating contact with the crown or top of the helmet and limits itself to an intentional attempt to punish. I was also surprised at the completeness of the face-tackling and butt-blocking rules. These rules state that initiating contact with any part of the helmet (by a blocker or tackler) is illegal. These actions also do not have to be intentional to be a penalty. Both of these latter rules, however, exclude the ball carrier. This may be a factor in an official's reluctance to recognize ball carrier spearing.

Officials' opinions varied widely regarding spearing rules. For uniform and appropriate enforcement to occur, officials should agree on the definition of spearing and its practical use. The answers of the officials surveyed split almost in half in defining spearing relating to the athlete's intent to use the crown of his helmet. A large portion of the officials also did not feel that they easily interpreted the rules and were unsure whether the rules allowed for easy enforcement. This may indicate that officials have devised their own connotations as to what constitutes spearing during football games.

A major area of concern for officials related to athletes who initiate contact unintentionally with their helmets. Over 40% of the officials thought that deciding on intent made the rule difficult to en-

force. What an official would do in this situation differed by individual. Some indicated they would call the penalty; others said it was not a penalty; still others indicated they would only warn the player (preventive officiating) of possible injury. The situation most often mentioned related to the tackler whose headfirst contact is the result of a ball carrier's movements. A similar situation could be envisioned for a blocker with a defender trying to evade his block. Both of these situations could possibly result in accidental head-first, head-up contact for a player using correct technique. But, in my opinion, the concept that this could cause a player to lower his head and initiate contact with the crown of his helmet is erroneous.

This brings up a major question: "Is all head-first contact illegal in high school football?" Among the four rules relating to head-first contact the answer is "yes," regardless of the athlete's intention or part of the helmet used. The exception is for the ball carrier; his headfirst contact must be intentional. This was a difficult issue that may create a dilemma for the officials. Regardless of intent, the penalty is still 15 yards. Is an athlete who accidentally initiates contact with his face mask (head up) the equivalent of the athlete who intentionally initiates contact with the crown of his helmet? Is the athlete who accidentally drops his head just before contact the

same as the athlete who uses the crown of his helmet to punish an opponent?

The severity of the penalty may be an influencing factor in not calling the penalty, in particular, on the athlete who accidentally initiates contact with his helmet. The officials were clear in expressing that they would call the penalty if the contact was intentional. Their opinions varied greatly regarding throwing the flag on unintentional head-first contact. On the surface, 15 yards may seem appropriate for such a potentially dangerous technique. However, the possibility exists that officials may not call the penalty unless it is a blatant occurrence. This may have been even more of a possibility up until the mid-80s when the penalty carried an automatic ejection. In turn, this is detrimental in deterring athletes from initiating contact with their helmets. Not all spears that cause serious head and neck injuries are blatant.

Another factor in calling the spearing penalty is determining whom the official is trying to protect. The primary purpose of the spearing rule is to protect the athlete who spears.^{4,5} The research^{9,10,17,20,21,23} that caused this rule change in 1976 dealt with spearing athletes who suffered fractured cervical vertebrae. Although the rule should protect both players, the player with the most risk of serious injury is the athlete who spears. The officials surveyed indicated that many of them feel they are primarily attempting to protect the athlete who gets speared. In my opinion, the wording of the spearing rule focuses on the athlete getting speared.

Calling the penalty as a late hit represents a situation in which the official is focusing on protecting the athlete being speared.6 This was the situation in which officials were most likely to call a penalty on spearing. It also appeared that the officials preferred the late hit call over the spearing call. Officials may disguise the spearing call as a late hit for several reasons. Coaches may be more likely to accept this call over a spearing call, especially if an official calls it on a player other than a tackler. When the spearing penalty carried an automatic ejection, a late hit call allowed the player to remain in the game. Currently, it still removes the possibility of ejecting the player. A problem with using the late hit call is that

it does not give the penalized player the proper feedback. The athlete may not realize the official penalized him for hitting with the top of his helmet. One of the goals of the spearing rule has to be to decrease the incidence of spearing. For this to occur, officials must use the spearing penalty as a deterrent to the players and be clear that the penalty is for spearing.

Level of Enforcement

The level of enforcement of the spearing penalty was extremely low. Nearly one-half of the officials did not call a spearing penalty in any game they officiated in 1992. These numbers are consistent with the penalty enforcement reported in an earlier study of a high school football season where officials called no spearing penalties, even though analysis of game film indicated 27.6 spears per ball game (18.6 \pm 3.0 ball carrier spears and 9.0 ± 2.3 defensive spears per game). A significant number of officials indicated they were at least somewhat likely to call a spearing penalty on all positional players; however, they apparently did not call the penalties. In practice, the spearing penalty seems to be a difficult call for officials to make.

One reason for this level of enforcement may be that there is very little spearing going on in football. One-third of the officials indicated this was the case in their opinion. However, nearly onehalf the officials believed spearing does occur fairly frequently. This opinion directly contrasts the level of enforcement shown in this study. The 27.6 spears per game in my previous study excluded blocker spearing and some types of tackler spearing (a potentially large number of additional spears).6 If these numbers are representative of other high schools, there are a significant number of spears that officials are overlooking or not recognizing. This may indicate a difference between the "medical" definition of a spear and what officials recognize as a spear.

When officials did call a spearing penalty, it was most likely on a late hit. However, players are most at risk of catastrophic injury or death when tackling or being tackled.^{8-10,18-21} Although tackler spearing was next in likelihood of enforcement, there was a large drop from

the late hit call. Spearing by blockers and ball carriers did not seem to be a priority for officials. From the comments made by officials, it seems that they very rarely call spearing penalties on blockers or ball carriers. The fact that these penalties are not common seems to be important. Many officials believe this plays a significant role in how readily coaches and fans will accept a call. Although numerous officials indicated that these factors should not be a factor in calling a penalty, I believe that they do play an important role.

Ball-carrier spearing appeared to be a unique concept to officials. Their responses varied greatly. A glaring disparity was that although 83% of the officials believed a ball carrier could spear, only 29% were likely to call the penalty. This indicates that the possibility exists that an official will not call a spearing penalty on a ball carrier even though he speared. Ball carriers speared once in every five plays in a 1989 study. Again, if these numbers are representative of other high schools, a large gap exists between incidence and enforcement.

I believe a similar problem exists with both the butt-blocking and face-tackling rules. The comments made by officials regarding these penalties seem to indicate they are "figurehead" rules. Although a large portion of officials answered they would call this penalty, in practice, it is extremely underenforced. The officials were of split opinion on whether all head-first contact was illegal. However, the butt-blocking and facetackling rules clearly state that all headfirst contact is a rule violation. Again, this may indicate that officials have individualized the definition and application of these rules.

Over two-thirds of the officials stated they understood spearing's role as a mechanism of serious injury, and 97% thought a head or neck injury could occur regardless of the athlete's intent to use his head. In contrast, only one-half of the officials were at least likely to call a penalty on an athlete who they thought accidentally speared. The officials were either unwilling to properly apply this injury information to penalty enforcement or they believed the rules prevented them from doing so.

Stricter officiating can further reduce the incidence of serious head and neck injuries. 9,14 Numerous authors have indicated that enforcing existing rules will help prevent catastrophic head and neck injuries. 3-6,9,10,18,19,21 Coaches also play an extremely important role in the prevention of spearing, by practicing and teaching correct contact techniques. 22 I believe that these factors relate highly, with the former potentially impacting the latter.

One official commented to the contrary: "Officials can call blatant spearing, but the avoidance of penalties cannot be a motivating factor for coaches to teach proper technique. . . . I doubt rule changes would have much impact on spearing or spearing penalties." One of the greatest effects of the spearing penalty is its potential impact on coaches. The only feedback coaches have on spearing are catastrophic injuries and spearing penalties. Both are important factors relating to coaches and correct technique. However, in reality, the majority of football coaches will only deal with the threat of a catastrophic head or neck injury related to spearing. Stricter officiating and frequent spearing penalties would force coaches to confront the effects of spearing weekly.

Recommendations

On the basis of the information found in this study, I believe the spearing rules should change and the definition of spearing should expand. Simply stated, it should include any player (ball carrier, blocker, tackler) who initiates contact with the top or crown of his helmet. The penalty should include intentional and unintentional spearing but address them differently. An unintentional spear should be a 5-yard penalty. This would represent the athlete who has his head up before contact but unintentionally lowers his head at the last instant before impact. An intentional spear should be a 10-yard penalty. An intentional spear with the intent to injure another player should be a 15-yard penalty with the option of ejec-

Initiating contact with the shoulder while keeping the neck in extension minimizes the risk for the player of serious head and neck injury. 4-7,9 However, football is a high-speed collision sport and the possibility exists that an athlete may accidentally initiate head-up contact as the result of other players' movements. I do not think that the athlete who is attempting to use proper technique should be penalized. This would require adaptation of the face-tackling and butt-blocking rules. These rules should be combined into a single one. The penalty should address ball carriers, blockers, and tacklers and only penalize intentional face-mask or frontal-helmet contact.

Regardless of potential rule changes, the current enforcement level requires action by individual athletic trainers and our organizations. State athletic training associations should seek out their high school officiating associations with the goal of better enforcement of existing rules banning head-first contact. Offering educational sessions on mechanisms of injury and the types of (often unimpressive) hits that cause catastrophic injuries may make officials more aware of what we are trying to penalize. The video, Prevent Paralysis Don't Hit With Your Head, 17 is an excellent vehicle to express these points to officials. The National Athletic Trainers' Association should make a position statement against the low level of enforcement of the spearing rules and methods for improving this aspect of football.

Schneider¹⁵ reported a similar situation with the face-mask penalty. The rule had been established for years but had gone unenforced. He addressed the football rules' committee regarding the potential for injury with grabbing the face mask. A member of the committee pointed out that the rule existed and apparently had not been properly used. This, in turn, led to appropriate enforcement of the penalty the following season.¹⁵ Enforcement of the spearing penalty on a level with the face-mask penalty would be a large improvement.

The level of enforcement of the spearing rules found in this study suggests officials' impact on decreasing the incidence of spearing has been minimal if previous years were similar to 1992. If

the incidence of spearing has decreased since the inception of the spearing rules in 1976, this study implies that coaches may have played the most significant role in that reduction.

References

- Albright JP, Mcauley E, Martin RK, Crowley ET, Foster DT. Head and neck injuries in college football: an eight-year analysis. Am J Sports Med. 1985;13:147-152.
- Anderson C. Neck injuries backboard, bench, or return to play. Phys Sportsmed. Aug 1993;21:23– 34.
- Football-related spinal cord injuries among high school players-Louisiana, 1989. MMWR. 1990;39: 586-587.
- Heck JF. An analysis of football's spearing rules. Sideliner, J Athl Train Soc NJ. 1993;9:8,9,15.
- Heck JF. The incidence of spearing by ball carriers and their tacklers during a high school football season. In: Hoerner EF, ed. Head and Neck Injuries in Sports. Philadelphia, PA: American Society for Testing and Materials; 1994:239-248.
- Heck JF. The incidence of spearing by high school football ball carriers and their tacklers. J Athl Train. 1992;27:120-124.
- Hodgson VR, Thomas LM. Play head-up football. Natl Fed News. 1985;2:24-27.
- McKeag DB, Cantu RC. Neck pain in a football player. Phys Sportsmed. Mar 1990;18:115-120.
- Mueller FO, Blyth CS. Fatalities from head and cervical spine injuries occurring in tackle football: 40 years' experience. Clin Sports Med. 1987;6: 185-196.
- Mueller FO, Blyth CS, Cantu RC. Catastrophic spine injuries in football. *Phys Sportsmed*. Oct 1989:17:51-53.
- National Federation of State High School Associations. Official Football Rules. Kansas City, MO: NFSHSA; 1992:15,22,50.
- New Jersey State Interscholastic Athletic Association. Field Hockey, Football, Gymnastics, Soccer, Track and Volleyball Directory of Officials. Robbinsville, NJ: NJSIAA; 1992.
- Peterson TR. Roundtable: head and neck injuries in football. Presented at the American Society for Testing and Materials' International Symposium on Head and Neck Injuries in Sports; May 1993; Atlanta, GA.
- Saal JA, Sontag MJ. Head injuries in contact sports: sideline decision making. Phys Med Rehabil. 1987:1:537-554.
- Schneider RC. Football head and neck injury. Surg Neurol. 1987;27:507-508.
- Thomas JR, Nelson JK. Introduction to Research. Champaign, IL: Human Kinetics Publishers; 1985: 186.
- Torg JS. Prevent Paralysis Don't Hit With Your Head [videotape]. Philadelphia PA: Penn Sports Medicine; 1992.
- Torg JS. Epidemiology, pathomechanics, and prevention of football-induced cervical spinal cord trauma. Exerc Sport Sci Rev. 1992;20:321– 338.
- Torg JS. Epidemiology, pathomechanics, and prevention of athletic injuries to the cervical spine. Med Sci Sports Exerc. 1985:17:295-303.
- Torg JS, Sennett B, Vegso JJ. Spinal injury at the third and fourth cervical vertebrae resulting from the axial loading mechanism: an analysis and classification. Clin Sports Med. 1987;6:159-185.
- Torg JS, Vegso JJ, Sennett B. The national football head and neck injury registry: 14-year report on cervical quadriplegia. Clin Sports Med. 1980;8: 310-317.
- Watkins RG. Neck injuries in football players. Clin Sports Med. 1986;5:215-247.
- Wilberger JE, Maroon JC. Cervical spine injuries in athletes. Phys Sportsmed. Mar 1990;18:57-70.