Review Article

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Mental health in the injured athlete–why the spikes protocol matters

Abstract

Athletes are a unique subset of patients that pose unique challenges to the treating physician. The mental health of injured athletes is becoming increasingly recognized as a vital part of adequate care of these patients. Numerous studies link poor mental health function and pre-existing mental health diagnoses to poor outcomes including delayed return to play, inability to return to play, risk of re-injury, and exacerbation of underlying mental health problems. Because this is a topic not often studied by team physicians and this manuscript aims to provide a practical tool to help these physicians communicate with injured athletes. The SPIKES protocol is an effective way to acknowledge and adequately communicate with this unique patient population.

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Review

For someone involved in athletics, at any level, injuries are an unfortunate yet inevitable aspect of participation. The diagnosis, treatment, and recovery of the physical aspects of athletic injuries have been well studied. However, increasing attention has been given to the psychological aspects of athletic injury. The psychological and emotional responses to injury are not to be ignored, as the perceptions of the injury formed by the athlete during the initial injury evaluation may affect the athlete's ability to cope with the injury, the athlete's adherence to the rehabilitation process, and the speed with which the athlete returns to sport.[1] This review examines what makes sports injuries unique, the issues involved in how the athlete copes with injury, followed by recommendations regarding how physicians should deliver the news of the injury and how to effectively communicate with the athlete regarding their emotional response to the injury.

Athletes have been shown to respond to injuries in a different way than non-athletes of the same demographics. Athletes develop neuroses post-injury at a much higher rate than non-athletes, despite having more extroverted personalities with no history of neurotic problems. Moreover, athletes were shown to be less verbal about their emotions, less intellectually oriented, and possess a more negative view of their emotional responses than non-athletes. In their own study, Smith et al. found that college-aged athletes responded to injury with higher levels of depression, anger, and tension compared to college norms.[2]

This is because athletes are in a unique position psychologically. Their participation in athletics is a coping mechanism for problems and stress in everyday life. The psychological impact of the injury is therefore compounded, because not only does the athlete face the problems and stress of the injury itself, but he or she has also lost their coping mechanism to deal with stress present in their life. Runners who were prevented from running due to injury experienced high levels of depression, tension, and confusion compared to runners who were able to run.[3] The high level of depression and tension immediately following termination of exercise may be the motivating cause for athletes who "play through the pain," as they prefer the physical pain of the injury to the emotional discomfort from the loss of physical activity. This notion was further supported in a study of competitive figure skaters that found athat a quarter of elite figure skaters skated to deal with difficult life problems.[3] The loss of sport, in addition to the loss of a coping mechanism, substantially increases the negative and depressive mood of athletes following injury.

Another unique psychological factor is the strong athletic identity in athletes, particularly adolescent athletes. Sports injuries in adolescents present unique psychological challenges because they are dealing with developmental issues such as independence and identity development.[4] If an adolescent strongly identifies as an athlete there is an extremely significant correlation of depression with athletic injury. The loss of the ability of athletes to engage in self-defining activities is the original cause of confusion and leads to depression.[5] However, the problems arising from sports injury in those with strong athletic identity is not limited to adolescents. College- aged athletes who faced an injury that threatened their athletic identity expressed high levels of both anger and depression resulting from that threat.[6]

The results of these studies, which show both an increased level of emotion following injury in athletes and an increase in depression in those who have a strong athletic identity, imply that the psychological coping mechanisms that athletes will use cannot be modeled by examining those of non-athletes. Rather, it has been accepted that the emotional responses of an athlete coping with injury are actually similar to the loss of health models of terminally ill patients.[2] Thus, before a physician is able to effectively aid an athlete who suffered such an injury, one must understand the emotional responses and coping mechanisms present in athletes.

The integrated sports injury model, developed by Wiese and colleagues, is the most extensive existing framework to address the psychological response present in the athlete during injury and rehabilitation.[7] The model suggests that there are both situational and personal factors that influence the athlete's initial interpretation of the injury, which then leads to the emotional responses that the athlete exhibits. Significant personal factors include: the athlete's medical and histories, the severity, type, and perceived cause of the injury, self-perceptions and athletic identity, age, ethnicity, and personality. Significant situational factors include: type of sport, level of competition, timing in the season, playing status, teammate and coaching influences, and social support available.[8] These factors all influence the athlete's initial assessment of the injury and thus the emotional response to the injury. The athlete's ability to cope with both the injury and the emotional response to the injury are intertwined in the cognitive, emotional, and behavioral aspects of the model.[9] It is thus important for the physician to understand both the personal and the situational background of the individual athlete's injury, in order to fully understand the athlete's psychological and emotional state of mind post-injury. Understanding these underlying factors lead to an understanding of the emotional responses and thus the behavioral

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responses to the injury, which have been shown by ample research to affect both the physical and psychosocial recovery outcomes.[9]

Because of the significant effect the first perception of the injury has on the recovery outcome, the emotional response to the injury is of particular importance for physicians in their ability to understand and communicate with injured athletes. The most common experienced emotions are sadness, depression, frustration, anger, tension, fear, and fatigue.[2] Many of these emotions occur in varying degrees, depending on the severity of the injury and the athlete's personality. Additionally, these emotions can take place at different times of the recovery process and influence how the athlete copes with the injury.

Regarding sadness, some athletes are only sad in the first few days, while others feel depressed for an extended period of time.[9] The varying degrees of sadness were correlated to the timing and severity of the injury, as most athletes who reported sadness sustained injuries that were season ending in nature. If the degree of sadness is significant enough to be categorized as depression, the physician should approach the conversation from a different yet significant manner, as depression is a clinical illness requiring special attention. This approach will be discussed, along with other practical approaches, later in this review.

One interesting reported reason for sadness is the loss of the chance to prove how well an athlete can play. This is especially prominent in young high school or college athletes who feel the need to prove their abilities among their more senior teammates.[9] In addition to the commonly reported reasons for sadness (loss of joy of participating, no longer able to help the team) it is important for a physician to note the possibility of this response to injury in young athletes or in injuries occurring early in the season of play.

Related to sadness, some athletes reported feeling separated and isolated from teammates due to their injury.[5] They feel they no longer fit in with the team, as their role diminished from player to sideline supporter or cheerleader. Feelings of helplessness and inability to affect the outcome of the game are commonly reported reasons for these feelings of isolation.[5]

Perhaps the most commonly reported emotional response to injury is frustration. Like sadness, frustration can be experienced in varying degrees and for various reasons. The most common reported cause of frustration is the decrease in physical function as a result of the injury.[9] In addition to the decrease in function, the exasperation felt with the recovery process is also a reported cause of frustration. The uneasiness with the injury leads to urgency to return to pre-injury function and frustration when this process does not happen immediately.[9] Many athletes who report being frustrated did not account for the setbacks associated with the injury or the severity of the setbacks and were thus irritated when they were forced to deal with such setbacks.

Tension and fear appear to be related, and both seem to stem from uncertainty about the future. Because of the fear of the unknown, many athletes very first reflex response to injury, even before they are removed from the playing field, is irrationally exaggerated. Players will report feeling that they may never play again, even when the injury may only sideline them for offseason practices or workouts.[10] Many athletes also respond emotionally with fear of being reinjured. The fear of re-injury may be a significant factor in the elevated negative mood states of injured athletes.[10] This fear can also lead to increased anxiety and tension during the rehabilitation process, which causes slower recovery times.

Another aspect of the fear of re-injury is the socio-cultural pressure placed on the athlete to return to sport as soon as possible. Many athletes feel they are extremely pressured by coaches, teammates, and fans to return to sport sooner than they feel ready to, and the "sport ethic" stemming from the win at all costs environment of high-level sports forces athletes to believe that accepting the risk of pain and re-injury is the only acceptable choice if they want to play[10] In a study of high-level skiers, the injured skiers reported that much of the pressure they experienced to return could be alleviated if there no performance expectations placed on them by their coach or by specific return deadlines.[11]

After understanding the emotions involved in the response to injury and the motivating factors behind the most common and significant emotions, the physician must then understand the coping mechanisms used to deal with those emotions. Coping strategies can be categorized into three major categories: problem-focused coping, emotion-focused coping, and avoidance coping. Problem- focused coping confronts the reality of the situation and deals with the tangible consequences by constructing a more satisfying situation. Emotion-focused coping aims to manage the feelings provoked by the situation and to maintain effective equilibrium.[2] Avoidance coping is the effort to escape from having to deal with the situation.

Problem-based coping can be further broken down into five main categories: comparison to past experiences, commitment to rehabilitation, perseverance, tangible support, and informational support. Some athletes dealt with their current injury by comparing it to past injuries. One athlete who suffered a torn ligament in his knee suffered the same injury previously, and felt he was able to recover faster because he was able to draw from his previous experience.[9] Some athletes who had not previously been injured found strength from past life experiences, saying that after some of the struggles that they have endured, they are prepared to deal with anything. The majority of athletes do not have a problem staying committed to the rehabilitation process, as most are committed to recovering and can transition from consistency in practice schedules to consistency in rehabilitation exercise schedules. Regarding perseverance, the athlete's socio-economic status is an important factor. Many athletes draw on the conditions of their family, admiring their parents and saying that they are motivated to recover from injury to make their family proud.[9] Tangible support involved family members and close friends helping out with the everyday activities the injuries inhibited the athletes from doing, and athletes sought informational support from trusted friends and family to reaffirm injury prognosis and recovery times.

Emotion-focused coping is composed of the themes of positive reframing, the use of religion, and emotional support. Many athletes focused on finding positive aspects of their injured situation. Many college athletes focused on the fact that they were very thankful to be attending school on scholarship and that they did not have to pay for the medical expenses.[9] Others turned the injury into a learning experience to prepare for future injuries or forms of adversity. The use of religion has also been shown to help athletes endure injuries, as many athletes rely on their faith or spiritual life to endure the hardship of the injury. Some athletes have a spiritual trust that "everything will work itself out" and that "everything in life has a meaning" and they rely on this trust as a means of coping. The use of some sort of emotional support is a coping mechanism present in almost every athlete enduring an injury. Encouragement from close friends and family helped alleviate feelings of sadness and frustration. One athlete particularly mentioned family as a means of support, saying that while the positive feedback he received from friends and coaches was helpful, it did not match the "warmth" he received from his family.[9]

After gaining an understanding of the emotional responses and coping mechanisms present in an athlete following injury, a physician

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is now able to benefit substantially from a discussion on how to improve communication in the medical visit and how best to approach the conversation with an athlete in which one must explain he or she has suffered a severe injury. However, before delving in to the aspects of the conversation, one must first examine how to break the news.

The strong, negative emotions of sadness, depression, frustration, anger, and confusion mentioned previously mirror the strong negative emotions present in cancer-patients following the reception of bad news from an oncologist. Thus, the SPIKES method developed for oncologists can be used by sports medicine physicians in their delivering of the bad news of a severe injury. The SPIKES method is a strategy and not a script, thus it should be used as a guideline with specific variations regarding specific situations used whenever necessary.

The first part of the SPIKES method, the S, is the setting. The setting where bad news is delivered can have a significant effect on the overall tone and emotional reaction of the athlete.[12] It is best to eliminate any possible distractions such as televisions and radios. To apply this to a sports medicine situation, if the doctor's office is adjacent to the training room, it is best to have the door closed so that the physician and the athlete are separated from the training staff, other athletes, and everyone else present in the training room. If this is not possible, the physician should invite the athlete to come to any available, quiet room.

The second part of the SPIKES method is perception. Applied to sports medicine, it is important to know what the athlete's perception of the injury is. This is important because it is important for the physician to evaluate the gap between what the athlete's expectation of the injury and the actual medical seriousness of the situation.[12]

This part of the protocol is more significant for oncologists than sports medicine physicians, however, because many athletes will not have a significant gap between their perception of the severity of the injury and the reality of the situation.

The third part of the protocol is invitation. Some patients do not or would rather not know all of the details of their current medical state.[12] While this is another aspect that is more relevant for oncologists, it still may play a significant role in some athletes, as some may prefer to simply know the bare minimum required for recovery.

The fourth part is the knowledge. However, before just "dropping the bomb," it is best to ease into the bad news by prepping with phrases such as "I'm so sorry to tell you…" or "I'm afraid I have some bad news" in order to help further psychologically prepare the athlete. Perhaps the most relevant aspect of this part of the protocol is the advice to avoid technical, scientific language. When an athlete hears of a serious injury, after the initial shock, often times the first thought in his or her head is "Will I be able to play again and what do I need to do to get there?" A highly technical explanation of the injury will certainly add to the stress and confusion in his or her response, amplifying negative mood states in his or her reaction.

The fifth part is empathy. This is often the most difficult task facing all physicians, not simply sports medicine physicians. Connecting with a patient in this type of situation is extremely difficult for the physician, and the protocol gives a three step guideline in how to do it. The first step is to listen for and identify any immediate emotion following the news. This step is mentioned in sports-specific literature specifically, with regard to frustration by Harris in that physicians should allow the athlete to "express their frustration verbally and take the time to actively listen to them".[12] After listening, the physician should then identify the cause or emotion present in the second step, and then show the patient through emotional responses that the physician made the connection between listening and identifying the emotions present in the athlete. In the case of an athlete hearing of a sports medicine injury, after the initial bad news, further conversation about rehabilitation and/or surgery options is necessary, and the majority of emotional identifying and responding by the physician will happen at this point in the conversation.

The final part of the protocol is strategy and summary. Applied to sports medicine, this is the part of the conversation will be longer than when used in oncology.[13] In oncology this part will be somewhat brief, as follow-up appointments will contain most of the discussion of options for treatment. In sports medicine, however, time is often a significant factor, as some injuries require surgeries as soon as possible. The second half of the physician athlete interview can be seen as an extension of the strategy aspect of the SPIKES protocol.

After the initial reaction has passed, the physician should then delve into the emotions present as a result of the injury. It is important to separate the emotion of the reaction to the news from the emotional response to the injury, as they may be similar but will be distinctly unique. Here the physician should ask open-ended questions to determine the emotional reactions to the injury, which allows him or her to delve into coping with these emotions in detail. The physician should acknowledge all complaints, no matter how trivial they may seem. The physician must be careful not to trivialize things the patient is saying," according to Dr. John Cantwell. This helps the physician maintain an empathic connection with the athlete throughout the conversation. Regarding the most common emotional reaction, frustration, it is the opinion of Smith and colleagues that most athletes would best cope with frustration through a behaviorally oriented rehabilitation program.[14] Thus, if the athlete is frustrated, the physician should discuss and explain a rehabilitation program, setting goals along the way. Athletes usually accept these goals as challenges and the rehabilitation program helps to alleviate the frustration.

Regarding tension, as previously mentioned, the major source of tension is fear of the unknown and/or fear of returning to sport before the athlete is ready. If the physician determines that the athlete is tense, it is important that the physician alleviate these fears even before the rehabilitation process begins. The physician should reassure the patient that first and foremost the patient's health is more important than the patient's return to play. The physician should then assure the athlete that, once cleared by the physician, the athlete has the ultimate decision regarding his or her return, not coaches, trainers, or anyone else vested in the performance of the team. Thus, after the conversation, the athlete should clearly understand of the future of the rehabilitation strategy, and should be completely confident he or she will not return to sport until he or she is completely ready. According to the Mayo Clinic Sports Medicine psychological program, after the discussion on emotions, the physician should next interpret the full meaning of the athletic injury to the athlete, and the program provides guidelines for doing so. The athlete should first be allowed to discuss the significance of athletic activity in their lives. The athlete and physician should then discuss the meaning of the injury itself, and then its impact on self-esteem, dependency, loss of body image, perceived competency achievement of goals and position on the team. Next the stress present in the athlete's life already, along with the new stress the injury will place on the athlete should be discussed. Finally, physicians may need to identify personal strengths in those who demonstrate difficulty adapting to the injury.[2] This four- step guideline will allow the physician to interpret the meaning of the meaning of the athletic injury to the athlete.

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While it may seem slightly redundant, this part of the conversation focuses on the meaning of the injury, not the emotions involved. The level of athletic identity is discussed here in the first step, and how the injury impacts self-perception is explored. Thus, in this section of the conversation, the physician gains an understanding of how the injury will affect the athlete psychologically, a deeper level of understanding than was gleaned from the initial emotional response in the E section of the SPIKES protocol or the deeper discussion on the emotions related to the injury.

If the physician notes severe sadness as an emotional response, it is extremely important for the physician to evaluate the athlete for depression. If, during the Mayo Clinic guidelines, the physician notes that the athlete has high athletic identity or learns that the athlete participates in sport as a means of coping with stresses from other aspects of life, it is especially important to evaluate for depression, as these two elements greatly increase the likelihood of depression. The physician can use the SIG E CAPS mnemonic to determine if the athlete is depressed. Each letter represents an aspect of their life affected by depression. The aspects are: sleep, interest in everyday activities, unexplained guilt or worthlessness, loss of energy, loss of concentration, loss or change of appetite, impaired or slowed psychomotor skills, and finally any thoughts of death or suicide. If the athlete expresses change regarding five or more of these criteria, the athlete has major clinical depression and requires medication, counseling, or both.

Throughout the discussion, it is of utmost importance for the physician to be clear, upfront, and honest in both the explanation of the injury and the discussion of treatment and rehabilitation options. Clarity about the nature of the injury and rehabilitation options can eliminate many of the negative emotional responses observed in athletes. For example, clarity about the impact the injury will have on everyday life and on activities that the injury will impact could eliminate the frustration noted earlier in the athletes that did not expect or account for everyday life setbacks. Additionally, clear, concrete goals set during the rehabilitation process help the athlete develop a road to recovery that is easy to follow, which increases the likelihood of positive recovery outcomes.[14]

It is also important throughout the process to always keep the conversation centered on the athlete. It is very easy for the physician to take control of the conversation, getting lost in the explanation of the injury and recommended treatment and rehabilitation strategies, taking the decision making away from the patient. The physician must make a conscious and recognizable effort to develop a treatment plan with the athlete. The key component of this is the "with" aspect, as it helps leave the decisions in the hands of the athlete, with the aid of the physician, instead of in the hands of the physician. The treatment plan should also reflect the goals and expectations of the patient learned during the interview, rather than being focused on protocols or guidelines that fit the goals of the team or the interests of the physician.[15]

Conclusion

Effectively communicating with an injured athlete is no simple task for a physician. An athlete has many unique psychological factors that make their emotional responses and coping mechanisms with injury unique, and as a result the physician must understand the aspects related to the athlete's emotional responses and coping mechanisms before he or she is able to effectively communicate with the athlete. However, after these aspects are understood, by using the SPIKES protocol the physician can communicate with the athlete in a way that can lead to positive recovery outcomes, both physical and psychological.

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Conflicts of interest

The author declares that there are no conflicts of interest.

References

1. Kahanov L, Fairchild PC. Discrepancies in perceptions held by injured athletes and athletic trainers during initial injury evaluation. *J Athl Train*. 1994;29(1):70–75.
2. Smith AM, Scott SG, Wiese DM. The Psychological effects of sports injuries, Coping. *Sports Med*. 1990;9(6):352–369.
3. Scanlan TK, Stein GL, Ravizza, K. An in-depth study of former elite figure skaters: II. Sources of enjoyment. *J Sport Exer Psycho*. 1989;11(1):65–83.
4. Manuel Janeen C, Jeffrey S Shilt, Walton W Curl, et al. Coping with sports injuries: An Examination of the adolescent athlete. *J Adolesc Health*. 2002;31(5):391–93.
5. Podlog Leslie, Ross Wadey, Andrea Stark, et al. An Adolescent Perspective on Injury Recovery and the Return to Sport. *Psychology Sport Exer*. 2013;14(4):437–46.
6. Grindstaff JS, Wrisberg CA, Ross JR. Collegiate Athletes' Experience of the Meaning of Sport Injury: A Phenomenological Investigation. *Perspect Public Health*. 2010;130(3):127–35.
7. Wiese Bjornstal DM, Smith AM, Shaffer SM, et al. An integrated model of response to sport injury: Psychological and sociological dynamics. *J Applied Sport Psych*. 1998;10(1):46–69.
8. Walker N, Thatcher J, Lavallee D. Psychological Responses to Injury in Competitive Sport: A Critical Review. *J R Soc Promot Health*. 2007;127(4):174–180.
9. Bejar Matthew P. Experiences of Coping with Injury in Division I Athletes from Low-to-middle Socioeconomic Status Backgrounds. Thesis. 2013.
10. Podlog Leslie, Robert C Eklund. The Psychosocial Aspects of a Return to Sport following Serious Injury: A Review of the Literature from a Self-determination Perspective. *Psychology Sport Exer*.2007;8(4):535–566.
11. Bianco T, Malo S, Orlick T. Sport injury and illness: elite skiers describe their experiences. *Res Q Exerc Sport*. 1999;70(2):157–169.
12. Buckman Robert A. Breaking Bad News: The S-P-I-K-E-S Strategy. *Community Oncology*. 2005;2(2):138–142.
13. Goldman Larry S, Thomas N Wise, David S Brody. *Psychiatry for Primary Care Physicians*. AMA. Chicago; 2004.
14. Harris Laura L. Integrating and Analyzing Psychosocial and Stage Theories to Challenge the Development of the Injured Collegiate Athlete. *J Athletic Train*. 2003;38:75–82.
15. Samples Pat. How to communicate with injured athletes. *Phys Sports med*. 1990;18(7):125–129.

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