NASPA Journal, 2006, Vol. 43, no. 3

Understanding and Promoting College Student-Athlete Health: Essential Issues for Student Affairs Professionals

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Collegiate student athletes are faced with the same developmental challenges and stressors as their nonathlete peers, but they are also expected to deal with the challenges of athletic involvement (e.g., time demands, physical demands, travel schedules). Such additional demands may put athletes at greater risk for experiencing physical and psychological health problems. The current article was written for student affairs administrators as an overview of the current knowledge about several health-related issues commonly faced by collegiate student athletes (i.e., training and overtraining, alcohol, drug use and drug testing, depression and suicidality, dysfunctional eating behaviors, injury, and hazing), and to provide assis-

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tance to these administrators for making decisions about the best practices for dealing with such issues.

Intercollegiate athletes are often perceived by the public to be an exceptionally healthy group of people who are not normally in need of help. In truth, collegiate athletes are usually physically healthy. However, this is not true of all athletes, nor is it always true about their mental health. In an attempt to be supportive of the problems and issues often faced by collegiate student athletes, athletic departments often provide special privileges to athletes to help them care for their health and welfare. Furthermore, the National Collegiate Athletic Association's (NCAA) Personal Welfare Web page leads with the title, "Athletes face even more personal and physical hazards than the average college student"(NCAA, 2006a). Because of the many and varied issues faced by this population, student affairs administrators directly or indirectly involved with athletes may want to take a few moments to consider what various sources have to say about health issues associated with this growing special, on-campus population.

Collegiate student athletes are predominantly undergraduate students enrolled in colleges and universities across the United States who participate in institutionally sponsored, competitive sporting activities, not including club or intramural sports. During the 2005–06 school year, approximately 360,000 women and men participated in 43 NCAA intercollegiate sports on nearly 1,300 campuses across the country (NCAA, 2006b), and the number of participants continues to increase (NCAA, 2006b). In fact, in the time between 1981 and 2004 there was a roughly 29% overall increase in men and a remarkable 150% increase in women NCAA-affiliated student athletes (NCAA, 2006b). Thousands of young people also take part in sports affiliated with other organizations (e.g., National Association of Intercollegiate Athletics, National Junior College Athletic Association, and National Christian College Athletic Association). Moreover, student athletes represent perhaps one of the most visible and diverse populations on most campuses (Parham, 1996). As such a visible and diverse population, it is reasonable to assume that these athletes will experience their share of physical and mental health-related issues.

While the term "health" means many things to many people, the gold standard definition of this is "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (World Health Organization, 1946). Health is believed to be a high priority in intercollegiate athletics. The most recent *NCAA Sports Medicine Handbook* indicates that "… it is the responsibility of each member institution to protect the health of, and provide a safe environment for, each of its participating student-athletes" (NCAA, 2006c). In terms of college student-athlete health, there appears to be a paradigm shift in intercollegiate athletics away from focusing mostly on prevention and treatment of physical injury and some sport-specific clinical problems (e.g., nutritional supplement use, eating disorders), toward a more holistic view of health care (Klossner, 2005). Now, sports medicine professionals (e.g., team physicians, athletic trainers) are encouraged to cast a broader net of caring to include mental health problems like depression/suicidality, anxiety, substance abuse, grief and loss, and relationship issues (Brown & Blanton, 2002; Hinkle, 1996). If student affairs administrators are going to be involved with helping student athletes with such problems, they need to have a good understanding of athlete's problems and needs, and useful practices for helping them deal with such issues.

An Overview of College Student-Athlete Health

As has been the case for years, student athletes today are first and foremost young adults who closely resemble their nonathlete peers (Ferrante, Etzel, & Lantz, 1996). They attend rapidly changing modern institutions of higher learning, so-called "colleges of the overwhelmed" (Kadison & DiGeronimo, 2004), that are probably quite different than what most readers of this journal experienced in their undergraduate years. Despite the fact that student athletes confront the same long-standing developmental tasks of other college-age students (e.g., becoming independent, finding a sense of purpose, coping with uncertainty, dealing with authority, clarifying values) (Astin 1977; Chickering, 1969; Farnsworth, 1966; Pascarella & Terenzini, 1991, 2005), it is clear that on top of their developmental challenges, athlete lifestyles, competitive pressures, and daily experiences are quite unlike those of their nonathlete peers. Although there is variability from school to school, sport to sport, and time of year, the

unique physical and psycho-social demands of often year-round training, competition, travel, and increasing pressure to perform academically can compromise their health status more than others (Andersen, 2002; Ferrante, Etzel, & Lantz, 1996; Selby, Weinstein, & Bird, 1990). Under the regular close scrutiny of coaches, compliance officers, the media, and influential others, student athletes must somehow learn how to balance the numerous demands and expectations of school, sports, and social and personal development on a daily basis.

In view of similar lifestyle concerns and other issues (e.g., social isolation, identity conflicts, career-vocational issues, fear of failure and success), psychologists Pinkerton, Hinz, and Barrow (1989) suggested that student athletes represent a population that is probably "at risk" to experience a range of distressful reactions linked to general health and mental health. Around that same time, Selby, Weinstein, and Bird (1990) investigated various aspects of student-athlete health and learned that alcohol, dysfunctional eating behaviors and related clinical issues (e.g., eating disorders), coping with injury, keeping up with academics, and general stress were prominent health-related problems that point to the need for comprehensive healthcare planning and services for this group. Others have observed that considerable numbers of this group suffer from clinical mental health problems that warrant professional attention (Andersen, 2002; Hinkle, 1996; Maniar & Carter, 2003; Murray, 1997).

In comparison to the late 1980s and '90s, it seems likely that student athletes are under more pressure across the board today—especially those who are involved in so-called "big-time" sports like basketball and football. Many student-athlete clients we encounter report that although they are generally invested and absorbed in their daily experiences, they often lose their passion for sport (but still keep going), feel exhausted, get less than needed sleep, contract illnesses easily, eat rather poorly, "party hard" (binge drink), feel isolated from the campus mainstream, struggle with in- and out-of-sport relationships, and generally present with various symptoms of "overtraining." Having sufficient time to get work done and "just chill" is rare. Despite the above, they are generally rather well adjusted, resilient young people.

The following section provides information about several aspects of college student-athlete health. These topics include: (1) training and

overtraining, (2) alcohol, (3) drug use and drug testing, (4) depression and suicidality, (5) dysfunctional eating behaviors, (6) injury, and (7) hazing. While this is not an exhaustive list of health issues confronting current student athletes, it represents information about this population that student personnel administrators should be aware of.

Training and Overtraining

An essential point for student affairs professionals to appreciate concerning student-athlete health is the demanding undercurrent of constant, often year-round training. For those who may not be familiar with sport training principles, a necessary feature of effective training in sport involves manipulating workloads to produce positive holistic adaptations. Systematically manipulating training loads (i.e., levels of intensity, volume, and frequency) at correct times for individual athletes and teams is ideally intended to sequentially improve conditioning, strength, and performance over time (Gambetta, 2004). The former, positive view of "overtraining" is generally seen as a desirable feature of a well thought-out training plan (Raglin & Wilson, 2000). Unfortunately, given the complex relationships between long-term training, variable training loads, idiosyncratic athlete training responses, and unsystematic recovery practices, the tendency among some coaches today is to gravitate toward the "more is better" school of thought. Combined with a variety of uncontrollable extraneous life variables, many student athletes tend to become "overtrained." In general, overtraining can be associated with undesirable health, academic, and performance outcomes (e.g., staleness, slumps, and burnout) that are the opposite of what athletes and coaches want.

Despite best intentions, many athletes and coaches appear to be ill-informed about training, overtraining, recovery, and the pervasive impact of overtraining. Current thinking in this area emphasizes the significance of balancing appropriate training stress levels. As is useful to any student, engaging in holistic daily recovery behaviors to minimize life stress and in the case of athletes added training "strain" (e.g., healthy eating, sufficient sleep, time away from sport and school for fun) is seen as a key to optimal performance development (Kellmann, 2002). Given the apparent frequency of overtraining, athletes and those who care for them need to know how to identify, minimize, and

prevent overtraining symptoms as soon as possible, to modify training and facilitate recovery prior to experiencing unhealthy and debilitating states such as "burnout."

Useful Practices

To assist coaches and athletes, support personnel including physicians (i.e., athletics or student-health based), athletic trainers, psychologists and others should be involved in systematic monitoring of the multifaceted impact of training. Attention should be paid to early and sometimes subtle signs of overtraining such as changes in emotion (e.g., irritability, moodiness, depression), cognitive functioning (e.g., difficulty concentrating, information overload, distractibility), strength and coordination decline, physiological/biological changes (e.g., elevated cortisol levels, appetite loss, increased resting heart rate), and immunological functioning (e.g., increased susceptibility to illness/infection), as these link to observable sport performance changes (Fry, Morton, & Keast, 1991).

Simple, inexpensive, and noninvasive methods to monitor many of the above responses and recovery behaviors can be accomplished through the administration of self-report instruments such as the Profile of Mood States (McNair, Lohr, & Droppelman, 1971), Brief Assessment of Mood (Dean, Whelan, & Meyers, 1990) and/or the Recovery Stress Questionnaire for Athletes (Kellmann & Kallus, 2001). Administrators who may have input into athletics or oversight of athletic programs should insist on very closely monitored training. Although there are limits to training set by organizations like NCAA (i.e., the "20-hour per week" training rule), this appears to be surpassed or circumvented frequently.

Alcohol

Research consistently indicates that excessive alcohol consumption and negative alcohol-related consequences and behaviors are major health issues among college students (see Wechsler, Lee, Kuo, Seibring, Nelson, & Lee, 2002) and that intercollegiate athletes are truly an at-risk population in this area (Leichliter, Meilman, Presley, & Cashin, 1998; Nelson & Wechsler, 2001). From a sample of over 8,000 intercollegiate athletes, Leichliter et al. reported that athletes

averaged more drinks per week and engaged in more frequent binge drinking episodes than nonathletes. Wechsler, Davenport, Dowdall, Grossman, and Zanakos et al. (1997) and Nelson and Wechsler (2001) reported similar results regarding heavy episodic drinking with samples of over 2000 intercollegiate athletes. Interestingly, many athletes perceive that their nonathlete peers drink more than they do (Kueffler, Lim & Choi, 2005).

Leichliter et al. (1998) and Nelson and Wechsler (2001) both reported that intercollegiate athletes were more likely than nonathletes to experience the negative consequences of drinking. Such consequences included impaired academic work, getting into trouble with the police or other authorities, and being taken advantage of sexually. Intercollegiate athletes are also significantly more likely to drive while drunk, ride with intoxicated drivers, have more sexual partners, and perpetrate more sexual violence than nonathletes (Nattiv & Puffer, 1991).

Intercollegiate athletes are also more likely than nonathletes to be associated with many social factors that have been linked to increased risk of binge drinking (Nelson & Wechsler, 2001). These social factors include: (1) having five or more close friends, (2) considering parties as important to them, (3) spending an average of 2 or more hours a day socializing, and (4) reporting that most of their friends were binge drinkers. These factors, combined with the lifestyle pressures associated with being an athlete and a student, may also promote unhealthy patterns of drinking and risky behavior among intercollegiate athletes (Damm & Murray, 1996).

As noted above, on most American college campuses, athletes lead lives that are quite different than nonathletes. Such differences include balancing the time commitments and stress of academics and athletics, isolation from nonathletic campus-related activities, overreliance on athletics for social support and social activity, and being treated as entitled or otherwise special (Ferrante, Etzel, & Lantz, 1996). Due in part to such differences, researchers have speculated about why athletes may be more likely to take part in excessive alcohol consumption and experience negative alcohol- and health-related consequences. Explanations include athletes experiencing excessive pressure and anxiety (Damm & Murray, 1996; Marcello, Danish, & Stolberg, 1989),

experiencing peer pressure fostering a "work hard, play hard" mentality (Leichliter et al., 1998; Marcello et al., 1989), and the overall link between alcohol and the athletics culture (Stainback, 1997).

Useful Practices

First and foremost, individuals who work with athletes must be aware of the warning signs for excessive alcohol consumption. These warning signs may include bloodshot eyes, the smell of alcohol on the breath, erratic or aggressive behavior, mood swings, difficulty waking and staying motivated in the morning, and frequent headaches. If an athlete is suspected of having a drinking problem, it may be best to refer that athlete to the team physician or a practitioner trained in addictions treatment (e.g., psychologist or counselor) for help.

When an athlete is suspected of having a drinking problem, it is a useful idea to have that athlete complete a problem drinking inventory such as the "Alcohol Use Disorders Identification Test" (Saunders, Aasland, Babor, de la Fuente, & Grant, 1993). It would also help if the practitioner were aware of the athlete's motives for drinking. Such athlete-related motives can be interpreted though the use of an instrument such as the "Athlete Drinking Scale" (Martens, Watson, Royland, & Beck, 2005).

Athletes already appear to be receiving more exposure to alcohol and drug prevention programming than nonathlete students (Nelson & Wechsler, 2001); but as the numbers suggest, athletes are still having more problems as a result of these behaviors than their nonathlete peers. Such programming would likely be more effective if it focused on issues that are near and dear to the athletes such as the effects of alcohol upon sport performance (Nelson & Wechsler, 2001). This type of programming could also be used to teach athletes how to identify potential drinking problems amongst their peers. Programming could also focus on increasing coping skills and decreasing engagement in health compromising behaviors (Frauenknecht & Brylinsky, 1996), or focus on changing the social subculture of intercollegiate athletics (Nelson & Wechsler, 2001). From a social norms perspective, it would be a useful for practitioners to make athletes aware of the actual amount of alcohol being consumed on campus, as it has been found that misperceptions about alcohol consumption have the

strongest impact upon personal alcohol consumption (Anderson & Milgram, 2001; Perkins, Haines, & Rice 2005). This is especially important since research shows that many athletes have misperceptions about the drinking habits of nonathlete peers (Kueffler, Lim, & Choi, 2005). It would also be best if this programming was offered early and consistently in their college careers.

Drug Use and Drug Testing

Modern-day college student athletes appear to be no different than other students in that they do use popular recreational drugs (Damm & Murray, 1996; Kuhn, Swartzwelder, Wilson, 2003; National Center for Drug-Free Sport, 2006). Their usage motivations are also similar—they feel good, others do them, they tend to serve as a social lubricant or bond, and these substances seem to serve as a stress reducer. Perhaps differently than their nonathlete peers, some student athletes also use various drugs and substances (i.e., "supplements") to help them perform better. Perhaps this reflects a trickle-down effect from other levels of sport participation (e.g., professional and Olympic sports), where it has been observed that athletes use such "ergogenic" substances to reach or maintain a peak performance edge. Clearly, athletes have searched for years for relatively safe and often legal ways to improve sport performance. Recently, substances of choice have been mostly unregulated products available at supermarkets, nutrition stores, and online such as multivitamins, sports drinks, protein bars, creatine, and (now banned) ephedra. While these products are available for sale and legal, it is unclear if they are safe.

For better or worse, student athletes are now subject to random drug "screens" during the academic year and during postseason competition (National Center for Drug-Free Sport, 2006). Use of banned recreational drugs (e.g., marijuana, steroids, various stimulants) or consumption of various banned supplements that contain small unknown amounts of banned substances (e.g., testosterone, steroids, stimulants) may represent health risks or at the very least cause athletes to test positive on drug screens. The consequences of such positive tests vary from institution to institution, depending on drug testing policies and informal practices. Nevertheless, positive testers usually lose the "privilege" of participation in athletics for some amount

of time. Positive screens typically lead to suspensions, reduction or loss of financial support, and ultimately to dismissal from athletics. In addition to the above, it appears that drug users and positive testers are sometimes disciplined by coaches (e.g., physical activity, hazing).

Useful Practices

Clearly, educating students and more specifically athletes and athletic staff about the health risks and consequences of drug use is a potentially useful practice that the university administration should promote. The NCAA recommends, at the very least, that every affiliated institution establish and regularly implement drug education programming (NCAA, 2006d). Confidential counseling for those concerned about personal or other drug use should be made available and publicized to athletes and athletics staff. Such assistance is often available on campuses, and it is often associated with counseling and health services. Social norming programming efforts appear to have considerable promise in raising awareness and likely can affect substance use behavior change (Higher Education Center for Alcohol and Other Drug Abuse and Violence Prevention, 2006). Other environmental and enforcement interventions have also proven effective over time (Bergen-Cico, Urtz, & Barreto, 2004) Numerous prevention and programming models can be found in *Promising Practices: Campus Alcohol Strategies* (Anderson & Milgram, 2001).

Depression and Suicidality

Approximately 9.5% of the population, or roughly 1 out of 10 people, suffer from a depressive illness during any given 1-year period (National Institute of Mental Health, 2002). Women are twice as likely to experience depression as men (Blehar & Oren, 1997). Although men are less likely to suffer from depression, prevalence rates may be underreported. This may be attributed to men being less likely to admit to depression and physicians being less likely to suspect depression in male patients (National Institute of Mental Health, 2002). Moreover, even though the majority of people's depressive disorder symptoms can be improved, most people suffering from depression do not seek help. This includes student athletes, as research indicates that student athletes tend to underuse mental health services (Bergandi & Wittig, 1984; Pinkerton, Hinz, & Barrow, 1989).

A potential increase in student-athlete suicides and suicidality (i.e., having thoughts about harming one's self, suicide attempts) across the United States has prompted athletic departments to pay much more attention to the issue of depression among student athletes (Maniar, Chamberlain, & Moore, 2005). Because of the prevalence of depression combined with student athletes' underuse of mental health services, intercollegiate athletes are an at-risk population. Although little research has been conducted on depression among student athletes, preliminary data indicate that student athletes experience depressive symptoms and disorders at similar or higher rates than nonathlete students (Maniar & Carter, 2003).

Most people who are treated for depression will fully recover to lead productive lives. A combination of counseling and medication appears to be the most effective treatment for moderately and severely depressed individuals. Those suffering from milder forms of depression may improve with counseling alone (National Institute of Mental Health, 2002).

Useful Practices

First and foremost, student affairs administrators and athletic departments must understand and add to their knowledge regarding depressive disorders. All staff should be trained to recognize the: (1) signs and symptoms of depression (see Figure 1); and (2) potentially stressful life events that may lead to depression such as sustaining an injury of any type or duration, being cut from a team, losing starting status or not being selected to travel with the team, reduction or loss of scholarship, end of athletic career, death of a teammate, and life events outside athletics.

Second, athletic departments should establish a reliable referral network for student athletes who may be suffering from depression and other mental disorders. Physicians and licensed mental health professionals who have an understanding of the athletic culture are perhaps the best referral resources. Ideally, this relationship should be established before a referral is necessary.

Third, screening for depression and suicidality should be conducted throughout the season. Research indicates that student athletes are

Figure 1
Depressive Symptoms

• Depressed, sad, or "empty" mood for most of the day and nearly every day	• Decrease OR increase in appetite nearly every day
• Lack of or loss of interest or pleasure in activities that were once enjoyable (hanging out with friends, practice, school, sex)	• Frequent feelings of worthlessness, low self-esteem, hopelessness, helplessness, or inappropriate guilt
• Decreased performance in school or sport	• Indecisiveness
• Decreased energy, fatigue, or feeling "slowed down"	• Substantial change in amount or ability to sleep
• Noticeable restlessness	• Difficulty concentrating
• Significant weight loss OR weight gain	• Recurrent thoughts of death or thoughts about suicide

more likely to speak to coaches and athletic trainers about their difficulties than mental health professionals (Maniar, Curry, Sommers-Flanagan, & Walsh, 2001; Maniar, Perna, Newcomer, Roh, & Stilger, 1999). Therefore, coaches and sports medicine staff members are essential in monitoring for depression and helping depressed athletes obtain the support they need. Several valid instruments exist for the purpose of depression screening; and some, such as the Center for Epidemiological Studies-Depression (CES-D) scale (available from the National Institute of Mental Health), are available free of charge.

Dysfunctional Eating Behaviors

Given society's increased emphasis on the physical aesthetics of our bodies, eating disorders have become a common cultural phenomenon affecting both females and males (Goss, Cooper, Stevens, Croxon, & Dryden, 2005). While many college students make healthy nutritional choices and avoid the late night pizza, others do not do so and eat unhealthily. Many also exercise to excess.

Eating Disorders

Because college student athlete's lives are remarkably regimented and often closely monitored by coaches, sports medicine professionals,

nutritionists, and others, some may assume that this unique group is somehow at less risk for engaging in unhealthy, dysfunctional eating (e.g., skipping meals, eating on the run, eating cheap unhealthy foods) and less vulnerable to developing eating disorders. In fact, it is quite the contrary; student athletes appear to be at greater risk than their nonathlete peers for various eating disorders (Goss et al., 2005; Hellmich, 2006; Petrie, 1993). Athletes not only struggle with the same sociocultural pressures as nonathletes, but also there is also additional pressure from the sport world (Thompson & Sherman, 1993), which inherently fosters a preoccupation to lose, maintain, or even gain weight (Goss et al., 2005). In particular, those athletes participating in sports that are judged and have an emphasis on aesthetics and leanness (e.g., gymnastics, diving, cross country) or sports in which weight restrictions determine which group a student athlete will compete in (e.g., wrestling, crew) may be increasingly at-risk (Swoap & Murphy, 1995). Female athletes may also be concerned about the changes in their bodies (e.g., weight gain linked to increased muscle mass) that usually results form more regular, high-intensity strength training and conditioning.

The daily time-demands associated with both the athletic and academic sides of being a student athlete, combined with the athletic pressures of appearance and weight management, often leave student athletes struggling with proper and adequate nutritional practices. While many student athletes may not necessarily meet the clinical definition of having an eating disorder such as anorexia nervosa or bulimia, they may meet the criteria for disordered eating. Disordered eating is characterized as unhealthy eating practices and patterns of behavior that may meet some of the clinical criteria for an eating disorder, but do not meet all the criteria for a formal diagnosis.

Female Athlete Triad

Specifically among female student athletes, disordered eating may appear as one component of a larger three-part syndrome referred to as the "female athlete triad" (American College of Sports Medicine, 1997). In addition to symptoms of disordered eating, the female athlete triad also includes amenorrhea and osteoporosis. Amenorrhea (an absence of or irregular menstrual periods) is a symptom of danger-

ously low estrogen levels. Estrogen is the hormone responsible for the preservation of normal calcium levels and bone density. Thus, female student athletes with low levels of estrogen may also be at an increased risk for osteoporosis (Goss et al., 2005) and may suffer irreversible damage to their bodies if left untreated. Female student athletes displaying symptoms of the triad may begin to experience bone mineral density loss within a year of the onset of osteoporosis (Drinkwater & Nilson, 1984), putting them at an increased risk for stress fractures while training or competing.

While disordered eating practices and full blown eating disorders may have the immediate effects student athletes are vying for (i.e., to maintain or lose weight, increase sport performance, acceptance and praise from coaches and teammates), they may be left with serious and irreversible consequences to their health. For instance, major organ systems within the bodies of both male and female student athletes are affected by eating disorders and serious complications can arise (Seime & Damer, 1991). A female student athlete exhibiting symptoms of the triad may put her self at risk for developing the bone density of a woman twice to three times her age (Drinkwater & Nilson, 1984). Furthermore, not only is the physical self affected, but so too is the emotional self. Student athletes may become very invested in these unhealthy practices, such that their mood, self-esteem, and self-worth become affected and tightly tied to weight (Seime & Damer, 1991).

Useful Practices

Prevention and education should not be reserved for the collegiate years of an athlete's competitive career. Early precollege education may be useful to preventing disordered eating, eating disorders, and the female athlete triad. While young athletes are learning the fundamentals of their respective sports, their parents, coaches, and the athletes themselves should be made aware of the psychological consequences (both positive and negative) sport participation can have on a competitive athlete. In doing so, athletes, along with influential others, can be alerted to predisposing risk factors (e.g., gender, type of sport) and both the short- and long-term health effects that dysfunctional eating behaviors can have.

Education for athletes should not be limited to the early stages of an athlete's career. Such education may be more effective if it is continuous throughout an athlete's competitive career. Therefore, it is important that the NCAA provide its student athletes and coaches with regular educational workshops, seminars, and lectures. Woven within this educational framework should be the message that dysfunctional eating and eating disorders are health risks that are inherently counterproductive to an athlete's athletic and life goals (Goss et al., 2005).

While education is necessary for the prevention of dysfunctional eating behaviors, intervention strategies should also be designed to detect and treat athletes who are suffering from such problems. To detect symptoms of the triad, Louks and Nattiv (2005) have suggested that athletes should be screened at the preparticipation physical exam and at regular intervals thereafter. Such a strategy may be useful for spotting symptoms of the triad in female student athletes, and may also be useful in detecting dysfunctional eating practices among male student athletes.

Ultimately, sport performance should not come at the expense of an athlete's health and well being. Early education will lend itself to early detection if influential others (coaches, athletic trainers, teammates, and parents) within the athlete's life have been properly educated in the signs and symptoms of disordered eating, clinical eating disorders, and the female athlete triad. Once detected, an athlete should be referred to the team physician, athletic trainer, sport psychologist, or other licensed psychologist who specializes in the treatment of disordered eating and clinical eating disorders so that the athlete's therapy can be individually tailored to his or her needs. Treatment of eating disorders is a complex multifaceted, typically long-term process. Accordingly, treatment should ideally involve a team of treatment specialists and other third parties associated with the athlete (Petrie & Sherman, 2001). Administrators can access useful information from the NCAA's sports medicine handbook and the NCAA's Web site on healthy nutrition and eating disorders (NCAA, 2006e).

Injury

Most observers of intercollegiate athletics recognize that the risk of injury is very common in athletics. However, some may not recognize that injuries incurred by collegiate athletes vary in frequency, severity, by sport, and time of year. In some sports (e.g., golf, rifle) injury rates are quite low, whereas in other collision sports (e.g., football, soccer, gymnastics) as many as two athletes per game may be reported as injured to a degree where they are missing significant playing or practice time (NCAA, 2005b). It is has been reported that almost half of all collegiate football players in the United States lose playing time due to serious injury, and that 1 in 10 collegiate female soccer and basketball players will suffer an anterior cruciate ligament (ACL) injury (Brown, 2004).

It is easy to realize how increases in the strength and speed of athletes and the importance placed upon winning in American society can contribute to high injury rates. However, injury rates are also thought to be affected by issues such as life stress, daily hassles, and poor coping abilities, which affect the athlete outside of sport (Williams & Andersen, 1998). Therefore, when taking steps to prevent and reduce athletic injury and to treat injured athletes, effort must be geared towards helping the athletes both on and off of the field.

Research has clearly shown that injured athletes often experience not only physical symptoms, but also psychological/emotional (e.g., stress, anxiety, concentration, depression, fear of re-injury, and future performance problems) and social (e.g., lost playing status and contact with teammates) symptoms (Gould, Udry, Bridges, & Beck, 1997). In fact, research suggests that in a significant number of athletes, injury results in "clinically meaningful levels of psychological distress" (Brewer & Petitpas, 2005, pp. 93–94). In many cases, it may actually be easier to correct the physical consequences faced by athletes than their injury-related psychological/emotional and social problems. When these aspects of the injured athlete are not treated, they can lead to rehabilitation nonadherence rates as high as 30–70% (Taylor & May, 1996), as well as future academic, personal, and performance problems (Gould, Udry, Bridges, & Beck, 1997) and an increased risk of re-injury (Williams & Andersen, 1998).

As a result of experiencing a serious injury, many believe that athletes progress through a series of emotional responses similar to those identified by Kubler-Ross (1969) describing the stages of death and dying. Within this model, it is hypothesized that athletes would progress from a stage of denial to anger, bargaining, depression, and then acceptance. The emotional response to an injury, the ways that athletes accept the injury, move forward with rehabilitation, and hopefully return to sport are also believed to be affected by the way that they interpret their current situation (Taylor & May, 1996; Weise-Bjornstal, Smith, Shaffer, & Morrey, 1998).

Useful Practices

Interestingly, helping athletes deal with injury in the best way may start prior to an injury with the development of programs designed to help athletes deal with personal and life stress, develop coping skills, and deal with on-field anger, all of which lead to higher rates of injury (Brewer & Petitpas, 2005). It is suggested that such programs should include interventions aimed at changing athletes' cognitive appraisal of stressful events or interventions aimed at reducing the physiological/attentional narrowing aspects of stress (Williams, Rotella, & Scherzer, 2001).

After injury, physical and psychological rehabilitation is recommended. For serious injuries in which athletes are unable to play for an extended period of time or are career-ending, it is advisable to involve a treatment team to help support the rehabilitation process (Brown, 2004; Kolt, 2000). Members of this team would theoretically include people such as doctors, athletic trainers, family members, teammates, coaches, and psychologists, who are able to support the athlete through most phases and common problems experienced with injury and subsequent rehabilitation. Such support includes making sure that athletes are well educated about their injuries (Petitpas & Danish, 1995), are allowed to continue connecting with their teammates (Wrisberg & Fisher, 2005), and supported in their decision making (Brown, 2004).

Other potentially useful rehabilitative approaches include the use of healing imagery, relaxation training and cognitive control techniques, setting effective (i.e., attainable, task-oriented) goals, and helping ath-

letes remain attached socially to their teammates and loved ones (Brewer, 1998; Brown, 2004; Williams, Rotella, & Scherzer, 2001). Such techniques have been shown to help athletes heal quickly, maintain self-esteem, and put forth and maintain appropriate effort within rehabilitation.

Hazing

Hazing, defined as "any activity expected of someone joining a group that humiliates, degrades, abuses or endangers, regardless of the person's willingness to participate" (Alfred University, 1999a, p. 1), is a practice that appears to be quite common in intercollegiate athletics. Hazing is practiced at fairly high rates despite the fact that it is illegal in 41 states (Hawes, 1999) and has resulted in some sport season cancellations (Wahl & Wertheim, 2003) and zero tolerance policies (Rosellini, 2005). Unfortunately, an accurate sense of the prevalence of hazing is very difficult to obtain, because athletes and athletic department staff are often reluctant to discuss the topic because of potential repercussions that could result (e.g., loss of team status, embarrassment, ridicule, and legal problems) (Wahl & Wertheim, 2003). However, based upon research conducted by Alfred University (1999a) it is speculated that up to 79% of student athletes may have experienced some form of hazing.

Although hazing practices may include innocuous acts meant to humiliate, hazing may escalate to include more abusive acts that involve substance use/abuse, sexual harassment and exploitation, and physically dangerous activities (Alfred University, 1999b). Of those who are hazed, research suggests that 60% would not report hazing and 23% do not believe that administrators would handle hazing appropriately (1999b).

Hazing is often a secretive, ritualized way to exert power over another person. Hazing appears to be firmly entrenched in the traditions of many interscholastic and intercollegiate sport teams. It is thought that hazing continues as a tradition because athletic staff, administration, and sometimes alumni are either in support of it or send mixed signals about its acceptability, therefore enabling its continuation. Furthermore, research shows that athletes and former athletes often

do not see hazing as a problem; and those who have been involved in hazing believe that it should probably not be eliminated (Keeler & Clement, in press). Another reason that teams often condone hazing is because it is assumed to be instrumental to building "team solidarity" (O'Hara, 2000, p.3) and helping to maintain group status and roles by initiating new members (Hawes, 1999). Moreover, it is also believed that new team members may accept as true that group membership is more prestigious if it is harder to obtain (Jacobs, 2000). Of concern to administrators, it appears that those individuals who have been hazed in the past are more likely to haze others in the future (Keeler & Clement, in press).

Hazing can be particularly destructive for collegiate athletes, as hazing often occurs to the newest members of a sport team (i.e., freshman). Therefore, those individuals who are likely to be hazed are also those who are likely to be away from home for the first time, just beginning to deal with the rigors of college education and collegiate sports, and least likely to have developed a strong local support network.

Useful Practices

Because of the lack of research in this area, it is hard to develop an in-depth best practices approach for dealing with hazing. Therefore, it is first proposed that university administrators and social scientists conduct research to better understand the prevalence, nature, and reasons for hazing on their campuses. Furthermore, institutions need to look for multifaceted approaches to aggression-related issues that may help understand and address both the context-specific meanings and expressions of aggression; and the role of friendship group, sport team, institutional, and cultural norms and values for sport-related aggression. In short, leaders need to look for the positive motives behind hazing and find alternative ways to express these motives.

A social norms approach to hazing would also seem to be an effective intervention approach. Such a campaign could provide athletic programs and teams with information about the institutional norms for hazing. Administrators might also provide athletic teams with safe alternatives to creating team unity. These same administrators should also make known the serious consequences of hazing (e.g., zero tolerance, suspension, expulsion).

Recent research with athletes and former athletes by Keeler and Clement (in press) identified four policy changes that were perceived as having the most potential to be effective at curbing hazing. These initiatives included the development of a clear zero tolerance policy, an athlete contract agreeing to the zero tolerance policy, and a tie between a preseason meeting directly addressing hazing and an immediate investigation policy by school officials. Additionally, attempts need to be made to stop the support of these practices by influential others and to break the possible social learning cycle that perpetuates this problem.

Summary and Recommendations

Perhaps more than ever before, student affairs administrators and support personnel need to be aware of the health issues facing college students and student athletes. Administrators and other on-campus professionals (e.g., advisors, counselors, psychologists, physicians) need to be aware of best practices approaches for effectively recognizing and dealing with the unique stresses and health consequences of the college student-athlete experience. It would be a mistake to assume that athletes and their experiences are the same as those of college students who do not participate in athletics: student athletes are exposed to unusual health risks. This article represents an effort to help clarify for student support personnel many of the health issues facing student athletes, and to provide basic useful practices guidance for helping athletes deal with their health challenges.

As intercollegiate athletics has evolved into a significant American entertainment industry on some campuses, the oversight and management of intercollegiate athletics on many campuses (and therefore the responsibility for the health and welfare of college student athletes) appears to have "drifted farther and farther out of the hands of [university] faculty and administrators" (Zimbalist, 2001, p. 189). University administrators should not assume that athletic administrators and staff understand student-athlete lifestyles and the health-related problems associated with athletic participation. Furthermore, it should not be taken for granted that athletic departments provide appropriate health care for these young people.

Within the business of athletics, it is possible that the potential monetary gains associated with programmatic success can overshadow concern for the welfare of the athletes who work hard to achieve this success. This may be especially true at institutions that have very competitive, successful athletic departments, which are often so-called "self-supporting auxiliaries" of the university. At such institutions, it is critical that student affairs personnel outside of athletics keep a close eye on student-athlete lifestyle demands and participation-related health issues.

Unfortunately, many coaches and administrators do not appear to be as knowledgeable as they could be about the health of their athletes, warning signs for health-related issues, health-related support services available to athletes/students (e.g., health, counseling, addictions), or when and how to refer an athlete for help. Further problems may arise as a result of athletic departments' physical and social isolation from other parts of the campus community (Lubker, 2003). Such isolation can create a real or imagined separation from the campus and may lead coaches to handle many problems within their program or far outside of their program and the campus. One might argue that the best place for athletes to request and receive such help may be from student affairs personnel such as on-campus counselors, psychologists, and physicians.

In an attempt to head off any serious problems, student affairs administrators and support personnel should not only communicate with athletic administrators and coaches, but also perhaps more importantly, confidentially meet with athletes on a regular basis concerning their health and welfare. As should be the case with all students, student support personnel would do well to conduct independent research on changing athlete health needs. It is also important to keep up with research related to effective practices for helping special populations such as athletes deal with commonly experienced problems.

Klossner (2005) recently outlined some practical suggestions from the NCAA on how responsible persons on campus can better meet the mental health needs of student athletes. These suggestions may also be generalizable to meeting other health needs experienced by athletes and nonathletes alike. Among other suggestions, Klossner emphasized: (1) making resources for mental health screening and treatment

a priority, (2) promoting the use of campus mental health endeavors, and (3) fostering useful relationships with on-campus health care providers (e.g., counseling services and intercollegiate athletics department staff members).

It seems clear that these suggestions involve an effort to make leaders and student support service providers more aware of and involved in the care of student-athlete health, and to help make such university services more approachable and convenient to student athletes who tend to use these services less than others. Such services are even more important in today's big business athletic departments where exploitation, neglect, and abuse of athletes may occur with more frequency. While participation in athletics is an opportunity for personal growth for those who participate, it occurs in a culture that fosters many considerable health risks.

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