Tackling Student-Athlete Mental Health

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Objectives

- Compare the prevalence and presentation of mental health concerns in athletes with the general college student population
- Identify athlete-specific factors that may contribute to the development of or exacerbate mental health symptoms
- Describe conditions primarily specific to athletes, including overtraining syndrome, post-concussive syndrome, female athlete triad, and athlete response to injuries
- Identify the barriers and facilitators to seeking mental health treatment among student athletes
- Name strategies that may be employed to improve access to mental health services for student-athletes

Athlete Mental Health Concerns

Depression in athletes

- Although depression appears to be equally prevalent between athletes and non-athletes, research suggests that athletes who are female, freshmen, or experiencing pain are more likely to report depression than non-athletes. (Reardon & Factor, 2010)
- In addition to causes that may affect all athletes, depression in athletes may also result from: (Reardon, 2017)
  - Overtraining
  - Injury (though lack of certainty whether injury causes depression, or depression makes an athlete more susceptible to being injured)
  - Perceived competitive failure
  - Playing an individual sport compared to a team sport
  - Aging
  - Retirement from the sport

Anxiety in athletes

- Anxiety disorders have been less well-studied in athletes that depression
- It is important to distinguish symptoms and behaviors in athletes that may resemble anxiety disorders, but are not pathologic, from the actual disorders. (e.g., Athletes may become reasonably anxious before or during competition, which is not pathologic if not extreme or detrimental to performance)
- Social anxiety is associated with avoidance of individual sports but not team sports (Reardon, 2017)
- Rituals and superstition are prevalent among athletes and need to be distinguished from OCD (rituals become more rigid, occupy more time, and extend outside of the athletic realm)

ADHD in athletes

- ADHD appears to be more prevalent in athletes than non-athletes and there is evidence to support that those with ADHD are drawn to physical activity as a means of coping with their symptoms (Reardon, 2017)
- One current hypothesis is that athletes may experience diminished performance in some sports with treatment of their ADHD symptoms, but there is also the concern for performance enhancement if prescribed stimulants (Reardon & Factor, 2010)
- Nonstimulant options, such as atomoxetine and bupropion, are reasonable first-line approaches at this time (Reardon, 2017)

Trauma and athletes

- Research has suggested that PTSD is more common in athletes with a history of concussions; some researchers have even suggested that post-concussive syndrome may be--in part--PTSD (Brassil & Salvatore, 2018)
- ASD/PTSD may also occur following other types of injuries
- Athletes with ASD/PTSD following injuries or concussions may be triggered by playing
- Athletes with somatic complaints that have no identifiable cause may be experiencing reactions to trauma

	Alcohol	Marijuana	Cocaine	Amphetamines	Cigarettes	Spit Tobacco
Division I						
Men	71.7%	18.6%	3.4%	1.8%	12.6%	20.8%
Women	78.7%	16.5%	1.3%	0.7%	4.3%	0.5%
Division II						
Men	73.9%	23.4%	4.0%	1.7%	12.2%	21.5%
Women	74.1%	18.8%	1.1%	0.2%	5.7%	0.7%
Division III						
Men	81.4%	34.7%	7.3%	2.4%	16.2%	22.7%
Women	80.7%	29.4%	2.3%	0.7%	6.1%	0.7%

Alcohol use in athletes

- Alcohol use has been found to be higher in certain sports, including (NCAA, 2018):
  - Swimming
  - Soccer
  - Softball
- Alcohol use among college athletes is higher than the general population (Reardon & Creado, 2014)
- 36% of student-athletes reported that they drink on a weekly basis (NCAA, 2018)
- Almost 2% of student-athletes reported drinking daily (NCAA, 2018)

Binge drinking in athletes

- 42% of all student-athletes said they engage in binge drinking, which represents a decrease since 2009 (NCAA, 2018)
- 1 in 5 male student-athletes who use alcohol report drinking 10+ drinks when out (Hainline, Bell, & Wilfert, 2014)
- Rates of binge-drinking appear to be highest among athletes in lacrosse (men 69%, women 57%), hockey (men 64%, women 56%) and swimming (men 55%, women 49%) (NCAA, 2018)

Marijuana use in athletes

- Marijuana use appears to be lower among student-athletes (25%) than college students who do not participate in athletics (33%, Core; 39%, MTF)
- Among student-athletes who reported marijuana use, 77% reported doing so for social reasons, and 19% reported using it for pain management (NCAA, 2018)
- Student-athletes living in a state that has legalized marijuana were more likely to use it than student-athletes living in states where it is not legal (39% vs. 26%); however, NCAA does not allow marijuana use among athletes regardless of state law (NCAA, 2018)
- Rates of marijuana use appear to be highest among lacrosse players (men--50%, women--34%) (NCAA, 2018)

Eating disorders in athletes

- One study of female college athletes found that over 25% of study participants had subclinical disordered eating symptoms, while 2% met the criteria for an eating disorder (Greenleaf et. al., 2010)
- Mostly associated with “leanness” sports, such as long distance running, gymnastics, and figure-skating (Reardon, 2017)
- Commonly perpetuated by participation in the sport itself
- Important to consider “anorexia athletica” even if an athlete’s weight is <85% of ideal body weight, since training can result in mass

Body dysmorphia

- Involves obsessive focus on a perceived flaw in appearance
- Can also appear as ‘muscle dysmorphia‘ in which there is a focus on muscle mass or definition
- Among athletes, it is more common for those who are quite muscular to feel as though they are too small
- Signs to look for:
  - Camouflaging (also seen in eating disorders)
  - Comparing body part(s) to others on the team
  - Checking or avoiding mirrors
  - Excessive grooming
  - Excessive weight lifting or exercising (also seen in bulimia)
  - Changing clothes excessively due to appearance

Protective factors for athletes

- Engagement in extracurricular activities
- Exercise (within moderation and demands of their sport)
- Regular socializing with peers
- Increased monitoring of academic performance
- Regular interaction with “adultier adults”
- Self-esteem/self-confidence
- Prevention and screening programs

(Brown, 2014)

Risk factors for athletes

- Retirement from the sport
- Substance use
- Anabolic steroid use
- Injury
- Concussions
- Disconnection from team (bullying, retirement, injury, etc.)
- Strong athletic identity
- Team/sport dynamics (e.g., teammates who promote risk behaviors, discourage seeking help-seeking, engage in bullying/hazing, emphasize unhealthy/unrealistic gender norms, etc.)

(Brown, 2014)

Biopsychosocial Concerns and Factors Among Student-Athletes

Athletic identity

- Demands on athlete's time and energy are more intense than in the past, and contribute to a stronger athletic identity:
  - More time engaged in sports
  - More pressure to succeed
  - Longer athletic seasons,
  - More athletes participate in individualized training outside of team practices
  - Increased pressure to specialize in one sport

(Malina, 2010; Nasco & Webb, 2006)

Athletic identity

- Role engulfment (Adler & Adler, 1991)
  - Student-athlete is typically enthusiastic initially about academics, a variety of activities, friends from different backgrounds, etc.
  - Greater rewards from role as athlete
  - Hectic schedule interferes with involvement in other activities--leads to less interaction with non-athlete peers
  - Classes scheduled around practices, games--may influence selection of major
  - Location of athletic facilities often located on periphery of campus
  - Students may live in residence halls for athletes, have a teammate as a roommate

Athletic identity

Men				
Athlete	**Student**	**DI**	**DII**	**DIII**
High	High	53	53	53
High	Low	27	24	18
Low	High	7	9	13
Low	Low	13	14	17

Women				
Athlete	**Student**	**DI**	**DII**	**DIII**
High	High	62	61	61
High	Low	13	12	8
Low	High	14	16	20
Low	Low	11	12	11

(NCAA, 2013)

Athletic identity

- Potential benefits:
  - Better athletic performance
  - Opportunities to increase social support networks
  - Emphasis on healthy behaviors like exercise

(Anderson, et al., 2009; Brewer et al., 1993; Horton & Mack, 2000; Melendez, 2009)

- Potential drawbacks:
  - Overtraining
  - Burnout
  - Injury
  - Increased risk for developing a psychiatric condition after retirement

(Brewer et al., 1993; Brustad & Ritter-Taylor, 1997; Martin et al., 2014)

Maintaining balance

- Student-athletes must find ways to balance:
  - Team practice
  - Individual practice
  - Off-campus athletic organizations
  - Athletic training/physical therapy
  - Academics
  - On- and/or off-campus employment
  - Social interactions
  - Basic needs (sleep, diet, hygiene)

Injuries

- Severe injuries that cause lengthy restrictions from participation and competition and long-term impact on performance are most likely to impact an athlete's mental health
- An athlete may not return back to baseline or to pre-injury level of performance or success, although most do return to pre-injury levels of activity (Putukian, 2014)
- Injuries can place an athlete on the sideline for several weeks, an entire season, or permanently, all of which affect socialization, sense of purpose, identity, direction, and mood
- In the time that an athlete is injured, other teammates or competitors are improving their skill sets thus making it harder for the athlete to become successful upon return

Common emotional responses to injuries*

- Sadness
- Isolation
- Irritation
- Lack of motivation
- Anger
- Frustration
- Changes in appetite
- Sleep disturbance
- Disengagement

(Herring et al., 2006)

Problematic emotional reactions to injury

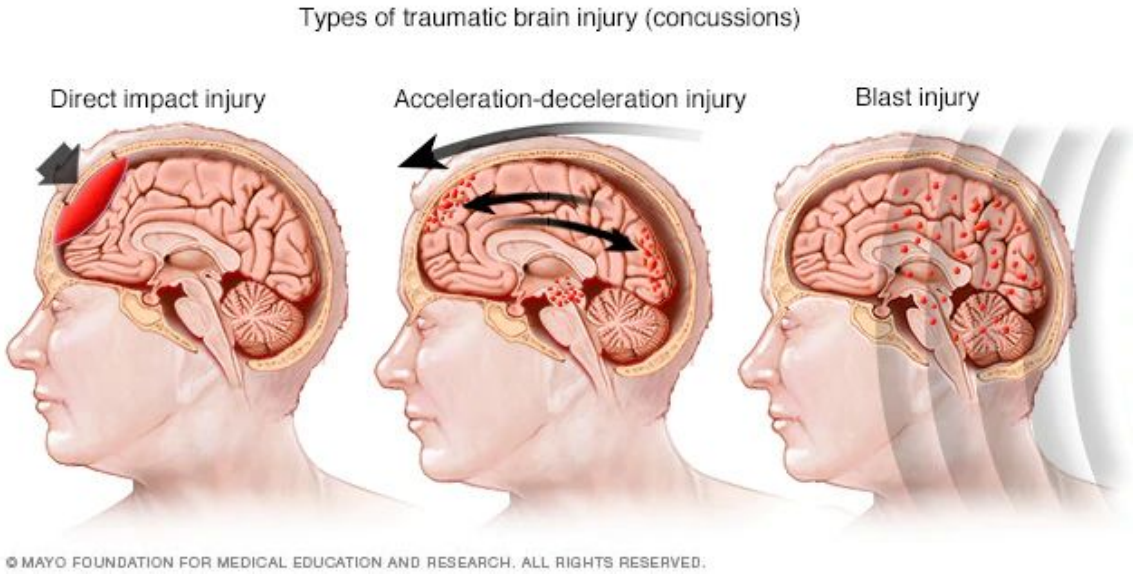
- **Persistent symptoms**
  - Alterations of appetite
  - Sleep disturbance
  - Irritability
- **Worsening symptoms**
  - Alterations of appetite leading to disordered eating
  - Sadness leading to depression
  - Lack of motivation leading to apathy
  - Disengagement leading to alienation
- **Excessive symptoms**
  - Pain behaviors
  - Excessive anger or rage
  - Frequent crying or emotional outbursts
  - Substance abuse

(Herring et al., 2006)

Injuries and depression

- Many researchers have found that injured athletes have significantly higher levels of depression than non-injured athletes, as well as non-athlete students (Brewer & Petrie, 1995; Leddy et al., 1994)
- Researchers have reported rates of depression in injured athletes ranging from 33-55% (Brewer & Petrie, 1995; Leddy et al., 1994)
- Some researchers have found differences in levels of depression between injured and non-injured athletes up to a year after the injury occurred (Petrie, Brewer, & Buntrock, 1997)
- Depressive symptoms appear to become elevated within one week of injury, and appear to continue to be elevated a month later (Appaneal et al., 2009)

Concussion



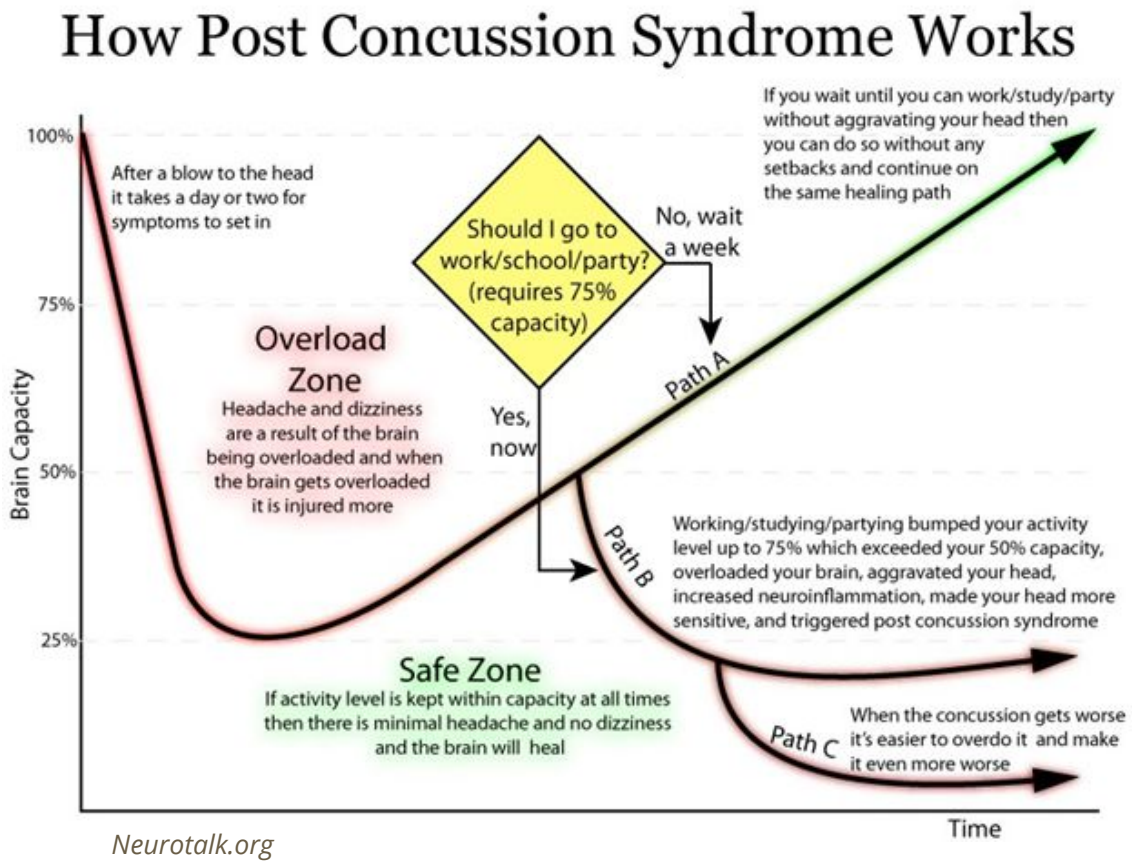
- Current definition of concussion is a brain injury involving "complex patho-physiological process affecting the brain, induced by mechanical forces." (Coppel, 2014)
- Concussions lead to physical, cognitive, emotional, and behavioral symptoms, which are usually most severe in the first 1-2 days, and then typically resolve over the next few days and weeks (Coppel, 2014)
- 80-90% of concussions resolve in 7 to 10 days (Coppel, 2014)
- Timeline for recovery and return to play is unknown (Putukian, 2014)

Post-Concussion Syndrome

- When symptoms persist beyond a reasonable time frame (longer than 1-2 months), an athlete may be suffering from post-concussive syndrome
- Post-concussion syndrome occurs after a head trauma, and includes at least three of the following symptoms:
  - Headache
  - Dizziness
  - Fatigue
  - Irritability
  - Difficulty in concentration and performing mental tasks
  - Memory impairment
  - Insomnia
  - Reduced tolerance to stress, emotional excitement, and alcohol

(Coppel, 2014)

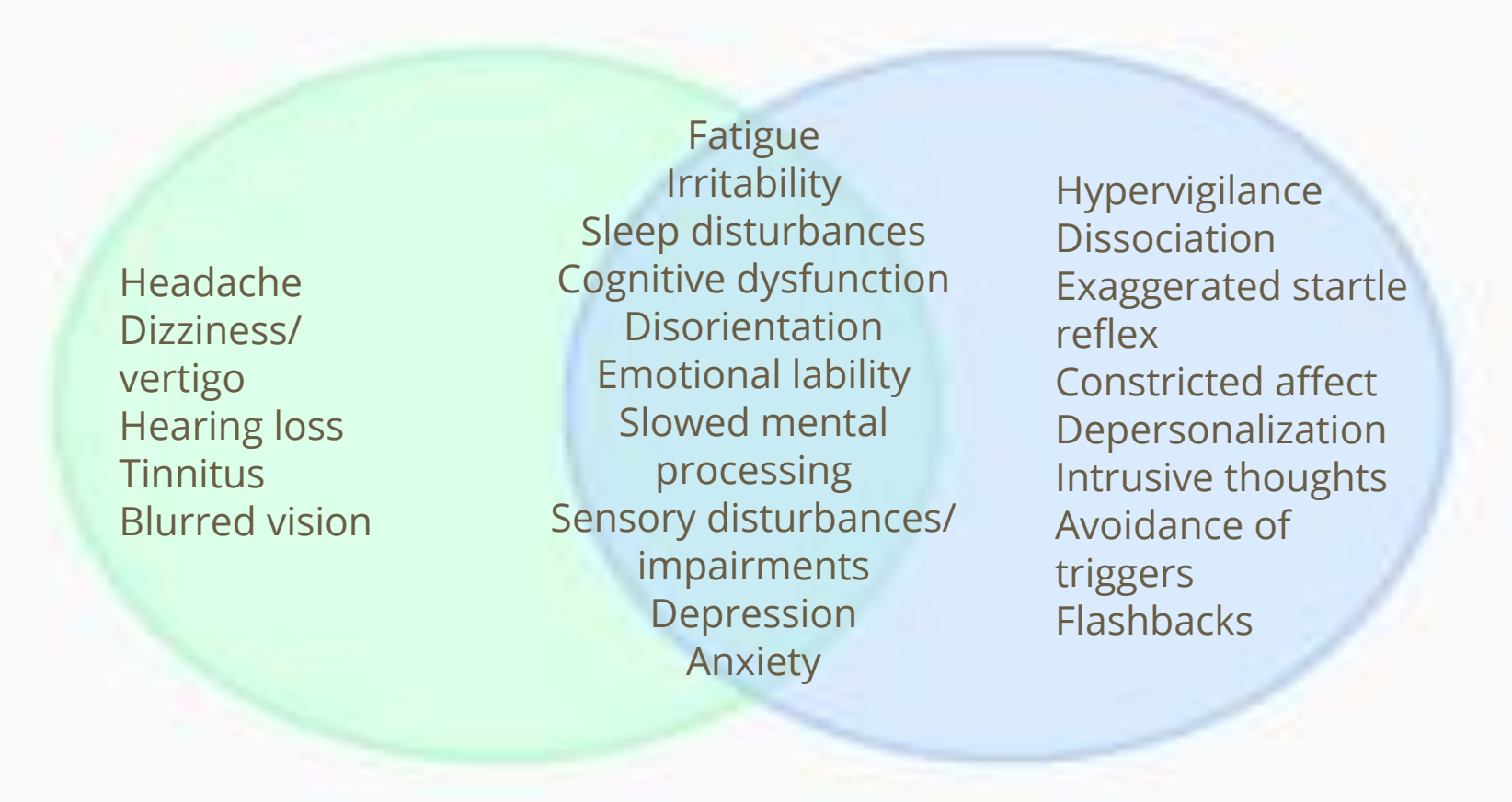
Post-Concussion Syndrome



Neurotalk.org

- In young athletes, pre-existing psychiatric illnesses, family history of psychiatric disorders, and life stressors were associated with an increased risk of developing PCS after sports-related concussions (Trinh, Brown, & Mulcahey, 2019)
- Athletes may experience clinically significant symptoms of depression, anxiety, and PTSD/ASD
- Believed to have a biological and psychological etiology
- PCS is not CTE

PCS vs. PTSD


Headache
Dizziness/ vertigo
Hearing loss
Tinnitus
Blurred vision
Fatigue
Irritability
Sleep disturbances
Cognitive dysfunction
Disorientation
Emotional lability
Slowed mental processing
Sensory disturbances/ impairments
Depression
Anxiety
Hypervigilance
Dissociation
Exaggerated startle reflex
Constricted affect
Depersonalization
Intrusive thoughts
Avoidance of triggers
Flashbacks

Overtraining syndrome

- Research indicates that this may be one of the more common causes of depression in our student athletes
- OT may either induce or be symptomatic of depression
- Similarities between OT and depression: fatigue, insomnia, appetite change, weight loss, amotivation, and diminished concentration
- Some believe that the primary difference is the nature of the role dysfunction: athletic performance vs social, cognitive, and work performance
- Cessation of training often results in an improvement in symptoms of due to OT, whereas athletes who do not train or exercise may see a worsening in their mood symptoms

(Reardon, 2017)

Symptoms of overtraining syndrome

- Fatigue [a]
- Depression [a]
- Brachycardia [a]
- Loss of motivation [a]
- Anorexia
- Weight loss
- Poor concentration
- Heavy, sore, stiff muscles

- Insomnia [b]
- Irritability [b]
- Agitation [b]
- Tachycardia [b]
- Hypertension [b]
- Restlessness [b]
- Anxiety
- Non-restful sleep

[a] More common in aerobic sports
[b] More common in anaerobic sports

(Kreher & Schwartz, 2012)

Stages of overtraining

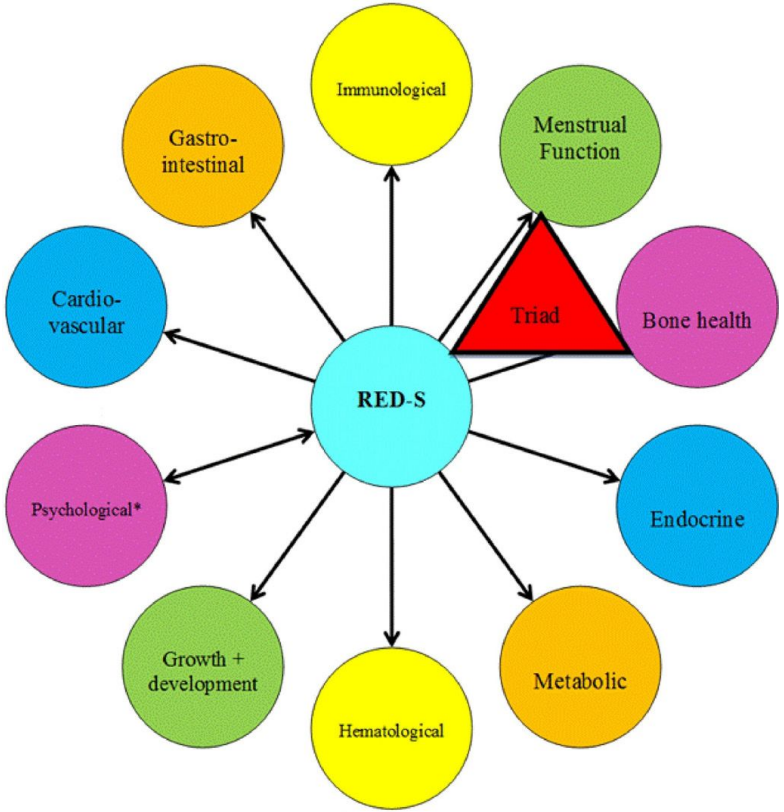
Process	**Training (overload)**	**Intensified training** →		
Outcome	Acute fatigue	Functional (short-term) overreaching	Non-functional (extreme) overreaching	Overtraining syndrome
Fatigue level	Ordinary	Moderate	Moderate-to-severe	Severe
Recovery time	Day(s)	Days to weeks	Weeks to months	Months
Performance	Increase	Temporary decline in performance	Stagnation Decrease	Decrease

Female athlete triad

- The female athlete triad is a medical condition observed in physically active females involving three components:
  - Low energy availability with or without disordered eating
  - Menstrual dysfunction
  - Low bone density
- An individual does not need to show clinical manifestations of all three components of the female athlete triad simultaneously to be affected by the condition
- Consequences of these clinical conditions may not be completely reversible, so prevention, early diagnosis, and intervention are critical
- All athletes are at risk of the female athlete triad, regardless of body build or sport

(Nazem & Ackerman, 2012)

Relative energy deficiency in sport (RED-S)



- Expands on the female athlete triad, incorporates a wider range of outcomes
- Takes into account low energy availability; energy intake via diet and energy expended in exercise does not match
- Potential performance consequences: increased injury risk, impaired judgement, decreased coordination, irritability, mood changes, and decreased muscle mass

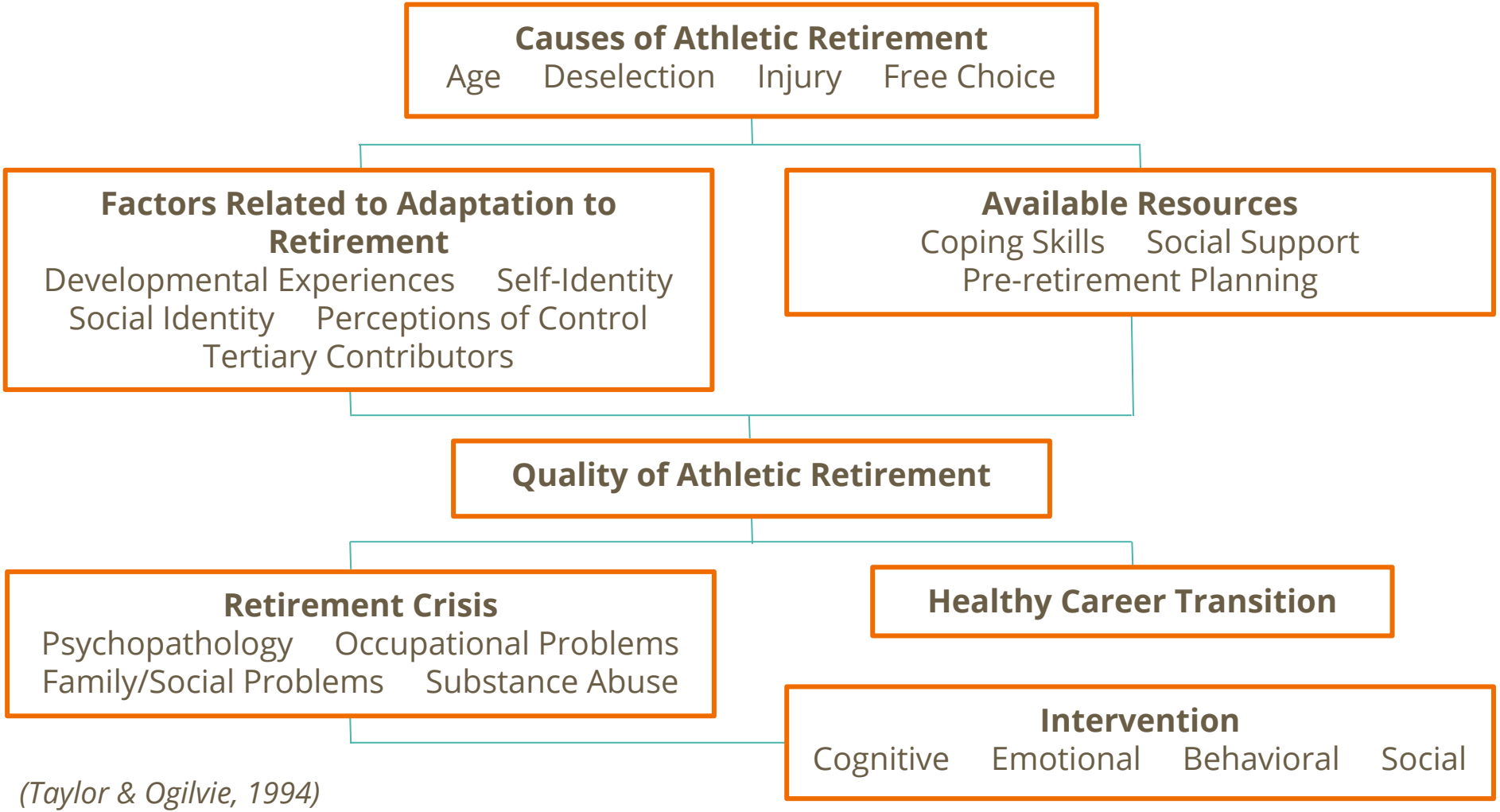
(Mountjoy et al., 2015)

Disengagement from sports

- Disengagement can occur for a variety of reasons, including:
  - Graduation
  - Transferring to another institution
  - Injury
  - Ineligibility
  - Being “fired” from the team due to behavior, drug use, etc.
  - A change in status on the team
  - Changes in expectations
  - Changing interests or priorities
- Disengagement can be planned or unplanned

Disengagement from sports

- Disengagement--regardless of the reason--often results in:
  - Identity disruption
  - Reduced access to social support
  - Reduced sense of community/comradery



(Taylor & Ogilvie, 1994)

Planned vs. unplanned disengagement from sports

- The ability to disengage voluntarily and to plan for disengagement appears to be a protective factor transitioning athletes (Alfermann, Stambulova, & Zemaityte, 2004)
- Researchers have found that when individuals disengage from sports voluntarily and when they have control over their disengagement, they experience less emotional distress (Brewer, Cornelius, Stephan, & Van Raalte, 2009; Brewer, Selby, Linder, & Petitpas, 1999; Grove, Fish, & Eklund, 2002; Lally, 2007).
- Athletes who planned ahead or had a voluntary retirement experienced higher self-efficacy with respect to post-athletic career adaptation (Martin, Fogarty, & Albion, 2014)

Stages of emotional transition for retiring athletes

1. **Shock and immobilization:** This may occur as the athlete anticipates leaving or upon leaving the sport.
2. **Denial:** The athlete minimizes the difficulty of retiring and has difficulties conceptualizing their life without sports. May include depression, anxiety, anger, etc.
3. **Doubt:** Fears and uncertainties about the future intensify difficult emotional responses.
4. **Acceptance and optimism:** The athlete accepts their retirement and begins to develop a sense of hope about their post-retirement future.

(Wooten, 1994)

Stages of emotional transition for retiring athletes

5. **Exploring new possibilities:** The athlete begins to explore new behaviors, activities, and identities outside of sports.
6. **Creating new meaning:** The athlete has new experiences unrelated to sports, and attaches new meaning to these experiences.
7. **Adapting to life as a non-athlete:** The athlete incorporates new behaviors, activities, and identities into their life as a non-athlete, while also maintaining awareness of the impact that being an athlete has had on their life.

(Wooten, 1994)

Reintegrating into the wider community

- Positive factors:
  - Adequate and inclusive supports both within and outside of the team
  - Effective resiliency skills
  - A multifaceted self-identity that includes elements beyond being an athlete
  - Setting goals for post-retirement life before retiring
  - Identifying new means of incorporating exercise and physical activity

(Dean & Reynolds, 2017)

Reintegrating into the wider community

- Negative factors:
  - Inadequate supports outside of sports
  - Inability (perceived or real) to receive support from sports-related supports
  - Inadequate preparation for retirement, particularly post-sports career
  - Inadequate resiliency skills
  - Substance abuse
  - Negative stereotypes about athletes
  - Role engulfment

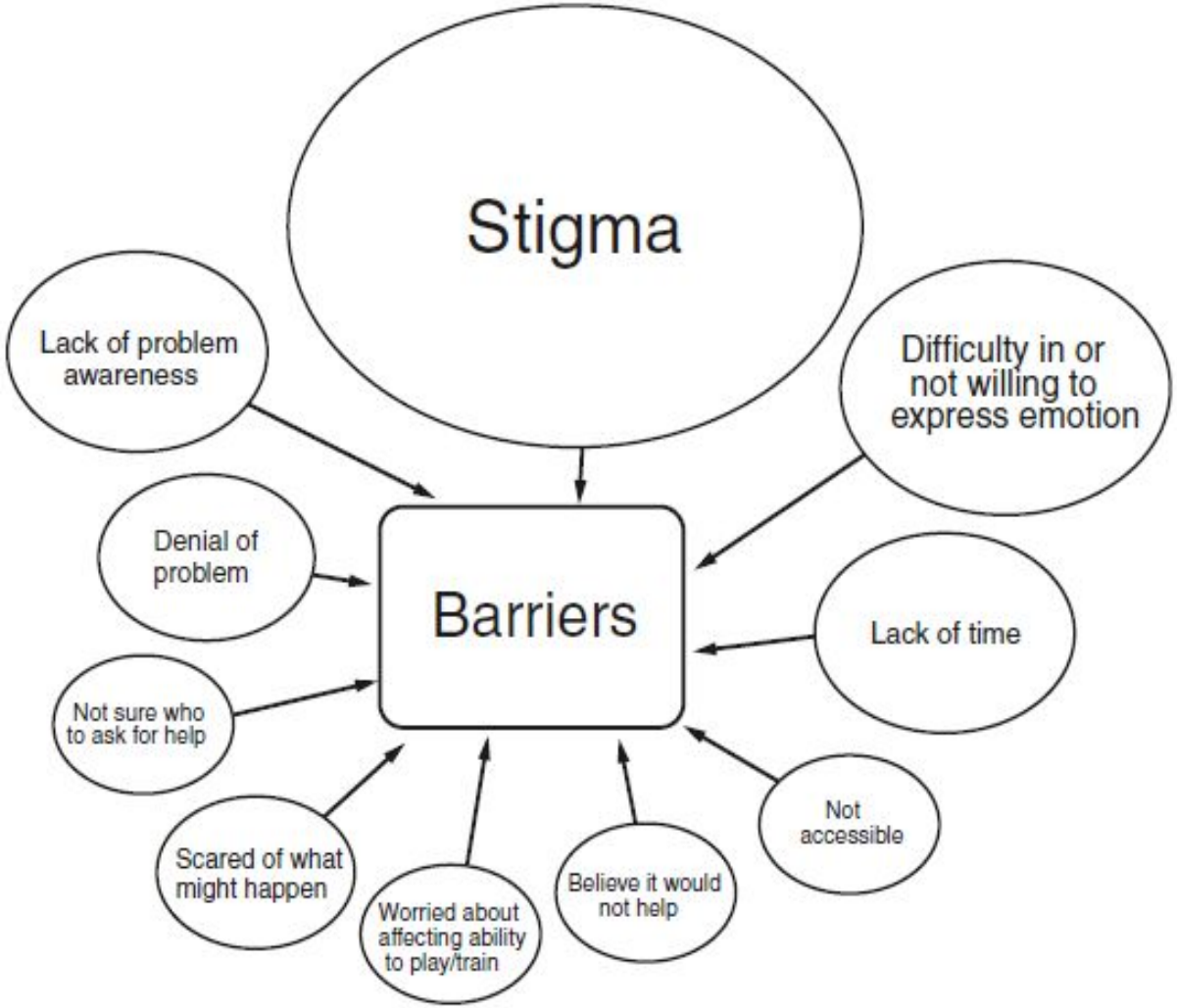
(Dean & Reynolds, 2017)

Additional factors specific to student-athletes

- Coaching style (e.g., supportive, critical, nurturing, harsh, absent, etc.)
- Type of sport
- Team vs. individual sport
- Team dynamics
- Bullying and hazing
- Changing beliefs that play has become a job (and might no longer be fun)

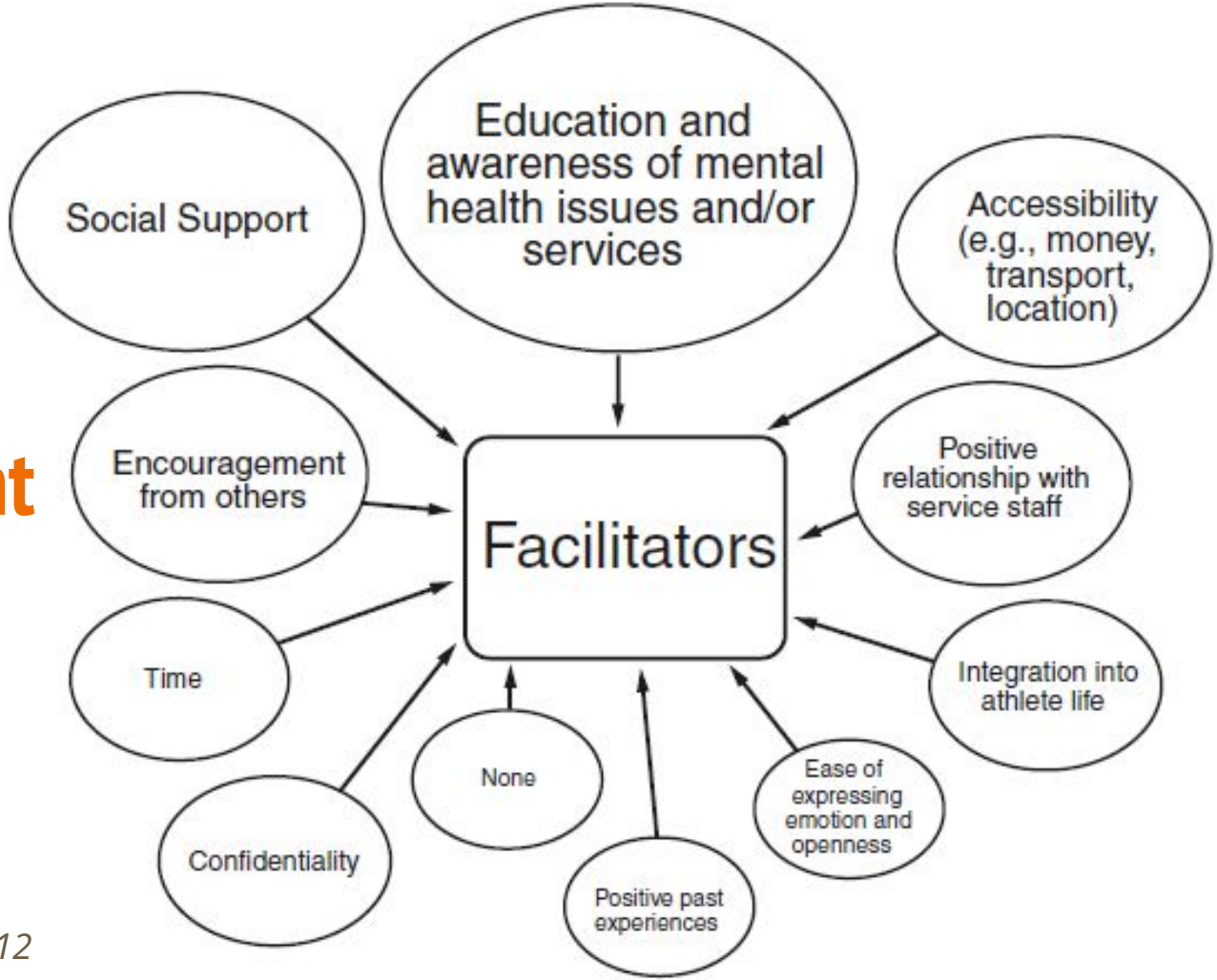
Considerations for Counselors Working with Student-Athletes

Barriers to seeking mental health treatment among athletes



Gulliver, Griffiths, & Christensen, 2012

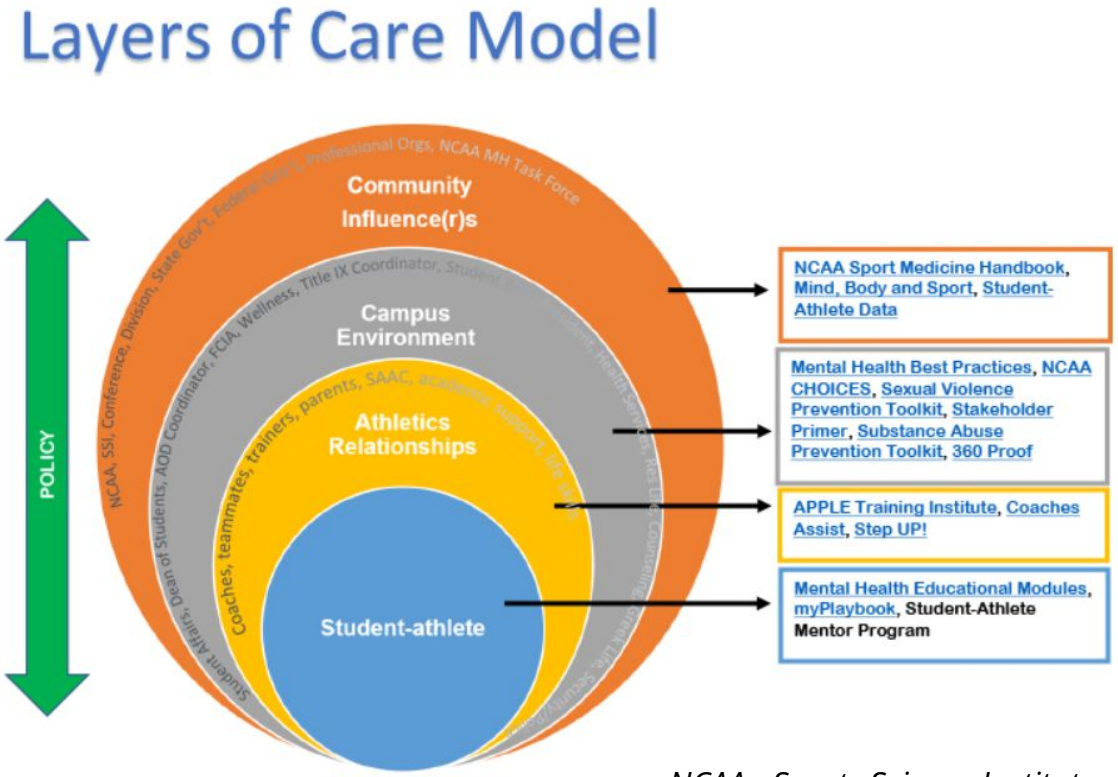
Facilitators to seeking mental health treatment among student athletes



Gulliver, Griffiths, & Christensen, 2012

Understand student-athletes' systems

- Immediate relationships
  - Family
  - Teammates
  - Coaches
  - Therapist/provider
- College/university
  - Faculty, staff, and students outside of the athletic department
- Community
  - Other teams
  - NCAA
  - The public



NCAA - Sports Science Institute

Collaboration is key

- Develop relationships with staff in the athletic department, including coaches, athletic trainers, compliance officers, etc.
- Develop relationships with the student-athletes' primary providers (i.e., team physician, psychiatrist, etc.)
- If possible: consider embedding staff in the athletic department
- Become aware of NCAA policies that may affect athletes' stress (e.g., eligibility requirements)
- Offer trainings on mental health to athletic department staff

NCAA - Mental Health Best Practices Updates

1. Clinical Licensure of Practitioners Providing Mental Health Care
   a. Collaborative interdisciplinary team
   b. Formal mental health evaluations are completed by qualified practitioners
2. Procedures for Identification and Referral of Student-Athletes to Qualified Practitioners
   a. Written institutional policies for: (1) management of emergency mental health situations, and (2) routine mental health referral
   b. Important to have these policies for both emergency and non-emergency situations
   c. Helpful to designate someone within the athletics department to facilitate referrals
3. Pre-Participation Mental Health Screening
4. Health-Promoting Environments that Support Mental Well-Being and Resilience

NCAA medication and drug regulations

- The NCAA bans the following drug classes:
  - Stimulants***
  - Anabolic agents**
  - Beta blockers (banned for rifle only)*
  - Diuretics and masking agents*
  - Narcotics**
  - Cannabinoids
  - Peptide hormones**
  - Growth factors, related substances and mimetics
  - Hormone and metabolic modulators (anti-estrogens)**
  - Beta-2 agonists*
- OTC nutritional and dietary supplements may contain ingredients that may cause the student to test positive to some banned substances

***Medical Exemption can be sent after positive UDS
**Use of one of these medications must be approved by the NCAA before the student-athlete is allowed to participate in competition
*Exception may be granted

NCAA medication and drug regulations

- The institution should maintain documentation that supports the use of medication in the student-athlete's medical record on campus
- Documentation must include:
  - Letter or copies of medical notes from the prescribing physician
  - Student-athlete has a medical history demonstrating the need for treatment with a banned substance
  - Student-athlete's diagnosis (including appropriate verification of the diagnosis, such as results of diagnostic testing)
  - Medication and dosage information
- Signed NCAA Medical Exception Documentation Reporting Form

Take a sports psychology approach

- Emphasize the importance of mental preparation in athletic performance
- Frame counseling interventions as performance enhancement
- Athletes may also be good candidates for cognitive behavioral therapy since they are typically accustomed to structure, direction, practice, goal setting, and self-reliance (Reardon, 2017)
- Interventions include goal setting, visualization, energy management, relaxation, imagery, mindfulness, routines, game-preparation strategies, solutions-focused, positive self-talk, and post-performance analysis

Identity development

- Promote the student's athletic identity while also encouraging them to develop a more diverse overall sense of self
- Encourage student-athletes to develop supports and participate in activities outside of sports
- Identify sources of success and self-esteem beyond athletics
- Consider using activities aimed at identity development (e.g., values sort, MBTI, etc.)

Career counseling

- Explore the decision-making process that the student used in choosing a major--a student may be choosing a major based on perceived ease and time commitment, rather than career goals (Foster & Huml, 2017)
- Assess for appropriate career development--strong athletic identity appears to contribute to identity foreclosure and delays in career maturity, particularly in males, varsity athletes, and athletes in revenue producing sports (Murphy et al., 1996)
- Assist student-athletes in identifying transferable skills that the student-athlete may have developed throughout their athletic career

Interventions for disengaging athletes

- Whenever possible, help athletes plan for their disengagement from athletics as much as possible
- Process grief around disengagement
- Consider a referral to a registered dietician to identify healthy eating habits that match their new level of energy expenditure
- Encourage student athlete to identify other outlets for physical activity
- Assist the student in identifying new social supports, activities, and sources of self-confidence/self-esteem

Other interventions

- Assist with time management needs
- Emphasize the importance of sleep (One study found that student-athletes reported that receiving an average of only 6 hours and 16 minutes of sleep per night) (NCAA, 2016c),
- Screen for binge drinking and alcohol/drug abuse
- Consider offering outreach programming on alcohol/drug abuse specifically for athletes

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