

Appropriate Medical Care Standards for Organizations Sponsoring Athletic Activity for the Secondary School–Aged Athlete: A Summary Statement

Larry Cooper, MS, LAT, ATC (Chair)*; Ronnie Harper, EdD, LAT, ATC†; George S. Wham Jr, EdD, SCAT, ATC‡; Jason Cates, LAT, ATC§; Scott J. Chafin Jr||; Randy P. Cohen, ATC, DPT¶; Thomas P. Dompier, PhD, ATC#; Robert A. Huggins, PhD, LAT, ATC**; Dan Newman, MS, LAT, ATC††; Bart Peterson, MSS, AT‡‡; Tamara C. Valovich McLeod, PhD, ATC, FNATA§§

*Penn-Trafford High School, Harrison City, PA; †Dutchtown High School, Geismar, LA; ‡Pelion High School, SC; §Cabot Public Schools, AR; ||Gregorio, Chafin, Johnson, Poolson, & Tabor, LLC, Shreveport, LA; ¶Department of Intercollegiate Athletics, University of Arizona, Tucson; #Department of Athletic Training, Lebanon Valley College, Annville, PA; **Korey Stringer Institute, Department of Kinesiology, University of Connecticut, Storrs; ††Department of Athletics, Union High School, Tulsa, OK; ‡‡Palo Verde High Magnet School, Tucson, AZ; §§Athletic Training Programs and School of Osteopathic Medicine in Arizona, A.T. Still University, Mesa

Objective: To present the appropriate medical care standards for organizations that sponsor athletic activities for secondary school–aged athletes.

Data Sources: To develop the current standards and identify current best-practices evidence, the task force used a multistep process that included reviewing the existing 2004 Appropriate Medical Care for Secondary School–Aged Athletes consensus points and cross-referencing of National Athletic Trainers' Association (NATA) statements and official documents from the strategic alliance (the NATA, NATA Foundation, Board of Certification, and Commission on Accreditation of Athletic Training Education). Gaps in the recommendations from the 2004 Appropriate Medical Care for Secondary School–Aged Athletes document were identified by the task force, and the new appropriate medical care standards were developed and refined.

Conclusions and Recommendations: Twelve standards, with supporting substandards, were developed that encompassed readiness to participate in activity; facilities; equipment; protective materials; environmental policies; nutrition, hydration, and dietary supplementation; wellness and long-term health; comprehensive emergency action plans; on-site immediate care; on-site therapeutic interventions; psychological concerns; and athletic health care administration. Collectively, these standards describe a comprehensive approach to providing appropriate health care to secondary school–aged athletes and should serve as a framework with which organizations can evaluate and improve the medical care supplied to adolescent athletes.

Key Words: safety, adolescents, athletic injuries, high school, injury and illness prevention, concussion, heat illness, sudden death

Developing a comprehensive and strategic approach to injury mitigation for athletes is challenging. To begin to establish recommendations for a comprehensive approach to the provision of appropriate health care to secondary school–aged athletes, in 2002, the National Athletic Trainers' Association (NATA) developed an interassociation task force to develop recommendations and guidelines for providing appropriate medical care to adolescents competing in school and club-level sports. The Appropriate Medical Care for Secondary School–Aged Athletes (AMCSSAA) Task Force comprised experts from 17 school, health care, and medical associations and consisted of certified athletic trainers, physicians, other health care professionals, administrators, and school principals.¹ This effort addressed more than basic emergency care during sports participation; it involved virtually

all aspects of injury and illness prevention and activities of ongoing daily athletic health care and resulted in a consensus statement,² monograph,¹ and peer-reviewed summary statement.³ However, the original consensus statement was published nearly 15 years ago. Since then, a plethora of original research and numerous position and consensus statements have been published. As such, the original statement needed to be reviewed and updated based on the most recent evidence to support these guidelines. Therefore, a task force was organized and charged with reviewing the existing AMCSSAA consensus points and updating them as needed. The task force consisted of secondary school athletic trainers, administrators, researchers, and policy experts. The resulting appropriate medical care standards (AMCSs)⁴ were developed and approved by the NATA board of directors in 2018. The purpose of this

Table 1. Documents Used to Determine Gaps in the Original Consensus Points

Documents Cross-Referenced
Athletic Training Services: An Overview of Skills and Services Performed by Certified Athletic Trainers, NATA, 2010 (https://www.nata.org/sites/default/files/GuideToAthleticTrainingServices.pdf)
Best Practice Guidelines for Athletic Training Documentation, NATA, 2017 (https://www.nata.org/sites/default/files/best-practice-guidelines-for-athletic-training-documentation.pdf)
BOC Facility Principles, 2015 (http://www.boccatc.org/system/document_versions/versions/42/original/boc-facility-principles-20170615.pdf?1497543426)
Guiding Principles for Athletic Trainer Policy and Procedure, NATA, 2016 (http://www.boccatc.org/system/comfy/cms/files/files/000/000/529/original/Guiding_Principles_for_AT_Policies_and_Procedures.pdf)
Inter-Association Task Force Statements (https://www.nata.org/news-publications/pressroom/statements/consensus)
NATA Educational Competencies, 5th ed, 2011 (https://www.nata.org/sites/default/files/competencies_5th_edition.pdf)
NATA Position statements (https://www.nata.org/news-publications/pressroom/statements/position)
NATA Consensus statements (https://www.nata.org/news-publications/pressroom/statements/consensus)
Position Improvement Guide for Certified Athletic Trainers, NATA, 2014 (https://www.nata.org/sites/default/files/secondary-school-position-improvement-guide.pdf)
Position Proposal Guide for Certified Athletic Trainers, NATA, 2013 (https://www.nata.org/sites/default/files/secondary-school-position-proposal-guide.pdf)
Practice Analysis, 7th ed, BOC@2015 Henderson, J. The 2015 Athletic Trainer Practice Analysis Study. Omaha, NE: Board of Certification; 2015 (https://www.boccatc.org/system/document_versions/versions/24/original/boc-pa7-content-outline-20170612.pdf?1497279231)
Research articles (Practice Analysis, 7th ed, 2015; used reference as the basis, then selected topics per standard in addition)
Safe Sports School Award Criteria, 2014 (https://www.nata.org/sites/default/files/safe-sport-school-award-packet.pdf)
Secondary School Student Athletes' Bill of Rights, S Res 83, 2015 (https://www.nata.org/advocacy/federal/bills-we-support/secondary-school-student-athletes%E2%80%99-bill-rights)
Secondary School Value Model, NATA, 2015 (https://www.nata.org/sites/default/files/secondary_school_value_model.pdf)
Standards for the Accreditation of Professional Athletic Training Degree Programs, 2018 (https://caate.net/pp-standards/)

Abbreviations: BOC, Board of Certification; NATA, National Athletic Trainers' Association.

summary statement is to present the AMCSs and supporting evidence.

METHODS

The task force used a multistep process to develop the current standards. The initial step was a detailed review of the existing 2004 AMCSSAA consensus points. Each task force member reviewed 3 of the 10 major consensus points from the AMCSSAA monograph¹ and identified potential gaps in the literature since the publication of the original recommendations. For each consensus point, task force members cross-referenced the recommendations with each of the documents in Table 1, as well as to all NATA position, consensus, support, and official statements.

The next steps involved developing an initial draft of the AMCS document for 2018 (including standards and substandards), followed by a second cross-referencing to ensure that the updated standards were properly categorized. Adjustments were made during this time to reorganize each standard and substandard in the category of best fit through a consensus process among the task-force members. During the refinement stage, task-force members were divided into groups of 3 and reviewed the assigned standards and substandards for the final version of the AMCS recommendations. The recommendations of each group were combined, and the full task force analyzed them in detail and reached consensus to create the final draft of the standards and substandards. Each of the smaller writing teams then developed the supporting content for each standard and substandard (Table 2). All documents were compiled into a master document for final analysis and review by task-force members. The task force also developed an online resource center with the AMCS toolkit (<http://pass.nata.org/>) so that organizations can assess their compliance with the AMCSs.

THE APPROPRIATE MEDICAL CARE STANDARDS

This document presents the summary of the AMCS and should not be referenced as the comprehensive guide. Each of the 12 standards is abridged, with the presentation of the standard, the narrative supporting each standard, and a list of the substandards. The specific evidence for each substandard, evidence of compliance, resources, and case law are described in detail in the AMCS monograph.⁴

Standard 1: Athletes' Readiness to Participate in Activity Is Determined Through a Standardized Preparticipation Physical Examination Screening Process

For nearly 4 decades, a number of medical organizations have formalized the preparticipation physical examination (PPE).⁵⁻⁷ The PPE is intended to identify areas of concern in the athlete's health that could contribute to impaired function during participation in sports. This formal process creates a base framework for the work of all health care providers. No matter who is performing the PPE, everyone should be held to the same standard outlined by the document. The PPE should be performed early enough to

Table 2. Description of Supporting Content for Each Standard

Type of Content	Description
Narrative	Overview of each standard
Annotation	Description of each substandard
Evidence of compliance	Sample documents of an organization's compliance
Review of case law	Case results and statutes, as available and applicable, for each standard and/or substandard
References	Justification for each substandard, cited in the narrative or annotation

ensure that any areas of concern can be addressed before activity begins. Preparticipation physical examinations should be conducted in accordance with local and state guidelines and include appropriate education and documentation of the athlete's and parents' assumption of risk.

Does the organization require each athlete to complete a standardized PPE screening process and be cleared by a qualified medical professional (QMP) before participation in athletic activity? The American Medical Association defined the *QMP* as "an individual who is qualified by education, training, licensure/regulation (when applicable), and facility privileging (when applicable) who performs a professional service within his/her scope of practice and independently reports that professional service." (<https://www.ismanet.org/pdf/education/QHP10-6-16.pdf>)

Does the organization use standardized PPE screening instruments that are endorsed by the medical community?

Does the organization require that a comprehensive medical and family history survey be completed by the athlete and parents or guardians as part of the PPE screening process?

Does the organization require that a medical physical examination be completed on each athlete by a QMP as part of the PPE screening process?

Does the organization require a QMP to develop a management plan for areas of concern after the PPE screening process is completed with input from the athlete and parent or guardian?

Does the organization include questions to assess the athlete's mental health status during the PPE screening process along with a plan for referral and follow-up where appropriate?

Does the organization provide educational materials on selected health and safety concerns to the athlete and parent or guardian during the PPE screening process?

Does the organization require written authorization from the parent or guardian before sharing his or her child's protected health and medical information with designated individuals, such as coaches or other medical professionals?

Standard 2: Practice and Competition Equipment Used by Athletes and Athletic Health Care Facilities Is Safe and Clean

Those engaged in organized athletic activities deserve the opportunity to play in a safe and hazard-free environment. In the event of an injury or illness while participating in athletic activities, participants should be cared for in an accessible, clean, and well-organized facility.⁸ This facility should promote privacy, care without risk of infection, and care by the designated QMP. Having a designated facility and hours of operation can also improve patient compliance and ensure a clean and safe environment for providing medical care.

Does the organization have written policies, procedures, and protocols in place to ensure that practice, competition, and athletic health care facilities as well as equipment used by athletes are cleaned and disinfected on a regularly scheduled basis (eg, daily, weekly, or monthly) to prevent the spread of infectious diseases?

Does the organization have an exposure-control plan to minimize occupational exposure to blood or other bodily fluids?

Does the organization post guidelines and instructions for handwashing and hand sanitization?

Does the organization ensure that locker and dressing rooms are cleaned and sanitized on a regularly scheduled basis?

Does the organization ensure that all athletic surfaces and equipment used by athletes are cleaned and sanitized on a regular basis (eg, daily, weekly, and monthly)?

Does the organization ensure that playing fields and courts are inspected for hazards before each use and on a regular basis?

Does the organization supply a safe and clean area for the QMP to provide immediate treatment and care of athletes with injuries or illnesses?

Does the organization ensure that hydration equipment is cleaned and sanitized on a regular basis?

Standard 3: Equipment Worn by Athletes Is Properly Fitted and Maintained and Instructions for Safe and Appropriate Use Are Provided

Equipment used by athletes as part of any sport should conform, at minimum, to National Operating Committee Standards on Athletic Equipment and the American Society for Testing and Materials guidelines, even if the organization or participant provides the equipment. If the participant is allowed to use personally owned equipment, the organization must ensure that the equipment complies with all standards and guidelines, including recertification. Requiring equipment to conform with the National Operating Committee Standards on Athletic Equipment and the American Society for Testing and Materials standards provides assurance that minimal safety standards have been met. A review³ of case law showed that equipment that was not well maintained or was improperly fitted could contribute to, if not cause, injury to participants. In addition, the use of equipment that has not been approved by the appropriate certifying body exposes the athlete to the potential for injury and the sponsoring entity to liability and negligence.

Does the organization require employees who fit athletes with standard athletic equipment to document their professional education and training from qualified providers?

Does the organization have written policies, procedures, and protocols on how to recondition, maintain, clean, and sanitize the athletic equipment issued to athletes?

Does the organization require personnel to supervise athletes at all times when using athletic equipment?

Does the organization require coaches to demonstrate competence in sport-specific coaching techniques while instructing athletes on the use of issued equipment?

Standard 4: Protective Materials and Products Used to Prevent Athletic Injuries Are Safely and Appropriately Applied

Taping, wrapping, padding, splinting, and bracing materials or equipment are commonly applied in the athletic setting and are most often used prophylactically.^{9,10} Application of supportive materials or equipment to an athlete is intended to restrict the motion of an injured joint, compress soft tissues to reduce swelling, support anatom-

ical structures involved in an injury, serve as or secure a splint, secure a dressing or bandages, protect the injured joint from reinjury, or protect the injured tissues during the healing process. It is also common for a QMP to fabricate or modify prophylactic materials (eg, foam, felt, rigid or semirigid plastics) and apply them safely and effectively to minimize the risk of injury or reinjury.¹¹ Preventive and protective materials (eg, athletic tape, casting, splints, felts, foams, pads) and special protective or corrective equipment (eg, braces, durable medical equipment, orthotics, mouth guards) should only be applied by a QMP who has the fundamental knowledge (eg, anatomy, physiology, biomechanics, physics, chemistry) and skills to do so. Furthermore, the use of any protective equipment should be in compliance with governing-body rules and regulations for use during competition.

Does the organization have a QMP who can safely and appropriately apply preventive taping, wrapping, padding, splints, and braces to athletes to prevent injury or reinjury?

Does the organization have a QMP to safely and appropriately fabricate or modify protective materials and apply them to athletes to prevent injury?

Standard 5: Athletic Participation in a Safe Environment Is Ensured or Activity Is Modified or Canceled Based on Established Environmental Policies

Monitoring environmental conditions and modifying or canceling (or both) activity that may pose a threat to the health and safety of the athlete is critical for preventing sudden death among athletes.^{7,12} Sponsoring organizations of athletics programs have duties to develop, adopt, and implement comprehensive best-practice policies for pre-season heat acclimatization,^{13,14} outdoor participation in both warm and cold weather,^{13,15-17} lightning,¹⁸ and air quality¹⁹ according to accepted evidence-based techniques. To enhance implementation and promote clear lines of communication, the policies should designate a representative with the responsibility of monitoring changing environmental conditions and suspending activity when warranted or resuming activity when conditions are safe. To optimize communication and ensure a uniform message to the athletes, key members of the sponsoring organization must be provided with and educated on all environmental-modification and cancellation policies.^{7,12} The organization should pay close attention to the routine preventive measures that must be put in place and be aware of the potential catastrophic injuries or illnesses that can occur when modifications are not closely monitored and followed.

Does the organization have written policy, procedures, and protocol statements on activity progressions for heat acclimatization?

Does the organization have written policy, procedures, and protocol statements on modifying or canceling athletic activity due to hot and humid weather?

Does the organization have a written policy for modifying or canceling outdoor athletic activity due to cold weather?

Does the organization have a written policy for modifying or canceling outdoor athletic activity due to lightning?

Does the organization have a written policy for modifying or canceling outdoor athletic activity due to poor air quality?

Does the organization designate an individual to monitor the outdoor weather environment and modify activity for each athletic event?

Does the organization educate and train all stakeholders on environmental policies, procedures, and protocols on an annual basis?

Standard 6: Education and Counseling Are Provided for Athletes on Nutrition, Hydration, and Dietary Supplementation

Sports nutrition is a key factor in an athlete's growth, development, and performance. Sponsoring organizations of athletic programs have a responsibility to provide a safe environment, including scientifically based information regarding nutrition, hydration, and supplements.²⁰⁻²² Adolescents need education and counseling to make sound nutritional decisions in an age when fad diets and performance-enhancement products are prevalent and marketed to their specific demographic. Members of the *athletic health care team* (AHCT), the group of QMPs designated by the organization to provide athletic health care services, should be well versed in proper sports nutrition for the adolescent, have a basic knowledge of proper nutrition and eating habits, and have access to a professional nutritionist or dietitian. Organizations should establish components of a comprehensive sports nutrition support system that is based on current scientific facts and should include specific information regarding healthy nutritional habits; appropriate hydration before, during, and after activity; and supplement use.²³ Last, athletes who participate in sports that use weight-classification systems may be at a higher risk for disordered eating and unsafe weight-gain or weight-loss practices. Organizations need to educate and monitor athletes in these sports using recommended practices for monitoring and aiding in weight management.^{21,22}

Does the organization provide a QMP who educates and counsels athletes on how to meet their dietary goals and unique nutritional needs?

Does the organization provide a QMP who educates and counsels athletes on how to stay properly hydrated by using the parameters of a hydration protocol?

Does the organization provide a QMP who educates and counsels athletes on the safety and efficacy of dietary supplements?

Does the organization have written policies, procedures, and protocols for the assessment and management of athletes who participate in weight-classification sports?

Standard 7: Wellness Programs Promote a Safe Progression of Physical Fitness and Improve Long-Term Health Across an Athlete's Lifespan

Participation in sports and physical activity provides the opportunity for many physical and psychosocial benefits to student-athletes. In addition, it offers an opportunity for on-site QMPs and others in the sports medicine community to serve as leaders in aiding adolescents in benefiting from a physically active lifestyle and sports participation.²⁴

Several professional organizations²⁵⁻²⁷ have developed statements to ensure the safe development of young individuals into healthy, active adults in a manner that promotes general physical fitness and sampling in a variety of sports. To help achieve optimal wellness and sport performance, organizations should ensure they can design safe and effective training programs that include athlete monitoring. The organization should ensure whole-person health care through the collection of patient-reported outcomes to guide injury or illness management.^{28,29} Attention should be paid to behavioral health concerns, including the abuse of prescription and over-the-counter medications, supplements, and performance-enhancing substances.³⁰

Does the organization provide a QMP who uses appropriate assessment instruments, equipment, and protocols to measure fitness, body composition, posture, flexibility, muscular strength, power, speed, agility, and endurance?

Does the organization provide a QMP who designs and implements safe and effective flexibility, strength-training, and cardiovascular-conditioning programs that include safety precautions, hazard inspections, instruction in and supervision of proper techniques, and expected outcomes?

Does the organization provide a QMP who develops and implements wellness strategies to mitigate the risk for long-term health conditions across an athlete's life span?

Does the organization provide a QMP who educates athletes on the effects, consequences, and risks of alcohol, performance-enhancing drugs, over-the-counter medications, prescription medications, and recreational drugs?

Standard 8: Comprehensive Athletic Emergency Action Plan Is Established and Integrated With Local Emergency Medical Services per Athletic Venue

Participation in athletic activities can carry an inherent risk of serious injury. As such, members of the AHCT, along with coaches and administrators, need to be prepared for emergency situations by developing and implementing a comprehensive athletic emergency action plan (EAP).³¹ The need for an EAP has been well documented in the literature³¹⁻³³ and supported in case law.³⁴ The sponsoring organization should have a comprehensive athletic EAP to ensure that appropriate care can be provided in a timely manner, even in the absence of on-site medical providers. However, the development of an athletic EAP requires the input of the QMPs, administrators of the sponsoring organization, legal counsel or risk managers, coaches, and facility managers, along with parents and members of the local emergency response community. The athletic EAP should be specific to each venue (practice or game), be reviewed annually with all involved personnel, have legal approval before implementation, and include a mechanism for a responsible adult to advocate on behalf of an injured minor in situations when parents or guardians are not present.

Does the organization have a venue-specific athletic EAP with input from internal and external partners that goes through a formal review and approval process?

Does the organization have a designated coordinator (QMP or member of the AHCT) responsible for develop-

ing, training, implementing, distributing, and at minimum, annually reviewing the EAP?

Does the organization have a list of emergency personnel and their described roles in the EAP?

Does the organization have a list of emergency equipment and locations for each venue in the EAP?

Does the organization have emergency care protocols outlined and developed in the EAP?

Does the organization have guidelines for testing and using internal and external communication systems in the EAP?

Does the organization ensure that the designated EAP coordinator (QMP or member of AHCT) provides education and training on the implementation of the EAP?

Does the organization require listing of all emergency personnel referenced in the EAP, including all coaches, and obtain documentation that each maintains current certification in cardiopulmonary resuscitation and the use of an automated external defibrillator?

Does the organization require documentation that all emergency personnel listed in the EAP, including all coaches, maintain a minimum of current first-aid certification?

Does the organization ensure that the designated EAP coordinator (QMP or member of the AHCT) communicates and posts the EAP and shares the document with all appropriate stakeholders?

Does the organization have a quality improvement process that includes a review by the EAP review committee for each incident that requires the activation of the EAP?

Does the organization have guidelines on who will advocate for a minor in the event of an emergency incident when the parent or guardian is absent?

Standard 9: On-Site Prevention, Recognition, Evaluation, and Immediate Care of Athletic Injuries and Illnesses Are Provided With Appropriate Medical Referrals

On-site recognition, evaluation, treatment, and appropriate referral should be available, if warranted, to all participants in all activities. Each patient with an athletic injury needs immediate appropriate treatment and care to prevent further risk and to promote proper healing while reducing the risk of reinjury. It is in the best interest of the athlete that the person making medical decisions be a QMP.^{35,36} This allows for sound medical judgment that is not based on the player's importance or the significance of the contest but on the signs and symptoms that the athlete shares with and presents to the QMP.³⁶ Relationships established by a QMP with other health care professionals will assist in referral to the appropriate medical provider.

Does the organization require a QMP to be on-site depending on the risk and rate of injury and illness in the activity?

Does the organization have a management plan with a focus on sudden death in sports that includes the prevention, recognition, evaluation, assessment, referral, treatment, and immediate care of asthma, catastrophic brain injury, cervical spine injuries, diabetes, exertional heat stroke, exertional hyponatremia, exertional sickling, head-

down contact in football, lightning injuries, and sudden cardiac arrest?

Does the organization ensure that a QMP tracks and reports on injury and illness trends and develops strategies to mitigate modifiable risk factors based on the data?

Does the organization have guidelines for when, where, how, and by whom patients with athletic injuries or illnesses should be referred to outside medical providers?

Does the organization have a QMP who develops accommodation plans for athletes with congenital and acquired abnormalities, disabilities, and diseases to allow safe participation in athletic activities?

Does the organization have a written policy on the decision-making authority of all QMPs and coaches that includes the roles and responsibilities of each in determining the athlete's participation status for any health reason?

Standard 10: On-Site Therapeutic Intervention (Presurgical, Postsurgical, and Nonsurgical Conditions) Outcomes Are Optimized by Developing, Evaluating, and Updating a Plan of Care for Athletes in Coordination or Collaboration With Members of the AHCT

Rehabilitation is the process of regaining full function after injury and involves restoring strength, flexibility, endurance, and power.³⁷ The main goal is to return an injured player to training or competition without putting that individual or others at undue risk of injury or illness. This process is criteria driven (not time driven). Certain levels of physical ability and criteria must be achieved before further progression through the stages. Rehabilitation should start as early as possible after an injury and form a continuum that includes other therapeutic interventions. It can also start before or immediately after surgery when an injury requires operative intervention. In developing the rehabilitation plan, the clinician must consider that the athlete's objective is to return to the preinjury levels of activity and competence and the environment in which the injury occurred. Functional capacity after rehabilitation should be the same, if not better, than before the injury. The organization should also identify manufacturer, institutional, state, and federal standards that influence the approval, operation, inspection, maintenance, and safe application of therapeutic modalities and rehabilitation equipment.

Does the organization have a QMP responsible for implementing on-site physical rehabilitation and reconditioning programs during designated times for athletes?

Does the organization provide adequate facilities to implement on-site physical rehabilitation and reconditioning programs for athletes?

Does the organization provide adequate therapeutic modalities and rehabilitation equipment to facilitate physical rehabilitation and reconditioning programs for athletes?

Does the organization provide up-to-date and pertinent educational materials to optimize treatment, rehabilitation, and reconditioning outcomes?

Standard 11: Comprehensive Management Plan for At-Risk Athletes With Psychological Concerns

As with other medical emergencies, illnesses, and injuries, organizations should plan and be prepared to

address psychosocial conditions.³⁰ These conditions include but are not limited to anxiety, depression, teen suicide, concussion; substance, alcohol, and physical abuse; eating disorders, bullying, and hazing; and the effects of attention-deficit/hyperactivity disorder. Members of the AHCT should rehearse and be able to identify and appropriately manage acute crisis situations and referral of patients with such conditions. Organizations should identify local experts with specialty training in working with at-risk athletes who can serve as resources for referral as needed. Members with this specialty training should be part of the AHCT.

Does the organization provide education and training for the AHCT, coaches, and staff members (eg, nurse, counselor, and administrator) on the identification and referral of athletes with psychological concerns?

Does the organization have a QMP responsible for providing education on stress-management strategies and referral services to help athletes better manage stressors and improve their ability to function?

Does the organization have a plan for recognizing and referring an athlete with psychological concerns to the appropriate mental health professional?

Does the organization have a collaborative and comprehensive EAP for addressing a mental health incident (eg, attempted harm to oneself or others) or catastrophic incident (eg, suicide, homicide, permanent disability)?

Does the organization offer professional counseling services for athletes and other personnel after a mental health or catastrophic incident, such as a posttragedy action plan?

Standard 12: Comprehensive Athletic Health Care Administration System Is Established to Ensure That Appropriate Medical Care Is Provided

Organizations sponsoring athletic programs for secondary school-aged individuals should establish a comprehensive athletic health care administration system that ensures the provision of appropriate medical care to all participants.^{3,36} To supply appropriate medical care, organizations must create an AHCT that functions in a coherent, coordinated, and efficient manner with the coaches and administrators of sponsoring organizations and adheres to commonly accepted standards of good clinical practice. Specifically, the system should address the following: documentation, policies, procedures, job descriptions, job evaluations, job supervisory structure, directing physician, medical-direction documents, and written standing orders.

Does the organization have an AHCT consisting of QMPs with roles identified for each?

Does the organization designate a team or directing physician (MD or DO) who establishes the relationship and services provided?

Does the organization have a designated QMP to coordinate athletic health care and serve as a liaison to the medical community?

Does the organization ensure that a QMP properly documents athletes' medical records according to professional and legal standards?

Does the organization publish and make available its policy, procedures, and protocol manual to all stakeholders?

Does the organization ensure that medical devices are maintained and calibrated according to manufacturer guidelines and government regulations?

Does the organization provide appropriate storage of and security for medical records and require documented training for anyone accessing such records?

Does the organization provide the necessary resources for a member of the AHCT to communicate professionally with athletes, parents, coaches, administrators, and the medical community?

Does the organization provide adequate funds for the supplies and equipment needed for a comprehensive athletic health care program?

Does the organization provide adequate and equitable staffing of QMPs to implement a comprehensive athletic health care program?

THE PROGRAM ASSESSMENT FOR SAFETY IN SPORT TOOLKIT

To assist members of an organization, the “Program Assessment for Safety in Sport,” an online toolkit addressing the standards and substandards included in the AMCS document, was developed by the National Athletic Trainers’ Association and this task force (<http://pass.nata.org/>). The toolkit consists of a library of resources that can be used to improve medical care in this setting and was created to aid in the development of new athletic health care programs and as a resource for established athletic health care programs seeking to improve the level of care and services currently provided. The toolkit includes self-assessment checklists to evaluate a program on each of the standards and substandards and links to relevant literature and resources, including case law. Users can create a profile for their organization in which site-specific documents and policies may be uploaded, providing a repository for the organization. Resources will be updated continually as they are identified or developed, which will help the users align themselves to current best practices.

CONCLUSIONS

This summary statement outlines the 2018 AMCS, which is intended to update and replace the 2004 AMCSSAA monograph. The need for these revised and newly developed standards arises from the constant evolution and advancement of medical best practices for organizations sponsoring athletics for secondary school-aged athletes. These standards and the accompanying online tool are meant to serve as a checklist for organizations to review and ensure that the most appropriate medical care is afforded to their athletes. The 12 standards were developed using the most current evidence and information, as well as the professional expertise of the task force, with the intent of defining the appropriate medical care standards in this setting. When standards or components of substandards are not met, the task force recommends that the organization or QMP providing medical care use the specific resources outlined in the 2018 AMCS monograph to address the insufficiency. Furthermore, novel to the updated standards are the inclusion of case law and specific examples (not included in this summary) of when standards were not met and resulted in legal recourse. The purpose of including the case law was to ensure that the organization providing

medical care is educated and informed of the responsibilities and, in some cases, duty it has for such provisions.

This document summarizes the need for creating or moving toward a medical system to ensure that appropriate medical care can be provided for secondary school-aged athletes. Once the medical system is created, an athletics health care administrator (<http://www.ncaa.org/sport-science-institute/athletics-health-care-administration>) is needed to evaluate and ensure that all policies and procedures are followed. The medical system needs to have QMPs to supply appropriate care for all participants. The correct number of medical providers will be determined by the number of athletes; the sports that are sponsored (high risk versus low risk); the percentage of the year when athletes are practicing, training, or conditioning on or off campus; the proximity of sport venues; the expectation of health care provided at practice, home, and away events; and rehabilitation schedules. Each organization should take ownership of the health and safety of its participants and ensure that policies are in place to address each of the AMCS standards. The “Program Assessment for Safety in Sport” toolkit was developed to aid organizations in self-assessing and evaluating each standard and should be used to improve the quality of health care provided to participants. Ultimately, it is up to each organization that sponsors athletic programs to supply adequate resources and sufficient personnel and support to meet these standards.

REFERENCES

1. Almquist J, Valovich McLeod TC, Cavanna A, et al. *Appropriate Medical Coverage for Secondary School Aged Athletes*. Dallas, TX: National Athletic Trainers’ Association; 2004.
2. Appropriate medical care for secondary school-aged athletes: consensus statement. National Athletic Trainers’ Association Web site. <https://www.nata.org/sites/default/files/appropriatemedicalcare4secondaryschoolageathletes.pdf>. Accessed April 11, 2019.
3. Almquist J, Valovich McLeod TC, Cavanna A, et al. Summary statement: appropriate medical care for the secondary school-aged athlete. *J Athl Train*. 2008;43(4):416–427.
4. Cooper L, Harper R, Wham GS, et al. *Appropriate Medical Care Standards for Organizations Sponsoring Athletic Activity for the Secondary School Age Athlete*. Dallas, TX: National Athletic Trainers’ Association; 2018.
5. Conley KM, Bolin DJ, Carek PJ, Konin JG, Neal TL, Violette D. National Athletic Trainers’ Association position statement: pre-participation physical examinations and disqualifying conditions. *J Athl Train*. 2014;49(1):102–120.
6. American Academy of Family Physicians, American Academy of Pediatrics, American College of Sports Medicine, American Medical Society for Sports Medicine. *Preparticipation Physical Evaluation*. 4th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2010.
7. Casa DJ, Anderson SA, Baker L, et al. The Inter-Association Task Force for Preventing Sudden Death in Collegiate Conditioning Sessions: best practices recommendations. *J Athl Train* 2012;47(4):477–480.
8. BOC facility principles. Board of Certification Web site. http://www.boc.org/system/document_versions/versions/42/original/boc-facility-principles-20170615.pdf?1497543426. Accessed December 22, 2018.
9. Lam KC, Valier AR, Anderson BE, Valovich McLeod TC. Athletic training services during daily patient encounters: a report from the

- Athletic Training Practice-Based Research Network. *J Athl Train.* 2016;51(6):435–441.
10. Kaminski TW, Hertel J, Amendola N, et al. National Athletic Trainers' Association position statement: conservative management and prevention of ankle sprains in athletes. *J Athl Train.* 2013;48(4):528–545.
 11. Yeo BK, Bonanno DR. The effect of foot orthoses and in-shoe wedges during cycling: a systematic review. *J Foot Ankle Res.* 2014;7:31.
 12. Casa DJ, Guskiewicz KM, Anderson SA, et al. National Athletic Trainers' Association position statement: preventing sudden death in sports. *J Athl Train.* 2012;47(1):96–118.
 13. Binkley HM, Beckett J, Casa DJ, Kleiner DM, Plummer PE. National Athletic Trainers' Association position statement: exertional heat illnesses. *J Athl Train.* 2002;37(3):329–343.
 14. Kerr ZY, Marshall SW, Comstock RD, Casa DJ. Implementing exertional heat illness prevention strategies in US high school football. *Med Sci Sports Exerc.* 2014;46(1):124–130.
 15. Cappaert TA, Stone JA, Castellani JW, et al. National Athletic Trainers' Association position statement: environmental cold injuries. *J Athl Train.* 2008;43(6):640–658.
 16. American College of Sports Medicine, Armstrong LE, Casa DJ, et al. American College of Sports Medicine position stand: exertional heat illness during training and competition. *Med Sci Sports Exerc.* 2007;39(3):556–572.
 17. Castellani JW, Young AJ, Ducharme MB, et al. American College of Sports Medicine position stand: prevention of cold injuries during exercise. *Med Sci Sports Exerc.* 2006;38(11):2012–2029.
 18. Walsh KM, Bennett B, Cooper MA, Holle RL, Kithil R, Lopez RE. National Athletic Trainers' Association position statement: lightning safety for athletics and recreation. *J Athl Train.* 2000;35(4):471–477.
 19. Technical assistance document for the reporting of daily air quality: the air quality index (AQI). United States Environmental Protection Agency Web site. <https://www3epagov/airnow/aqi-technical-assistance-document-may2016pdf>. Accessed December 22, 2018.
 20. Casa DJ, Armstrong LE, Hillman SK, et al. National Athletic Trainers' Association position statement: fluid replacement for athletes. *J Athl Train.* 2000;35(2):212–224.
 21. Bonci CM, Bonci LJ, Granger LR, et al. National Athletic Trainers' Association position statement: preventing, detecting, and managing disordered eating in athletes. *J Athl Train.* 2008;43(1):80–108.
 22. Turocy PS, DePalma BF, Horswill CA, et al. National Athletic Trainers' Association position statement: safe weight loss and maintenance practices in sport and exercise. *J Athl Train.* 2011;46(3):322–336.
 23. Buell JL, Franks R, Ransone J, et al. National Athletic Trainers' Association position statement: evaluation of dietary supplements for performance nutrition. *J Athl Train.* 2013;48(1):124–136.
 24. Stovitz SD. The pyramid of sports medicine and child health. *B J Sports Med.* 2010;44(1):4–7.
 25. Lloyd RS, Cronin JB, Faigenbaum AD, et al. National Strength and Conditioning Association position statement on long-term athletic development. *J Strength Cond Res.* 2016;30(6):1491–1509.
 26. Valovich McLeod TC, Decoster LC, Loud KJ, et al. National Athletic Trainers' Association position statement: prevention of pediatric overuse injuries. *J Athl Train.* 2011;46(2):206–220.
 27. Brenner JS, Council on Sports Medicine and Fitness. Sports specialization and intensive training in young athletes. *Pediatrics.* 2016;138(3):e20162148.
 28. Snyder AR, Parsons JT, Valovich McLeod TC, Bay RC, Michener LA, Sauers EL. Using disablement models and clinical outcomes assessment to enable evidence-based athletic training practice, part I: disablement models. *J Athl Train.* 2008;43(4):428–436.
 29. Valovich McLeod TC, Snyder AR, Parsons JT, Curtis Bay R, Michener LA, Sauers EL. Using disablement models and clinical outcomes assessment to enable evidence-based athletic training practice, part II: clinical outcomes assessment. *J Athl Train.* 2008;43(4):437–445.
 30. Neal TL, Diamond AB, Goldman S, et al. Interassociation recommendations for developing a plan to recognize and refer student-athletes with psychological concerns at the secondary school level: a consensus statement. *J Athl Train.* 2015;50(3):231–249.
 31. Andersen J, Courson RW, Kleiner DM, McLoda TA. National Athletic Trainers' Association position statement: emergency planning in athletics. *J Athl Train.* 2002;37(1):99–104.
 32. Casa DJ, Almquist J, Anderson SA, et al. The Inter-Association Task Force for Preventing Sudden Death in Secondary School Athletics Programs: best-practices recommendations. *J Athl Train.* 2013;48(4):546–553.
 33. Wasilko SM, Lisle DK. Automated external defibrillators and emergency planning for sudden cardiac arrest in Vermont high schools: a rural state's perspective. *Sports Health.* 2013;5(6):548–552.
 34. Cotton D, Wilde TJ. *Sports Law.* Dubuque, IA: Kendall Hunt; 1997.
 35. H-470.995 Athletic (sports) medicine: American Medical Association. National Athletic Trainers' Association Web site. https://www.nata.org/sites/default/files/ama_support.pdf. Accessed July 17, 2016.
 36. Courson R, Goldenberg M, Adams KG, et al. Inter-association consensus statement on best practices for sports medicine management for secondary schools and colleges. *J Athl Train.* 2014;49(1):128–137.
 37. Houglum PA. *Therapeutic Exercise for Athletic Injuries.* Champaign, IL: Human Kinetics; 2001.

Address correspondence to Tamara C. Valovich McLeod, PhD, ATC, FNATA, Athletic Training Programs and School of Osteopathic Medicine in Arizona, A.T. Still University, 5850 East Still Circle, Mesa, AZ 85206. Address e-mail to tmcleod@atsu.edu.