2017-2018
SPORTS MEDICINE GUIDELINES

PIAA SPORTS MEDICINE ADVISORY COMMITTEE MISSION STATEMENT

The purpose of the PIAA Sports Medicine Advisory Committee is to promote the health and safety of interscholastic athletes by serving in a medical advisory capacity to the PIAA Board of Directors, to encourage continuing education (in-service) programs for physicians, certified athletic trainers and others who contribute to the sports medicine effort at the interscholastic level, to promote more effective communication among all persons associated with interscholastic athletics, and to provide, upon request, site coverage at PIAA championship events. Membership on this Committee shall include, but not be limited to, physicians, certified athletic trainers, and athletic administrators.

SPORTS MEDICINE GUIDELINES

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EQUIPMENT GUIDELINES

"EYE SAFETY IN SPORTS"

Eye injuries in sports are relatively frequent, sometimes catastrophic, and almost completely preventable with the use of appropriate protective devices.

Eye wear in sports encompasses both corrective lenses to achieve visual acuity and protective lenses to reduce the risk of ocular injury.

The following definitions are listed to aid in the discussion of this topic.

- A. Sports Eye Protector--a specially designed, fracture-resistant unit that serves as eye protection only and that complies with the American Society for Testing and Materials (ASTM) Standard F803-83. The unit comes with or without lenses and is capable of being held securely in place. Some forms can be worn over regular glasses.
- B. Sports Spectacles--a plastic (or reinforced plastic) eyeglasses unit, with nonadjusting nose pads and lens grooves constructed to include a posterior retaining lip.
- C. Sports Goggles--as in definition B (goggle style).
- D. Industrial Safety Spectacles and Goggles--ANSI Z87.1 (1989) is the standard that describes acceptable eye-protection units for use in the American industrial community.
- E. Plastic Lenses--Polycarbonate plastic or CR-39.
- F. One-Eyed Athlete--Participants whose best corrected vision in their weaker eye is 20:70 or worse.

Corrective Lenses

Approximately one-third of all persons participating in sports require corrective lenses to achieve the visual acuity necessary for proper and safe execution of their particular sports activity. There are eye injuries related both to the absence of proper visual correction, and the use of corrective lenses and frames that do not meet proper sports-safety standards.

Contact lenses are a popular form of corrective eye wear for sports. Advantages include cosmetic considerations, improved peripheral vision, and correction of certain visual irregularities. Nuisances and limitations accompany contact lens use. These include accidental displacement of contact lenses (which can impair vision) during sports activity, loss of contact lenses during competition, and readjustments of lenses during sports play. Having a duplicate set of lenses on hand is often prudent for the student-athlete. Contact lenses are not capable of protecting the eye from direct blows. Student-athletes that wear contact lenses for corrective vision may want to accompany this by wearing sports safety glasses for ocular protection. Student-athletes who choose to engage in sports while wearing contact lenses should adhere faithfully to the guidelines and recommendations of their eye-care specialist.

Protective Lenses

Protective lenses should be worn for all sports that have a projectile object (i.e. field hockey, lacrosse, baseball, softball, tennis) whose size, consistency or speed could potentially cause ocular damage. If no ASTM standard has been developed for a sport, equipment from a comparable sport with an ASTM standard should be used. Certified head and eye protection should be developed for each relevant activity. Eye-protection devices are designed to reduce significantly the risk of injury, but can never provide a guarantee against such injuries.

Guidelines

- All participants in collision-contact sports who use corrective lenses (including contact lenses) in their sports activity should have eye protection conforming to definitions A through D.
- 2. All participants in any sport that uses a projectile of a size, consistency or speed capable of causing ocular injuries (i.e. field hockey, lacrosse, baseball, softball, tennis) should consider eye protection with lenses conforming to ASTM Standard F803-83, as in definition A. This protector should be of the closed type, as it has been shown that the open (without lenses) models are not protective.
- 3. When external lenses (i.e., all other than contact lenses), either corrective or noncorrective, are used for eye protection, they should be of polycarbonate plastic or CR-39 as in definition E.
- 4. All one-eyed participants (definition F) in collision-contact sports should have eye protection conforming to definitions A through D.

"GUIDELINES FOR HELMET FITTING AND REMOVAL IN ATHLETICS"

Several sports, including football, require wearing tight-fitting, similarly constructed helmets. The following guidelines, while focused on football, are applicable to periodic evaluation, fitting and removal of protective helmets worn in any sport. These guidelines represent minimal standards of care that are designed to assist physicians, Coaches, athletic trainers, student athletic trainers, paramedics, EMT's and hospital personnel who care for student-athletes.

Medical coverage of interscholastic football Teams entails many routines preventive and acute health-care duties for dedicated practicing professionals; however, an occasional, serious, on-the-field, life threatening head and/or neck injury poses a difficult challenge. It is incumbent upon those individuals assigned to provide medical coverage to be prepared to handle each situation efficiently and expertly.

Proper on-the-field management of head and neck injuries is essential to minimize sequelae, expedite emergency measures and to prepare for transportation. The action of those in attendance must not compound the problem. For this reason, clear communication between the medical staff and emergency-transportation personnel should be maintained.

It is important that those involved in the medical management of Teams engaged in collision sports like football, as well as the student-athlete, be knowledgeable about the

helmet. The student-athlete should be instructed in the fitting, care and use of the helmet.

The resilient plastic shell is shaped spherically to deflect impacts. Interior suspension pads are designed to match the skull contour to ensure a snug crown fit. Various rigid and removable jaw and brow pads, along with the double-snap chin strap, help to hold the sides of the helmet firmly against the mandible and the forehead. When in place, the front edge of the helmet should be positioned about a finger's breadth above the eyebrows. Pressure on the helmet crown should be dissipated through the interior suspension padding over the top of the head.

The helmet should fit snugly without dependence on the chinstrap. The helmet should not twist or slide when an examiner grasps the facemask and attempts to rock or turn the helmet with the wearer resisting the movement.

With a properly fitted helmet, the top of the head is separated from the helmet shell by a uniform, functional, shock-absorbing support lining. Daily evaluation of this support mechanism, including cheek and brow pads, for placement and resiliency should be taught to the student-athlete. Helmets that require air inflation should be inflated and inspected daily by those assigned to equipment care. Helmet shells should be examined weekly for cracking and be inspected closely again if the face mask has been bent out of shape. All helmets need to be reconditioned and the plastic loop attachments of the swing-away mask replaced on a yearly basis.

Although the helmet is designed for a stable fit for protection during play, removal of the helmet by others is relatively difficult. In the case of a head or neck injury, jostling and pulling during removal presents high potential for further trauma.

Unless there are special circumstances such as respiratory distress coupled with an inability to access the airway, the helmet should never be removed on the field when there is a potential head/neck injury.

When such helmet removal is necessary in any setting, it should be performed only by personnel trained in this procedure.

Ordinarily, it is not necessary to remove the helmet on the field to evaluate the scalp. Also, the helmet can be left in place when evaluating an unconscious student-athlete, an individual who demonstrates transient or persistent neurological findings in his extremities, or the student-athlete who complains of continuous or transient neck pain.

Before the injured student-athlete is moved, airway, breathing and circulation (ABC's) should be evaluated by looking, listening and palpation. To monitor breathing, care for facial injury, or to institute resuscitation, the face mask can be swung away by cutting the plastic loops that attach the mask to the helmet. A sharp pocket knife or scalpel usually suffices. It should be noted that cold weather and old loops may make cutting difficult. The chin strap can be left in place unless resuscitative efforts are necessary. For resuscitation, the mouth guard needs to be manually removed and a finger-swipe made of the mouth.

Once the ABC's are stabilized, transportation to an emergency facility by an experienced crew demands that the head be secured in the helmet and the neck immobilized by strapping, taping and/or using lightweight bolsters on a spine board. Care is needed to skillfully complete this maneuver to provide a stable unit of head, neck and spine.

At the emergency facility, satisfactory initial skull and cervical X-rays usually can be obtained with the helmet in place. Should removal of the helmet be needed to initiate treatment or to obtain special X-rays, specific protocol needs to be followed. With the head, neck and helmet manually stabilized, the chin strap can be cut. While maintaining stability, the cheek pads can be removed by slipping the flat blade of a screwdriver or bandage scissor under the pad snaps and above the inner surface of the shell. While another individual provides manual stability of the chin and neck, the persons stabilizing the head place their thumbs or index fingers into the earholes on both sides. By pulling both laterally and longitudinally, the helmet shell can be spread and eased off. Should a rocking motion be necessary to loosen the helmet, the head/neck unit must not be allowed to move. Those individuals participating in this important maneuver must proceed with caution and coordinate every move.

If the injured student-athlete, after being rehabilitated fully, is allowed to participate in the sport again, refitting his helmet is mandatory. Re-education about helmet use as protection should be conducted. Using the helmet as an offensive, injury-inflicting instrument should be discouraged.

"USE OF THE HEAD AS A WEAPON IN FOOTBALL"

Serious head and neck injuries leading to death, permanent brain damage or quadriplegia (extensive paralysis from injury to the spinal cord at the neck level) occur each year in football. The number is relatively small but evident. Most of these catastrophic injuries result from initiating contact with the head. The injuries may not be prevented due to the tremendous forces occasionally encountered in football collisions, but they can be minimized by helmet manufacturers, Coaches, players and officials complying with accepted safety standards and playing rules.

The American Football Coaches Association, emphasizing that the helmet is for the protection of the wearer and should not be used as a weapon, addresses this point as follows:

- 1. The helmet shall not be used as the brunt of contact in the teaching of blocking or tackling:
- 2. Self-propelled mechanical apparatuses shall not be used in the teaching of blocking and tackling, and
- 3. Greater emphasis by players, Coaches and officials should be placed on eliminating spearing.

Proper training in tackling and blocking techniques constitutes an important means of minimizing the possibility of fatalities or catastrophic injury. Using the helmet as an offensive, injury-inflicting instrument should be discouraged.

The rules against butting, ramming and spearing with the helmet are for the protection of the helmeted player as well as the opponent. A player who does not comply with these rules is a candidate for a catastrophic or fatal injury.

"MOUTH GUARDS"

The National Federation of State High School Associations (NFHS) has mandatory protective-equipment rules, including the use of mouth guards for various sports. Detailed studies of mouth guards indicate that they reduce dental injuries and cerebral concussions secondary to blows to the jaw or head. The American Dental Association has urged the mandatory use of mouth guards for those engaged in interscholastic athletics that involve body contact.

Specific objectives for the use of mouth guards as protective devices in sports are:

- 1. Mouth guards should reduce potential chipping of the tooth enamel surfaces and reduce fractures of the tooth, root and bone;
- 2. Mouth guard materials should protect the lip and cheek tissues from being impacted and lacerated against tooth edges;
- 3. Mouth guards should reduce the number of fractured jaws caused by blows coming from under the jaw;
- 4. Mouth guards should reduce the incidence of concussions by partially absorbing energy from blows to the chin, and
- 5. Mouth guards should provide support to toothless spaces so that partial dentures can be removed when appropriate.

Three types of protective mouth guards are generally available:

- 1. Boxer-type guards made of molded rubber;
- 2. Mouth-formed guards made of pliable plastic, and
- 3. Custom-fitted mouth guards made of latex or plastic sheets formed over a cast with a vacuum apparatus.

The custom-fitted mouth guard most readily meets the criteria quoted above. The cost for outfitting a Team is recognized as a limiting factor.

Mouth guards should be rinsed with water daily to remove saliva and dirt. It is recommended that twice a week the mouth guard be soaked in a solution of one cup water and one-half teaspoon bleach for 15 to 20 minutes and then rinsed thoroughly. This procedure will preserve and sanitize the mouth guard effectively.

Too often players wear a mouth guard by having it dangle from the face mask or by using a small piece of plastic in their mouth that barely covers the two front teeth. This defeats the protective purpose intended for the mouth guard. A periodic check of all mouth guards by the Coaching and/or sports medical staff will help ensure that student-athletes have not trimmed the mouth guards beyond protective use. The ideal mouth

guard is one that fits between the upper and lower teeth without hampering breathing, does not have to be held in position, can be chewed without deforming or changing shape, has an external attaching point to allow easy removal and covers all the upper teeth except the last two molars.

In order to realize fully the benefits of wearing a mouth guard, the Coach, studentathlete and sports medical staffs need to be educated about the protective functions of a mouth guard; and the rules must be enforced.

"PROTECTIVE EQUIPMENT"

Rules governing mandatory equipment and equipment use vary by sport. Interscholastic athletic administrators, Coaches and equipment managers should be familiar with what equipment is mandatory by rule and what constitutes illegal equipment; how to wear mandatory equipment during the Contest, and when and to whom notice is given that the equipment has become illegal during competition. Interscholastic athletic personnel involved in sports with established equipment standards should adhere to those standards.

The NOCSAE mark on a helmet or on a football face mask indicates that the equipment has been tested by the manufacturer in accordance with NOCSAE test standards. By keeping a proper fit, by not modifying its design, and by reporting to the Coach or equipment manager any need for its maintenance, the student-athlete also is complying with the purpose of the standard.

The list of mandatory equipment and rules regarding protective equipment use is accurate as of the most recent edition of the specific sport rules book. Updated information should be obtained from reviewing each sports up to date rules book. We have listed each sport and the relevant rules code that applies to their play. Please review current rules books for approved protective equipment information.

Baseball - NFHS
Basketball - NFHS
Bowling - USBC
Competitive Spirit - NFHS
Cross Country - NFHS
Field Hockey – NFHS
Football - NFHS
Golf - USGA
Gymnastics, Girls - NFHS
Lacrosse, Boys - NFHS

Lacrosse, Girls - NFHS
Rifle - NRA
Soccer - NFHS
Softball, Fast Pitch- NFHS
Swimming and Diving - NFHS
Tennis - USTA
Track and Field - NFHS
Volleyball - NFHS
Water Polo - NFHS
Wrestling - NFHS

MEDICAL GUIDELINES

"ASSESSMENT OF BODY COMPOSITION"

When Teams' licensed physician of medicine or osteopathic medicine (MD or DO), Coaches, or athletic trainers make recommendations to student-athletes relative to ideal playing weights, it is important that the recommendations be based on the assessment of the student-athletes' body composition and not simply on measures of body weight. Determining ideal weight based on height-weight measurements alone could lead to the potentially dangerous situation of individuals with little body fat being asked to lose weight. Not only will performance be affected, but the student-athletes' health may be compromised.

The most common methods to assess body composition in athletics are likely to be hydrostatic weighing and skin-fold measurements. If done by trained personnel using standard operating procedures, the results obtained can be reliable and useful. While hydrostatic weighing is considered the "gold standard" of the indirect measures, one must realize that the assumptions supporting this method have not yet been verified in humans. Furthermore, skin-fold measurements, even when done by trained personnel and according to standard operating procedures, are usually within only three percent (3%) to five percent (5%) of the body-fat values obtained by hydrostatic weighing. Thus, one needs to be extremely careful in the application of body-composition test results.

In summary, it is important that trained individuals use standard procedures to assess body composition before making recommendations relative to the modification of body weight in student-athletes. Further, one needs to recognize that the indirect assessment of body composition, even by trained individuals, is not without potential error; thus, care should be taken in the application of those results.

Pursuant to National Federation Wrestling Rule 1-5-1, the recommended minimum body fat should not be lower than seven percent (7%) for males or 12 percent (12%) for females. If a wrestler's weight assessment is below 7% for males and 12% for females the wrestler shall have a medical release to participate signed by an appropriate medical professional (MD or DO). This release shall not allow a wrestler to participate at a weight class below that for which the initial assessment allows. A program to monitor an average weight loss of 1.5 percent a week, with descent, may use the minimum weight determined by the body fat testing as the lowest weight a wrestler may wrestler. This weight management plan should also involve a nutritional component developed at the local level.

PIAA's weight control program shall require each wrestler to establish a certified minimum weight and prohibit recertification at a lower weight during the season.

"BLOOD-BORNE PATHOGENS AND INTERSCHOLASTIC ATHLETICS"

While risk of one athlete infecting another with HIV/AIDS during competition is close to non-existent, there is a remote risk that other blood borne infectious diseases can be transmitted. For example, Hepatitis B can be present in blood as well as in other body fluids. Procedures for reducing the potential for transmission of these infectious agents should include, but not be limited to, the following:

- 1. The bleeding must be stopped, the open wound covered and if there is an excessive amount of blood on the uniform, it must be either cleaned with an appropriate solution or completely changed before the athlete may participate.
- 2. Routine use of gloves or other precautions to prevent skin and mucous-membrane exposure when contact with blood or other body fluids is anticipated.

- 3. Immediately wash hands and other skin surfaces if contaminated (in contact) with blood or other body fluids. Wash hands immediately after removing gloves.
- Clean all contaminated surfaces and equipment with an appropriate disinfectant before competition resumes. Typically a bleach/water solution is used or a broad spectrum cleaner designed to kill MRSA, HIV, and Hep-B.
- 5. Practice proper disposal procedures to prevent injuries caused by needles, scalpels and other sharp instruments or devices.
- 6. Although saliva has not been implicated in HIV transmission, to minimize the need for emergency mouth-to-mouth resuscitation, mouthpieces, resuscitation bags, or other ventilation devices should be available for use.
- 7. Athletic trainers/Coaches with bleeding or oozing skin conditions should refrain from all direct athletic care until the condition resolves.
- 8. Contaminated towels should be properly disposed of/disinfected.
- 9. Follow acceptable guidelines in the immediate control of bleeding and when handling bloody dressings, mouth-guards and other articles containing body fluids.
- 10. Proper disposal of all bio-hazardous waste, including blood-soaked bandages and dressings, contaminated towels or uniforms, etc. should be performed, using specifically designed bags/boxes marked as "bio-hazardous," which are typically provided by and disposed of by an outside company. This can often be coordinated with the school nurse's office.

"BURNERS" (BRACHIAL PLEXUS INJURIES)

"Burners" or "stingers" are so named because the injuries can cause a sudden burning pain and numbness along the forearm and hand. This sensation is caused by a neurological injury to a specific group of upper extremity nerves. The majority of burners occur in football; however, burners may also occur in a variety of other sports, including basketball, field hockey, soccer, wrestling and some field events in track.

Faulty technique often causes a brachial plexus injury, particularly with blocking and tackling in football. Teaching the proper techniques and regularly performing neck and upper body strengthening exercises are essential for prevention. Coaches, parents and student-athletes should be warned about poor techniques and advised of the need to strengthen the neck and upper body muscles.

Student-athletes who suffer burners will be unable to move the affected arm from their side and will complain of burning pain, and potentially, numbness traveling from the injured side of the neck through the shoulder down the arm and forehand, and sometimes into the hand. Weakness may be present in the muscles of the shoulder, elbow and hand. Burners can vary in severity. If numbness persists and/or if upper extremity weakness is present, a medical evaluation should be performed before any further participation by the student-athlete.

Recurrent burners are not uncommon. Medical personnel should pay special attention to this condition. Although rare, risk of permanent nerve injury exists for those with recurrent burners. Therefore, participants should report every occurrence to their athletic trainer or Team licensed physician of medicine or osteopathic medicine (MD or DO). Any player with persistent pain, burning, numbness and/or weakness should be kept out of competition and sent for further evaluation.

The most important concern for student-athletes with recurrent burners is to stress the importance of reporting all symptoms to the attending medical personnel during the Practice or Contest situations and receiving an appropriate, thorough physical evaluation with particular attention to strength and sensory changes. Any worsening of the symptom complex should provoke a more thorough investigation of the neck and spinal cord region.

"COLD STRESS"

Cold exposure, while not typically life-threatening, will certainly impair performance and affect one's well being. Conditions created by such exposure include frostbite and hypothermia. While frostbite, which is the freezing of superficial tissues of the face, ears, fingers and toes is rare, hypothermia, which is a significant drop in body core temperature, is a potential medical emergency.

Hypothermia may occur in any geographical setting. A wet and windy spring or fall exposure may present as serious a condition as a severe winter exposure. High wind speed interacting with ambient temperature significantly affects body cooling. When the body surface or protective clothing is wet (whether from sweat, rain or snow), body cooling is even more rapid.

Cold exposure affects every system of the body. The combination of cold air, deep breathing and exercise can trigger an asthma attack (bronchospasm). For most individuals, the exchange of cold air when breathing heavily is not of itself dangerous, but can lead to prolonged coughing, chest tightness, and discomfort. Drying of the mouth, a burning sensation in the throat, and irritation of the nasal passages are common problems when breathing extremely cold air.

The risk of joint and musculoskeletal injuries can increase when exercising in the cold. Most physiological factors of performance, such as strength, power, endurance and aerobic capacity are reduced by a drop in muscle temperature or body core temperature.

Early recognition of cold stress is important. Shivering is a means for the body to generate internal heat and serves as an early warning sign of cold stress. Excessive shivering can contribute to fatigue and makes motor skill tasks more difficult. Other signs include a burning sensation of the ears and nose, and tingling or numbness in fingers and toes. As cold exposure is prolonged, a victim my exhibit sluggishness, poor judgment and become disoriented. A lack of interest in anything except getting warm is another indication of cold stress.

Prevention of cold stress is primarily a matter of dressing properly to control the climate next to the skin. Inadequate nutrition and dehydration can significantly decrease cold tolerance. To prevent cold problems, student-athletes should be instructed as follows:

Layer Clothing

Several thin layers are warmer than a single heavy garment. Layers can be added or removed depending on activity level to ventilate the skin surface.

Cover the Head

Because heat loss from the head and neck may be as much as fifty percent (50%) of one's total heat loss, the head should be covered during cold-stress conditions.

Protect the Hands

Hand covering should be worn whenever there is the slightest risk of frostbite. Mittens are preferred to gloves for warmth.

Stay Dry

Water, whether from perspiration or rain, significantly increases body-heat loss. Keep feet dry; a vapor barrier next to the skin, even something as simple as a plastic bag, can lower heat loss. To avoid a wet underlayer of material next to the skin during or following exercise, it is best to use a fabric that will wick perspiration away from the skin. Cotton is a poor choice for socks, gloves, or underwear because once wet, it loses insulating properties. Polypropylene, wool, or other fabrics wick moisture away from the skin and retain insulating properties when wet.

Stay Hydrated

Dehydration affects the body's ability to regulate body heat and increases the risk of frostbite. Fluids are as important in cold weather as in the heat.

Warm Up Thoroughly

Warm up thoroughly. Keep warm throughout the competition or Practice to prevent a drop in body temperature. Time the warm-up so that it leads almost immediately to the competition. Immediately add clothing to retain body heat upon leaving competition. Do not allow your body to cool rapidly.

Warm Incoming Air

When breathing severely cold air, warm incoming air with a scarf over the mouth and nose whenever possible, to prevent bronchospasm.

Never Use Alcohol, Nicotine and Other Drugs

Alcohol, nicotine and other drugs that cause vasodilation or vasoconstriction of skin vessels are of particular concern in cold stress.

Never Train Alone

An injury such as a sprained ankle while training on isolated trails could lead to severe cold exposure.

Avoidance of cold injury is usually a matter of recognizing the potential for cold stress and dressing appropriately for protection. There is a great deal of individual variation in tolerance to cold. Good nutrition, appropriate warm-up procedures and preventive measures, and early recognition of cold stress will minimize problems. Considerations for canceling a Practice or event should include all these factors as well as specific environmental conditions.

"CONCUSSION"

(By Matthew L. Silvis, MD)

Introduction:

Concussion is a common injury estimated to affect 1.6-2.3 million athletes per year at all levels of sport. Previous estimates relied upon loss of consciousness (LOC) as a defining symptom of concussion. We now know that LOC occurs in < 10% of all concussions. Abandoning LOC as a part of the definition of concussion has led to a dramatic increase in the number of concussions reported per year.

Definition:

The 3rd International Conference on Concussion in Sport defines concussion as a "complex pathophysiological process affecting the brain, induced by traumatic biomechanical forces." Concussion may be caused by a direct or indirect (i.e. force transmitted from upper body to head) blow. The symptoms of concussion are typically short lived and reflect an underlying functional disturbance to the brain, not structural. Therefore, standard cranial imaging (CT, MRI) is normal in concussion.

Signs and Symptoms:

Signs and symptoms of concussion are highly variable and individualized. No two concussions are exactly alike. In fact, some clinicians feel that a threshold exists for concussion that varies between individuals, influenced by a variety of familial and clinical factors. Concussion signs and symptoms can be categorized as somatic, affective, and cognitive.

Somatic	Affective	Cognitive
Headache	Personality changes	Difficulty remembering
Fatigue	Emotional disturbances	Loss of consciousness
Dizziness	Irritability	Disorientation
Balance problems	Sadness	Difficulty concentrating
Nausea	Nervousness	Delayed verbal response
Vomiting		Delayed motor response
Visual disturbances		Abnormal speech (slurred)
Light sensitivity		Feeling mentally foggy
Sound sensitivity		Grogginess
Sleep difficulties		
Numbness or tingling		

Sideline Evaluation:

Sideline evaluation is critical to proper management of an athlete with a concussion. The immediate on-the-field assessment should focus on airway, breathing, and circulation as well as a focused neurologic assessment (mental status, neurological deficits, and cervical spine status). This assessment determines initial disposition (i.e. whether the athlete needs to be emergently transported to the hospital or further assessed on the sideline). The sideline assessment allows for a more detailed history and exam. The Pocket SCAT2 card can aid a licensed physician of medicine or osteopathic medicine (MD or DO) in this assessment. The history should focus on the mechanism of injury and somatic, affective, and cognitive signs/symptoms. The physical examination should focus extensively on the neurological exam, specifically assessing mental status and evaluating for neurologic deficits. Memory function is best assessed by asking specific sport related questions (i.e. What venue are we at today? Which half is it now? Who did we play last? What was the score?). Serial exams should take place every 5 minutes until the athlete reaches their baseline.

Guidelines:

Over the past 20 years, > 20 grading scales have been published to guide management of concussion (i.e. American Academy of Neurology Concussion Grading Scale, Cantu Evidence-Based Grading System for Concussion, Colorado Society Guidelines). These guidelines were abandoned as they relied heavily on LOC as a predictor of recovery. Concussion should be viewed as present or not, recognizing that the majority will resolve in a short period of time (7-10 days).

Complications:

Complications of concussion can be quite serious especially if an athlete returns to play prematurely while still symptomatic. Second impact syndrome is a lethal, poorly understood, rare complication of concussion and occurs when a symptomatic athlete returns to play and has a second head trauma. This "second impact" causes brain swelling and herniation resulting frequently in death. Far more common is the prolonged recovery noted in post-concussion syndrome. With cumulative concussions, athletes have been noted to have repeat concussions with less impact and prolonged recoveries, sometimes leading to early retirement from contact sports.

Return to Play:

An athlete with a diagnosed concussion should not be allowed to return to play on the day of injury. No athlete should return to play until cleared by a licensed physician of medicine or osteopathic medicine (MD or DO) comfortable with current concussion management principles.

Return to play after a concussion should not occur until an athlete is asymptomatic off medications with an unremarkable physical examination and neurocognitive testing (if available). A stepwise progression is recommended beginning with light aerobic exercise and advancing every 24 hours through the following stages: sports specific exercise, non-contact training drills, full contact Practice, and competition. If symptoms recur at any point during this stepwise progression, the athlete should return to the previous level and wait for 24 hours before attempting further advancement. This protocol is individualized frequently depending on the needs of the athlete and demands of the sport. A more conservative approach is needed when dealing with young athletes with developing brains (athletes < 18 years of age) as little is known in regard to the long term effects of concussion in this age group.

Prevention:

Prevention of concussion in contact sports is limited. The health claims of many products (specialized football helmets, headgear in soccer, custom designed mouth guards) have limited scientific support and remain an active area of study and not without significant debate in the medical community.

Concussion evaluation, management, and prevention are all very active areas of intense research. Athletes, parents, Coaches, and clinicians should periodically refer to the PIAA Web site for updates.

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"EATING DISORDERS--ANOREXIA AND BULIMIA"

Many student-athletes face a different paradox in their training regimes. They are encouraged to eat to provide the necessary energy sources for performance, yet they often face self or Team-imposed weight restrictions. Emphasis on low body weight or low body fat may benefit performance only if the guidelines are realistic, the caloric intake is reasonable, and the diet is balanced. The use of extreme weight-control measures can jeopardize the health of the student-athlete and possibly trigger behaviors associated with defined eating disorders.

Although anorexia and/or bulimia are much more prevalent in females, eating disorders also occur in males.

Eating disorders are often an expression of underlying emotional distress that may develop long before the individual becomes involved in athletics. It has been suggested that stress, whether it be from participating in athletics, striving for academic success, or pursuing social relationships, may trigger psychological problems, such as eating disorders, in susceptible individuals. Eating disorders can be triggered in such individuals by a single event or comments from a person important to the

individual. In athletics, such triggering mechanisms may include offhand remarks about appearance or constant badgering about a student-athlete's body weight, body composition or body type.

Eating disorders often experienced by student-athletes and their warning signs include:

Anorexia Nervosa--Self-imposed starvation in an obsessive effort to lose weight and to become thin.

Warning signs--Drastic loss in weight, a preoccupation with food, calories and weight, wearing baggy or layered clothing, relentless, excessive exercise, mood swings, and avoiding food-related social activities.

Bulimia--Recurring binge eating usually followed by some method of purging such as vomiting, diuretic or laxative abuse, or intense exercise.

Warning signs--Excessive concern about weight, bathroom visits after meals, depressive moods, strict dieting followed by eating binges, and increasing criticism of one's body.

Bulimarexia--Anorexia nervosa with the practice of one or more bulimic behaviors.

It is important to note that the presence of one or two of these warning signs does not necessarily indicate the presence of an eating disorder. Absolute diagnosis should be done by appropriate professionals.

Anorexia and bulimia lead to semi-starvation and dehydration, which can result in loss of muscular strength and endurance, decreased aerobic and anaerobic power, loss of coordination, impaired judgment and other complications that decrease performance and impair health. These symptoms may be readily apparent or they may not be evident for an extended period of time. Many student-athletes have performed successfully while experiencing an eating disorder. Therefore, diagnosis of this problem should not be based entirely on a decrease in athletic performance.

Coaches, athletic trainers and supervising physicians must be watchful for student-athletes who may be prone to eating disorders, particularly in sports in which appearance or body weight is a factor in performance. Dentists should also look for erosion of tooth enamel caused by the high levels of acid in vomit. Decisions regarding weight loss should be based on the following recommendations to reduce the potential of an eating disorder:

- 1. Weight loss should be agreed upon by both the Coach and the student-athlete with consultation with appropriate medical and nutritional personnel;
- 2. A responsible and realistic plan should be developed by all individuals involved, and
- 3. Weight-loss plans should be developed on an individual basis.

If a problem develops, thorough medical evaluation of the student-athlete suspected of an eating disorder is imperative. Once confirmed, behavior modification should emanate from professional guidance through nutritional, psychological and/or psychiatric counseling. Because eating disorders are a growing problem with serious health consequences, the establishment of professionally guided support groups, access to personal counseling and, if possible, an assistance hotline should be considered at every member school.

"PREVENTION OF HEAT ILLNESS"

Practice or competition in hot and/or humid environmental conditions poses special problems for student-athletes. Heat illness is a primary concern in these conditions. Although deaths from heat illness are rare, constant surveillance and education are necessary to prevent heat-related problems.

The following practices should be observed:

- 1. Pursuant to ARTICLE V, HEALTH, Preparticipation Physical Evaluation Necessary Before Pupil Begins Practice, of the PIAA By-Laws, identify any history of previous heat illness or heat-related condition in the student-athlete.
- 2. General conditioning provides only partial heat acclimatization. Therefore, student-athletes should be exposed gradually to hot and/or humid environmental conditions over a period of seven (7) to ten (10) days to provide better heat acclimatization. Each exposure also should involve a gradual increase in the amount of exercise that is undertaken over a period of days to weeks until the exercise intensity and duration is comparable to that likely to occur in competition. If conditions are extreme, training or competition should be held during a cooler time of the day.
- 3. When protective gear and clothing must be worn, frequent rest periods should be scheduled so that the gear and clothing can be loosened to allow evaporation of sweat and other forms of heat loss. During the acclimatization process, it may be advisable to use a minimum of protective gear and clothing and to Practice in T-shirts, shorts, socks and shoes. Excessive tape and outer clothing that restrict sweat evaporation should be avoided. Rubberized suits should never be used.
- 4. Regular measurements of environmental conditions are recommended, including the wet-bulb temperature, dry-bulb temperature and globe temperature. Thus, the potential impact of humidity, air temperature and solar radiation are assessed. Portable devices are available for making such measurements, and the person responsible for taking such measurements should identify those devices. A wet-bulb temperature higher than 75 degrees Fahrenheit or warm-weather humidity above 90 percent may represent dangerous conditions that are made more severe if the sun is shining. A wet-bulb globe temperature (WBGT) higher than 82 degrees Fahrenheit (28 degrees Celsius) suggests that all activity be curtailed or discontinued. An alternative guide is a Heat Index Chart.
- 5. Dehydration (hypohydration) must be avoided because it hinders performance and can result in profound heat illness. Cool water must be readily available. Student-athletes should be encouraged to drink as much and as frequently as comfort allows. For participation periods up to two (2) hours in duration (either Practice or competition), most weight loss represents water loss, and that fluid loss should be replaced as soon as possible. Cool water is the recommended fluid replacement during both Practice and competition. Electrolyte solutions are not needed and salt tablets should not be used. A normal, healthful diet will replace salt loss.
- 6. By recording the body weight of each student-athlete before and after workout or Practice, progressive hypohydration or loss of body fluids can be detected, and the potential harmful effects of hypohydration can be avoided. It is recommended that, for every pound of weight loss that occurs, sixteen (16) ounces of cool water should be consumed. Those who lose three (3) percent of their body weight or more over a period of several days should be medically evaluated.

- 7. Some student-athletes may be more susceptible to heat illness than others. Susceptible individuals include: those not heat-acclimatized, those in relatively poor physical condition, those with excess body fat, those who regularly push themselves to capacity, those with a history of heat illness and those with any febrile condition or other metabolic disorder.
- 8. Student-athletes should be informed of and monitored for signs of heat illness such as: light-headedness or unsteadiness, cramping, pale or flushed skin, nausea, excessive fatigue, and/or rapid and weak pulse. Signs of advanced heat illness are cessation of sweating, disturbance of vision, and/or incoherency.

Any form of heat illness should be treated as a medical emergency, requiring the prompt attention of a medical professional. Immediate evaluation and treatment is essential in order to prevent serious health consequences to the student-athlete.

"MEDICAL DISQUALIFICATION OF THE STUDENT-ATHLETE"

Withholding a student-athlete from activity. The member school's Team licensed physician of medicine or osteopathic medicine (MD or DO) has the final responsibility to determine when a student-athlete is removed or withheld from participation due to an injury, an illness, or pregnancy. In addition, clearance for that individual to return to activity is solely the responsibility of the member school's Team licensed physician of medicine or osteopathic medicine (MD or DO) or that physician's designated representative.

Procedure to medically disqualify a student-athlete during PIAA championships. The student-athlete's Team licensed physician of medicine or osteopathic medicine (MD or DO), if present, should examine the individual with an injury, an illness or pregnancy and make a recommendation to the student-athlete, to the individual's Coach, and to the PIAA-appointed sports medicine physician in charge (or a designated representative) as to the advisability of continued participation or disqualification. The final decision shall be made by the PIAA-appointed sports medicine physician in charge (or a designated representative). In the absence of a student-athlete's Team licensed physician of medicine or osteopathic medicine (MD or DO), the PIAA-appointed sports medicine physician in charge (or a designated representative) should examine the student-athlete with an injury, an illness, or pregnancy and make such a recommendation. The PIAA-appointed event manager (or a designated representative) should be responsible for administrative enforcement of the medical recommendation, if it involves disqualification. Where the Contest rules for a sport provide otherwise, the Contest rules shall control.

"MENSTRUAL DYSFUNCTION"

(By Thomas D. Kohl, MD)

Definitions:

- 1. Normal adult menstrual cycle
 - a. Mean interval of 28 days (7 days)
 - b. Duration of menses of 4 days (_2-3 days)
 - c. Median blood loss is about 30 mL per month (with the upper limit of normal defined as 60-80 mL per month)
- 2. **Amenorrhea**: absence of menses; can be primary (no menses by age 16) or secondary (absence of three consequent menstrual cycles, after regular periods have been established)

3. Oligomenorrhea: infrequent, irregular bleeding at 45-day intervals

Irregular menstruation (i.e., amenorrhea and oligomenorrhea) prevalence in athletic women is 15% to 66%, depending on study methodology, in contrast to 2% to 5% in the normal population. Irregular menses is described in 12% of swimmers and cyclists, 20% of females involved in excessive exercise in general, 44% of ballet dancers, and 51% of endurance runners.

The cause was once believed to be related to the amount of exercise performed by the female athlete. Research has now shown that the issue is related to energy imbalance and lack of adequate caloric intake to support the normal body processes as well as the need for the amount of exercise. The threshold of energy availability appears to be 30 kcal/kg lean body mass per day. Strenuous training alone is not enough to disrupt menstrual cycles unless accompanied by dietary restriction [29], and cycles can be restored merely by increasing dietary intake. When the imbalance exists the body begins to move calories to vital work for life and away from non-vital functions like reproduction. When this occurs the female athlete loses the normal hormone production in the brain (pituitary gland) that leads to normal ovarian function and menstruation. This is termed hypothalamic amenorrhea. This should be a diagnosis of exclusion where other causes of amenorrhea in a young female should be investigated. Those possibilities include: pregnancy, drugs, stress, tumors, premature ovarian failure, as well as other more uncommon hormone problems.

The underlying health issue related to this dysfunction is a state of low circulating estrogen and its consequences on bone health. In females, progressive bone loss, or an increased bone resorption compared with bone formation, starts around age 20. One study of 200 amenorrheic young athletes found that the subjects had a mean reduction in bone mineral density (BMD) of 15% when compared with normally menstruating, age-matched controls (Davis). Despite resumption of normal menses, there is a loss of bone mass resulting from the period of low estrogen that is not reversible. This is of primary clinical concern because it is related directly to the risk of developing osteoporosis later in life and stress fractures during their athletic careers. Females with menstrual irregularities secondary to low levels of circulating estrogen are at risk for low peak bone mass and future development of osteoporosis.

Another reason to be alert for menstrual dysfunction is that it is often the earliest sign/marker for other health issues that contribute to low caloric intake, i.e. eating disorders. The combination of menstrual dysfunction, disordered eating, and osteopenia is termed The Female Athlete Triad. These issues are interrelated and often present together. However, not all 3 must be present to initiate a comprehensive evaluation and treatment plan.

The treatment goal for females with menstrual irregularities is the reestablishment of an appropriate hormonal environment and body weight for the maintenance of bone health. This may be achieved by the re-establishment of a regular menstrual cycle. This is best accomplished by an evaluation by a licensed physician of medicine or osteopathic medicine (MD or DO) well versed in the complexity of this situation. The evaluation and treatment often includes a team of expert healthcare professionals including: sports medicine physicians, gynecologists, nutritionists, psychologists, exercise physiologists, and athletic trainers.

General guidelines should include:

1. **Full medical evaluation**, including an endocrine work-up, if necessary; (LICENSED PHYSICIAN OF MEDICINE OR OSTEOPATHIC MEDICINE [MD or DO]).

This would include a comprehensive history focused on menstrual history, medication and other drug use, family history, exercise training history, nutritional history, and psychological history. A thorough

physical examination including vital signs, BMI assessment, inspection for signs of eating disorders, and sexual maturation staging in adolescents. Laboratory evaluation may be indicated and would include complete blood cell count (CBC), chemistry profiles (electrolytes, magnesium, phosphorus, transaminases, albumin, protein, serum urea nitrogen/creatinine), and select hormones (pregnancy, thyroid function tests and other sex steroid hormones, depending on physical findings). An EKG may be indicated if eating disorders or electrolyte abnormalities are found. Athletes with recurrent stress fractures and prolonged amenorrhea (> 6 months) should be screened with at least a baseline DEXA, keeping in mind that normal athletes, particularly those participating in weight-bearing sports, will have BMD measurements 12% to 15% higher than sedentary women.

There is some controversy about the prescribing of estrogen in the form of OCPs and HRT to amenorrheic athletes. A review of the literature from 2006 showed the 10 studies of OC and other hormone replacement in this population, seven showed a positive effect on BMD, two showed no effect, and one case report showed a negative effect on BMD. There is limited evidence in anorexic premenopausal women for any positive effect. If amenorrhea is prolonged (> 6 months), then hormonal therapy - usually in the form of combined oral contraceptives - should be considered to protect BMD.

2. Nutritional counseling (NUTRITIONIST)

- a. Eating disorders AND disordered eating (PSYCHOLOGIST).
- b. Total caloric intake vs. energy expenditure, looking at the quality of the diet consumed (percentage of protein, fats, and carbohydrates); and
 - c. Calcium intake of 1,200 to 1,500 milligrams a day with 400-800IU of vitamin D.
- 3. Review of training program/exercise habits with decrease in exercise if over training is a concern (ATHLETIC TRAINER/EXERCISE SPECIALIST).
- 4. Routine monitoring of diet, menstrual function, weight-training schedule, and exercise habits (ENTIRE TEAM).
- 5. Counseling with emphasis on possible stress factors and decrease performance due to energy concerns in the student-athlete's competitive environment (ENTIRE TEAM).

SUGGESTED READING:

Lebrun, Constance Marie. <u>The Female Athlete Triad: What's a Doctor to Do?</u> **Current Sports Medicine Reports. 6**(6):397-404, December 2007.

Nattiv A, Loucks AB, Manore MM, et al.: AmericanCollege of Sports Medicine revised position stand on the Female Athlete Triad. **Med Sci Sports Exerc** 2007, 39:1867-1882.

Liu SL, Lebrun CM: Effect of oral contraceptives and hormone replacement therapy on bone mineral density in premenopausal and perimenopausal women: a systematic review. **Br J Sports Med** 2006, **40:**11–24.

"NUTRITIONAL ERGOGENIC AIDS"

Student-athletes continue to search for critical nutritional ingredients that will give them a competitive edge. A nutritional ergogenic aid is defined as any foodstuff or dietary procedure that either improves or is thought to improve physical performance.

Proper nutrition, like training, requires careful long-term planning with specific competitive objectives in mind. There are no shortcuts to sound nutrition, and the use of suspected or advertised ergogenic aids, including but not limited to creatine and other nutritional supplements, may be detrimental. For additional information, student-athletes should contact their family physician.

Obviously, the serious and potential fatal effects of anabolic androgenic steroids and their related compounds precludes their use entirely.

Supplement Position Paper-November 2016

The PIAA SMAC strongly opposes the use of dietary supplements by high school athletes for performance enhancement due to supplement safety concerns and the lack of published, reproducible scientific research documenting the benefits with use among the teen and adolescent population. It is the position of PIAA SMAC that teen and adolescent athletes obtain the nutrients and fluids needed to enhance health and sport performance from food.

Significance

Research shows that there continues to be widespread use of dietary supplements by high school and adolescent athletes despite considerable safety concerns. Dietary supplements are marketed as a way to enhance body mass, energy levels, weight loss and athletic performance. Adolescents and teens are susceptible to peer-pressure and advertising, which may increase the incidence of supplement usage in this population for sport performance and recovery. Increased supplement usage tends to create a culture concerned about short term performance rather than long term athletic environment and lifelong good health.

Background

The Dietary Supplement Health and Education Act (DSHEA) of 1994 removed dietary supplements from pre-market regulation by the Food and Drug Administration. Under the DSHEA Act, a manufacturing firm is responsible for determining that the dietary supplements it manufactures or distributes are pure, safe and effective for use. Dietary supplements are essentially classified as a food and not a drug and therefore are not subject to the same FDA regulations as prescription or over the counter medications.

The PIAA SMAC recommends that:

- 1. Dietary supplements should not be used by high school athletes for performance enhancement due safety and purity concerns and the lack of published scientific research documenting their effectiveness and confirmation of the absence of long term health concerns with use.
- 2. Dietary supplements should only be used upon the advice of one's health care provider for health related reasons.
- 3. School personnel and coaches should never recommend, endorse or encourage the use of dietary supplements or medication for performance enhancement.
- 4. Coaches, athletic directors and school personnel should allow for open discussion about dietary supplement use and strongly encourage obtaining optimal nutrition for sport performance through a well -balanced diet. Athletes should be reminded that no supplement is harmless or free from consequences and that there are no short cuts to improve athletic performance.
- 5. Strategies that address the prevalence and concern of dietary supplement usage may include conversations with athletes and parents about the potential dangers and long term health consequences of supplement use. Athletes and parents should be educated on that fact that dietary supplements are not required to obtain pre-market approval from the Federal Drug Administration (FDA); therefore there is no assurance of a product's purity, safety or effectiveness. Manufacturers are required to list all ingredients on the label, a dietary supplement may contain a banned substance due to contamination and poor manufacturing practices.
- 6. Athletes with nutritional concerns or medical condition should be referred to a Registered Dietitian Nutritionist for nutritional guidance and personal meal plans. www.eatright.org/find-an-expert

References/Resources:

The National Center for Drug-Free Sport, Inc. Http://www.drugfreesport.com

The Academy of Nutrition and Dietetics, Dietitians of Canada, American College of Sports Medicine Position statement on Nutrition and Athletic Performance. Journal of the American Dietetic Association. Issue 3. Pages 501-528 (March 2016)

National Federation of State High School Associations. http://nfhs.org

United States Anti-Doping Agency http://usaantidoping.org/

Dietary Supplement Heath and Education Act of 1994 (DSHEA) http://www.fda.gov/opacom/laws/DSHEA.html

Gomez J. Use of Performance-Enhancing Substances. Pediatrics, 2005. Apr. 5(4): 1103-6

Laos c, Metzi, JD. Performance Enhancing Drug Use in Young Athletes. Adolescent Med. Clin. 006 Oct. 17(3):79-31.

Academy of Nutrition and Dietetics www.eatright.org/find-an-expert

SEIZURE DISORDER

(By Michael Cordas, Jr., DO)

DEFINITIONS – Seizure disorders are states characterized by sudden, repetitive, and stereotyped alterations of behavior which are presumed to be due to a paroxysmal discharge of cortical or subcortical neurons. They may be primarily generalized seizures, secondary generalized seizures, partial seizures, provoked, or unprovoked seizures.

There are approximately 375,000 persons between the ages of 5 and 24 years of age who have seizure disorders. Of these approximately 250,000+ attend normal schools and many of them could very easily participate in competitive sports.

Seven percent (7%) of patients with seizure disorders will die as a result of accidents, however only five percent (5%) of these deaths can be attributed to injuries sustained during a seizure. The risk for drowning while bathing in the sea or swimming in a pool is four times greater for children with seizures than their peers. Injuries sustained during seizures may be fractures of the humeral head, femoral trochanter, clavicle and ankle, vertebral compression fractures, shoulder and hip dislocations, and head and cervical spine injury.

Regular exercise program have been show to have a beneficial effect on seizure control. Seizures occurring during exercise or in the immediate post-exertional period have been reported, but rarely. There have been no reports of status epilepticus triggered by exercise. There appears to be no evidence that pharmakinetics and anti-convulsive drugs are altered by a regular exercise program, although research in this field is limited. Sports related injuries do not appear to be increased in a person with seizure disorder. Patients with seizures including those who because of physical or mental handicaps are unable to participate in regular competitive sports should be encouraged to participate in exercise programs and games including Special Olympic programs.

It appears that seizures during Contests or Practice would pre-dispose the person to a serious injury, although confirmatory data to support this is lacking, with the exception of swimming. Single or cumulative head blows may adversely affect seizure control, and may cause an early post-traumatic seizure, although this does not seem to be much of a concern. Obviously, because of inherent dangers, boxing should be excluded.

It is important to judge each case by its own merits comparing the potential risks versus the benefits in regards to seizure disorders. What may be good for one athlete may not be good for another.

Committees on Children with Handicaps and Sports Medicine of the American Medical Association recommend that children be allowed to participate in physical education and interscholastic athletics including contact and collision sports provided there is proper medical management, good seizure control, and proper supervision. It appears that certain situations of sports where a dangerous fall could occur, such as rope climbing activities, parallel bars, and high diving should probably be avoided. Swimming is certainly acceptable although it must be supervised.

It is important to understand that persons with seizure disorders whose seizures are controlled can and should lead full lives without any personal restrictions.

It has been recommended in the past that an athlete be seizure-free on anti-convulsive drugs for at least one year. However, this appears to be a little over conservative. The athlete must be compliant, obviously, in taking anti-convulsant medications as documented by several recent therapeutic blood levels. It is recommended that an athlete be free of seizures for three months to participate in collision or contact sports. It is also recommended than an individual with a seizure disorder, such as epilepsy, even though he or she has been free for two years or longer, should be maintained on anti-convulsives during his or her competitive career.

Obviously, if a seizure occurs during competition or Practice, the athlete should be taken to an emergency room.

Obviously, the criteria for participation in sports other than contact or collision sports should not be as strict as with contact or collision sports, and the occurrence of an occasional seizure should not preclude participation unless it occurs during a sport in which there is increased risk for injury such as gymnastics or swimming.

An athlete may participate if: 1. There is no evidence of progressive neurological disease seen. 2. There are no neurological abnormalities particularly in motor and coordination skills that could hinder performance. 3. The athlete is seizure-free off anti-convulsive medications for one year or longer.

In closing, it is understood that athletes with seizure disorders should not be stopped from participation in any modality of exercise that they may choose to participate. However, it also must be noted that the health and safety of this athlete is a concern of the Committee on Sports Medicine, and therefore, the above recommendations are provided. These recommendations were obtained from the team physician's handbook by Mely, Washington, and Shelton.

"SICKLE CELL TRAIT"

(By Matthew L. Silvis, MD)

Sickle cell trait (SCT) is a condition in which an athlete has inherited one gene for normal hemoglobin and one gene for sickle hemoglobin. SCT is common, present in > 3 million Americans (estimated at 1 in 12 Blacks and 1 in 2,000-10,000 Whites). This condition is more prevalent in athletes whose ancestors come from malarial regions of the world where this trait is protective including: Africa, South or Central America, Caribbean or Mediterranean countries, India, and Saudi Arabia. SCT is usually benign. Most individuals with this condition lead normal, healthy lives and can have exceptional athletic carriers at all levels of sport.

However, SCT can cause red blood cells to change shape during intense or prolonged exertion from "coined shaped" to "quarter-mooned shaped." This can lead to blocked blood vessels and damaged muscle (including the heart). This damage can result in two fatal conditions: fulminant exertional rhabdomyolysis (explosive muscle breakdown) and exercise-associated sudden death.

No SCT athlete should ever be disqualified. Simple precautions may prevent complications of sickling in athletes with SCT and enable these athletes to excel in their sport. The approved NCAA guidelines require schools to confirm the sickle cell trait status of incoming student athletes before participation in sports events in one of four ways:

- All participating student-athletes are required to provide confirmation of sickle cell trait status, either through: 1) existing documentation from birth, or; 2) recent screening. Most entering college-aged students have been tested for SCT as a standard genetic screening at birth.
- A student athlete may sign a waiver declining confirmation of SCT status if he or she is first provided education by the institution regarding the implications of exercising the waiver option.
- Student-athletes may not exercise the waiver option prior to matriculation.
- Student-athletes will also receive mandatory education regarding the risks, impact and
 precautions associated with SCT if they plan to participate while awaiting the results of a
 screening or exercised the waiver option.

Coaches and athletes should remember to allow frequent and adequate rest, acclimatization, cooling down time, and hydration especially in early season practices. This is not only helpful for athletes with SCT, but is recommended for all athletes. Any athlete felt to be having health difficulties with Practice should be identified by Coaches and/or other athletes immediately and be evaluated by the school's ATC or other medical professional such as an MD or DO. Quick identification in these situations may save a life or a prolonged absence from the season. All schools should establish Practice safety guidelines consistent with national standards to protect not only athletes with known medical concerns but also those with unknown medical concerns. As a group of athletes, Coaches, and sports medicine healthcare providers, our best defense is to know all possible risks and prevent injuries or other tragedies before they occur.

Specifically for athletes with SCT, the National Athletic Trainers' Association recommends the following guidelines:

- 1.) All athletes with SCT who begin to develop symptoms (e.g., cramping, pain, weakness, fatigue, shortness of breath) should stop exercise immediately and report to their athletic trainer and Coach. Symptoms of suspected sickling can occur after just 2-3 minutes of sprinting or similar sustained exertion.
- 2.) Preventive measures include: decreasing exercise intensity, encouraging a slow build-up of conditioning activities, allowing for frequent rest and recovery periods, and increasing opportunities for hydration. The goal is to make exercise easier. If athletes with SCT are allowed to set their own pace, they seem to do fine.
- 3.) All athletes with SCT should avoid timed serial sprints and sustained exertion for > 2-3 minutes without a break.
- 4.) Environmental heat stress, dehydration, asthma, and illness predispose athletes with SCT to sickling. Exercise should be adjusted for heat stress, hydration encouraged, asthma controlled, and illness considered a contraindication to exercise in athletes with SCT.
- 5.) Pennsylvanian athletes with SCT who plan to exercise and/or compete at altitude should be closely monitored when new to altitude (~ 5,000 ft.). Training effort should be reduced and oxygen should be readily available.

While the PIAA does not mandate SCT screening of student athletes, parents can request screening from their child's pediatrician or family physician. For more information on SCT in athletes, visit www.ncaa.org.

References:

Anzalone ML, et al. Sickle cell trait and fatal rhabdomyolysis in football training: a case report. Med Sci Sports Exerc 2010; 42 (1): 3-7.

Connes, P, et al. Physiological responses of sickle cell trait carriers during exercise. Sports Med 2008; 38 (11): 931-946.

NATA Consensus Statement: Sickle cell trait and the athlete, June 2007.

NCAA 2009-2010 Sports Medicine Handbook: The student-athlete with sickle cell trait, June 2008.

"SKIN INFECTIONS IN WRESTLING"

Data indicates that skin infections are associated with at least ten percent (10%) of the time-loss injuries in wrestling. It is recommended that qualified personnel examine the skin over the entire body, and the hair of the scalp and pubic areas of all wrestlers before any participation in the sport.

Open wounds and infectious skin conditions that cannot be adequately protected should be considered cause for medical disqualification from Practice or competition. Categories of such skin conditions and examples include:

- 1. Bacterial skin infections
 - a. impetigo;
 - b. erysipelas;
 - c. carbuncle;
 - d. staphylococcal disease;
 - e. folliculitis (generalized);
 - f. hidradenitis suppurative;
- 2. Parasitic skin infections
 - a. pediculosis;
 - b. scabies;

- 3. Viral skin infections
 - a. herpes simplex;
 - b. herpes zoster (chicken pox);
 - c. molluscum contagiosum and
- **4.** Fungal skin infections -- tinea corporis (ringworm)

NOTE: Current knowledge indicates that many fungal infections are easily transmitted by skin-to-skin contact.

Besides identification of infected individuals and their prompt treatment, prevention can be aided through proper routine cleaning of all equipment, including mats and shared common areas, such as locker rooms.

If at anytime (weigh-ins or otherwise), a referee observes a skin infection in the athlete, the following shall apply:

If it is questionable as to whether a skin infection is communicable or not, the wrestler will be required to have a current licensed physician of medicine or osteopathic medicine (MD or DO) signed document stating the skin infection is no longer communicable. Any new skin infection occurring after the licensed physician of medicine or osteopathic medicine's (MD or DO) note has been written should be examined by the licensed physician of medicine or osteopathic medicine (MD or DO) and a new note may be required. For the safety of all wrestlers, it is recommended that Coaches use a similar guideline before allowing wrestlers to return to Practice. As a further precaution against skin infections, wrestlers should shower after each Practice or competition with an antibacterial soap.

Of additional concern with regard to skin infections are the equipment and clothing used by wrestlers. As mentioned earlier, Practice and competition mats should be cleaned with a disinfectant cleaner immediately prior to each use. Each wrestler's Practice uniform, including headgear, should be cleaned daily using an antibacterial soap or cleaner. Wrestlers who are suspected of being infected, or who have just returned to participation after being infected, should have their Practice uniform and any towels they may have used laundered separately to reduce the risk of contamination.

NFHS MEDICAL RELEASE FORM FOR WRESTLER TO PARTICIPATE WITH SKIN LESION(S)

The National Federation of State High School State Associations' (NFHS) Sports Medicine Advisory Committee has developed a medical release form for wrestlers to participate with skin lesion(s) as a suggested model which has been adopted by PIAA. The NFHS Sports Medicine Advisory Committee (SMAC) conducted a survey among specialty, academic, public health and primary care physicians and reviewed extensively the literature available on the communicability of various skin lesions at different stages of disease and treatment. No definitive data exists that allow us to absolutely predict when a lesion is no longer shedding organisms that could be transmitted to another wrestler. Another finding from the survey was the significant differences that exist among physicians relating to when they will permit a wrestler to return to participation after having a skin infection.

Neither the NFHS nor the NFHS SMAC presumes to dictate to professionals how to practice medicine. Nor is the information on this form meant to establish a standard of care. The NFHS SMAC does feel, however, that the guidelines included on the form represent a summary consensus of the various responses obtained from the survey, from conversations and from the literature. The committee also feels that the components of the form are very relevant to addressing the concerns of coaches, parents, wrestlers and appropriate health-care professionals that led to the research into this subject and to the development of this form.

GOALS FOR ESTABLISHING A WIDELY USED FORM:

- Protect wrestlers from exposure to communicable skin disorders. Although most of the skin lesions being discussed generally have no major long term consequences and are not life threatening, some do have morbidity associated with them and student-athletes should be protected from contracting skin disorders from other wrestlers or contaminated equipment such as mats.
- 2. Allow wrestlers to participate as soon as it is reasonably safe for them and for their opponents and/or teammates using the same mat.
- 3. Establish guidelines to help minimize major differences in management among appropriate health-care professionals who are signing "return to competition forms". Consistent use of these guidelines should reduce the likelihood wrestlers catching a skin disease from participation and suffering from inequalities as to who can or cannot participate.
- 4. Provide a basis to support appropriate health-care professional decisions on when a wrestler can or cannot participate. This should help the appropriate health-care professional who may face incredible pressure from many fronts to return a youngster to competition ASAP. This can involve any student athlete who never wins a match or the next state champion with a scholarship pending.

IMPORTANT COMPONENTS FOR AN EFFECTIVE FORM:

- 1. Each state association needs to determine which appropriate health-care professional can sign off on this form.
- 2. Ensure that appropriate health-care professionals will understand that covering a contagious lesion is not a permitted option. Covering a non-contagious lesion after adequate therapy to prevent injury to lesion is acceptable.
- 3. Inclusion of the date and nature of treatment and the earliest date a wrestler can return to participation. This should mitigate the need for a family to incur the expense of additional office visits as occurs when a form must be signed within three days of wrestling as some do.
- 4. Inclusion of a "bodygram" with front and back views should clearly identify the lesion in question. Using non-black ink to designate skin lesions should result in less confusion or conflict. Also including the number of lesions protects against spread after a visit with an appropriate health-care professional.
- 5. Inclusion of guidelines for minimum treatment before returning the wrestler to action as discussed above. This should enhance the likelihood that all wrestlers are managed safely and fairly.
- 6. Inclusion of all of the components discussed has the potential to remove the referee from making a medical decision. If a lesion is questioned, the referee's role could appropriately be only to see if the coach can provide a fully completed medical release form allowing the wrestler to wrestle.

Revised/Approved by NFHS SMAC - April 2015 / PIAA Revised May 4, 2015

NATIONAL FEDERATION OF STATE HIGH SCHOOL ASSOCIATIONS SPORTS MEDICINE ADVISORY COMMITTEE MEDICAL RELEASE FOR WRESTLER TO PARTICIPATE WITH SKIN LESION

Student's Name:	Age:	Grade:
Enrolled in		School
Diagnosis:	Mark Location AND Number	r of Lesion(s)
Location AND Number of Lesion(s):		
Medication(s) used to treat lesion(s):		
Date Treatment Started:/ Time:	() (UH
Form Expiration Date for this Lesion [Note on Diagram(s)]://	_))((HM
Earliest Date the Wrestler May Return to Participation:///	Front	Back
Treating Authorized Medical Examiner (*AME) [print/type]:	License :	#
Address:	Phone: ()
Treating *AME's Signature:		

Below are some treatment guidelines that suggest MINIMUM TREATMENT before return to wrestling:

Bacterial Diseases (impetigo boils): To be considered "non-contagious," all lesions must be scabbed over with no oozing or discharge and no new lesions should have occurred in the preceding 48 hours. Oral antibiotic for three days is considered a minimum to achieve that status. If new lesions continue to develop or drain after 72 hours, CA-MRSA (Community Associated Methicillin Resistant Staphylococcus Aureus) should be considered and minimum oral antibiotics should be extended to 10 days before returning the athlete to competition or until all lesions are scabbed over, whichever occurs last.

Herpetic Lesions (Simplex, fever blisters/cold sores, Zoster, Gladiatorum): To be considered "non-contagious," all lesions must be scabbed over with no oozing or discharge and no new lesions should have occurred in the preceding 48 hours. For primary (first episode of Herpes Gladiatorum), wrestlers should be treated and not allowed to compete for a minimum of 10 days. If general body signs and symptoms like fever and swollen lymph nodes are present, that minimum period of treatment should be extended to 14 days. Recurrent outbreaks require a minimum of 120 hours of oral anti-viral treatment, again so long as no new lesions have developed and all lesions are scabbed over.

Tinea Lesions (ringworm on scalp or skin): Oral or topical treatment for 72 hours on skin and oral treatment for 14 days on scalp.

Scabies, Head Lice: 24 hours after appropriate topical management.

Conjunctivitis (Pink Eye): 24 hours of topical or oral medication and no discharge.

Molluscum Contagiosum: Upon treatment with curettage and hyfrecator, may cover with biooclusive and wrestle immediately.

NOTE TO TREATING *AME: Non-contagious lesions do not require treatment prior to return to participation (e.g. eczema, psoriasis, etc.). Please become familiar with NFHS Wrestling Rules 4-2-3, 4-2-4, and 4-2-5, which states:

- "ART. 3 . . . If a participant is suspected by the referee or Coach of having a communicable skin disease or any other condition that makes participation appear inadvisable, the Coach shall provide current written documentation as defined by the NFHS or the state associations, from an appropriate health care professional stating that the suspected disease or condition is not communicable and that the athlete's participation would not be harmful to any opponent. This document shall be furnished at the weigh-in for the dual meet or Tournament. The only exception would be if a designated on-site meet appropriate health care professional is present and is able to examine the wrestler either immediately prior to or immediately after the weigh-in. Covering a communicable condition shall not be considered acceptable and does not make the wrestler eligible to participate."
- "ART. 4 . . . If a designated on-site meet appropriate health care professional is present, he/she may overrule the diagnosis of the appropriate health care professional signing the medical release form for a wrestler to participate or not participate with a particular skin condition."
- "ART. 5 . . . A contestant may have documentation from an appropriate health care professional only indicating a specific condition such as a birthmark or other non-communicable skin conditions such as psoriasis and eczema, and that documentation is valid for the duration of the season. It is valid with the understanding that a chronic condition could become secondarily infected and may require re-evaluation."

Once a lesion is considered non-contagious, it may be covered to allow participation.

Revised/Approved by NFHS SMAC - April 2015 / PIAA Revised March 22, 2017

*AUTHORIZED MEDICAL EXAMINER (AME): A licensed physician of medicine or osteopathic medicine, a physician assistant certified, or either a certified registered nurse practitioner or a school nurse practitioner, who is under the supervision of a licensed physician of medicine or osteopathic medicine.

NOTE: PIAA considers an appropriate health care professional to be a M.D. or D.O.

"WEIGHT LOSS--HYPOHYDRATION"

There are two general types of weight loss common to student-athletes who participate in interscholastic sports: loss of body water (at issue here) or loss of stored body lipid (fat) and body tissue. The loss of body water or the process of dehydration, which leads to a state of negative water balance (hypohydration), is brought about by withholding drinking fluids and carbohydrates, the promotion of extensive sweating, and the use of emetics, diuretics, or laxatives. The problem is most evident in those who must be certified to participate in a given weight classification, but it also is present in other athletic groups.

A clue to normal hydration is urine color. Well-hydrated athletes will urinate a dilute urine that is either light yellow (e.g., the color of lemonade) or clear. Ideally, fluid losses should be replaced after each Practice or competition, with consumption of 16 ounces of fluid for each 1 pound of weight lost over that timeframe.

There are no valid reasons for subjecting the student-athlete's body to a hypohydrated state, because of the variety of adverse physiological effects and possible pathology that accompany hypohydration. These include reduced strength and local muscular endurance, smaller plasma, and blood volume, modified cardiac functioning (including higher heart rate, smaller stroke volume, and lesser cardiac output), impaired thermoregulation, decreased kidney blood flow and filtration, reduced liver glycogen stores and loss of electrolytes

When hypohydration is extensive, attempts at rehydration usually are insufficient for body fluid and electrolyte homeostasis to be restored before competition. In **wrestling**, this is especially true between the official weigh-in and actual competition.

The practice of fluid deprivation (dehydration) should be discouraged. To promote sound practices, student-athletes and Coaches should be educated about the physiological and pathological consequences of hypohydration. The use of laxatives, emetics and diuretics should be prohibited. Similarly, the use of excessive food and fluid restriction, self-induced vomiting, vapor-impermeable suits (e.g., rubber or rubberized nylon), hot rooms, hot boxes and steam rooms should be prohibited.

Hypohydration constitutes an unnecessary potential health hazard that acts synergistically with poor nutrition and intense exercise to compromise health and athletic ability. The positive alternative would be to minimize weight loss and maintain a desired weight over the course of the competitive season. To implement these policies, the use of standard measures of percent body fat and body weight would be advisable to ascertain a reasonable weight status for the student-athlete. In **wrestling**, the official competition weigh-in should be scheduled an hour before match time.



Permission to Treat:

Emergency Card for Athletes

- Emergency card/authorization for each athlete must accompany the athlete at all times.
- The card for each athlete should be carried in the first-aid kit for each sport.
- The card for each athlete should be readily accessible to the Coach, athletic trainer, or emergency personnel.
- Prior to the start of each sport, the card for each athlete should be reviewed by the Coach/trainer/athletic director or any other medical personnel for completeness.
- Include emergency phone numbers or significant medical history.

Please complete the information below prior to p	participation in each sports' season:
Name:	
Address:	
City, State, Zip:	
Telephone:	
Blood Type:	
In case of accident or emergency, please contac	t:
Parent's/Guardian's Name	Relationship
Address	Emergency Contact Telephone # ()
Secondary Emergency Contact Person's Name	Relationship
Address	Emergency Contact Telephone # ()
Medical Insurance Carrier	Policy Number
Address	Telephone # ()
Family Physician's Name	, MD or DO (circle one)
Address	Telephone # ()
Pre-Existing Circulatory/Pulmonary Conditions:	
Diabetes:	
Inhalers:	
Allergies or Allergic Reactions:	
Medications Being Used:	
Date of Tetanus Immunization:	
Have you ever had a concussion (i.e. bell rung, ding	, head rush) or head injury?YesNo
Other Pertinent Information:	

Parent's/Guardian's Signature

GUIDELINES FOR MEDICAL COVERAGE FOR ATHLETIC EVENTS

The Governor's Council on Physical Fitness and Sports recommends the following guidelines for medical coverage for student-athletic events:

Equipment: Ice – O₂; Scalpel; Epinephrine; Benadryl; Airway; Endotracheal Tube; Soft Collar; Spine Board; H.Slats, Kelly, Tourniquet; Chest Tube; 18 Gauge Needles; Tape; Air Splint, Cellular Phone

<u>Collision (opponents may displace opponents) Sports:</u> Football, Ice Hockey (male), Lacrosse (male), Wrestling

<u>Contest:</u> Physician and at least one of the following:

Certified Athletic Trainer or Physician Assistant or Nurse Practitioner specifically

trained in sports medicine

Access within 2 to 5 minutes of phone line activation of emergency system (i.e. – ambulance – EMT + physician notification).

Practice: Certified Athletic Trainer or Physician Assistant or Nurse Practitioner specifically

trained in sports medicine

Access within 2 to 5 minutes of phone line activation of emergency system (i.e. – ambulance – EMT + physician notification).

<u>Contact (opponents may not displace opponents) Sports:</u> Baseball, Basketball, Competitive Cheerleading, Cross Country, Field Hockey, Ice Hockey (female), Gymnastics, Lacrosse (female), Soccer, Softball, Swimming and Diving, Track and Field, Volleyball, Water Polo

Contest & Practice: Certified Athletic Trainer or Physician Assistant or Nurse Practitioner

specifically trained in sports medicine

Access within 2 to 5 minutes of phone line activation of emergency system

(i.e. – ambulance – EMT + physician notification).

Non-Contact Sports: Bowling, Golf, Rifle, Tennis

Contest & Practice: Coach Certified in CPR, first aid, and basic care of suspected injuries

Access within 2 to 5 minutes of phone line activation of emergency system

(i.e. – ambulance – EMT + physician notification)

PIAA COMPREHENSIVE INITIAL PRE-PARTICIPATION PHYSICAL EVALUATION (CIPPE) FORM



PIAA COMPREHENSIVE INITIAL PRE-PARTICIPATION PHYSICAL EVALUATION



INITIAL EVALUATION: Prior to any student participating in Practices, Inter-School Practices, Scrimmages, and/or Contests, at any PIAA member school in any school year, the student is required to (1) complete a Comprehensive Initial Pre-Participation Physical Evaluation (CIPPE); and (2) have the appropriate person(s) complete the first six Sections of the CIPPE Form. Upon completion of Sections 1 and 2 by the parent/guardian; Sections 3, 4, and 5 by the student and parent/guardian; and Section 6 by an Authorized Medical Examiner (AME), those Sections must be turned in to the Principal, or the Principal's designee, of the student's school for retention by the school. The CIPPE may not be authorized earlier than June 1st and shall be effective, regardless of when performed during a school year, until the latter of the next May 31st or the conclusion of the spring sports season.

SUBSEQUENT SPORT(S) IN THE SAME SCHOOL YEAR: Following completion of a CIPPE, the same student seeking to participate in Practices, Inter-School Practices, Scrimmages, and/or Contests in subsequent sport(s) in the same school year, must complete Section 7 of this form and must turn in that Section to the Principal, or Principal's designee, of his or her school. The Principal, or the Principal's designee, will then determine whether Section 8 need be completed.

SECTION 1: PERSONAL AND EMERGENCY INFORMATION

PERSONAL INFORMATION Student's Name Male/Female (circle one) Date of Student's Birth: ____/___ Age of Student on Last Birthday: ____ Grade for Current School Year: ____ Current Physical Address _____ Current Home Phone # () Parent/Guardian Current Cellular Phone # ()_____ Fall Sport(s): _____ Spring Sport(s): _____ Spring Sport(s): _____ **EMERGENCY INFORMATION** Parent's/Guardian's Name______ Relationship _____ Address _____ Emergency Contact Telephone # ()_____ Secondary Emergency Contact Person's Name Relationship Address Emergency Contact Telephone # () Medical Insurance Carrier______ Policy Number_____ Address ______Telephone # () ______ Family Physician's Name______, MD or DO (circle one) Telephone # () Address Student's Allergies Student's Health Condition(s) of Which an Emergency Physician or Other Medical Personnel Should be Aware Student's Prescription Medications and conditions of which they are being prescribed ______

Revised: March 22, 2017

Section 2: Certification of Parent/Guardian The student's parent/guardian must complete all parts of this form. **A.** I hereby give my consent for born on ___ on his/her last birthday, a student of School who turned and a resident of the public school district. to participate in Practices, Inter-School Practices, Scrimmages, and/or Contests during the 20____ - 20____ school year in the sport(s) as indicated by my signature(s) following the name of the said sport(s) approved below. Fall Signature of Parent Signature of Parent Winter Signature of Parent Spring or Guardian **Sports Sports** or Guardian Sports or Guardian Cross Basketball Baseball Country Bowling Bovs' Field Lacrosse Competitive Hockey Girls' Spirit Squad Football Lacrosse Girls' Golf Softball Gymnastics Soccer Rifle Boys' **Tennis** Girls' Swimming Track & Field **Tennis** and Diving (Outdoor) Girls' Track & Field Volleyball Boys' (Indoor) Water Volleyball Wrestling Polo Other Other Other Understanding of eligibility rules: I hereby acknowledge that I am familiar with the requirements of PIAA concerning the eligibility of students at PIAA member schools to participate in Inter-School Practices, Scrimmages, and/or Contests involving PIAA member schools. Such requirements, which are posted on the PIAA Web site at www.piaa.org, include, but are not necessarily limited to age, amateur status, school attendance, health, transfer from one school to another, season and out-of-season rules and regulations, semesters of attendance, seasons of sports participation, and academic performance. Parent's/Guardian's Signature Disclosure of records needed to determine eligibility: To enable PIAA to determine whether the herein named student is eligible to participate in interscholastic athletics involving PIAA member schools, I hereby consent to the release to PIAA of any and all portions of school record files, beginning with the seventh grade, of the herein named student specifically including, without limiting the generality of the foregoing, birth and age records, name and residence address of parent(s) or guardian(s), residence address of the student, health records, academic work completed, grades received, and attendance data. Parent's/Guardian's Signature Permission to use name, likeness, and athletic information: I consent to PIAA's use of the herein named student's name, likeness, and athletically related information in video broadcasts and re-broadcasts, webcasts and reports of Inter-School Practices, Scrimmages, and/or Contests, promotional literature of the Association, and other materials and releases related to interscholastic athletics. Parent's/Guardian's Signature ____ Date / / Permission to administer emergency medical care: I consent for an emergency medical care provider to administer any emergency medical care deemed advisable to the welfare of the herein named student while the student is practicing for or participating in Inter-School Practices, Scrimmages, and/or Contests. Further, this authorization permits, if reasonable efforts to contact me have been unsuccessful, physicians to hospitalize, secure appropriate consultation, to order injections, anesthesia (local, general, or both) or surgery for the herein named student. I hereby agree to pay for physicians' and/or surgeons' fees, hospital charges, and related expenses for such emergency medical care. I further give permission to the school's athletic administration, coaches and medical staff to consult with the Authorized Medical Professional who executes Section 6 regarding a medical condition or injury to the herein named student. Parent's/Guardian's Signature CONFIDENTIALITY: The information on this CIPPE shall be treated as confidential by school personnel. It may be used by the school's athletic administration, coaches and medical staff to determine athletic eligibility, to identify medical conditions and injuries, and to promote safety and injury prevention. In the event of an emergency, the information

contained in this CIPPE may be shared with emergency medical personnel. Information about an injury or medical

Date / /

condition will not be shared with the public or media without written consent of the parent(s) or quardian(s).

Parent's/Guardian's Signature

SECTION 3: UNDERSTANDING OF RISK OF CONCUSSION AND TRAUMATIC BRAIN INJURY

What is a concussion?

A concussion is a brain injury that:

- Is caused by a bump, blow, or jolt to the head or body.
- Can change the way a student's brain normally works.
- Can occur during Practices and/or Contests in any sport.
- Can happen even if a student has not lost consciousness.
- Can be serious even if a student has just been "dinged" or "had their bell rung."

All concussions are serious. A concussion can affect a student's ability to do schoolwork and other activities (such as playing video games, working on a computer, studying, driving, or exercising). Most students with a concussion get better, but it is important to give the concussed student's brain time to heal.

What are the symptoms of a concussion?

Concussions cannot be seen; however, in a potentially concussed student, **one or more** of the symptoms listed below may become apparent and/or that the student "doesn't feel right" soon after, a few days after, or even weeks after the injury.

- Headache or "pressure" in head
- Nausea or vomiting
- Balance problems or dizziness
- Double or blurry vision
- Bothered by light or noise

- Feeling sluggish, hazy, foggy, or groggy
- Difficulty paying attention
- Memory problems
- Confusion

What should students do if they believe that they or someone else may have a concussion?

- Students feeling any of the symptoms set forth above should immediately tell their Coach and their parents. Also, if they notice any teammate evidencing such symptoms, they should immediately tell their Coach.
- The student should be evaluated. A licensed physician of medicine or osteopathic medicine (MD or DO), sufficiently familiar with current concussion management, should examine the student, determine whether the student has a concussion, and determine when the student is cleared to return to participate in interscholastic athletics.
- Concussed students should give themselves time to get better. If a student has sustained a concussion, the student's brain needs time to heal. While a concussed student's brain is still healing, that student is much more likely to have another concussion. Repeat concussions can increase the time it takes for an already concussed student to recover and may cause more damage to that student's brain. Such damage can have long term consequences. It is important that a concussed student rest and not return to play until the student receives permission from an MD or DO, sufficiently familiar with current concussion management, that the student is symptom-free.

How can students prevent a concussion? Every sport is different, but there are steps students can take to protect themselves.

• Use the proper sports equipment, including personal protective equipment. For equipment to properly protect a student, it must be:

The right equipment for the sport, position, or activity; Worn correctly and the correct size and fit; and Used every time the student Practices and/or competes.

- Follow the Coach's rules for safety and the rules of the sport.
- Practice good sportsmanship at all times.

If a student believes they may have a concussion: Don't hide it. Report it. Take time to recover.

I hereby acknowledge that I am familiar with the nature and risk of concussion and trauma participating in interscholastic athletics, including the risks associated with continuing to compete traumatic brain injury.		•	•
Student's Signature	_Date_	/	/
I hereby acknowledge that I am familiar with the nature and risk of concussion n injury while participating in interscholastic athletics, including the risks associated with continuir concussion or traumatic brain injury.			
Parent's/Guardian's Signature	_Date_	/_	

SECTION 4: UNDERSTANDING OF SUDDEN CARDIAC ARREST SYMPTOMS AND WARNING SIGNS

What is sudden cardiac arrest?

Sudden cardiac arrest (SCA) is when the heart stops beating, suddenly and unexpectedly. When this happens blood stops flowing to the brain and other vital organs. SCA is NOT a heart attack. A heart attack may cause SCA, but they are not the same. A heart attack is caused by a blockage that stops the flow of blood to the heart. SCA is a malfunction in the heart's electrical system, causing the heart to suddenly stop beating.

How common is sudden cardiac arrest in the United States?

There are about 300,000 cardiac arrests outside hospitals each year. About 2,000 patients under 25 die of SCA each year.

Are there warning signs?

Although SCA happens unexpectedly, some people may have signs or symptoms, such as:

- dizziness
- lightheadedness
- shortness of breath
- difficulty breathing
- racing or fluttering heartbeat (palpitations)
- syncope (fainting)

- fatigue (extreme tiredness)
- weakness
- nausea
- vomiting
- chest pains

These symptoms can be unclear and confusing in athletes. Often, people confuse these warning signs with physical exhaustion. SCA can be prevented if the underlying causes can be diagnosed and treated.

What are the risks of practicing or playing after experiencing these symptoms?

There are risks associated with continuing to practice or play after experiencing these symptoms. When the heart stops, so does the blood that flows to the brain and other vital organs. Death or permanent brain damage can occur in just a few minutes. Most people who have SCA die from it.

Act 59 - the Sudden Cardiac Arrest Prevention Act (the Act)

The Act is intended to keep student-athletes safe while practicing or playing. The requirements of the Act are:

Information about SCA symptoms and warning signs.

- Every student-athlete and their parent or guardian must read and sign this form. It must be returned to the school before participation in any athletic activity. A new form must be signed and returned each school year.
- Schools may *also* hold informational meetings. The meetings can occur before each athletic season. Meetings may include student-athletes, parents, coaches and school officials. Schools may also want to include doctors, nurses, and athletic trainers.

Removal from play/return to play

- Any student-athlete who has signs or symptoms of SCA must be removed from play. The symptoms can happen before, during, or after activity. Play includes all athletic activity.
- Before returning to play, the athlete must be evaluated. Clearance to return to play must be in writing. The
 evaluation must be performed by a licensed physician, certified registered nurse practitioner, or cardiologist (heart
 doctor). The licensed physician or certified registered nurse practitioner may consult any other licensed or
 certified medical professionals.

ve reviewed and understand the sympt	oms and warning signs of SCA.	
Signature of Student-Athlete	Print Student-Athlete's Name	Date//
Signature of Parent/Guardian	Print Parent/Guardian's Name	Date//

Student's Name			Age (Grade		
	SECT	10N 5:	HEALTH HISTORY			
Explain "Yes" answers at the bottom of this	form					
Circle questions you don't know the answe	rs to.	NI-		V	Na	
Has a doctor ever denied or restricted your	Yes	No	23. Has a doctor ever told you that you have	Yes	No	
participation in sport(s) for any reason? 2. Do you have an ongoing medical condition			asthma or allergies? 24. Do you cough, wheeze, or have difficulty			
(like asthma or diabetes)?			breathing DURING or AFTER exercise?			
 Are you currently taking any prescription or nonprescription (over-the-counter) medicines 			25. Is there anyone in your family who has asthma?			
or pills? 4. Do you have allergies to medicines,			 Have you ever used an inhaler or taken asthma medicine? 			
pollens, foods, or stinging insects?			27. Were you born without or are your missing		_	
5. Have you ever passed out or nearly passed out DURING exercise?			a kidney, an eye, a testicle, or any other organ?			
6. Have you ever passed out or nearly	_	_	28. Have you had infectious mononucleosis	_	_	
passed out AFTER exercise? 7. Have you ever had discomfort, pain, or			(mono) within the last month? 29. Do you have any rashes, pressure sores,			
pressure in your chest during exercise? 8. Does your heart race or skip beats during			or other skin problems? 30. Have you ever had a herpes skin			
exercise?			infection?			
Has a doctor ever told you that you have (check all that apply):			CONCUSSION OR TRAUMATIC BRAIN INJURY 31. Have you ever had a concussion (i.e. bell			
☐ High blood pressure ☐ Heart murmur☐ High cholesterol ☐ Heart infection			rung, ding, head rush) or traumatic brain injury?			
 Has a doctor ever ordered a test for your 	_	_	32. Have you been hit in the head and been	_		
heart? (for example ECG, echocardiogram) 11. Has anyone in your family died for no			confused or lost your memory? 33. Do you experience dizziness and/or			
apparent reason?			headaches with exercise?			
Does anyone in your family have a heart problem?			34. Have you ever had a seizure?35. Have you ever had numbness, tingling, or			
 Has any family member or relative been disabled from heart disease or died of heart 			weakness in your arms or legs after being hit or falling?			
problems or sudden death before age 50?			36. Have you ever been unable to move your	_	_	
14. Does anyone in your family have Marfan syndrome?			arms or legs after being hit or falling? 37. When exercising in the heat, do you have			
15. Have you ever spent the night in a hospital?	_	_	severe muscle cramps or become ill?			
16. Have you ever had surgery?		ä	 Has a doctor told you that you or someone in your family has sickle cell trait or sickle cell 	_	_	
 Have you ever had an injury, like a sprain, muscle, or ligament tear, or tendonitis, which 			disease? 39. Have you had any problems with your			
caused you to miss a Practice or Contest?	_		eyes or vision?			
If yes, circle affected area below: 18. Have you had any broken or fractured			40. Do you wear glasses or contact lenses?41. Do you wear protective eyewear, such as			
bones or dislocated joints? If yes, circle below:			goggles or a face shield? 42. Are you unhappy with your weight?			
19. Have you had a bone or joint injury that	_	_	43. Are you trying to gain or lose weight?			
required x-rays, MRI, CT, surgery, injections, rehabilitation, physical therapy, a brace, a			44. Has anyone recommended you change your weight or eating habits?			
cast, or crutches? If yes, circle below: Head Neck Shoulder Upper Elbow Forearm	Hand/	Chest	45. Do you limit or carefully control what you		_	
Upper Lower Hip Thigh Knee Calf/shin	Fingers Ankle	Foot/	eat? 46. Do you have any concerns that you would			
back back 20. Have you ever had a stress fracture?		Toes	like to discuss with a doctor? FEMALES ONLY		R	
21. Have you been told that you have or have	_	_	47. Have you ever had a menstrual period?			
you had an x-ray for atlantoaxial (neck) instability?			48. How old were you when you had your first menstrual period?			
22. Do you regularly use a brace or assistive device?			49. How many periods have you had in the last 12 months?			
			50. Are you pregnant?			
#'s Explain "Yes" answers here:						
			Information boards to the second second			
I hereby certify that to the best of my knowl	eage a	ı of the	information nerein is true and complete.			

Section 6: PIAA Comprehensive Initial Pre-Participation Physical Evaluation and Certification of Authorized Medical Examiner

Must be completed and signed by the Authorized Medical Examiner (AME) performing the herein named student's comprehensive initial pre-participation physical evaluation (CIPPE) and turned in to the Principal, or the Principal's designee, of the student's school. _____ Age____ Student's Name _____ School Sport(s) _____ Enrolled in ____ Weight_____ % Body Fat (optional) _____ Brachial Artery BP____/__ (____/___, , ____/___) RP_____ If either the brachial artery blood pressure (BP) or resting pulse (RP) is above the following levels, further evaluation by the student's primary care physician is recommended. Age 10-12: BP: >126/82, RP: >104; Age 13-15: BP: >136/86, RP >100; Age 16-25: BP: >142/92, RP >96. Corrected: YES NO (circle one) Vision: R 20/____ L 20/___ Pupils: Equal____ Unequal__ MEDICAL NORMAL ABNORMAL FINDINGS Appearance Eyes/Ears/Nose/Throat Hearing Lymph Nodes Heart murmur Femoral pulses to exclude aortic coarctation
Physical stigmata of Marfan syndrome Cardiovascular Cardiopulmonary Lungs Abdomen Genitourinary (males only) Neurological Skin **MUSCULOSKELETAL** NORMAL **ABNORMAL FINDINGS** Neck Back Shoulder/Arm Elbow/Forearm Wrist/Hand/Fingers Hip/Thigh Knee Leg/Ankle Foot/Toes I hereby certify that I have reviewed the HEALTH HISTORY, performed a comprehensive initial pre-participation physical evaluation of the herein named student, and, on the basis of such evaluation and the student's HEALTH HISTORY, certify that, except as specified below, the student is physically fit to participate in Practices, Inter-School Practices, Scrimmages, and/or Contests in the sport(s) consented to by the student's parent/guardian in Section 2 of the PIAA Comprehensive Initial Pre-Participation Physical Evaluation form: CLEARED CLEARED, with recommendation(s) for further evaluation or treatment for: **NOT CLEARED** for the following types of sports (please check those that apply): ☐ COLLISION ☐ CONTACT ☐ NON-CONTACT ☐ STRENUOUS ☐ MODERATELY STRENUOUS ☐ NON-STRENUOUS Due to _____ Recommendation(s)/Referral(s) AME's Name (print/type) Address

AME's Signature MD, DO, PAC, CRNP, or SNP (circle one) Certification Date of CIPPE ___/_

SECTION 7: RE-CERTIFICATION BY PARENT/GUARDIAN

This form must be completed not earlier than six weeks prior to the first Practice day of the sport(s) in the sports season(s) identified herein by the parent/guardian of any student who is seeking to participate in Practices, Inter-School Practices, Scrimmages, and/or Contests in all subsequent sport seasons in the same school year. The Principal, or the Principal's designee, of the herein named student's school must review the SUPPLEMENTAL HEALTH HISTORY.

If any SUPPLEMENTAL HEALTH HISTORY questions are either checked yes or circled, the herein named student shall submit a completed Section 8, Re-Certification by Licensed Physician of Medicine or Osteopathic Medicine, to the Principal, or Principal's designee, of the student's school.

		SUPPL	EMENTAL	L HEALT	H HISTORY				
Studen	t's Name						Male/Fe	emale (c	circle one
Date of	Student's Birth://	A	ge of Stude	ent on Las	t Birthday:	Grade for	Current Scho	ol Year:	
Winter	Sport(s):			_ Spring	Sport(s):				
	GES TO PERSONAL INFORMATION ginal Section 1: Personal and Eme				fy any change	s to the Perso	nal Informati	on set f	forth in
Current	Home Address								
Current	Home Telephone # (Pa	arent/Gua	rdian Current C	Cellular Phone #	: ()		
	GES TO EMERGENCY INFORMATION IN THE SECTION 1: PERSONAL AND E				tify any chanç	ges to the Eme	ergency Infor	mation	set forti
Parent's	s/Guardian's Name					Relati	onship		
Addres	S			_ Emerge	ency Contact Te	elephone # ()		
Second	lary Emergency Contact Person's Na	ıme				Relat	ionship		
Addres	S			_ Emerge	ency Contact Te	elephone # ()		
Medica	Insurance Carrier					Policy Number			
Addres	s				Te	elephone # ()		
Family	Physician's Name						, MD (or DO (c	circle one
Addres	S				Te	lephone # ()		
SUPPL	EMENTAL HEALTH HISTORY:								
	"Yes" answers at the bottom of this foundations you don't know the answers		No					Yes	No
sus req phy	Since completion of the CIPPE, have you stained an illness and/or injury that uired medical treatment from a licensed sician of medicine or osteopathic dicine?	Π	No	4. 5.	experienced any episodes of unexplaine shortness of breath, wheezing, and/or ch pain?	ny episodes of un- reath, wheezing, a	explained and/or chest	les	
had	Since completion of the CIPPE, have you do a concussion (i.e. bell rung, ding, head h) or traumatic brain injury?			6.		at you would			
exp	Since completion of the CIPPE, have you berienced dizzy spells, blackouts, and/or consciousness?				like to discuss	with a physician?			
#'s			Explain	"Yes" an	swers here:				
	y certify that to the best of my kno	_			herein is true	and complete	Date		
	v certify that to the hest of my kno				herein is true	and complete			

Parent's/Guardian's Signature

Section 8: Re-Certification by Licensed Physician of Medicine or Osteopathic Medicine

This Form must be completed for any student who, subsequent to completion of Sections 1 through 6 of this CIPPE Form, required medical treatment from a licensed physician of medicine or osteopathic medicine. This Section 8 may be completed at any time following completion of such medical treatment. Upon completion, the Form must be turned in to the Principal, or the Principal's designee, of the student's school, who, pursuant to ARTICLE X, LOCAL MANAGEMENT AND CONTROL, Section 2, Powers and Duties of Principal, subsection C, of the PIAA Constitution, shall "exclude any contestant who has suffered serious illness or injury until that contestant is pronounced physically fit by the school's licensed physician of medicine or osteopathic medicine, or if none is employed, by another licensed physician of medicine or osteopathic medicine."

NOTE: The physician completing this Form must first review Sections 5 and 6 of the herein named student's previously completed CIPPE Form. Section 7 must also be reviewed if both (1) this Form is being used by the herein named student to participate in Practices, Inter-School Practices, Scrimmages, and/or Contests in a subsequent sport season in the same school year AND (2) the herein named student either checked yes or circled any Supplemental Health History questions in Section 7.

If the physician completing this Form is clearing the herein named student subsequent to that student sustaining a concussion or traumatic brain injury, that physician must be sufficiently familiar with current concussion management such that the physician can certify that all aspects of evaluation, treatment, and risk of that injury have been thoroughly covered by that physician.

Student's Name:	Age Grade
Enrolled in	School
Condition(s) Treated Since Completion of the Herein Name	ed Student's CIPPE Form:
date set forth below, I hereby authorize the above-identifie	r injury, which requires medical treatment, subsequent to the d student to participate for the remainder of the current school ns, except those, if any, set forth in Section 6 of that student's
Physician's Name (print/type)	License #
Address	Phone ()
Physician's Signature	MD or DO (circle one) Date
set forth below, I hereby authorize the above-identified stu	jury, which requires medical treatment, subsequent to the date dent to participate for the remainder of the current school year he restrictions, if any, set forth in Section 6 of that student's
1	
2	
3	
4.	
Physician's Name (print/type)	License #
Address	Phone ()
Physician's Signature	MD or DO (circle one) Date

Section 9: CIPPE MINIMUM WRESTLING WEIGHT

INSTRUCTIONS

Pursuant to the Weight Control Program adopted by PIAA, prior to the participation by any student in interscholastic wrestling, the Minimum Wrestling Weight (MWW) at which the student may wrestle during the season must be (1) certified to by an Authorized Medical Examiner (AME) and (2) established NO EARLIER THAN six weeks prior to the first Regular Season Contest day of the wrestling season and NO LATER THAN the Monday preceding the first Regular Season Contest day of the wrestling season (See NOTE 1). This certification shall be provided to and maintained by the student's Principal, or the Principal's designee.

In certifying to the MWW, the AME shall first make a determination of the student's Urine Specific Gravity/Body Weight and Percentage of Body Fat, or shall be given that information from a person authorized to make such an assessment ("the Assessor"). This determination shall be made consistent with National Federation of State High School Associations (NFHS) Wrestling Rule 1, Competition, Section 3, Weight-Control Program, which requires, in relevant part, hydration testing with a specific gravity not greater than 1.025, and an immediately following body fat assessment, as determined by the National Wrestling Coaches Association (NWCA) Optimal Performance Calculator (OPC) (together, the "Initial Assessment").

Where the Initial Assessment establishes a percentage of body fat below 7% for a male or 12% for a female, the student must obtain an AME's consent to participate.

For all wrestlers, the MWW must be certified to by a	n AME.		
Student's Name	Age		Grade
Enrolled in			School
INITIAL ASSESSMENT I hereby certify that I have conducted an Initial Asse and have determined as follows:	essment of the herein named student consi	stent with the	e NWCA OPC
Urine Specific Gravity/Body Weight/	Percentage of Body FatN	√IWW	
Assessor's Name (print/type)	Assessor	's I.D. #	
Assessor's Signature		Date	//_
CERTIFICATION Consistent with the instructions set forth above ar student is certified to wrestle at the MWW of			
AME's Name (print/type)	Licen	se #	
Address_	Phone ()	
AME's Signature	MD, DO, PAC, CRNP, or SNP Date of (circle one)	of Certification	n//

NOTES:

For an appeal of the Initial Assessment, see NOTE 2.

- 1. For senior high school wrestlers coming out for the Team AFTER the Monday preceding the first Regular Season Contest day of the wrestling season the OPC will remain open until January 15th and for junior high/middle school wrestlers coming out for the Team AFTER the Monday preceding the first Regular Season Contest day of the wrestling season the OPC will remain open all season.
- 2. Any athlete who disagrees with the Initial Assessment may appeal the assessment results one time by having a second assessment, which shall be performed prior to the athlete's first Regular Season wrestling Contest and shall be consistent with the athlete's weight loss (descent) plan. Pursuant to the foregoing, results obtained at the second assessment shall supersede the Initial Assessment; therefore, no further appeal by any party shall be permitted. The second assessment shall utilize either Air Displacement Plethysmography (Bod Pod) or Hydrostatic Weighing testing to determine body fat percentage. The urine specific gravity testing shall be conducted and the athlete must obtain a result of less than or equal to 1.025 in order for the second assessment to proceed. All costs incurred in the second assessment shall be the responsibility of those appealing the Initial Assessment.