2015 - 2016

Sports Medicine Packet

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For additional information related to sports medicine issues concerning athletic participation, please click the "Sports Medicine" tab on the opening page of our website.

WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION

2875 Staunton Turnpike, Parkersburg, WV 26104-7219

TELEPHONE: 304-485-5494
FAX NUMBER: 304-428-5431

E-MAIL: wvssac@wvssac.org
WEB SITE: www.wvssac.org

B U L L E T I N

TO: Athletic Trainers
FROM: Ray Londeree, Assistant Executive Director
DATE: July 2015
SUBJECT: Items of Interest for 2015

REMINDER: All Persons Regardless of Certification Must Attend A 2015 Athletic Trainers Clinic

Points of Special Interest:

1. Concussion Information – Read/Study information completely.
2. WVSSAC Body Fluid Procedures: Be sure to familiarize yourself with this document. Also, be familiar with National Federation's Communicable Disease Procedures found in every rules book.
3. Health Insurance Portability and Accountability Act (HIPAA) - (Refer to your county policy)
4. To clean a contaminated surface it is recommended that a 1/100 dilution of water and household bleach be used. We have been informed that a product called "Precise" is CDC approved to kill everything and will not discolor fabric.
5. Be sure "Prevent Paralysis – Don't Hit With Your Head" is shown to all football players before any live contact occurs. All schools should have a copy of this tape. Please notify us if you cannot locate the videotape.
6. National Federation Rule 1-5-3c – Football: This rule allows hard materials on hand, wrist, forearm or elbow when padded as specified if directed in writing by a licensed medical physician to protect injury. Be sure to become familiar with this rule.
7. Physical Examinations – All student athletes are required to have a complete physical examination each year (Exception – Wood, Lincoln, and Jackson Counties are currently on an experimental plan).
8. Wrestling Issues:
   A) Weight Loss – The NFHS has implemented a new Weight Control Rule beginning with the 2006-2007 Wrestling season. The procedure for West Virginia was developed and in place prior to the 2006 season.
   B) Skin Disease Problems – At the state tournament, a physician will determine if an infected (impetigo) wrestler will be allowed to compete. If the infected athlete is allowed to compete, he must cover the infected area. In addition, all mats will be disinfected between sessions.
9. Athletic trainers are required in all member high schools that sponsor a football program.

10. Athletic Trainers Reports (high schools only): Information must be compiled for the State Department of Education concerning the availability of doctors and athletic trainers and injuries (including concussions) at all practices, scrimmages, and games. Please complete the enclosed forms and return to Dr. Dan Martin by Monday afternoon each week throughout the entire season. It is preferred to send these by email as an attachment.
11. The Sports Medicine Committee meets on a yearly basis. If there are any items that you feel should be addressed, do not hesitate to contact this office.
12. Please note the following interpretation from Dr. Greg Elkins, member of the Sports Medicine Committee:

    > "Fractures which are appropriate for soft casting and sports participation included fractures of upper extremities which are stable, non-displaced fractures and have not required manipulation (setting). Participation with these type injuries should not lead to worsening of the injury if appropriately immobilized. Continued participation of the student athlete with a non-stable or displaced fracture, or a fracture which has required manipulation, may however lead to further complications."

13. Spearing – Special emphasis should be given to this issue prior to the first practice and reinforced at all practices and contests.
14. Use of Performance Enhancing Substances by Athletes – It is the philosophy of the National Federation and the WVSSAC that students be encouraged and supported in their efforts to develop and maintain a healthy life-style. In promotion of safety and healthy life-styles, the WVSSAC Sports Medicine Committee requests that coaches assume the responsibility of informing athletes that the uses of such substances should be discontinued especially during the times when dehydration may occur due to potential life threatening consequences. The committee further encourages all athletic trainers to support coaches in promoting healthy life-styles.
15. Injury/Participation Procedure at WVSSAC Championship Events – Medical personnel (athletic trainers) will have the jurisdiction concerning the return of a player to competition after an injury. If a parent refuses to follow the determination of the authorized person, a release form must be signed.
16. Mouth Guard Policy for Basketball, Soccer, and Wrestling – The use of mouth guards is recommended for all practices and matches. Please note the mandatory requirement has been replaced by a recommendation.
17. Heat Concerns – Athletic Trainers are reminded to be extremely cautious of heat particularly between 12:00 noon and 5:00 p.m. It is further recommended that athletic trainers within a county establish a procedure for notifying junior high/middle school coaches when the temperature is unsafe for practice.

RL/ag

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2015-2016
ATHLETIC TRAINERS CLINICS

DATE	LOCATION	TIME	COORDINATOR
July 29	Wheeling Park H. S.	6:00 p.m.	Dwaine Rodgers
July 30	Huntington H.S.	6:00 p.m.	Bruce Senior
Aug. 2	Parkersburg South H. S.	4:00 p.m.	Rick Leach
Aug. 3	Woodrow Wilson H. S. Beckley	6:00 p.m.	Tim Carrico
Aug. 4	Capital H. S.	6:00 p.m.	Cody Clay
Aug. 6	East Fairmont H. S.	6:00 p.m.	Dave Nuzum
Aug. 7	Martinsburg H. S.	6:00 p.m.	Greg Reed
Aug. 12	WVSSAC Office	7:00 p.m.	Ray Londeree

ALL TRAINERS, REGARDLESS OF CERTIFICATION, MUST ATTEND A N ATHLETIC TRAINERS CLINIC.

WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION

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B U L L E T I N

Athletic Trainer Requirement

Athletic Trainers shall be required in all member high schools of the WVSSAC and must meet the guidelines as set by the State Department of Education Policy 5112. This policy will apply to member public and non-public schools participating in the sport of Football.

See the following link to check State Board Policy:

wvde.state.wv.us

Adopted by the WVSSAC Board of Directors on January 21, 1999.

ATTACHMENT A

ARTIFICIAL LIMB POLICY

Any school that has a student with an artificial limb who wishes to participate in athletics must do the following:

1. Obtain a statement from an orthopedic surgeon licensed to practice medicine in the state of West Virginia that student's participation in the particular sport(s) he desires to participate in is not likely to cause harm to the student with the artificial limb or the other participants in that sports through the use of such artificial limb.

2. Submit such statement and photograph of the artificial limb to the Executive Director of the West Virginia Secondary School Activities Commission before the student commences practice for or participates in said sport.

3. Obtain written permission from the West Virginia Secondary School Activities Commission to participate in such sport before commencing practice or participation.

4. Advise opponents and contest officials at least one week before each contest of such student's participation with such artificial limb.

5. Should the West Virginia Secondary School Activities Commission find that the use of such artificial limb is likely to cause harm to the student using the same or to other participants in the particular sport(s) for which participation is sought, the Commission may withhold such permission or make participation in any particular sport contingent upon the student's exercise of such safeguards as the Commission may prescribe. Any student, parent, principal, or school may appeal the Commission's ruling in this regard the same as any other adverse decision of the Executive Director.

ag/saved as: sports packets/football/Attachment A – Artificial Limb

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B U L L E T I N

TO: High School Athletic Trainers
FROM: Gary Ray, Executive Director
SUBJECT: Athletic Trainers and Physicians

In recent years, the State Department of Education, the West Virginia Athletic Trainers Association, and the West Virginia Chapter American Academy of Family Physicians and the WVSSAC have made an effort to find out how many football games were served by trainers and doctors.

Athletic Trainers Reports (high school only): Information must be compiled for the State Department of Education concerning the availability of doctors and athletic trainers and injuries (including concussions) at all practices, scrimmages, and games. Please complete the enclosed forms and return to Dr. Dan Martin by Monday afternoon each week throughout the entire season. It is preferred to send these by email as an attachment.

Dr. Dan Martin
MSC 75
West Virginia Wesleyan College
59 College Avenue
Buckhannon, WV 26201
Phone: 304-473-8103 *Preferred E-Mail: martin_d1@wvwc.edu*

I realize that you are very busy and have many reports to complete. We would appreciate your cooperation in this matter.

Have a great year!

GR/ag
Saved as: Sports Packets/Athletic Trainer/Letter

FOOTBALL REPORT FOR FALL 2015

Varsity high school football only. This covers the **entire** season starting with the first practice on August 3 and will include all practices, all scrimmages, and all games including payoffs.

SCHOOL	

This report is for the week of (Mark box with an X)

8/3 - 8/8	8/10 – 8/15	8/17 – 8/22	8/24 – 8/29	8/31 – 9/5	9/7 - 9/12
9/14 - 9/19	9/21 - 9/26	9/28 – 10/3	10/5 - 10/10	10/12 - 10/17	10/19 - 10/24
10/26 – 10/31	11/2 – 11/7	11/9 - 11/14	11/16 - 11/21	11/23 - 11/28	11/30 – 12/5

During the previous week (Monday through Saturday) list ALL concussions and then list all other injuries that you referred for additional diagnosis/treatment.

CONCUSSIONS

Player position	Practice	Scrimmage	Game	Transported By ambulance	Was this season ending?
Example: Wide Receiver		*X*			

INJURIES (not concussions) (ex. heat, fracture, dislocation, laceration, sprain, strain)

Player position	Injury (briefly describe include Right or left)	Practice	Scrimmage	Game	Transported By ambulance	Was this season ending?
Example: QB	*Right shoulder dislocation*		*X*		*X*	*X*

If there was a game last week:

Ambulance present at kick off? ____YES ____NO Ambulance present at game's end? ____YES ___NO

Physician present on sideline? YES NO	NAME	MD	DO	DC
Did you attend this game?	_____YES	_____NO		
IF not, who covered?	Their credentials:			
Person completing this report:	Credentials:			

Any questions please contact the WVSSAC OFFICE or **Dr. Dan Martin**

email this form to: martin_d1@wvwc.edu

MSC75, West Virginia Wesleyan College
59 College Avenue,
Buckhannon, WV 26201
304-473-8103

Thank you for your help and cooperation with this WVSSAC report.

National Federation of State
High School Associations

Helmet Removal Guidelines taken from the NFHS Sports Medicine Handbook, Third Edition.

The NFHS supports the recommendation and guidelines set forth by the Inter-Association Task Force for Appropriate Care of the Spine-Injured Athlete.

IMMEDIATE CARE OF SUSPECTED SPINE INJURIES

- Any athlete suspected of having a spinal injury should not be moved and should be managed as though a spinal injury exists.
- The athlete's airway, breathing and circulation, neurological status and level of consciousness should be assessed
- The athlete should not be moved unless absolutely essentially to maintain airway, breathing or circulation
- If the athlete must be moved to maintain airway, breathing or circulation, the athlete should be placed in a supine position while maintaining spinal immobilization
- When moving a suspected spine-injured athlete, the head and trunk should be moved as a unit. One accepted technique is to manually splint the head to the trunk
- The Emergency Medical Services system should be activated

FACE-MASK REMOVAL

The face mask should be removed prior to transportation, regardless of current respiratory status
Those involved in the pre-hospital care of injured football players should have the tools for face mask removal readily available

FOOTBALL HELMET REMOVAL

The athletic helmet and chin strap should only be removed

- If the helmet and chin strap do not hold the head securely, such that immobilization of the helmet does not also immobilize the head
- If the design of the helmet and chin strap is such that even after removal of the face mask the airway cannot be controlled or ventilation be provided
- If the face mask cannot be removed after a reasonable period of time
- If the helmet prevents immobilization for transportation in an appropriate position

HELMET REMOVAL

- Spinal immobilization must be maintained while removing the helmet
- Helmet removal should be frequently practiced under proper supervision
- Specific guidelines for helmet removal need to be developed
- In most circumstances, it may be helpful to remove cheek padding and/or deflate air padding to helmet removal

EQUIPMENT

- Appropriate spinal alignment must be maintained
- There needs to be a realization that the helmet and shoulder pads elevate an athlete's trunk when in supine position
- If the helmet is removed, then shoulder pads must be removed to ensure proper spinal alignment
- If the helmet is not removed, the front of the shoulder pads can be opened to allow access for CPR

This task force encourages the development of a local emergency care plan regarding the pre-hospital care of the athlete with a suspected spine injury. This plan should include communication with the institution's administration and those directly involved with the assessment and transportation of the injured athlete.

All providers of pre-hospital care should practice and be competent in all of the skills identified in these guidelines before they are needed in an emergency situation.

MORE ON HELMET REMOVAL

SIGNIFICANCE

Athletic participation carries with it the risk of catastrophic cervical injury. Because of the potential for permanent neurological injury and even death associated with cervical spine injury, proper on-field management is imperative to avoid further injury and catastrophic consequences. **Sports medicine professionals support the practice of not removing football helmets when there is even the slightest chance of cervical spine injury for the following reasons:**

1. The football helmet does not hinder proper immobilization techniques
2. The football helmet does not hinder the ability of the examiner to visualize facial and cranial injuries
3. The football helmet allows proper management and control of the airway during CPR
4. The football helmet will not tend to cause hyper flexion of the cervical spine in the presence of shoulder pads

RECOGNITION AND MANAGEMENT

- Any suspected head and/or spine injury should be attended to with the helmet left on the athlete
- If in doubt, **DO NOT REMOVE HELMET**
- Each institution should develop a venue specific emergency plan for the pre-hospital management of the spine-injured athlete, including:
    1. A uniform understanding when and when not to remove the helmet
    2. Established procedures, periodically practiced and reviewed, in proper spinal immobilization and in summoning emergency care (Also see NFHS Guidelines for Emergency Planning)
    3. Assurance that an athletic trainer or coach carries on their person a face-mask removal tool such as a screwdriver, power screwdriver, Trainer's Angel™, FM Extractor™, or a modified anvil pruner. A backup removal tool should also be on hand if a screwdriver is the first tool of choice

HELMET REMOVAL IN OTHER SPORTS

It is recommended that each situation be treated individually and held to the same criteria for determining the removal of football helmets. In all cases it is recommended that the helmet be left on during pre-hospital management of the spine-injured athlete, unless:

- The helmet is not form fitted to the head, such that the head is able to move within the helmet and is not provided adequate immobilization
- The design of the helmet does not allow for airway control even after the face mask is removed
- The face mask is difficult to remove and cannot be done in a reasonable amount of time
- The helmet does not allow immobilization in a safe position for transportation

RECOMMENDATIONS FOR INJURY PREVENTION

- Instruct coaches in proper helmet techniques
- Educate coaches, athletes, administrators and parents on wrongful, improper use of helmets, i.e., spearing, head blocking, tackling, etc. The head should never be used as the initial contact point when blocking or tackling
- Engage in proper on-field management of spinal injuries (i.e., a downed athlete should be aided only by designated medical personnel and not by other athletes)
- Adopt the recommendations and guidelines established by the Inter-Association Task Force's for Appropriate Care of the Spine Injured Athlete
- Part of the Emergency Plan should be to regularly practice helmet removal, log roll and other appropriate procedures possibly necessary in managing suspected cervical spine injury.

REFERENCES

- Kleiner DM. New guidelines for the appropriate care of a suspected spine injury. Athletic Therapy Today. 1998; 3: 50-51
- Kleiner DM, Almquist JL, Bailes J, et al. Prehospital care of the spine injured athlete. National Athletic Trainers' Association; 2001. http://www.nata.org/spineinjuredathlete/main.htm
- Mueller F, Cantu R. 25th Annual Report 1982-2007. National Center for Catastrophic Sports Injury Research; Chapel Hill, NC. 2008
- Mueller F, Blyth C. An update on football deaths and catastrophic injuries. The Physician and Sportsmedicine. 1986; 14: 139-142
- National Athletic Trainers Association: Spine Injury Management Kit Release 1.0 (Human Kinetics)

National Federation of State
High School Associations

NFHS Guidelines on Handling Practices and Contests During Lightning or Thunder Disturbances

National Federation of State High School Associations (NFHS)
Sports Medicine Advisory Committee (SMAC)

These guidelines provide a default policy to those responsible or sharing duties for making decisions concerning the suspension and restarting of practices and contests based on the presence of lightning or thunder. The preferred sources from which to request such a policy for your facility would include your state high school activities association and the nearest office of the National Weather Service.

Proactive Planning

1. Assign staff to monitor local weather conditions before and during practices and contests.
2. Develop an evacuation plan, including identification of appropriate nearby safe areas.
3. Develop criteria for suspension and resumption of play:
    a. When thunder is heard within 30 seconds of a visible lightning strike, or a cloud-to-ground lightning bolt is seen, the thunderstorm is close enough to strike your location with lightning. Suspend play for thirty minutes and take shelter immediately.
    b. Thirty-minute rule. Once play has been suspended, wait at least 30 minutes after the last thunder is heard or flash of lightning is witnessed prior to resuming play.
    c. Any subsequent thunder or lightning after the beginning of the 30-minute count will reset the clock and another 30-minute count should begin.
4. Review annually with all administrators, coaches and game personnel.
5. Inform student athletes of the lightning policy at start of season.

For more detailed information, refer to the “Lightning and Thunder Safety” section contained in the NFHS Sports Medicine Handbook.

Revised and Approved January 2014

WVSSAC

Return to Play (RTP) Protocol

An athlete removed from a contest that shows signs/symptoms of a concussion shall be immediately evaluated by an appropriate health care professional. If no appropriate health care professional is available, the athlete shall not be allowed to RTP.

When the athlete is evaluated by the appropriate health care professional, if it is determined the athlete has suffered a concussion, the athlete shall not be permitted to RTP the same day as the concussion. If it is determined by the appropriate health care professional that the athlete did not suffer a concussion, the athlete may be returned to play as deemed appropriate by the health care professional.

RTP shall be delayed until athlete is asymptomatic and has undergone a progression of tests to determine if they are able to RTP.

The progression shall follow: (Neuro-cognitive testing is strongly recommended.)

- No activity with complete physical and cognitive rest
- Light aerobic exercise (less than 70% of maximum heart rate)
- Sport specific exercise (drills specific to the athlete's sport)
- Non-contact training drills (more intense sport drills with no contact from other players)
- Full participation practice (following written medical clearance)
- Return to Play (normal game play)

If any symptoms occur during the progression, the athlete should drop back to the previous level and try to complete that level after 24 hour rest period.

Appropriate Health Care Professional

Note: Any of the following who have appropriate training in the evaluation and management of head injuries.

- Medical Doctor (MD)
- Doctor of Osteopathy (DO)
- Doctor of Chiropractic (DC)
- Advanced Registered Nurse Practitioner (ARNP)
- Physician Assistant (PA-C)
- Registered Certified Athletic Trainers (ATC/R)

Approved Board of Directors 5/06/10. Reviewed 2015

rk:Sports Medicine/Return to Play

National Federation of State High School Associations

A Parent's Guide to Concussion in Sports

What is a concussion?

A concussion is a brain injury which results in a temporary disruption of normal brain function. A concussion occurs when the brain is violently rocked back and forth or twisted inside the skull as a result of a blow to the head or body. An athlete does not have to lose consciousness ("knocked-out") to suffer a concussion.

Concussion Facts

- It is estimated that over 140,000 high school athletes across the United States suffer a concussion each year. (Data from NFHS Injury Surveillance System)
- Concussions occur most frequently in football, but girl's lacrosse, girl's soccer, boy's lacrosse, wrestling and girl's basketball follow closely behind. All athletes are at risk.
- A concussion is a traumatic injury to the brain.
- Concussion symptoms may last from a few days to several months.
- Concussions can cause symptoms which interfere with school, work, and social life.
- An athlete should not return to sports while still having symptoms from a concussion as they are at risk for prolonging symptoms and further injury.
- A concussion may cause multiple symptoms. Many symptoms appear immediately after the injury, while others may develop over the next several days or weeks. The symptoms may be subtle and are often difficult to fully recognize.

What are the signs and symptoms of a concussion?

SIGNS OBSERVED BY PARENTS, FRIENDS, TEACHERS OR COACHES	SYMPTOMS REPORTED BY ATHLETE
Appears dazed or stunned	Headache
Is confused about what to do	Nausea
Forgets plays	Balance problems or dizziness
Is unsure of game, score, or opponent	Double or fuzzy vision
Moves clumsily	Sensitivity to light or noise
Answers questions slowly	Feeling sluggish
Loses consciousness	Feeling foggy or groggy
Shows behavior or personality changes	Concentration or memory problems
Can't recall events prior to hit	Confusion
Can't recall events after hit	

What should I do if I think my child has had a concussion?

If an athlete is suspected of having a concussion, he or she must be immediately removed from play, be it a game or practice. Continuing to participate in physical activity after a concussion can lead to worsening concussion symptoms, increased risk for further injury, and even death. Parents and coaches are not expected to be able to "diagnose" a concussion, as that is the job of a medical professional. However, you

must be aware of the signs and symptoms of a concussion and if you are suspicious, then your child must stop playing.

When in doubt, sit them out!

All athletes who sustain a concussion need to be evaluated by a health care professional who is familiar with sports concussions. You should call your child's physician and explain what has happened and follow your physician's instructions. If your child is vomiting, has a severe headache, is having difficulty staying awake or answering simple questions he or she should be taken to the emergency department immediately.

When can an athlete return to play following a concussion?

After suffering a concussion, **no athlete should return to play or practice on that same day**. Previously, athletes were allowed to return to play if their symptoms resolved within 15 minutes of the injury. Studies have shown us that the young brain does not recover quickly enough for an athlete to return to activity in such a short time.

Concerns over athletes returning to play too quickly have led state lawmakers in both Oregon and Washington to pass laws stating that **no player shall return to play following a concussion on that same day and the athlete must be cleared by an appropriate health-care professional before he or she are allowed to return to play in games or practices.** The laws also mandate that coaches receive education on recognizing the signs and symptoms of concussion.

Once an athlete no longer has symptoms of a concussion and is cleared to return to play by health care professional knowledgeable in the care of sports concussions he or she should proceed with activity in a step-wise fashion to allow the brain to re-adjust to exertion. On average the athlete will complete a new step each day. The return to play schedule should proceed as below following medical clearance:

Step 1: Light exercise, including walking or riding an exercise bike. No weight-lifting.
Step 2: Running in the gym or on the field. No helmet or other equipment.
Step 3: Non-contact training drills in full equipment. Weight-training can begin.
Step 4: Full contact practice or training.
Step 5: Game play.

If symptoms occur at any step, the athlete should cease activity and be re-evaluated by their health care provider.

How can a concussion affect schoolwork?

Following a concussion, many athletes will have difficulty in school. These problems may last from days to months and often involve difficulties with short and long-term memory, concentration, and organization. In many cases it is best to lessen the athlete's class load early on after the injury. This may include staying home from school for a few days, followed by a lightened schedule for a few days, or perhaps a longer period of time, if needed. Decreasing the stress on the brain early on after a concussion may lessen symptoms and shorten the recovery time.

What can I do?

- Both you and your child should learn to recognize the "Signs and Symptoms" of concussion as listed above.
- Teach your child to tell the coaching staff if he or she experiences such symptoms.
- Emphasize to administrators, coaches, teachers, and other parents your concerns and expectations about concussion and safe play.
- Teach your child to tell the coaching staff if he or she suspects that a teammate has a concussion.
- Monitor sports equipment for safety, fit, and maintenance.
- Ask teachers to monitor any decrease in grades or changes in behavior that could indicate concussion.
- Report concussions that occurred during the school year to appropriate school staff. This will help in monitoring injured athletes as they move to the next season's sports.

Other Frequently Asked Questions

Why is it so important that an athlete not return to play until they have completely recovered from a concussion?

Athletes who are not fully recovered from an initial concussion are significantly vulnerable for recurrent, cumulative, and even catastrophic consequences of a second concussive injury. Such difficulties are prevented if the athlete is allowed time to recover from the concussion and return to play decisions are carefully made. No athlete should return-to-sport or other at-risk participation when symptoms of concussion are present and recovery is ongoing.

Is a "CAT scan" or MRI needed to diagnose a concussion?

Diagnostic testing, which includes CT ("CAT") and MRI scans, are rarely needed following a concussion. While these are helpful in identifying life-threatening brain injuries (e.g. skull fracture, bleeding, swelling), they are not normally utilized, even by athletes who have sustained severe concussions. A concussion is diagnosed based upon the athlete's story of the injury and the health care provider's physical examination.

What is the best treatment to help my child recover more quickly from a concussion?

The best treatment for a concussion is rest. There are no medications that can speed the recovery from a concussion. Exposure to loud noises, bright lights, computers, video games, television and phones (including text messaging) all may worsen the symptoms of a concussion. You should allow your child to rest as much as possible in the days following a concussion. As the symptoms lessen, you can allow increased use of computers, phone, video games, etc., but the access must be lessened if symptoms worsen.

How long do the symptoms of a concussion usually last?

The symptoms of a concussion will usually go away within one week of the initial injury. You should anticipate that your child will likely be out of sports for about two weeks following a concussion. However, in some cases symptoms may last for several weeks, or even months. Symptoms such as headache, memory problems, poor concentration, and mood changes can interfere with school, work, and social interactions. The potential for such long-term symptoms indicates the need for careful management of all concussions.

How many concussions can an athlete have before he or she should stop playing sports?
There is no "magic number" of concussions that determine when an athlete should give up playing contact or collision sports. The circumstances surrounding each individual injury, such as how the injury happened and length of symptoms following the concussion, are very important and must be considered when assessing an athlete's risk for further and potentially more serious concussions. The decision to "retire" from sports is a decision best reached following a complete evaluation by your child's primary care provider and consultation with a physician or neuropsychologist who specializes in treating sports concussion.

I've read recently that concussions may cause long-term brain damage in professional football players. Is this a risk for high school athletes who have had a concussion?
The issue of "chronic encephalopathy" in several former NFL players has received a great deal of media attention lately. Very little is known about what may be causing dramatic abnormalities in the brains of these unfortunate retired football players. At this time we have very little knowledge of the long-term effects of concussions which happen during high school athletics.
In the cases of the retired NFL players, it appears that most had long careers in the NFL after playing in high school and college. In most cases, they played football for over 20 years and suffered multiple concussions in addition to hundreds of other blows to their heads. Alcohol and steroid use may also be contributing factors in some cases. Obviously, the average high school athlete does not come close to suffering the total number or shear force of head trauma seen by professional football players. However, the fact that we know very little about the long-term effects of concussions in young athletes is further reason to very carefully manage each concussion.

Some of this information has been adapted from the CDC's "Heads Up: Concussion in High School Sports" materials by the NFHS's Sports Medicine Advisory Committee. Please go to **www.cdc.gov/ncipc/tbi/Coaches_Tool_Kit.htm** for more information.
If you have any further questions regarding concussions in high school athletes or want to know how to find a concussion specialist in your area please contact Michael C. Koester, MD, ATC and Chair of the NFHS Sports Medicine Advisory Committee at **michael.koester@slocumcenter.com**.
April 2010

Concussion Course Required

All Head Coaches are required to take the free course "Concussion **in Sports"** annually.

If the **Head Coach** took the course last year, he/she **MUST** take the course again before the anniversary date from the previous year.

You must go through the purchase/checkout process for the free course in order to get credit for the current year and to be able to print the certificate.

New Head Coaches **must** take the course now. Follow the directions "**New to NFHS Learn? Register Now**" on www.nfhslearn.com

Concussion in Sports - What You Need to Know

Ordering Information at www.nfhslearn.com

Steps to access the FREE course:

1. Go to **www.nfhslearn.com**
2. Sign in with your e-mail and password if you have previously registered.
3. If you need to register, it will only take a couple of minutes. All users at www.nfhslearn.com must be registered with a unique e-mail address and password.
4. Toward the upper left-hand part of the screen , you will see the "Click to Access This Free Course" for **"Concussion in Sports — What You Need to Know."**
5. You can order licenses as an individual to take the course yourself OR you can purchase courses in bulk if you intend to distribute the courses to others (there is a limit of 99 licenses per any one order).
6. Note: You will need to click on "Save" once you have put the course(s) in your cart and before you can proceed to Checkout.
7. As you go through the process you will see that you are using the "purchasing process" that is standard for NFHS Coach Education courses. You are not being charged anything for the Concussion courses. You do have the ability to order other courses at the same time, and you will be asked for payment for those.
8. You can then start the course if you ordered as an individual or begin distributing the licenses if you ordered in bulk.
9. If necessary, refer to the form regarding distributing bulk licenses. It can be found in the Locker Room at www.nfhslearn.com.

The online concussion course is offered at no cost to the user. Once you have finished, you will be added to the database as having completed the course. The name of the individual completing the course will appear in the "Coach Search" feature as having completed this course along with any other courses completed at **www.nfhslearn.com**.

HUMAN IMMUNODEFICIENCY VIRUS (HIV) AND OTHER BLOOD-BORNE PATHOGENS IN SPORTS

Joint Position Statement *by the American Medical Society for Sports Medicine (AMSSM) and the American Orthopaedic Society for* Sports Medicine (AOSSM).

The AMSSM and the AOSSM recognize that human immunodeficiency virus (HIV) infection. as well as other blood-borne pathogens including hepatitis B and C, poses a series of important and complex issues for practitioners involved in the care of athletes. This document is directed toward physicians and other health-care providers involved in the field of sports medicine and is intended to serve as a guideline to 1) understand HIV and other blood-borne pathogens as they relate to sports; 2) implement practical preventive measures that further minimize the low risk of transmission of these pathogens. 3) develop effective educational initiatives regarding these infections, their transmission, and prevention among athletes and others involved in sports; and 4) provide guidance for the care of HIV-infected athletes.

The AMSSM and AOSSM recognize that the medical information concerning blood-borne pathogens, particularly with regard to HIV, is evolving rapidly. This document is intended only as a guideline and is based on the present available knowledge. The following recommendations may change in the future.

HIV AND HEPATITIS B. C, AND D: EPIDEMIOLOGY AND TRANSMISSION-*In the United States alone it is estimated that there are approximately one million HIV-infected persons. This translates into one infection in every 250 Americans.*

The natural history of HIV infection. while continuously being refined, is one of a progressive disease leading to immune suppression and the development of acquired immunodeficiency syndrome (AIDS). The AIDS is characterized by the development of opportunistic infections and malignancies that ultimately lead to the death of the infected person. However the course of the infection is frequently protracted, affording the HIV-infected person many years of good health, during which issues concerning an infected person's involvement in exercise and sports may arise.

The HIV is transmitted through sexual contact, parenteral exposure to blood and blood components, contamination of infected blood into open wounds or mucous membranes, and perinatally from an infected mother to fetus or infant. There is no evidence of transmission via other routes, such as through casual contact in a household or the aerosol route. One case was reported of transmission from an HIV-infected hemophiliac to his twin hemophiliac brother, which may have resulted from a shared razor." A second case was documented of transmission of the HIV from an HIV-infected child to an HIVseronegative child. Although the mode of transmission is unknown, it is believed to be through unrecognized exposure to blood. 7 While the virus may be present in a variety of body fluids, only blood poses any degree of risk of transmission in athletic settings. Tears, sweat, urine, sputum, vomitus, saliva and respiratory droplets have not been implicated in infection transmission.

There are currently estimated to be over one million carriers of hepatitis B virus (HBV) in the United States. Hepatitis B is spread through the same routes as HIV (sexual contact. parenteral blood exposure, and perinatally) but is more readily transmitted than HIV. Explanations for this difference may include the fact that HBV is far more concentrated in blood, with a milliliter of blood containing upward of 100 million infectious doses of the virus,2 whereas HIV is generally found in concentrations of only a few hundred to a few thousand particles per milliliter of blood.12

TRANSMISSION OF HIV AND OTHER BLOOD-BORNE PATHOGENS THROUGH SPORTS

HIV At present there are no epidemiologic studies assessing the transmission of HIV or other blood-borne pathogens during athletic activity. One alleged case of HIV transmission was reported in 1990 between soccer players in Italy.2 However, this case lacked sufficient documentation to be considered a transmission during athletic activity.3 This absence of documented cases of transmission during athletic activity is significant in view of the known prevalence of HIV infection. The risk of HIV transmission on the field in the National Football League has been conservatively estimated at below one per million games.8 The experience gathered from occupational exposure in the health-care setting has shown that the risk of transmission for parenteral exposure is likely influenced by a variety of factors. including the size of the inoculum and the route of entry. The HIV transmission is documented to occur in approximately 1 of 300 needle-stick injuries involving infected blood. However, most cases have been associated with deep (intramuscular) penetrations with hollowbore needles.9 Mucocutaneous transmission has been only rarely reported, and each case has involved large quantities of blood, prolonged exposure, and a portal of entry. Prospective analysis of cases of HIV-infected blood contact with mucous membranes or nonintact skin or both has revealed one case of such transmission.14 These occupational data provide strong resumptive evidence that sports-related transmission of HIV is unlikely. However. despite the negative data. the theoretical chance is not zero for HIV transmission in situations in sports in which significant blood exposures to open wounds could occur. However, the risk is sufficiently small that we are not able to quantify it.

HBV There has been one valid report (based on epidemiologic evidence) of HBV transmission in sports participation. This involved a group of high school-aged Sumo wrestlers in Japan and was reported in 1982.15 Given the prevalence of chronic carriers of HBV in the general population, it is remarkable that only one well-validated case has been reported in the literature. In the health-care setting the risk of transmission for parenteral exposure is much greater than that of HIV (approximately 3 of 10).4 In addition, cases of transmission among household/ institutional contacts who have not been involved in shared needle use or sexual intercourse with other infected partners have been reported only rarely.' 13 Although not certain, the routes of entry may have resulted from unnoticed wound or mucous membrane exposure through shared razors or toothbrushes. The chronic HBV carrier who is e-antigen positive presents the greatest concern for transmission. Again, as in the case of HIV, we are not able to quantify the risk of transmission in sports. However, given the limited data about transmission. it may be presumed that the sports-related transmission risk for HBV (especially in the presence of e-antigen positive persons) is greater than the risk for HIV.

It should be recognized that contact and collision sports have a higher risk of significant blood exposure than do other sports. Athletes competing in such sports need to be aware of the small theoretical risk of blood-borne pathogen transmission in these sports. The infected athlete has special responsibilities in continuing to participate in this form of competition.

Even given these small probabilities of transmission, where preventive actions (which are consistent with basic good hygiene) are practical and simple to implement, such actions should be taken. The greatest risk to the athlete for contracting any bloodborne pathogen infection is through sexual activity and parenteral drug use, not in the sporting arena

EDUCATION The AMSSM and AOSSM recognize that preventive education remains the most important weapon in the effort to prevent blood-borne pathogen transmission. Sports medicine practitioners should play an important role in educational activities directed at athletes, their families, athletic trainers, other healthcare providers, coaches, officials, and others involved in sports. First and foremost, athletes should

be educated in clear and effective language about the risk of HIV and other blood-borne pathogen transmission through sexual contact. Abstinence or monogamous sex between uninfected partners is the only certain strategy for protection against sexual transmission. In other sexual relationships, the use of condoms with water-based lubricants is recommended. Although the effectiveness of spermicides containing nonoxynol-9 is still being reviewed, these may serve as adjuncts to condoms. Also, the athlete is susceptible to transmission via shared contaminated needles and syringes associated with drug use. This includes the use of ergogenic aids such as anabolic steroids as well as drugs of abuse, such as heroin. These risks should be clearly presented to the athlete as well. Athletes should also avoid sharing personal items such as razors, toothbrushes, and nail clippers.
Education regarding the risk of transmission during athletic competition is also important. The risk of such transmission, while highly improbable, can be minimized further by such common-sense hygienic measures as the prompt application of first aid to bleeding injuries. Athletes should be made aware that it is in their best interest to report significant injuries in a timely manner to the appropriate official, coach, or caregiver. Caregivers should be trained in and adhere to universal precautions.5,13

Physicians involved in sports medicine can also play important roles in general education designed to reduce fear and misconceptions among athletes, their families, and all persons associated with sports concerning blood-borne pathogen transmission.

The athletic setting affords unique opportunities for educational initiatives regarding the transmission and prevention of HIV and other blood-borne pathogens. Physician-athlete interactions such as preparticipation or injury evaluations may be the only interactions that the athlete has with a knowledgeable health professional. Opportunities to incorporate education on disease transmission during these encounters should be sought. Athletic organizations, as well as individual athletes, may also be able to make meaningful contributions to the community's overall education effort.

THE HIV-INFECTED ATHLETE Physicians involved in sports medicine must be knowledgeable in the issues surrounding management of HIV-infected athletes. Given the continuing epidemic of HIV infection worldwide, this disease will be diagnosed in increasing numbers of infected athletes. Although HIV is an extremely serious health problem, it must be recognized that it is a chronic disease, frequently affording the infected person many years of excellent health and productive life during its natural history. During the period of preserved health, the sports medicine practitioner may be involved in the series of complex issues surrounding the advisability of continued exercise and athletic competition. The first priority of the HIV-infected athlete is ensuring that he or she comes under the care of a physician knowledgeable in the management of HIV infection. In addition, the infected athlete should be directed to appropriate counselling services dealing with the psychosocial aspects of this disease. Confidentiality of the patient must be maintained as dictated by medical ethics and legal statutes. The decision to advise continued athletic competition should be individualized involving the athlete, the athlete's personal physician, and the sports medicine practitioner. Variables to be considered in reaching this decision include 1) the athlete's current state of health and the status of HIV infection, 2) the nature and intensity of training, 3) potential contribution of stress from athletic competition, and 4) potential risk of HIV transmission.

There is no evidence that exercise and training of moderate intensity are deleterious to the health of HIV-infected persons. To the contrary, there is growing evidence that such forms of physical activity may be beneficial both psychologically and immunologically, and thus should be encouraged with appropriate monitoring.2 When counselling the HIV-infected athlete. sports medicine physicians should re member that severe psychological and physical stress. as can be found in athletic competition. can have a deleterious effect on the functions of the immune system as well as the overall state of mental and physical health and thus should be taken into consideration.

Based on current medical and epidemiologic information, HIV infection alone is insufficient grounds to prohibit athletic competition.

THE HBV-INFECTED ATHLETE In general, acute HBV infection should be viewed just as other viral infections. Decisions regarding ability to play are made according to clinical signs and symptoms such as fever, fatigue, or hepatomegaly. There is no evidence that intense, highly competitive training is a problem for the asymptomatic HBV carrier (acute or chronic).

HIV TESTING-Mandatory Testing The AMSSM and AOSSM believe that mandatory testing or widespread blood-borne pathogen screening is not justified for medical reasons as a condition for athletic participation or competition. Such testing would not effectively prevent infection. promote health, or be easily implemented.

Any consideration of a blood-borne pathogen testing program in the athletic setting must address the practical, medical, scientific, legal, and ethical problems that such a program poses. First, the issue of who should be tested may be unclear. Testing at one level (the professional level) cannot be done without consideration of testing at other levels (e.g., collegiate, high school, community sports programs). In addition, the frequency of testing would have to be determined. An athlete with a negative test at the beginning of the season would not be guaranteed of having a negative test 3 months later. Massive screening in low-prevalence populations leads to a higher rate of false-positive tests, resulting in undue duress. counselling. and complex follow-up evaluation. Most importantly, any testing program, no matter how widespread, is not justifiable precisely because it fails to further diminish the "too low to qualify risk of blood-borne pathogen transmission in sports. Other factors, including overwhelming costs, as well as legal and ethical considerations of mandatory testing for populations that may include minors, further suggest that there is no rational basis for supporting blood-borne pathogen tests in sports.

Voluntary Testing Voluntary testing should be suggested to athletes as well as nonathletes who may have been exposed to blood-borne pathogen transmission. Included would be those who have had 1) multiple sexual partners:2) injections of nonprescription drugs, such as drugs of abuse or ergogenic aids: 3) sexual contacts with at-risk persons; 4) sexually transmitted diseases, including HBV; and 5) blood transfusions before 1985.

Pre- and posttest counselling is extremely important for anyone undergoing HIV testing and should be arranged by the ordering physician. When obtaining informed consent and reviewing the positive and negative results, state guidelines must be followed. (Guidelines may vary from state to state.)

Personal knowledge of blood-borne serum status combined with pre- and posttest counselling can be a helpful adjunct to preventive education. Knowledge of one's infection is helpful for a variety of reasons. These reasons include availability of therapy for asymptomatic patients in the case of HIV, modification of behavior that can prevent transmission of blood-borne pathogens to others, and appropriate counselling regarding exercise and sports participation. The AMSSM and AOSSM urge that appli" cable public health measures for handling an epidemic be followed with the HIV-infected persons.

SPECIFIC MANAGEMENT AND PREVENTIVE MEASURES FOR SPORTS EVENTS-Any risk of blood-borne pathogen transmission in sports is exceedingly small. However, all involved with sports will help further reduce the risk of transmission by following guidelines that are both practical and simple to implement. A major component to these guidelines is common sense and adherence to basic principles of hygiene.

Universal precautions, developed by the Centers for Disease Control and Prevention, should be learned and followed by all health-care providers.

Because the risk of blood-borne pathogen transmission in sports is confined to contact with blood, body fluids, and other fluids containing blood, preventive measures should be focused on the recognition and immediate treatment of bleeding.

Many athletic contests and practices, especially at the community or scholastic level, occur without medical personnel in attendance. The above guidelines apply not only to physicians, athletic trainers, and physical therapists involved in the coverage of sports, but also to coaches and officials who may be involved as the primary caregivers in many circumstances. All personnel involved with sports should be trained in basic first aid and infection control, including the preventive measures outlined here.

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WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION
2875 STAUNTONTURNPIKE, PARKERSBURG, WV 26104

BODY FLUID HANDLING PROCEDURES

PURPOSE

The West Virginia Secondary School Activities Commission has adopted this policy in an effort to minimize the possibility of transmission of any infectious disease during a high school athletic practice or contest.
The policy primarily addresses blood-borne pathogens such as Hepatitis B virus and the Human Immunodeficiency Virus (HIV). However, it also discusses common-sense precautions against the spread of less serious contagions such as the Influenza virus and the Common Cold virus.
Much of this policy has been written with contacts sports such as football, wrestling, and basketball in mind. However, it is applicable for all sports.

BLOOD-BORNE PATHOGENS

Blood-Borne pathogens such as Hepatitis B and HIV are serious infectious diseases which are present in blood as well as other bodily fluids; such as semen, vaginal secretions and breast milk. While there are a number of other such blood-borne diseases, Hepatitis B and HIV are the most commonly known.
Hepatitis B is a virus which results in a dangerous inflammation of the liver. Its victims suffer long-term consequences and reoccurrences, and the disease can be deadly if not treated. HIV is the virus that causes Acquired Immunodeficiency Syndrome (AIDS), which weakens the immune system, thus making a person susceptible to infections their immune systems would normally fight off.
The precise risk of HIV transmission during exposure of open wounds or mucous membranes such as the eyes, ears, nose, and mouth to contaminated blood is not known. However, evidence would suggest it is extremely low. In fact, the possibility of contracting HIV in this manner is much less than the possibility of contracting Hepatitis B and other blood-borne viral infections.
Therefore, student athletes, coaches, and officials must understand that while it is possible for HIV to be transmitted by blood from one individual to another through an open wound or a mucous membrane, the probability is very low. However, since the chance of this occurring is not zero, the appropriate precautions should be taken to ensure no transmission can occur.

PRECAUTIONS AGAINST TRANSMISSION OF BLOOD-BORNE PATHOGENS

The proper handling of body fluid spills should be a concern of teachers, coaches, officials, and student athletes. All concerned individuals must be aware that any time there is blood and/or other body fluids present, there is the possibility of an infectious disease being present. However this possibility can be nearly eliminated of the following precautions are observed.

General Procedures:

1) Wear latex or vinyl disposable exam gloves before making contact with body fluids during care, treatment, and cleaning procedures.
2) Discard gloves after each use.
3) Wash hands after handling any body fluids, whether or not gloves are worn.
4) Discard disposal items in plastic lined containers with lids. Close bags and discard daily.
5) Do not reuse plastic bags.
6) Use disposable items to handle body fluids whenever possible.
7) Use paper towels to pick up and discard any solid waste materials such as vomitus and feces.

Procedures for Activities:

1) All athletes must cover any open wound.
2) Student athletes should treat and cover their own wounds whenever possible.
3) When administering first aid, disposable rubber gloves should be worn. A different pair of gloves should be worn for each treatment administered.
4) If an individual gets someone else's blood on his/her skin, the area should be washed with soap and water and wipe the area with disinfectant, such as isopropyl alcohol.
5) If a student athlete begins to bleed during activity, play must be stopped, the student athlete who is injured removed, and any potentially contaminated surfaces cleaned using a disinfectant. The surface should be wiped with clean water.
6) Any student athlete that is removed must have the wound covered and the bleeding stopped, prior to returning to contest.
7) Any individual who has treated a wound or cleaned a contaminated surface should wash his/her hands with soap and warm water.
8) A student athlete should take a shower using a liberal amount of soap and warm water following the contest.
9) Towels, which are used by athletes, coaches, or officials should not be used to clean off any potentially contaminated surfaces.
10) All soiled linens such as towels and uniforms should be washed in hot water and in a detergent containing bleach, if possible.
11) If a coach or an official gets blood on them they should first wash the area with warm water and soap, and then wipe the area with a disinfectant such as isopropyl alcohol.
12) All coaches, athletes, and officials should practice good hygiene. Towels, cups, and water bottles should not be shared.
13) Keeping locker rooms and other areas well ventilated and clean can also help in preventing other air-borne contagions from being transmitted.

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Policy Adopted by the Board of Directors

ag/bodyfluidhandlingprocedures

WAYS TO PREVENT SKIN INFECTIONS: A PLAYER'S GUIDE

1 *Cover Cuts & Sores!*

With a bandaid or wrap before you play

2 *Wash Up!*

With soap and hot water

3 *Don't Share!*

Towels, clothes or personal items

4 *Show & Tell!*

Show cuts & sores to your coach

5 *Be Prepared!*

Learn first aid for cuts & sores

2004 West Virginia Department of Health & Human Resources, Bureau for Public Health, Division of Surveillance & Disease Control
Infectious Disease Epidemiology Program (304) 558-5358 (800) 423-1271

MEASURES FOR PREVENTING STAPHYLOCOCCAL SKIN INFECTIONS AMONG SPORTS PARTICIPANTS

Centers for Disease Control Recommendations for School Athletic Teams

1. Cover all wounds. If a wound cannot be covered adequately, consider excluding players with potentially infectious skin lesions from practice or competitions until the lesions are healed or can be covered adequately.

2. Encourage good hygiene, including showering and washing with soap after all practices and competitions.

3. Ensure availability of adequate soap and hot water

4. Discourage sharing of towels and personal items (e.g., clothing or equipment).

5. Establish routine cleaning schedules for shared equipment.

6. Train athletes and coaches in first aid for wounds and recognition of wounds that are potentially infected.

7. Encourage athletes to report skin lesions to coaches and encourage coaches to assess athletes regularly for skin lesions.

2004 West Virginia Department of Health & Human Resources, Bureau for Public Health, Division of Surveillance & Disease Control
Infectious Disease Epidemiology Program (304) 558-5358 (800) 423-1271

West Virginia Department of Health and Human Resources

Information for the Public -

Methicillin Resistant *Staphylococcus aureus* (MRSA)

What is *Staphylococcus aureus*?

Staphylococcus aureus, or Astaph@ is a bacteria that lives on the skin or in the nose of healthy people. Occasionally, staph can cause infections of the skin, bloodstream, lungs, bones, joints, heart, or almost any part of the body.

What is methicillin resistant *Staphylococcus aureus* (MRSA)?

MRSA (pronounced 'mursa') is a type of staph that has become resistant to some common antibiotics. This means that an infection with MRSA is more difficult to treat.

Where are staph and MRSA found?

Staph and MRSA may be found on the skin or in the nose. About 30 to 50% of people may carry the staph bacteria on their skin without getting ill.

How common is MRSA?

In many communities, including some in West Virginia, MRSA is now the most common cause of skin infections due to 'staph.' According to some studies, 1 to 10% of people now carry MRSA in their nose or on their skin.

Who is most at risk for staph infections?

While anyone can get an infection with staph, certain persons are more at risk. These people include diabetics, people on dialysis, persons who use injection drugs, people who have recently had surgery, and persons with chronic diseases such as cancer. Staph infections are also more common in persons who have a tube going into their body (such as a urinary catheter or intravenous (IV) catheter).

MRSA infections are more likely in persons who have recently received antibiotics or recently been in a hospital or nursing home. In the last few years, MRSA infections have also been identified in persons outside of hospitals. Cases of MRSA disease in the community are associated with recent antibiotic use, sharing contaminated items, active skin disease, and living in crowded settings. Outbreaks have occurred on sports teams, in jails or military units, camps and even hospital wards. Community associated MRSA infections are usually skin infections; however, severe illness can also occur.

Are staph and MRSA infections treatable?

Yes, staph infections are treatable. Skin infections can usually be treated with oral antibiotics. MRSA infections are usually treatable, but they may be more difficult to treat. The doctor will have to get a laboratory test to tell the difference between MRSA and staph.

How are staph and MRSA spread?

Staph and MRSA can spread among people by close physical contact. Spread may also occur by touching objects, such as towels, sheets, clothes, work-out areas and sports equipment contaminated by the skin of a person with MRSA or staph.

How can I prevent staph or MRSA infections?

- Keep your hands clean by washing thoroughly with soap and water. Alcohol-based hand cleansers also help.
- Keep cuts and wounds clean and covered with a dressing until healed. Avoid contact with other peoples= wounds.
- Avoid sharing towels, clothing, sports equipment, deodorant, cosmetics and other personal items.
- Only take antibiotics if you really need them. Antibiotics do not work for a cold, the flu or other viral infections. When a doctor prescribes antibiotics, take them as directed.

 Effective with the 2015-16 school year, all coaches are required to complete the NFHS course "Heat Illness Prevention". Schools are to maintain appropriate records.

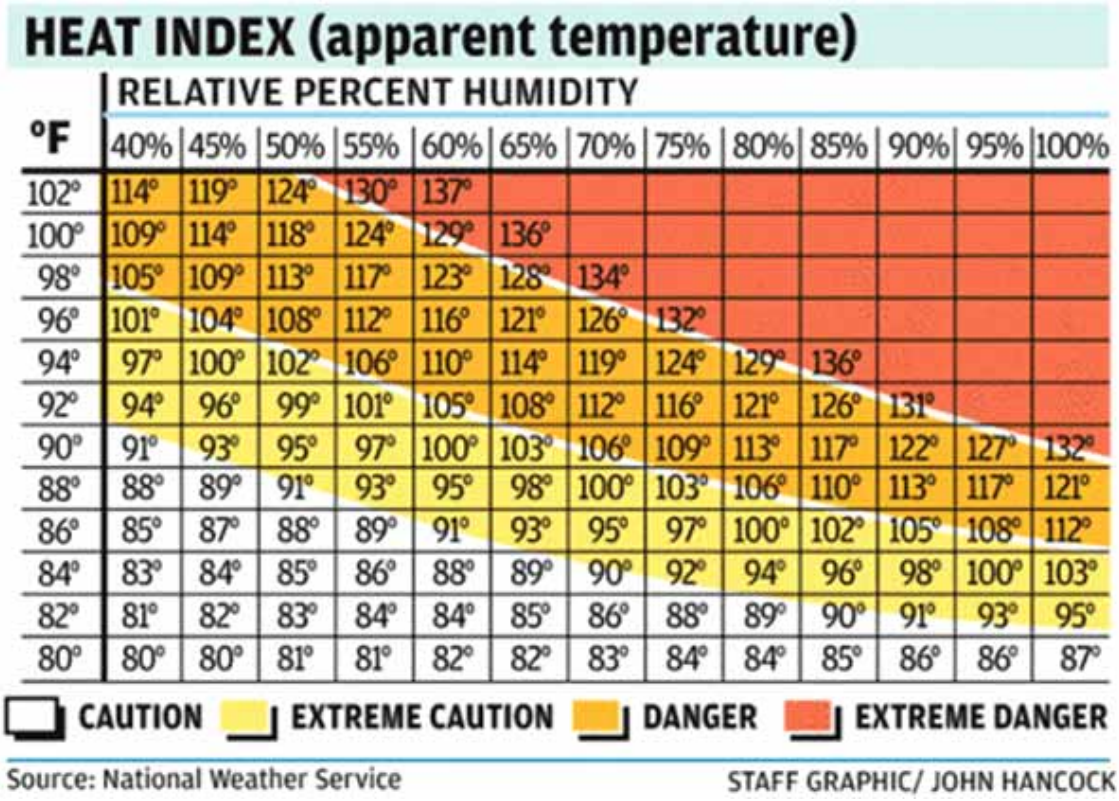
WEST VIRGINIA SECONDARY SCHOOL ACTIVITIES COMMISSION
WVSSAC Sports Medicine Committee

Heat Acclimatization and Heat Illness Prevention Position Statement

Although deaths from heat illness are rare, constant surveillance and education of our student athletes and coaches is necessary in order to maintain the safety and health of our students and coaches. Students participating in high-intensity, long-duration or repeated same-day sports practices and training activities during times of high heat and/or humidity may be at risk.

Following the recommended guidelines and procedures as established by the WVSSAC Sports Medicine Committee can reduce the risk and incidence of heat illnesses and the resulting deaths and injuries in high and middle school athletics. The Sports Medicine Committee and WVSSAC Board of Directors recognize the importance of our coaches and other individuals responsible for supervising our students. They have the ultimate responsibility for the health and welfare of those students under their care.

It is strongly recommended that each member school have a written Emergency Action Plan for practice and games to deal with emergencies related to injury or illness to a student athlete. The plan should include involvement of local rescue agencies, medical doctors, hospitals and local law enforcement agencies.



- **91 degrees Heat Index or under**

– All Sports:

- **Provide ample amounts of water. This means that water should always be available and athletes should be able to take in as much water as they desire.**
- **Optional water breaks every 30 minutes.**
- **Ice-down towels for cooling.**
- **Watch/monitor athletes carefully for necessary action.**

- **92 degrees to 103 degrees Heat Index**

– All Sports:

- **See above plus; Contact sports and activities with additional equipment (ie), helmets and other possible equipment removed if not involved in contact.**
- **Increase water breaks; a minimum every 30 minutes.**
- **Reduce time of outside activity. Consider postponing practice to later in the day.**
- ***Re-check temperature and humidity every 30 minutes to monitor for increased Heat Index.**

- **104 degrees to 125 degrees Heat Index**

– All Sports:

- **Same as above plus; Alter uniform by removing items if possible.**
- **Allow for changes to dry t-shirts and shorts.**
- **Reduce time of outside activity as well as indoor activity if air conditioning is unavailable.**
- **Postpone practice to later in the day.**
- **Suspend practice, or remove equipment and decrease practice intensity for sports** and activities where additional equipment is required for contact or safety.

- **Above 125 degrees Heat Index**

– All Sports:

- ***Suspend all outside activity in practice and/or play, and* stop all inside activity if air conditioning is unavailable.**
- **Re-evaluate before resuming activities.**

Go to: http://www.nfhslearn.com Then click "Learn More" to reach this page.

Exertional heat stroke is the leading cause of preventable death in high school athletics. Exertional heat stroke also results in thousands of emergency room visits and hospitalizations throughout the nation each year. This free course, brought to you by EAS Sports Nutrition, a division of Abbott Labs, is designed to give you the critical information you need to minimize the risk of exertional heat stroke among your athletes. The course presents seven fundamentals, which when followed, will minimize heat related illnesses of the students who participate.

Course Objectives

- Recognize that Exertional Heatstroke (EHS) is the leading preventable cause of death among athletes
- Know the importance of a formal pre-season heat acclimatization plan
- Know the importance of having and implementing a specific hydration plan, keeping your athletes well-hydrated, and providing ample opportunities for, and encouraging, regular fluid replacement

Units

- Fundamentals
  1. Start Slow, Then Progress
  2. Allow for Individual Conditioning
  3. Adjust Intensity and Rest
  4. Start Sessions Adequately Hydrated
  5. Recognize Signs Early
  6. Recognize More Serious Signs
  7. Have an Emergency Action Plan

More

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- FREE Course
- Use as an elective to fulfill cfc certification requirements
- Approved by NFHS for 1 course clock hour

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National Federation of State
High School Associations

Heat Stress and Athletic Participation Information

Early fall football, cross country, soccer and field hockey practices are conducted in very hot and humid weather in many parts of the United States. Due to the equipment and uniform needed in football, most of the heat problems have been associated with football. From 1995 through the 2002 football season there have been 15 high school heat stroke deaths in football. This is not acceptable. There are no excuses for heatstroke deaths, if the proper precautions are taken. During hot weather conditions the athlete is subject to the following:

HEAT CRAMPS – Painful cramps involving abdominal muscles and extremities caused by intense, prolonged exercise in the heat and depletion of salt and water due to profuse sweating.

HEAT SYNCOPE – Weakness fatigue and fainting due to loss of salt and water in sweat and exercise in the heat. Predisposes to heat stroke.

HEAT EXHAUSTION (WATER DEPLETION) – Excessive weight loss, reduced sweating, elevated skin and core body temperature, excessive thirst, weakness, headache and sometimes unconsciousness.

HEAT EXHAUSTION (SALT DEPLETION) – Exhaustion, nausea, vomiting, muscle cramps, and dizziness due to profuse sweating and inadequate replacement of body salts.

HEAT STROKE – An acute medical emergency related to thermoregulatory failure. Associated with nausea, seizures, disorientation, and possible unconsciousness or coma. It may occur suddenly without being preceded by any other clinical signs. The individual is usually unconscious with a high body temperature and a hot dry skin (heat stroke victims, contrary to popular belief, may sweat profusely).

It is believed that the above-mentioned heat stress problems can be controlled provided certain precautions are taken. According to the American Academy of Pediatrics Committee on Sports Medicine, heat related illnesses are all preventable.(Sports Medicine: Health Care for Young Athletes, American Academy of Pediatrics, July 2000). The following practices and precautions are recommended:

1. Each athlete should have a physical examination with a medical history when first entering a program and an annual health history update. History of previous heat illness and type of training activities before organized practice begins should be included. State High School Associations recommendations should be followed.

2. It is clear that top physical performance can only be achieved by an athlete who is in top physical condition. Lack of physical fitness impairs the performance of an athlete who participates in high

temperatures. Coaches should know the **PHYSICAL CONDITION** of their athletes and set practice schedules accordingly.

3. Along with physical conditioning the factor of acclimatization to heat is important. Acclimatization is the process of becoming adjusted to heat and it is essential to provide for **GRADUAL ACCLIMATIZATION TO HOT WEATHER**. It is necessary for an athlete to exercise in the heat if he/she is to become acclimatized to it. It is suggested that a graduated physical conditioning program be used and that 80% acclimatization can be expected to occur after the first 7-10 days. Final stages of acclimatization to heat are marked by increased sweating and reduced salt concentration in the sweat.

4. The old idea that water should be withheld from athletes during workouts has **NO SCIENTIFIC FOUNDATION**. The most important safeguard to the health of the athlete is the replacement of water. Water must be on the field and readily available to the athletes at all times. It is recommended that a minimum 10-minute water break be scheduled for every twenty minutes of heavy exercise in the heat. Athletes should rest in a shaded area during the break. **WATER SHOULD BE AVAILABLE IN UNLIMITED QUANTITIES**.

5. Check and be sure athletes are drinking the water. Replacement by thirst alone is inadequate. Test the air prior to practice or game using a wet bulb, globe, temperature index (WBGT index) which is based on the combined effects of air temperature, relative humidity, radiant heat and air movement. The following precautions are recommended when using the WBGT Index: (ACSM's Guidelines for the Team Physician, 1991)

    - Below 65 – Unlimited activity
    - 65-73– Moderate risk
    - 73-82 – High risk
    - 82 plus – Very high risk

6. An alternative method for assessing heat and humidity is the weather guide or heat index. Refer to the Sports Medicine Handbook section on heat related illness published by the NFHS. Figure I is an example of a heat-humidity index table that defines low, moderate, high, and extreme risk zones.

7. Cooling by evaporation is proportional to the area of the skin exposed. In extremely hot and humid weather reduce the amount of clothing covering the body as much as possible. NEVER USE RUBBERIZED CLOTHING.

8. Athletes should weigh each day before and after practice and WEIGHT CHARTS CHECKED. Generally a 3 percent weight loss through sweating is safe and over a 3 percent weight loss is in the danger zone. Over a 3 percent weight loss the athlete should not be allowed to practice in hot and humid conditions. Observe the athletes closely under all conditions. Do not allow athletes to practice until they have adequately replaced their weight.

9. Observe athletes carefully for signs of trouble, particularly athletes who lose significant weight and the eager athlete who constantly competes at his/her capacity. Some trouble signs are nausea, incoherence, fatigue, weakness, vomiting, cramps, weak rapid pulse, visual disturbance and unsteadiness.

10. Teams that encounter hot weather during the season through travel or following an unseasonably cool period, should be physically fit but will not be environmentally fit. Coaches in this situation should follow the above recommendations and substitute more frequently during games.

11. K now what to do in case of an emergency and have your emergency plans written with copies to all your staff. Be familiar with immediate first aid practice and prearranged procedures for obtaining medical care, including ambulance service.

12. Warn your athletes about the use of any products that contain ephedra. Ephedra has been associated with two heat stroke deaths in athletes. Ephedra speeds metabolism and increases body heat, constricts the blood vessels in the skin preventing the body from cooling itself, and by making the user feel more energetic it keeps him/her exercising longer when they should stop. Do not use ephedra or ephedra products.

HEAT STROKE – **THIS IS A MEDICAL EMERGENCY** – DELAY COULD BE FATAL. Immediately cool body while waiting for transfer to a hospital. Remove clothing and immerse torso in ice/cold water. Immersion therapy has the best cooling rates. A plastic baby pool can be available at all practices and games, and can always be ready for immersion procedures. If not available apply ice packs in armpits, groin and neck areas. Continue cooling efforts until EMS arrives.

HEAT EXHAUSTION – **OBTAIN MEDICAL CARE AT ONCE**. Cool body as you would for heat stroke while waiting for transfer to hospital. Give fluids if athlete is able to swallow and is conscious.

SUMMARY – The main problem associated with exercising in the hot weather is water loss through sweating. Water loss is best replaced by allowing the athlete unrestricted access to water. Water breaks two or three times every hour are better than one break an hour. Probably the best method is to have water available at all times and to allow the athlete to drink water whenever he/she needs it. Never restrict the amount of water an athlete drinks, and be sure the athletes are drinking the water. The small amount of salt lost in sweat is adequately replaced by salting food at meals. Talk to your medical personnel concerning emergency treatment plans.

RECOMMENDATIONS FOR HYDRATION TO PREVENT HEAT ILLNESS

TYPES OF SPORTS DRINKS

Fluid Replacers

- Examples: Water, Gatorade, 10K, Quickick, Max
- These drinks are absorbed as quickly as water and typically are used for activities lasting less than 2 hours.

Carbohydrate loaders

- Examples: Gatorlode, Exceed High, Carboplex
- These drinks replace more muscle glycogen to enhance greater endurance.
- They should be used after ultra-endurance events to increase muscle glycogen resynthesis after exercise.

Nutrition Supplements

- Examples: Gatorpro, Exceed Sports, Ultra Energy
- These supplements are fortified with vitamins and minerals and they help athletes maintain a balanced diet.
- They can be used as a meal replacement supplement for athletes who wish to skip a high fat meal, or as extra calories for athletes who wish to gain weight.

WHAT NOT TO DRINK

- Drinks with Carbohydrate (CHO) concentrations of greater than eight percent should be avoided.
- Fruit juices, CHO gels, sodas, and sports drinks that have a CHO greater than six to eight percent are not recommended during exercise as sole beverages.
- Beverages containing caffeine, alcohol, and carbonation are not to be used because of the high risk of dehydration associated with excess urine production, or decreased voluntary fluid intake.

HYDRATION TIPS AND FLUID GUIDELINES

- Drink according to a schedule based on individual fluid needs.
- Drink before, during and after practices and games.
- Drink 17-20 ounces of water or sports drinks with six to eight percent CHO, two to three hours before exercise.
- Drink another 7-10 ounces of water or sport drink 10 to 20 minutes before exercise.
- Drink early — By the time you're thirsty, you're already dehydrated.
- In general, every 10-20 minutes drink at least 7-10 ounces of water or sports drink to maintain hydration, and remember to drink beyond your thirst.
- Drink fluids based on the amount of sweat and urine loss.
- Within two hours, drink enough to replace any weight loss from exercise.
- Drink approximately 20-24 ounces of sports drink per pound of weight loss.
- Dehydration usually occurs with a weight loss of two percent of body weight or more.

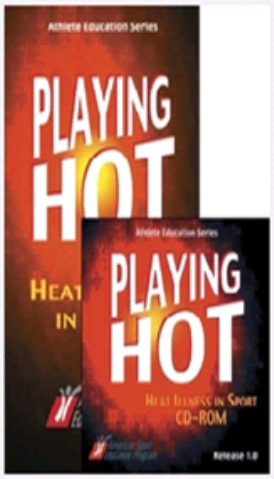
WHAT TO DRINK DURING EXERCISE

- If exercise lasts more than 45-50 minutes or is intense, a sports drink should be provided during the session.
- The carbohydrate concentration in the ideal fluid replacement solution should be in the range of six to eight percent CHO.
- During events when a high rate of fluid intake is necessary to sustain hydration, sports drinks with less than seven percent CHO should be used to optimize fluid delivery. These sports drinks have a faster gastric emptying rate and thus aid in hydration.
- Sports drinks with a CHO content of 10 percent have a slow gastric emptying rate and contribute to dehydration and should be avoided during exercise.
- Fluids with salt (sodium chloride) are beneficial to increasing thirst and voluntary fluid intake as well as offsetting the amount of fluid lost with sweat.
- Salt should never be added to drinks, and salt tablets should be avoided.
- Cool beverages at temperatures between 50 to 59 degrees Fahrenheit are recommended for best results with fluid replacement.

DEHYDRATION, ITS EFFECTS ON PERFORMANCE, AND ITS RELATIONSHIP TO HEAT ILLNESS

- Dehydration can affect an athlete's performance in less than an hour of exercise — sooner if the athlete begins the session dehydrated.
- Dehydration of just one to two percent of body weight (only 1.5-3 lb.. for a 150-pound athlete) can negatively influence performance.
- Dehydration of greater than three percent of body weight increases an athlete's risk of heat illness (heat cramps, heat exhaustion, heat stroke).
- High-body-fat athletes can have a harder time with exercise and can become dehydrated faster than lower-body-fat athletes working out under the same environmental conditions.
- Poor acclimatization/fitness levels can greatly contribute to an athlete's dehydration problems.
- Medications/fevers greatly affect an athlete's dehydration problems.
- Environmental temperature and humidity both contribute to dehydration and heat illnesses.
- Clothing, such as dark, bulky, or rubber protective equipment can drastically increase the chance of heat illness and dehydration.
- Wet bulb temperature measurements should be taken 10-15 minutes before practice, and the results should be used with a heat index to determine if practices or contests should be started, modified or stopped.
- Even dry climates can have high humidity if sprinkler systems are scheduled to run before early morning practices start. This collection of water does not evaporate until environmental temperatures increase and dew points lower. Dry climate areas should take wet bulb and temperature readings 10 to 15 minutes before practice or contests.
- A Heat Index chart should be followed to determine if practice/contests should be held.
- A Heat Index chart should come from a reputable source like the National Oceanic and Atmospheric Association.
- A relative humidity of 35 percent and a temperature of 95 degrees Fahrenheit are likely to cause heat illness, with heat stroke likely.
- A relative humidity of 70 percent and a temperature of 95 degrees Fahrenheit are very likely to cause heat illness, with heat stroke very likely.

Journal of Athletic Training: 35(2): 212-224; NFHS Handbook Heat Related Illness, Sandra Shultz Phd, ATC, CSCS, Steven Zinder MS, ATC



Playing Hot: Heat Illness in Sport Kit-NTSC

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Product Description

Heat affects even the best athletes, causing dehydration, poor performance, and possible illness. With *Playing Hot*, you will learn how to detect the signs of heat illness, what to do when heat illness occurs, and most importantly, how to prevent it.

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Position Statement and Recommendations for the Use of Energy Drinks by Young Athletes

National Federation of State High School Associations (NFHS)

Sports Medicine Advisory Committee (SMAC)

Background: Energy drinks have become increasingly popular among adolescents and young adults in recent years. In 2006, nearly 500 new brands were introduced to the market place, and over 7 million adolescents reported that they had consumed an energy drink. Estimated sales of energy drinks for 2011 are expected to exceed $9 billion. These beverages are particularly popular among young athletes who see the consumption of energy drinks as a quick and easy way to maximize athletic and academic performance.

The NFHS SMAC strongly recommends that:

1. Water and appropriate sports drinks should be used for rehydration as outlined in "**NFHS Position Statement and Recommendations for Hydration to Minimize the Risk for Dehydration and Heat Illness**."
2. Energy drinks should not be used for hydration prior to, during, or after physical activity.
3. Information about the absence of benefit and the presence of potential risk associated with energy drinks should be widely shared among all individuals who interact with young athletes.
4. Athletes taking over the counter or prescription medications should not consume energy drinks without the approval of their primary care provider.

WARNING: The exact content and purity of energy drinks cannot be insured, as there are no regulatory controls over these products. Thus, there is the risk for adverse side-effects, potentially harmful interactions with prescription medications (particularly stimulant medications used to treat ADHD), or positive drug tests.

Frequently Asked Questions

What is an energy drink?

- An energy drink is a beverage marketed to both athletes and the general public as a quick and easy means of relieving fatigue and improving performance. In addition to water, nearly all energy drinks contain carbohydrates and caffeine as their main ingredients. The carbohydrates provide nutrient energy while the caffeine acts as a stimulant to the central nervous system.

What are the differences between an energy drink and a sports drink?

- Sports drinks are designed to provide re-hydration during or after athletic activity. While contents vary, most sports drinks contain a 6 to 8% carbohydrate solution and a mixture of electrolytes. The carbohydrate and electrolyte concentrations are formulated to allow maximal absorption of the fluid by the gastrointestinal tract.

- Energy drinks often contain a higher concentration of carbohydrate (usually 8 to 11%), and thus a larger number of calories than sports drinks. They also contain high amounts of caffeine and, in some cases, other nutritional supplements. **Energy drinks are not appropriate for re-hydrating athletes during physical activity and should not be used in such circumstances**.

What ingredients are found in energy drinks?

- *arbohydrates*- Most energy drinks have from 18g to 25g of carbohydrate per 8 ounces. The high carbohydrate concentration can delay gastric emptying and impede absorption of fluid in the gastrointestinal tract.
- *Caffeine*- Nearly all energy drinks contain some quantity of "natural" or synthetic caffeine. The caffeine concentration may range from the equivalent to an 8 ounce cup of coffee (85mg) to more than three times that amount.
- *Herbs*- Many energy drinks include herbal forms of caffeine such as guarana seeds, kola nuts, and Yerba mate leaves, in addition to synthetic caffeine. The "performance enhancing" effects, safety, and health benefits of other herbs like Astragalus, Echinacea, Ginko biloba, ginseng, and countless others have not been well established by scientific studies.
- *Vitamins*- Athletes with even reasonably good diets should be assured that they are at low risk for vitamin deficiency and typically do not need supplementation. There is no evidence to suggest that vitamin supplementation improves athletic performance. Female athletes may benefit from iron and calcium supplements; but, those are more easily and inexpensively obtained in pill form rather than from energy drinks.
- *Proteins and amino acids*- Only a small amount of protein is used as fuel for exercise. Carbohydrates are utilized as the primary fuel source. To date, there is no definitive evidence that amino acid supplementation enhances athletic performance.
- Other ingredients- With the hundreds of energy drink brands that are available, the potential ingredients which they may contain are virtually unlimited. Possible additions include pyruvate, creatine, carnitine, medium-chain triglycerides, taurine and even oxygen.

What are the possible negative effects of using energy drinks?

- *Central nervous system*- Caffeine often has the effect of making a person feel "energized." Studies have shown some performance-enhancing benefits from caffeine at doses of 6mg/kg of body weight. However, these and higher doses of caffeine may produce light headedness, tremors, impaired sleep, difficulty with fine motor control, and may exceed drug testing caffeine thresholds.
- *Gastrointestinal system*- The high concentrations of carbohydrates often found in energy drinks may delay gastric emptying, resulting in a feeling of being bloated. Abdominal cramping may also occur. Both carbohydrates and caffeine in the high concentrations found in most energy drinks may cause diarrhea.
- *Dehydration*- Energy drinks should not be used for pre- or re-hydration. The high carbohydrate concentration can delay gastric emptying and slow absorption from the gastrointestinal tract and may cause diarrhea. Caffeine can act as a diuretic and, therefore, may result in increased fluid loss.
- *Positive drug tests*- Like all nutritional supplements, there is little or no regulatory oversight of energy drinks. The purity of the products cannot be assured and it is possible that they may contain substances banned by some sports organizations.
- Consumption of energy drinks by adolescents and young adults has been linked to heart arrhythmia and liver problems.
- Sales of certain energy drinks have been banned in Denmark, Turkey, Uruguay, Germany, and Austria. Some states in the U.S. have introduced legislation to restrict sales of energy drinks to adolescents and children. In September 2010, the Virginia High School League banned the use of energy drinks.

- Recently, healthcare providers have voiced increasing concerns about the consumption of energy drinks in association with alcohol because of the interaction of the stimulant effects of energy drinks and the depressant effects of alcohol.

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Revised and Approved October 2011

National Federation of State High School Associations

POSITION STATEMENT AND RECOMMENDATIONS FOR HYDRATION TO MINIMIZE THE RISK FOR DEHYDRATION AND HEAT ILLNESS

National Federation of State High School Associations (NFHS)
Sports Medicine Advisory Committee (SMAC)

DEHYDRATION, ITS EFFECTS ON PERFORMANCE, AND ITS RELATIONSHIP TO HEAT ILLNESS:

- Appropriate hydration before, during, and after physical activity is an important ingredient to healthy and successful sports participation.

- Weight loss during exercise and other physical activity represents primarily a loss of body water. A loss of just 1 to 2% of body weight (1.5 to 3 pounds for a 150-pound athlete) can negatively impact performance. A loss of 3% or more of body weight can significantly increase the risk for exertional heat-related illness. If an athlete is already dehydrated prior to beginning activity, these effects will occur even sooner.

- Athletes should be weighed (in shorts and T-shirt) before and after warm or hot weather practice sessions and contests to assess their hydration status.

- Athletes with high body fat percentages can become significantly dehydrated and overheat faster than athletes with lower body fat percentages while working out under the same environmental conditions.

- Athletes have different sweating rates and some lose much more salt through their sweat than others. “Salty sweaters” will often have noticeable salt stains on clothing after workouts, and often have a higher risk of developing exertional muscle cramps.

- Poor heat acclimatization/fitness levels can greatly contribute to an athlete’s heat intolerance and heat illness risk.

- Certain medications, or fever, can negatively affect an athlete’s hydration status and temperature regulation, increasing the risk for heat illness.

- Environmental temperature and humidity each independently contribute to dehydration and heat illness risk.

- Clothing that is dark or bulky, as well as protective equipment (such as helmets, shoulder pads, and other padding and coverings), can increase body temperature, sweat loss and subsequent dehydration and heat illness risk.

- Even naturally dry climates can have high humidity on the field if irrigation systems are scheduled to run prior to early morning practices start. This temporary increase in humidity will continue until the water completely soaks into the ground or evaporates.

- A heat index chart should be followed to help determine if practices/contests should be modified or canceled. The NOAA National Weather Service's heat index chart can be found at: http://www.weather.gov/om/heat/index.shtml

    - On-site wet-bulb temperature should be measured 10-15 minutes before practices or contests. The results should be used with a heat index to determine if practices or contests should be started, modified, or stopped.

    - If wet-bulb temperature measurement is not available, the heat index for your approximate location can be determined by entering your postal zip code: http://www.osaa.org/heatindex/

Example of the effects of relative humidity on the risk for dehydration and heat illness:

- A relative humidity of 40 percent and a temperature of 95 degrees Fahrenheit are associated with a *likely risk* of incurring heat illness if strenuous physical activity is conducted. However, even with a *lower air temperature* of only 85 degrees Fahrenheit, the risk for exertional heat illness could be the *same or greater with a higher relative humidity* of 70 percent.

WHAT TO DRINK DURING EXERCISE AND OTHER PHYSICAL ACTIVITY:

- For most exercising athletes, water is appropriate and sufficient for pre-hydration and rehydration. Water is quickly absorbed, well-tolerated, an excellent thirst quencher and cost-effective.

- Traditional sports drinks with an appropriate carbohydrate and sodium formulation may provide additional benefit in the following general situations:
- Prolonged continuous or intermittent activity of greater than 45 minutes
- Intense, continuous or repeated exertion
- Warm-to-hot and humid conditions

- Traditional sports drinks with an appropriate carbohydrate and sodium formulation may provide additional benefit for the following individual conditions:
- Poor hydration prior to participation
- A high sweat rate or "salty sweater"
- Poor caloric intake prior to participation
- Poor acclimatization to heat and humidity

- A 6 to 8% carbohydrate formulation is the maximum that should be utilized in a sports drink. Any greater concentration will slow stomach emptying and potentially cause the athlete to feel bloated. An appropriate sodium concentration (0.4–1.2 grams per liter) will help with fluid retention and distribution and decrease the risk of exertional muscle cramping.

WHAT NOT TO DRINK DURING EXERCISE:

- Fruit juices with greater than 8 percent carbohydrate content and carbonated soda can both result in a bloated feeling and abdominal cramping.

- Athletes should be aware that nutritional supplements are not limited to pills and powders as many of the new “energy” drinks contain stimulants such as caffeine and/or ephedrine.
  - These stimulants may increase the risk of heat illness and/or heart problems with exercise. They can also cause anxiety, jitteriness, nausea, and upset stomach or diarrhea.

  - Many of these drinks are being produced by traditional water, soft drink and sports drink companies which can cause confusion in the sports community. As is true with other forms of supplements, these “power drinks”, “energy drinks”, or “fluid supplements” are not regulated by the FDA. Thus, the purity and accuracy of contents on the label is not guaranteed.

  - Many of these beverages which claim to increase power, energy, and endurance, among other claims, may have additional ingredients that are not listed. Such ingredients may be harmful and may be banned by governing bodies like the NCAA, USOC, or individual state athletic associations.

  - See the **NFHS Position Statement and Recommendations for the use of Energy Drinks by Young Athletes** for further information.

HYDRATION TIPS AND FLUID GUIDELINES:

- Many athletes do not voluntarily drink enough water to prevent significant dehydration during physical activity.

- Drink regularly throughout all physical activities. An athlete cannot always rely on his or her sense of thirst to sufficiently maintain proper hydration.

- Drink before, during, and after practices and games. For example:
  - Drink 16 ounces of fluid 2 hours before physical activity.

  - Drink another 8 to 16 ounces 15 minutes before physical activity.

  - During physical activity, drink 4 to 8 ounces of fluid every 15 to 20 minutes (some athletes who sweat considerably can safely tolerate up to 48 ounces per hour).

  - After physical activity, drink 16 to 20 ounces of fluid for every pound lost during physical activity to achieve normal hydration status before the next practice or competition.

- The volume and color of your urine is an excellent way of determining if you’re well hydrated. Small amounts of dark urine means that you need to drink more, while a “regular” amount of light-colored or nearly clear urine generally means you are well-hydrated. A Urine Color Chart can be accessed at: http://at.uwa.edu/admin/UM/urinecolorchart.doc

- Hyponatremia is a rare, but potentially deadly disorder resulting from the over consumption of water. It is most commonly seen during endurance events, such as marathons, when participants consume large amounts of water over several hours, far exceeding fluid lost through sweating. The opposite of dehydration, hyponatremia is a condition where the sodium content of the blood is diluted to dangerous levels. Affected

individuals may exhibit disorientation, altered mental status, headache, lethargy, and seizures. The diagnosis can only be made by testing blood sodium levels. Suspected hyponatremia is a medical emergency and EMS (Emergency Medical Services) must be activated. It is treated by administering intravenous fluids containing high levels of sodium.

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Revised and Approved October 2011

National Federation of State High School Associations

Heat Acclimatization and Heat Illness Prevention Position Statement

National Federation of State High School Associations (NFHS)
Sports Medicine Advisory Committee (SMAC)

Exertional Heatstroke (EHS) is the leading cause of preventable death in high school athletics. Students participating in high-intensity, long-duration or repeated same-day sports practices and training activities during the summer months or other hot-weather days are at greatest risk. Football has received the most attention because of the number and severity of exertional heat illnesses. Notably, the National Center for Catastrophic Sports Injury Research reports that **35 high school football players died of EHS between 1995 and 2010.** EHS also results in thousands of emergency room visits and hospitalizations throughout the nation each year.

This NFHS Sports Medicine Advisory Committee (SMAC) position statement is the companion piece to the NFHS's online course "A Guide to Heat Acclimatization and Heat Illness Prevention." **This position statement provides an outline of "Fundamentals" and should be used as a guiding document by member state associations.** Further and more detailed information can be found within the NFHS on-line course, the 4th Edition of the NFHS Sports Medicine Handbook, the NFHS SMAC "Position Statement and Recommendations for Hydration to Minimize the Risk for Dehydration and Heat Illness" and the resources listed below.

Following the recommended guidelines in this position statement and "A Guide to Heat Acclimatization and Heat Illness Prevention" can reduce the risk and incidence of EHS and the resulting deaths and injuries in high school athletics. The NFHS recognizes that various states and regions of the country have unique climates and variable resources, and that there is no "one-size-fits-all" optimal acclimatization plan. However, the NFHS and the NFHS SMAC strongly encourage member state associations to incorporate all of the "Fundamentals" into any heat acclimatization plan to improve athlete safety. In addition, **"A Guide to Heat Acclimatization and Heat Illness Prevention" should be required viewing for all coaches.**

Heat Acclimatization and Safety Priorities:

- Recognize that EHS is the leading preventable cause of death among high school athletes.
- Know the importance of a formal pre-season heat acclimatization plan.
- Know the importance of having and implementing a specific hydration plan, keeping your athletes well-hydrated, and encouraging and providing ample opportunities for regular fluid replacement.
- Know the importance of appropriately modifying activities in relation to the environmental heat stress and contributing individual risk factors (e.g., illness, obesity) to keep your athletes safe and performing well.
- Know the importance for all members of the coaching staff to closely monitor all athletes during practice and training in the heat, and recognize the signs and symptoms of developing heat illnesses.

- Know the importance of, and resources for, establishing an emergency action plan and promptly implementing it in case of suspected EHS or other medical emergency.

Fundamentals of a Heat Acclimatization Program

1. Physical exertion and training activities should begin slowly and continue progressively. An athlete cannot be "conditioned" in a period of only two to three weeks.

A. Begin with shorter, less intense practices and training activities, with longer recovery intervals between bouts of activity.

B. Minimize protective gear (helmets only, no shoulder pads) during first several practices, and introduce additional uniform and protective gear progressively over successive days.

C. Emphasize instruction over conditioning during the first several practices.

Rationale: The majority of heat-related deaths happen during the first few days of practice**,** usually prompted by doing too much, too soon, and in some cases with too much protective gear on too early in the season (wearing helmet, shoulder pads, pants and other protective gear). Players must be allowed the time to adapt safely to the environment, intensity, duration, and uniform/equipment.

2. Keep each athlete's individual level of conditioning and medical status in mind and adjust activity accordingly. These factors directly affect exertional heat illness risk.

Rationale: Athletes begin each season's practices and training activities at varying levels of physical fitness and varying levels of risk for exertional heat illness. For example, there is an increased risk if the athlete is obese, unfit**,** has been recently ill, has a previous history of exertional heat illness, or has Sickle Cell Trait.

3. Adjust intensity (lower) and rest breaks (increase frequency/duration), and consider reducing uniform and protective equipment, while being sure to monitor all players more closely as conditions are increasingly warm/humid, especially if there is a change in weather from the previous few days.

Rationale: Coaches must be prepared to immediately adjust for changing weather conditions, while recognizing that tolerance to physical activity decreases and exertional heat illness risk increases, as the heat and/or humidity rise. Accordingly, it is imperative to adjust practices to maintain safety and performance.

4. Athletes must begin practices and training activities adequately hydrated.

Rationale: While proper hydration alone will not necessarily prevent exertional heat illness, it will decrease risk.

5. *Recognize early signs of distress and developing exertional heat illness, and promptly adjust activity and treat appropriately. First aid should not be delayed!*

Rationale: An athlete will often show early signs and/or symptoms of developing exertional heat illness. If these signs and symptoms are promptly recognized and the athlete is appropriately treated, serious injury can be averted and the athlete can often be treated, rested and returned to activity when the signs and symptoms have resolved.

6. *Recognize more serious signs of exertional heat illness (clumsiness, stumbling, collapse, obvious behavioral changes and/or other central nervous system problems), immediately stop activity and*

promptly seek medical attention by activating the Emergency Medical System. On-site rapid cooling should begin immediately.

Rationale: Immediate medical treatment and prompt rapid cooling can prevent death or minimize further injury in the athlete with EHS. Ideally, pools or tubs of ice water to be used for rapid cooling of athletes should be available on-site and personnel should be trained and practiced in using these facilities for rapid cooling. Ice water baths are the preferred method for rapid cooling, however, if ice water pools or tubs are not available, then applying ice packs to the neck, axillae, and groin and rotating ice water-soaked towels to all other areas of the body can be effective in cooling an affected athlete.

7. An Emergency Action Plan with clearly defined written and practiced protocols should be developed and in place ahead of time.

Rationale: An effective emergency action plan (EAP) should be in place in case of any emergency, as a prompt and appropriate response in any emergency situation can save a life. The EAP should be designed and practiced to address all teams (freshman, junior varsity, varsity) and all practice and game sites.

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DISCLAIMER – NFHS Position Statements and Guidelines

The NFHS regularly distributes position statements and guidelines to promote public awareness of certain health and safety-related issues. Such information is neither exhaustive nor necessarily applicable to all circumstances or individuals, and is no substitute for consultation with appropriate health-care professionals. Statutes, codes or environmental conditions may be relevant. NFHS position statements or guidelines should be considered in conjunction with other pertinent materials when taking action or planning care. The NFHS reserves the right to rescind or modify any such document at any time.

National Athletic Trainers' Association Official Statement on Athletic Health Care Provider "Time Outs" Before Athletic Events

The National Athletic Trainers' Association recommends a "time out" system be adopted for athletic health care. Before the start of each athletic event – practice or competition – a time out should be held to convene the athletic health care professionals who comprise the emergency response team. The purpose of the meeting is to go through a pre-athletic event checklist reviewing the venue's emergency action plan (EAP).

Time out is a common term both in athletics and medicine. Time outs are taken immediately before surgery when all operating room participants stop to verify the procedure, patient identity, correct site and side. Coaches and athletes call time out to gather the team together and discuss game strategies or call a play. This new application of time out is expected to save lives by ascertaining all those involved in emergency care are properly briefed and ready before a potentially dangerous or life-threatening injury occurs.

A time out will help produce a decisive, coordinated emergency response and outcome. Typically the athletic trainer is the first person to respond to an athletic emergency situation. Other individuals also are involved – physicians, EMTs – and need to be part of the pre-event briefing so they are fully informed. Effective communication with all relevant parties is critical to ensure the athlete receives the best care when an emergency arises.

EAP Time Out: Pre-Athletic Event Checklist

- Athletic health care providers meet before start of each practice or competition to review the emergency action plan.
- Determine the role and location of each person present (i.e., AT, EMT, MD)
- Establish how communication will occur (i.e., voice commands, radio, hand signals). What is the primary means of communication? What is the secondary or back-up method of communication?
- An ambulance should be present at all high-risk events. Where is it physically located? What is the planned route for entrance/exit and is the route unencumbered? Is the ambulance a dedicated unit or on stand-by? If an ambulance is not on site, what is the mechanism for calling one?
- In the event of emergency transport, what is the designated hospital? Consider the most appropriate facility for the injury/illness when selecting the hospital.
- What emergency equipment is present? Where is it located? Has it been checked to confirm it is in working order and fully ready for use?
- Are there any issues that could potentially impact the emergency action plan (i.e., construction, weather, crowd flow)?

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8/1/12

HEADS UP CONCUSSION IN HIGH SCHOOL SPORTS

A FACT SHEET FOR **PARENTS**

What is a concussion?

A concussion is a type of traumatic brain injury. Concussions are caused by a bump or blow to the head. Even a "ding," "getting your bell rung," or what seems to be a mild bump or blow to the head can be serious.

You can't see a concussion. Signs and symptoms of concussion can show up right after the injury or may not appear or be noticed until days or weeks after the injury. If your child reports any symptoms of concussion, or if you notice the symptoms yourself, seek medical attention right away.

What are the signs and symptoms of a concussion?

If your child has experienced a bump or blow to the head during a game or practice, look for any of the following signs of a concussion:

SYMPTOMS REPORTED BY ATHLETE	SIGNS OBSERVED BY PARENTS/GUARDIANS
• Headache or "pressure" in head • Nausea or vomiting • Balance problems or dizziness • Double or blurry vision • Sensitivity to light • Sensitivity to noise • Feeling sluggish, hazy, foggy, or groggy • Concentration or memory problems • Confusion • Just "not feeling right" or "feeling down"	• Appears dazed or stunned • Is confused about assignment or position • Forgets an instruction • Is unsure of game, score, or opponent • Moves clumsily • Answers questions slowly • Loses consciousness (even briefly) • Shows mood, behavior, or personality changes

How can you help your child prevent a concussion or other serious brain injury?

- Ensure that they follow their coach's rules for safety and the rules of the sport.
- Encourage them to practice good sportsmanship at all times.
- Make sure they wear the right protective equipment for their activity. Protective equipment should fit properly and be well maintained.
- Wearing a helmet is a must to reduce the risk of a serious brain injury or skull fracture.
  - However, helmets are not designed to prevent concussions. There is no "concussion-proof" helmet. So, even with a helmet, it is important for kids and teens to avoid hits to the head.

What should you do if you think your child has a concussion?

SEEK MEDICAL ATTENTION RIGHT AWAY. A health care professional will be able to decide how serious the concussion is and when it is safe for your child to return to regular activities, including sports.

KEEP YOUR CHILD OUT OF PLAY. Concussions take time to heal. Don't let your child return to play the day of the injury and until a health care professional says it's OK. Children who return to play too soon—while the brain is still healing—risk a greater chance of having a repeat concussion. Repeat or later concussions can be very serious. They can cause permanent brain damage, affecting your child for a lifetime.

TELL YOUR CHILD'S COACH ABOUT ANY PREVIOUS CONCUSSION. Coaches should know if your child had a previous concussion. Your child's coach may not know about a concussion your child received in another sport or activity unless you tell the coach.

If you think your teen has a concussion:
Don't assess it yourself. Take him/her out of play. Seek the advice of a health care professional.

It's better to miss one game than the whole season.

For more information, visit **www.cdc.gov/Concussion**.

April 2013

WVSSAC CONCUSSION REPORT - 2015-2016

SCHOOL_____

Person completing this report _____
Position_____
Date_____ (this date must be within 30 days of the injury)
Is this the initial concussion report? yes_____ no_____
or an updated report? yes_____ no _____

Grade _____ Age _____ Female _____ Male _____

Please indicate the sport of this athlete with an X in the appropriate box.

Baseball	Basketball	Cheerleader	Cross-Country	Football	Golf	Soccer
Softball	Swimming	Tennis	Track	Volleyball	Wrestling	

Date concussion occurred: _____
Activity when concussion occurred: Practice_____ Scrimmage_____ Game_____

Who initially evaluated this athlete? (By title/role – no name; athletic trainer, EMT, coach, etc)
_____

Initial steps included?
Transport by EMS _____
Referral to parents to seek follow up evaluation _____
Referral to team physician _____
Other_____

Date athlete was cleared to return to practice and play: _____
Who cleared the athlete to return:
Physician_____ Chiropractor _____ Nurse Practitioner _____
Physician Assistant _____ Athletic Trainer (ATC/R) _____
Was this in a written document? _____ (keep this document on file at the school)
(if athlete is not cleared to return in 30 days the initial report must be submitted and then a follow up report must be submitted listing the return to play date.)

Form is to be sent to Dr. Dan Martin, ATC/R.
FAX: 304-473-8888 or email to 'martin_d1@wvwc.edu'
Any questions please contact the WVSSAC or Dr. Martin (473-8103 or email)

W V S S A C

SUDDEN CARDIAC ARREST AWARENESS

What is Sudden Cardiac Arrest?

- Occurs suddenly and often without warning.
- An electrical malfunction (short-circuit) causes the bottom chambers of the heart (ventricles) to beat dangerously fast (ventricular tachycardia or fibrillation) and disrupts the pumping ability of the heart.
- The heart cannot pump blood to the brain, lungs and other organs of the body.
- The person loses consciousness (passes out) and has no pulse.
- Death occurs within minutes if not treated immediately.

What are the symptoms/warning signs of Sudden Cardiac Arrest?

- SCA should be suspected in any athlete who has collapsed and is unresponsive
- Fainting, a seizure, or convulsions during physical activity
- Dizziness or lightheadedness during physical activity
- Unusual fatigue/weakness
- Chest pain
- Shortness of breath
- Nausea/vomiting
- Palpitations (heart is beating unusually fast or skipping beats)
- Family history of sudden cardiac arrest at age <50

ANY of these symptoms/warning signs may necessitate further evaluation from your physician before returning to practice or a game.

What causes Sudden Cardiac Arrest?

- Conditions present at birth (inherited and non-inherited heart abnormalities)
- A blow to the chest (Commotio Cordis)
- An infection/inflammation of the heart, usually caused by a virus. (Myocarditis)
- Recreational/Performance-Enhancing drug use.
- Other cardiac & medical conditions / Unknown causes. (Obesity/Idiopathic)

What are ways to screen for Sudden Cardiac Arrest?

- The American Heart Association recommends a pre-participation history and physical which is mandatory annually in West Virginia.
- Always answer the heart history questions on the student Health History section of the WVSSAC Physical Form completely and honestly.
- Additional screening may be necessary at the recommendation of a physician.

What is the treatment for Sudden Cardiac Arrest?

- Act immediately; time is critical to increase survival rate
- Activate emergency action plan
- Call 911
- Begin CPR
- Use Automated External Defibrillator (AED)

Where can one find additional information?

- Contact your primary health care provider
- American Heart Association (www.heart.org)

Revised 2015

Emergency Action Plan

_____ School

_____

Address

Purpose of Emergency Action Plan:

To provide _____ School with a plan in case of a serious or life threatening injury or emergency occurs. Athletic Trainers, Coaches and various staff are always at risk of dealing with injuries during athletic practices and events. Therefore, an Emergency Action Plan is put in place to insure correct procedures are followed to maintain order and control in the unfortunate event of an injury.

Need for an Emergency Action Plan:

The EAP is a written document that defines the standard care required during an emergency situation. Serious Emergencies rarely happen, but when they do, a quick organized response is the most efficient way to handle the situation at hand.

Emergency Information:

_____ School Office: _____

Principal: _____

Asst. Principal: _____

Athletic Director: _____

Athletic Trainer: _____

_____ County Fire & EMS: 911

Police Department: _____

Fire Department: _____

Poison Control: _____

AED Location(s): _____

Information to be provided in case of an Emergency:

1. Name and phone number you are calling from
2. Exact location of emergency and directions
3. Type of injury, illness, etc.
4. Condition of injured person(s)
5. Type of aid being provided
6. Number of people injured
7. Other information as requested

If Athletic Trainer is present at an event, they will make the decision to call EMS and will personally make the call unless they are engaged in tending to injured player. In the event the AT cannot call, he or she will assign a person to make the call. In many situations, the school is lucky to have emergency personnel on hand.

Chain of Command:

In the event of an injury during athletic game or practice, the AT is in charge until EMS arrives. If doctors are present and asked to assist they may. Coaches and Student AT's may also be asked to assist if needed. If an Athletic Trainer is not available, a person of authority needs to be assigned the responsibility to address needs/concerns.

Emergency Care:

Apply basic emergency care as situations requires

1. Check for Life Threatening Conditions
   a. Level of Consciousness
   b. Airway
   c. Breathing
   d. Circulation
   e. Bleeding
2. Call 911 if Necessary
3. Emergency Equipment
   a. AED
   b. Spine Board
   c. Cervical Collar
   d. First Aid Kit

4. Apply Basic First Aid (As appropriately trained)
   a. Adult CPR: 30:2
   b. Bleeding
      i. Direct Pressure
      ii. Elevate
      iii. Apply Sterile Dressing
   c. Splint Fractures
   d. Cervical Collar
   e. Spine Board
   f. Treat for Shock if Necessary
5. Other Things to Consider
   a. Reassure and calm injured person
   b. Do not move severely injured players unless they are in danger
   c. Do not reposition fractures or dislocations

Documentation:

Anything taking place during the injury (i.e. how it happened, who was involved), care given and response, needs to be documented. Make sure bases are covered and injured individual is taken care of properly. A well-orchestrated response to an emergency situation is easily documented if correct predetermined plans are executed.

External Evacuation Signals: Siren

Emergency Response Plans:

In School Emergency: (Fire, Gas Leak, Bomb Threat)

Evacuation Areas: _____

_____

Outside Emergency: (Tornado, Chemical Leak, etc.)

1. Shelter in Place
   a. Monitor Radio
   b. Move Students to interior hallways, rooms, away from outside walls, if possible
   c. Turn off outside air systems
2. Prepare to Evacuate
   a. All students and Staff remain in building
   b. Alert students and staff to begin preparation
   c. Get personal belongings together
   d. Monitor radio for further information
3. Evacuation
   a. Monitor radio
   b. Assemble students for bus pick up
   c. Secure building
   d. All students and staff board buses
   e. Upon arrival at evacuation site, keep all students and staff together
   f. Notify superintendent upon arrival at evacuation site
4. Designate Alternative Evacuation Schools/Buildings
   a. _____
   b. _____
   c. _____
   d. _____

Courts Recognize A Coach Has Ten Legal Duties

1. Properly plan the activity
2. Provide proper instruction
3. Warn of inherent risks
4. Provide a safe physical environment
5. Provide adequate and proper equipment
6. Match your athletes appropriately
7. Evaluate athletes for injury or incapacity
8. Supervise the activity closely
9. Provide appropriate emergency assistance
10. Protect against physical and psychological harm from others