



The following safety report was presented to the VHSL Sports Medicine Committee. VHSL has NOT adopted this report, but shares it with member schools as a matter of information.

LIGHTNING SAFETY REPORT

Developed by

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In Virginia, most thunderstorms occur in the afternoon to early evening, which coincides with the highest reported lightning casualty times of the day. The odds of being struck by lightning are extremely low over the course of a year. In fact, the odds are estimated to be 1 in 600,000. While the probability of being struck by lightning is extremely low, the odds are enormously greater when a storm is in the area and the proper safety precautions are not followed

The keys to lightning safety are education and prevention. Education begins with the background information and physics of lightning. Prevention should begin long before any athletic event. The first responsibility for scholastic coaches to heighten lightning safety is to check a weather report each day before a practice or event. In this way, scholastic athletics personnel will be aware of the possibility of storms forming or moving into the area during the day. Most electronics stores have for purchase a National Oceanographic and Atmospheric Administration (NOAA) weather radio that can give weather reports or sound an alarm if the National Weather Service (NWS) issues a severe thunderstorm “watch” or “warning” for the local area. A “watch” means conditions are favorable for severe weather to develop in an area. A “warning” is more definitive. A “warning” simply means the NWS has reported severe weather in an area, and for everyone in that area to take the necessary precautions. Secondly, scholastic athletics personnel should be wary of the signs of thunderstorms developing nearby. Thunderstorms can become threatening in as little as half an hour. Lightning and thunder activity in the local area are the “alarms” for athletics personnel to begin monitoring thunderstorm activity, such as direction to movement and distance from the lightning flashes.

The next measure for scholastic athletics personnel is to know where the closest safe shelter is to the field or playing area, and to know how long it takes to get to that safe shelter. Safe shelter is defined as:

- Any sturdy building normally occupied or frequently used by people; in other words, a building with metal plumbing and/or wiring that acts to electrically ground the structure. A shack or metal shed is not considered a safe shelter.
- In the absence of a sturdy, frequently inhabited building, any vehicle with a hard metal roof (not a convertible) with the windows rolled up can provide a measure of safety. Taking shelter in the proper vehicle is certainly better than remaining outdoors.

Lastly, scholastic athletics personnel should be aware of how close lightning is occurring. One myth pertaining to lightning is that lightning sometimes occurs without thunder. What most people call “heat lightning” is actually lightning from a thunderstorm too distant for the thunder to be heard. Thunder *always* accompanies lightning, even though its audible range is less than the actual distance from the observer. The “flash to bang” method is the easiest way to estimate how far away lightning activity is occurring. Simply stated, count the seconds between seeing the lightning “flash” and hearing the clap of thunder (“bang”). Divide this number by five to obtain how far away (in miles) the lightning activity is occurring.

We advocate the following policy on lightning safety for all high school outdoor or swimming pool activities.

1. For safety purposes, a “flash to bang” time longer than fifteen (15) seconds is strongly recommended. In other words, establish a “flash to bang” count with a minimum range of 20 to 30 seconds, depending on the distance to safe shelter. For demonstration purposes, set the count limit to thirty seconds. If the

observer obtains a “flash to bang” count less than thirty seconds; all individuals should immediately leave the athletic site, or the swimming pool area to seek safe shelter.

2. It is strongly recommended that all personnel involved wait at least 30 minutes after all lightning and thunder activity has stopped before resuming scholastic athletics activity.

3. Avoid using the locker room shower facilities for safe shelter, and **do not** use the shower or plumbing facilities.

4. Stay away from the tallest trees or lone objects (such as light poles or flagpoles), metal objects (such as metal fences or metal bleachers), individual trees, standing pools of water, and open fields. Avoid being the highest object in a field, and **do not** take shelter under a single, tall tree. Do not remain in a boat, or swim in the open water. Pay much more attention to the lightning threat than to the rain. Lightning can strike far from the rain shaft.

5. If there is no safe shelter within a reasonable distance away, crouch in a thick grove of small trees surrounded by taller trees, or in a dry ditch. Assume a crouched position on the ground with only the balls of your feet touching the ground, wrap your arms around your knees and lower your head. Minimize your body’s surface area, and minimize contact with the ground. **Do not lie flat!**

6. If a person feels his or her hair stand on end, or their skin tingle, immediately crouch, as described in item 5.

7. Do not use the telephone, except in emergency situations.

8. Lightning strike victims **do not** carry an electrical charge. Therefore, cardiopulmonary resuscitation (CPR) is safe for the responder. Lightning strike victims who show signs of cardiac or respiratory arrest need prompt emergency help. Prolonged and aggressive CPR is highly effective for the survival of many victims of lightning strike.

Each school should formulate its own chain of command as to who removes a team from a field or event site in the event of dangerous lightning activity. Also, long before any hazardous lightning situation, each school should already have identified the “safe shelters” (as described earlier) at each school or competition site and make that information known to any and all local school personnel or coaches. Plan ahead, it is best to know where the safe shelters are before any dangerous lightning situations arise. If a VHSL game or competition has been stopped due to a lightning hazard, instructions should be given to the spectators, competitors, and all personnel as to where to go and what to do until the lightning hazard has passed, or the disposition of the game or event is determined. The instructions should be disseminated to the spectators as quickly as possible and by the best means possible, i.e., the public address system. If the game or event has been postponed, spectators, competitors, and all personnel should be informed of this and encouraged to leave the event site and return safely home. The message to spectators and competitors should read:

ALL spectators, competitors, and personnel should go inside the nearest school building as quickly as possible. A vehicle with a metal roof (not a convertible) and the windows rolled up is a safe alternative to a sturdy building. **DO NOT** take shelter under trees or other tall, lone objects. **DO NOT** remain on, under, or near metal bleachers or metal fences. **DO NOT** use the telephone, or the shower or plumbing facilities. Lastly, any individual who feels he or she is in danger of any lightning activity should have the right to leave the field or event site to seek safe shelter.

INFECTIOUS DISEASE POLICY OF THE VHSL

The Virginia High School League Executive Committee adopted these policies on January 27, 1993, upon the recommendation of the Sports Medicine Advisory Committee to the League. Our goal is to minimize the possibility of transmission of any infectious disease from one athlete to another during practice or competition. The development of this policy is in keeping with the commitment of the VHSL to make athletic participation safer for the athletes in the Commonwealth of Virginia by responding to new information that suggests potential risks.

What Are Infectious Diseases? Infectious diseases are illnesses that are caused by an organism, usually a virus, bacteria, or fungus. Many of these diseases are contagious, meaning they can be spread from one person to another. For purposes of our athletes we will consider three types of contagious infectious diseases.

1. Usual viral illnesses like colds, intestinal flu viruses, and influenza are generally spread through airborne transmission of the virus or through direct contact. Hand washing and covering sneezes and coughs are considered reasonable techniques for reducing the spread of these types of illnesses. They are actually more likely to be spread in a closed classroom than an open gym or athletic field, except for those sports with close contact like wrestling.

2. Skin lesions such as impetigo (a skin infection), athlete's foot, and non-genital Herpes can also be spread by close contact and should be covered to allow participation. These skin disorders can also be harmful to the individual with skin lesions by serving as a portal of entry of other kinds of infections. Thus, again, they should be covered or participation should not be allowed.

3. The most serious infectious and contagious diseases in question here are the blood-borne pathogens. These are spread through contact with blood (as well as other bodily fluids such as semen and vaginal fluids) and most notably include Hepatitis B and Human Immunodeficiency Virus (HIV). No reports of transmission from sweat or saliva have been reported with HIV infection. To date there have been no substantiated reports of these being transmitted through athletic participation and the risk of this happening is very low, but theoretically it is NOT ZERO. The rest of this policy is designed with HIV and Hepatitis B in mind. Proper handling of injuries where blood is present can even further reduce the very low risk of transmitting these diseases in the school and playing field arena.

4. Hepatitis B is a viral infection of the liver than can vary from mild inflammation to a severe life threatening disease. AIDS is a disease of the immune system caused by the Human Immunodeficiency Virus. The individual may not develop any symptoms of disease for many years after contracting the virus. Both of these disorders are transmitted through sexual contact or exposure to infected blood or blood components.

Which sports Are Most Likely To Spread AIDS or Hepatitis B? As stated, neither of these has been reported to have been transmitted through sports. The theoretical risk is low but would be greater where there is greater likelihood of blood and close contact. Thus, football, basketball, lacrosse, ice hockey and wrestling would be most likely to produce this environment. However, any sport could have the potential for blood exposure and thus theoretical risk for exposure.

Should Athletes All Be Tested For These Disorders? Mandatory testing has not been advocated by any medical organizations monitoring these disorders. The testing could produce a false sense of security with a negative test during the time between inoculation of an individual and the ability to recognize the presence of the virus. Thus, an individual could be contagious and still have a negative test. The screening tests are not 100% reliable and false positives and negatives have been reported. Additionally, there is concern about infringement of the individual rights and the question of what to do if a positive test

is obtained. Testing is not a feasible approach to prevention, however, athletes and other involved in interscholastic athletes should have available to them information on where they may obtain private and confidential HIV counseling and testing.

If An Athlete Is Positive, Who Should Be Told and Should He/She Be Prevented From Participating In Sports? The athlete's HIV or Hepatitis B status is confidential information between patient and physician. No one else, including school officials, can be told without the individual's permission. The athlete with one of these disorders should be encouraged to choose a sport with less contact and opportunity for bleeding than wrestling, for example. The athlete should also be instructed to take proper precautions with skin lesions, bleeding, etc. However, he/she cannot be forbidden from participating in whatever sport he/she desires. The decision concerning participation is a personal medical decision between the athlete and his/her physician. This recommendation could certainly change in the future if any evidence for transmission via sports is documented.

How Can We Protect Our Athletes, Trainers, and Coaches From Exposure To One Of These Blood-Borne Diseases? There is an effective and safe vaccine available for Hepatitis B. One of the targeted groups to receive this vaccine would be those where the risk of exposure to blood is increased. Any trainer or coach who frequently deals with an injury with blood is at potential risk. Strong consideration should be given to having these individuals receive this immunization. Blood and other bodily fluids should be handled using "Universal precautions" as is done in all hospitals and most other health care facilities. This procedure is outlined below. This is the safest approach as one uses techniques that would be preventive in all patients whether or not they have a disease.

PROCEDURES TO BE FOLLOWED BY COACHES, TRAINERS AND OFFICIALS

1. A student-athlete should render first-aid to himself and cover his own wounds whenever possible. This reduces the risk of transmission from blood-borne pathogen from one person to another.
2. If a bleeding wound occurs, the individual's participation should be interrupted until the bleeding has been stopped and the wound is both cleansed with antiseptic and covered securely or occluded. If bleeding resumes, the practice or contest must be stopped again until bleeding is stopped and contaminated surfaces are cleaned. It is up to the discretion of the official in charge of the competition as to how many times the competition should be stopped due to an athlete's bleeding before disqualification occurs.
3. Skin exposed to blood or other body fluids contaminated with blood should be cleaned as promptly as is practical, preferably with soap and warm water. Skin antiseptics (e.g., alcohol) or moist towelettes may be used if soap and water are not available.
4. Even though good hand-washing is an adequate precaution, water-impervious gloves should be available for staff to use when handling blood or other body fluids. Gloves are especially important to individuals with non-intact skin. Hands should be washed after glove removal. If gloves are not available, a bulky towel may be used to cover the wound until an off-the-field location is reached where gloves can be used during more definitive treatment. Disposable towels should be used in all clean up. Towels, protective gloves and other materials used in cleanup, as well as any cotton used to stem bleeding, should be placed in a container lined with a plastic bag.
5. If blood or blood-contaminated bodily fluids are present on a surface, the object should be cleansed with fresh household bleach solution made for that event by adding one part bleach to 100 parts water (1/4 cup bleach to one gallon water; or one tablespoon bleach to one quart water). Such items as wrestling mats should be cleaned, rinsed and allowed to dry before resuming action. This solution should be made fresh daily when needed.
6. If any blood gets on an opponent's uniform during competition or on a teammate's uniform during practice, it is necessary to clean the uniform at that point by wiping with a disinfectant such as isopropyl

alcohol. This should be done whether or not the opponent or teammate has an open cut or unskinned area on his/her body, or whether or not the blood is on part of the uniform which might come in contact with his mucous membranes. If there is a substantial saturation of the uniform with blood such that it is dripping, rubs off easily, or drips if squeezed, the uniform must be changed.

7. All soiled linen such as uniforms and towels should be placed in plastic bags and washed in hot soapy water. Any detergent that contains bleach is appropriate.

8. All coaches, officials and student athletes should practice good hygiene. Towels, cups and water bottles should not be shared. Also, student-athletes should take a shower using a liberal amount of soap and hot water after each practice and competition.

9. It is the responsibility of each school to provide for its respective team members paper towels, appropriate cleaning solutions, plastic bags, gloves and any other first aid materials necessary to comply with these regulations.

10. At this time no cure exists for AIDS which is a preventable fatal disease. In addition to these techniques, education about potential methods of spread of this disorder and emphasis on methods of prevention must be an integral part of our athletic programs for athletes, trainers and coaches.

**FOR MORE INFORMATION, CONTACT:
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