Lightning and Severe Weather Policy and Procedure

“Lightning is the most consistent and significant weather hazard that may affect intercollegiate athletics. Within the United States, the National Oceanographic and Atmospheric Administration (NOAA) estimates that 60 to 70 fatalities and about 10 times as many injuries occur from lightning strikes every year. While the probability of being struck by lightning is low, the odds are significantly greater when a storm is in the area and proper safety precautions are not followed.”
– Excerpt from the NCAA Sports Medicine Handbook Guideline 1d Lightning Safety

Lightning is the most common weather hazard that impacts athletic events. It is vital for the safety of our student-athletes, coaches, staff and spectators that this lightning policy and procedure be implemented. Mandatory compliance with this policy and procedure must be met to ensure the safety of all involved.

Chain of Command

The decision to end a Clark University intercollegiate athletic activity (home contest and/or practice) in the event of lightning, severe weather and/or storms will be made by the Athletic Trainer, a professional member of the Clark University Sports Medicine staff, present at a home contest and/or practice. In the cases of cross country and rowing the head coaches should check in with the Athletic Trainer on duty to determine if there is the threat of lightning in the area.

Criteria for the Evacuation of Contest/Practice Areas

1. A Clark University Athletic Trainer will inform any visiting athletic trainer, coach and game official of Clark University’s Inclement Weather Policy including the lightning policy and procedure during the warm-ups before the game starts.
2. A Clark University Athletic Trainer will monitor one or more of the following for lightning, severe weather and/or storms:
   - National Oceanic & Atmospheric Administration (NOAA) local weather radar
     [www.noaa.gov](http://www.noaa.gov)
   - National Weather Service [www.weather.gov](http://www.weather.gov)
   - The Weather Channel [www.weather.com](http://www.weather.com)
   - Commercial lightning detector (SkyScan Lightning Detection System)
   - Pocket Perry Weather App Lightning Alert System
   - Flash-to-bang count
3. When the SkyScan Lightning Detector or Pocket Perry app detects lightning within 8-20 miles and/or a flash to bang count reaches **50 seconds** and/or a severe weather watch has been issued for central Worcester County and the immediate Worcester area, a Clark University Athletic Trainer will notify:
   - Clark University Head coach
Clark University administrator on duty
Clark University home contest management
Game official, at an opportune time, such as a break in the action
Visiting team athletic trainer or coach

At this instant, spectators who need assistance or are slower moving will be advised to and should make their way towards safer shelter.

4. When the SkyScan Lightning Detector detects lightning within 3-8 miles and/or a flash to bang count reaches **40 seconds or less** and/or a severe weather warning has been issued for central Worcester County and the immediate Worcester area, a Clark University Athletic Trainer will notify:

- Clark University Head coach
- Clark University administrator on duty
- Clark University home contest management
- Game official, at an opportune time, such as a break in the action
- Visiting team athletic trainer or coach

At this instant, all outdoor contests/practices must cease **IMMEDIATELY**, and **ALL** personnel are to evacuate to a “safer” structure or location.

*Overrides of the decision to cease a contest or practice due to lightning and/or severe weather are not permitted. If a coach and/or game official make the decision to continue the contest/practice regardless of a National Weather Service Severe Weather Warning, the cancellation of classes, and/or verbal instruction of a Clark University Athletic Trainer and/or administrator on duty, they will be doing so against Clark University Department of Athletics and Recreation recommendations.*

5. Know where the closest “safer structure or location” is to the field or playing area, and know how long it takes to get to that location. A safer structure or location is defined as:

a. Any building normally occupied or frequently used by people, i.e., a building with plumbing and/or electrical wiring that acts to electrically ground the structure. Avoid using the shower or plumbing facilities and contact with electrical appliances during a thunderstorm. (NCAA Sports Medicine Handbook).

**At Granger Field or the Corash Tennis Courts the safer location is the Dolan Field House.**

b. In the absence of a sturdy, frequently inhabited building, any vehicle with a hard metal roof (neither a convertible, nor a golf cart) with the windows shut provides a measure of safety. The hard metal frame and roof, not the rubber tires, are what protects occupants by dissipating lightning current around the vehicle and not through the occupants. It is important not to touch the metal framework of the vehicle. (NCAA Sports Medicine Handbook).

**At O’Brien Field the safer locations are the vehicles with hard metal roofs. For Rowing, the Donahue Rowing Center and/or vehicles with hard metal roofs are the safer locations.**
c. Outside locations increase the risk of being struck by lightning when thunderstorms are in the area. Small covered shelters are not safe from lightning. Dugouts, rain shelters, golf shelters and picnic shelters, even if they are properly grounded for structural safety, are usually not properly grounded from the effects of lightning and side flashes to people. They are usually very unsafe and may actually increase the risk of lightning injury. Other dangerous locations include areas connected to, or near, light poles, towers and fences that can carry a nearby strike to people. Also dangerous is any location that makes the person the highest point in the area. (NCAA Sports Medicine Handbook).

d. If no safer structure is available or within a reasonable distance, personnel should find a thick grove of small trees surrounded by taller trees or a dry ditch. Everyone should assume the “lightning-safe” position - a crouched position with the feet together, weight on the balls of the feet, head lowered and ears covered. DO NOT LIE FLAT! Minimize the body’s surface area and minimize contact with the ground.

6. Lightning can occur even during times of blue skies. If someone feels their hairs stand on end, skin tingle and/or crackling in their ears… LIGHTNING IS IMMINENT! If this occurs, all personnel should assume the lightning safety position.

7. A cell phone and/or satellite phone are safer alternatives to landline phones if the user is located within a safer structure or location and if all other precautions are followed.

8. If the Clark University administration has canceled classes and/or closed the university due to severe weather, it is strongly recommended that all contests and practices are also canceled.

9. All individuals should have the right to leave a site or activity, without fear of repercussion or penalty, in order to seek a safer location if they feel they are in danger from impending lightning activity and/or severe weather.

Criteria for Resuming Contests/Practices

The decision to resume a Clark University contest or practice after a period of evacuation will be made by the Clark University Athletic Trainer in consultation with the Clark University administrator on duty, Clark University head coach, and/or game officials.

The criteria for resuming practice/contest will be as follows:

- Thirty (30) minutes has passed since the flash to bang count was greater than 40 seconds, and….
- The SkyScan Lightning Detector or Pocket Perry app has not detected lightning within 3-8 miles for 30 minutes.
- Each time the flash to bang count drops below 40 seconds or the Pocket Perry app detects another strike within 8 miles, the 30 minute clock resets.

Flash to Bang

Is an easy method to determine how far away a lightning stroke has occurred…

1. Start counting seconds when lightning is observed.
2. Stop counting seconds when thunder is heard.
3. Divide the number of seconds by 5
4. The number you get is how far away the stroke has occurred.

Additional Information

It may be necessary for a Clark University Athletic Trainer to suspend activity and evacuate the playing surface if they feel that people are in jeopardy even if the lightning detector and/or flash to bang method have not been activated.

Clark University Lightning and Severe Weather Policy and Procedure was developed with reference to the University of Maryland, Coastal Carolina University, Winthrop University, Augustana College, Xavier University, Stetson University, Florida Atlantic University and Southeast Missouri State University lightning policies and procedures.

Cold Weather Guidelines

1. If the temperature or wind chill is above 20˚F practice is allowed outside with appropriate clothing.
   a. If it is raining/snowing and the temperature or wind chill is above 20˚F then teams may practice outside but must come in every 60 minutes to either warm-up for 10 minutes or replace the wet clothing.

2. If the air temperature or wind chill is 19˚F-10˚F then teams may practice outside but must come inside to warm up every 60 minutes for 10 minutes.
   a. If it is raining/snowing and the temperature or wind chill is between 19˚F-10˚F then teams may practice outside but must come in every 30 minutes to either warm-up for 10 minutes or replace the wet clothing.

3. If the air temperature or wind chill is 9˚F-0˚F then teams may practice outside but must come inside to warm up every 30 minutes for 10 minutes.
   a. If it is raining/snowing and the temperature or wind chill is between 9˚F-0˚F then no outside practices are permitted.

4. If the air temperature or wind chill is less than 0˚F no outside practices are permitted.
   *At the discretion of the Athletic Trainer on duty.

Hot Weather Guidelines

We have purchased a device that measures the air temperature and relative humidity and will show a heat index temperature. The heat index is the temperature that which the air feels to us with both the temperature and humidity.

1. If the temperature or heat index, whichever is higher, is less than 100°F practice is allowed outside with appropriate water breaks every 20 minutes.
2. If the air temperature or heat index, whichever is higher, is 100-105°F then teams may practice outside but must come inside to cool down every 60 minutes for 10 minutes.
3. If the air temperature or heat index, whichever is higher, is 105°F-109°F then teams may practice outside but must come inside to cool down every 30 minutes for 10 minutes.
4. If the air temperature or heat index, whichever is higher, is more than 110°F no outside practices are permitted.
*Athletes must also have unlimited access to water during all practices and competitions.
**At the discretion of the Athletic Trainer on duty.

The temperature and heat index will be monitored by the Athletic Trainer on duty through the National Weather Service (www.weather.gov), www.Weather.com, www.accuweather.com, National Oceanic and Atmospheric Administration (www.NOAA.gov), and/or the SkyScan Ti Heat Index Monitor.

As we all know summers here in New England can get pretty hot and humid. With that in mind I would like to give a little information to you all as to different signs and symptoms for heat related illnesses for both yourselves and to help the Clark University Sports Medicine staff keep an eye on our athletes.

**Transient Heat Fatigue** refers to the temporary state of discomfort and mental or psychological strain arising from prolonged heat exposure. Athletes unaccustomed to the heat are particularly susceptible and can suffer, to varying degrees, a decline in performance, coordination, alertness, and vigilance. The severity of transient heat fatigue will be lessened by a period of gradual adjustment to the hot environment (heat acclimatization).

**Heat Rash**, also known as prickly heat, is likely to occur in hot, humid environments where sweat is not easily removed from the surface of the skin by evaporation and the skin remains wet most of the time. The sweat ducts become plugged, and a skin rash soon appears. When the rash is extensive or when it is complicated by infection, prickly heat can be very
uncomfortable and may reduce an athlete’s performance. The athlete can prevent this condition by regularly bathing and drying the skin.

**Fainting**, an athlete who is not accustomed to hot environments and who stands erect and immobile in the heat may faint. With enlarged blood vessels in the skin and in the lower part of the body due to the body's attempts to control internal temperature, blood may pool there rather than return to the heart to be pumped to the brain. Upon lying down, the worker should soon recover. By moving around, and thereby preventing blood from pooling, the patient can prevent further fainting.

**Heat Cramps** are painful spasms of the muscles that occur among those who sweat profusely in heat, drink large quantities of water, but do not adequately replace the body's salt loss. The drinking of large quantities of water tends to dilute the body's fluids, while the body continues to lose salt. Shortly thereafter, the low salt level in the muscles causes painful cramps. The affected muscles may be part of the arms, legs, or abdomen, but tired muscles (those used in performing the work) are usually the ones most susceptible to cramps. Cramps may occur during or after practice hours and may be relieved by taking salted liquids by mouth.

**Heat Exhaustion** includes several clinical disorders having symptoms which may resemble the early symptoms of heat stroke. Heat exhaustion is caused by the loss of large amounts of fluid by sweating, sometimes with excessive loss of salt. An athlete suffering from heat exhaustion still sweats but experiences extreme weakness or fatigue, giddiness, nausea, or headache. In more serious cases, the victim may vomit or lose consciousness. The skin is clammy and moist, the complexion is pale or flushed, and the body temperature is normal or only slightly elevated.

**Heat Stroke** is the most serious of health problems associated with working in hot environments. It occurs when the body's temperature regulatory system fails and sweating becomes inadequate. The body's only effective means of removing excess heat is compromised with little warning to the victim that a crisis stage has been reached. A heat stroke victim's skin is hot, usually dry, red or spotted. Body temperature is usually 105°F or higher, and the victim is mentally confused, delirious, perhaps in convulsions, or unconscious. Unless the victim receives quick and appropriate treatment, death can occur. Any person with signs or symptoms of heat stroke requires immediate hospitalization. However, first aid should be immediately administered. This includes removing the victim to a cool area, thoroughly soaking the clothing with water, and vigorously fanning the body to increase cooling. Further treatment at a medical facility should be directed to the continuation of the cooling process and the monitoring of complications which often accompany the heat stroke. Early recognition and treatment of heat stroke are the only means of preventing permanent brain damage or death.