TITLE: Lightning Policy

Document of (Entity): Beacon Medical Group Orthopaedics & Sports Specialists & Memorial Athletic Trainers

POLICY: The following policy and procedures on lighting safety have been developed in accordance with the goal of the Beacon Medical Group Orthopaedics & Sports Specialists & Memorial athletic trainers to provide quality healthcare services and assure the well-being of each student athlete treated by the athletic trainers employed by the Beacon Medical Group Orthopaedics & Sports Specialists & Memorial Hospital.

PATIENT POPULATION: Any athlete participating at an event or practice covered by the Beacon Medical Group Orthopaedics & Sports Specialists athletic trainers.

PURPOSE: Beacon Medical Group Orthopaedics & Sports Specialists & Memorial recognize that education and prevention are the keys to lightning safety and therefore has the following policy.

SIGNIFICANCE: Lightning is one of the most consistent and underrated causes of weather-related deaths or injury in the United States. According to the National Severe Storms Laboratory (NSSL), approximately 100 fatalities and hundreds more injuries requiring medical attention occur in the United States each year. Eighty-Five percent (85%) of these lightning victims are children and young adults between the ages of 10 and 35. Lightning-related injuries are of particular concern during the late spring and summer months, and during daytime hours. Nearly all lightning-related injuries occur between the months of May and September, and the greatest number of lightning casualties occurs between the hours of 10 A.M. and 7 P.M., with the greatest risk concentrated between 2 P.M. and 6 P.M. Therefore, the risk of lightning-related injuries appears to be of greatest concern during some of the most active periods of outdoor scholastic activities.

RECOGNITION: Certified athletic trainers, administrators, coaches, officials, and athletes should be educated regarding the signs indicating thunderstorm development. Since the average distance between successive lightning flashes is approximately 2-3 miles, anytime that lightning can be seen or thunder heard the risk is already present. Weather can be monitored using the following methods:

- **Monitor Local Weather Reports** - Be aware of potential thunderstorms by monitoring local weather forecasts the day before and morning of the practice or competition, and by scanning the sky for signs of potential thunderstorm activity.

- **Flash to Bang** – The National Lightning Safety Institute (NLSI) recommends this practice/theory. This method is used to assess how far away lightning is striking. It is determined by counting the number of seconds it takes to hear a clap of thunder after witnessing a flash of lightning. The number of seconds is then divided by five to get the distance, in miles, to the lightning flash, example: 25 sec = 5 mi. away, 15 sec = 3 mi. away. Generally a 30-second or less flash-to-bang count suggests removal of the athletes from the field to a safe shelter.
- **National Weather Service (NWS)** - Weather can also be monitored using the NWS web site [www.weather.gov](http://www.weather.gov), or a NOAA weather radio. The NWS uses a system of severe storm watches and warnings. A watch indicates conditions are favorable for severe weather to develop in an area; a warning indicates that severe weather has been reported in an area and for everyone to take proper precautions.

- **Lightning Detector** - This device can also be used to assist in storm detection. A device that provides an alarm to inform its user(s) that lightning has occurred nearby.

**CHAIN of COMMAND:**

A person should be designated prior to the practice or event to monitor the weather and notify the person in authority to initiate the evacuation process when appropriate. This person is responsible for monitoring local weather forecasts and scanning the sky for signs of potentially dangerous local thunderstorms. Ideally, this should not be a coach or official, as they may get so caught up in the game or activity that they fail to adequately monitor weather activity.

- **Certified Athletic Trainer** - will monitor the weather and make the decision to notify the head coach, official, administrative staff of dangerous situations (lightning or thunder), and that suspension of activity and shelter needs to be taken. Exceptions will be made for any activity where the athletic trainer is not in attendance.

- **Administrative Staff** - will relay the message from certified athletic trainer to coaches, officials, participants, and bystanders that event needs to be suspended and shelter needs to be taken. They will also help assist in guidance to safe area’s for shelter, and make sure an announcement is made over loud speaker (if available). If no certified athletic trainer is present at the event or practice, the supervising administrative staff will then take the lead role to monitor the weather, and make the decision to notify all participants that activity needs to be suspended and shelter needs to be taken.

- **Official** - will suspend activity after being informed by certified athletic trainer or administrative assistant that activity needs to be suspended due to lighting or thunder, and advise all participants to take shelter in a safe area. If no certified athletic trainer and no administrative assistant are present, then the official will take the lead role in monitoring weather and deciding when to suspend activity.

- **Coach** - will assist in guiding participants to a safe area after being informed that activity is suspended. If no certified athletic trainer, administrative staff, or official is present then the coach will take the lead role in monitoring weather and deciding when to suspend activity.

**MANAGEMENT:**

All athletic participation shall be stopped immediately in the event of lightning or thunder. All participants shall be instructed to take shelter under cover in the nearest safe area. It is extremely important to plan ahead and identify the nearest safe area. It is well documented that thunder is the result of atmospheric disturbance caused by lightning; therefore, if thunder is heard, lightning is occurring.
• If severe weather moves into the area the athletic trainer, administrative staff, officials, coaching staff and athletes need to know where the closest “safe structure” is located. A safe structure is defined as 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. In the absence of a sturdy, frequently used building, any vehicle (car, bus) with a hard metal roof (neither a convertible nor a golf cart) with the windows shut provides a measure of safety. Dangerous locations are small covered shelters that are NOT safe from lightning. These include but are not limited to: Dugouts, rain shelters, golf shelters, and picnic shelters. Even if these buildings are properly grounded for structural safety they are not properly grounded from the effects of lightning and side flashes that can injure people.

• For large events an announcement over a loud speaker to communicate the need for evacuation should be used if possible.

• In the event that a person is struck by lightning, persons being struck do not carry an electrical charge, therefore, it is safe for a responder to perform CPR. If possible, move the injured person to a safer environment prior to beginning CPR. Automatic External Defibrillators (AED) are also safe to use on a lightning strike victim if they are experiencing cardiac arrest. However, CPR should never be delayed until an AED is located.

• Participants shall be allowed back on the playing field when no lightning or thunder has been observed for at least 30 minutes. **Any subsequent lightning or thunder after the beginning of the 30-minute count should reset the clock and another count should begin.** The combination of the 30-second flash-to-bang count to suspend activity and the 30-minute delay after the last lightning flash to resume activity is commonly referred to as the "30-30 rule." Many victims of lightning strikes are injured or killed when they return to the outside too quickly after “the storm has passed” and are struck by lightning from the trailing edge of the storm.

• These guidelines are to be followed during all practices, contests, sports camps, etc.


**SUMMARY:**

The Beacon Medical Group Orthopaedics & Sports Specialists & Memorial athletic trainers are proactive in the management of weather related threats in order to limit the risk of lightning strikes associated with athletic practices and events. As well as to limit the potential death and catastrophic injuries associated with lighting strikes. Therefore the management and resumption of activity decisions will remain in the realm of clinical judgment of the certified athletic trainer.