

# Weather Incidents: Lightning and Thunderstorms

## 1) Established Chain of Command

At Games: Rule books put the authority in the hands of the referee to make the call to leave the field in inclement weather. However, it is important that members of the coaching staff as well as others provide input to the officials prior to the decision to seek safe shelter.

At Practices: The Coaches, Team Managers, and Parents are urged to follow these recommendations to provide a safe environment.

## 2) Designated Person to Monitor Weather

The League, Division, Referee, or Coach may designate a person to watch the weather and evaluate whether the activity should be suspended or postponed. Prior to the individual practice/game, the outdoor weather should be noted. If a thunderstorm is imminent, the practice/game should be suspended or postponed. Imminent refers to dark clouds with winds picking up in intensity, sounds of thunder, or lightning in the distance. Such conditions indicate that the weather is not conducive to safe playing and spectating conditions. If practice or play has already begun, any sign of an imminent storm should be watched for and cessation of play considered. It must also be remembered that sounds of thunder can be diminished in urban areas, by surrounding mountains, trees, or buildings. Therefore, if lightning is seen, activities should be suspended and participants and spectators should head for designated safer locations.

## 3) Weather Monitoring

Several forms of weather monitoring exist, including local television news coverage, Internet, cable and satellite weather programming, lightning monitoring systems, and the National Weather Service ([www.weather.gov](http://www.weather.gov)). The National Weather Service issues thunderstorm "watches" or "warnings", where the former means that severe weather is likely to develop in an area, and the latter meaning that severe weather has been reported in the area. Both "watches" and "warnings" should signify an elevated level of concern for the possibility of lightning.

If more sophisticated monitoring is not available, the "flash-to-bang standard" can be used to estimate the distance to a lightning flash. The flash-to-bang method does not require any sophisticated equipment and is thus convenient and can be used to determine when to suspend or postpone activities. The flash-to-bang method is based on the fact that light travels faster than sound. To use the flash-to-bang method, begin counting on the lightning flash, and stop counting when the associated clap of thunder is heard. Divide the time to thunder (in seconds) by 5 to determine the distance (in miles) to the lightning flash. For example, an observer obtains a count of 30 seconds from the time he or she spots the flash to when the thunder is heard. Thirty divided by 5 equals 6, therefore that lightning flash was 6 miles from the observer.

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## 4) Lightning Structures

Prior to the game or practice, determine the location of all structures close to the facility that are considered safe from lightning hazard.

### a) Safe Locations:

- A building normally occupied by people, with wiring and plumbing that has been grounded.
- If buildings are not available, then certain other spaces are considered safe: vehicles, including school buses, with a hard metal roof (not convertibles or golf carts) with the windows shut. Individuals should not touch the metal framework of the vehicle as well as the steering wheel, ignition keys, and/or radio.

### b) Unsafe Locations:

AVOID the following during a thunderstorm:

- The showers or plumbing of a building, as well as electrical appliances in a building.
- Small covered shelters outside, such as dugouts, bleachers, rain shelters, golf shelters, picnic shelters.
- Areas connected to or near light poles, towers and fences
- Any location which is the highest point in the area

## 5) Evacuation

If lightning is seen or thunder is heard, then preparation for evacuation should occur. Once lightning is detected and felt to be within 6 miles, all individuals should already be in safe structures and play should be suspended for 30 minutes. This requires awareness of the weather conditions as well as understanding how long it will take for participants and spectators to get to the safe structures. This should be considered in the Emergency Action Plan (EAP) for each facility such that appropriate announcements can be made to spectators, play can be suspended and both spectators and participants can be safely accommodated.

## 6) Additional Information for Coaches, Parents, Players, and Spectators

- Once there is less than 30 seconds between the sight of lightning and the sound of thunder, all individuals should be cleared from the field and in a safe location.
- During sporting events, thunder may be hard to hear. During the day, lightning may be difficult to see. In addition, 10% of lightning occurs when no rainfall is evident, and there is a blue sky.

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- Phones: Cell phones and cordless phones are preferred over landlines as the latter have been associated with lightning strikes. Ideally, cell phones and cordless phones should be used within a safe location.
- Imminent Lightning: If one feels the hair on their head, neck or arms stand on end, or feel skin tingling, then a lightning strike may be imminent. In this situation, if a safe location is not nearby, move several feet away from others and use the "lightning crouch" to minimize one's risk. Put the feet together, squat down, tuck the head and cover the ears. When immediate threat of lightning has subsided go to a safe shelter. If a safe shelter is not available, seek the lowest elevation (avoid being the highest elevation where lightning is most likely to strike).
- Resumption of Activity: There should be 30 minutes between the last sound of thunder and the last flash of lightning before activity is resumed. The 30 minute clock may be re-set as more activity is heard or seen. During evening activities, lightning may persist despite being far away, and the lightning channel (from the sky to the ground) should be used. More sophisticated weather review systems (internet based systems showing the exact distance of the storm as well as the direction it is moving) can be particularly useful in this regard.
- If Lightning Strikes: Individuals that have been struck by lightning do not carry an electrical charge and therefore resuscitation efforts should not be delayed. Emergency treatment, including the activation of the EMS system by calling 911, applying an automatic external defibrillator (AED) and performing cardiopulmonary resuscitation (CPR), in that order, should be initiated as soon as possible. If possible, the victim should be moved to a safer location prior to initiating emergency measures.