

# LIGHTNING SAFETY



The following information has been provided by SafeSport, a program of The United States Olympic Committee. SafeSport aims to create a healthy, supportive environment for all participants of sports through education, resources and training. The overall goal is to help members of the sports community recognize, reduce and respond to misconduct in sports. For more information, please visit [www.safesport.org](http://www.safesport.org).

Lightning represents a significant weather hazard for players and spectators. It is estimated that approximately 70 people are killed and 400 are injured each year as a result of being struck by lightning. On average, 10 percent of strike victims die and 70 percent suffer serious long-term effects.

Responsible administrators, coaches & trainers must be prepared to deal with lightning storms & appropriate steps must be pre-planned. Steps include:

1. Assign an individual to monitor the forecast before a game. Use a lightning detection device to determine if a thunderstorm is in the area. Lightning detection devices include professional quality devices, personal lightning detection devices and subscription to a lightning detection service over a smart phone app.
2. Be aware of weather patterns. Most thunder/lightning storms occur between May and September and between the hours of 10 a.m. and 7 p.m.
3. If thunder can be heard or lightning seen, carefully monitor the progress of the storm, as it must be close.
4. Count the number of seconds between seeing lightning and hearing thunder. Divide the number of seconds by five to estimate the distance of the storm in miles. A "flash-to-bang" of 30 seconds or less is an indication to postpone the activity and to move athletes and spectators to a safe area. Or, heed the warnings of your lightning detection device as regards to when it is time to evacuate. A pre-assigned individual should be responsible for the decision to evacuate.

5. Evacuation should be pre-planned, having means of communication to notify individuals of the danger and to provide directions to safe shelters. Have signs available that will provide direction to the nearest safe area.
6. Be sure to know the approximate number of players and spectators and the size of the available shelters so that the proper number of individuals can be directed to a given location.
7. Safe shelters are optimally an enclosed building with telephone, and/or electrical wiring and/or plumbing that will aid in grounding and dispersing the electrical impact. Enclosed automobiles with a metal roof and school buses are sources of shelter but no contact should be made with metal. Showers, plumbing facilities, utilities, telephones and headsets should not be used. Cordless and cellular phones can be used for communication.
8. If no safe shelter is available, avoid high areas, antennas, towers, poles, isolated trees, baseball dugouts, bleachers, metal fencing, golf carts or freestanding water. Look for areas where small trees or bushes are surrounded by taller trees.
9. Crouch with knees bent, legs together and wrapped by arms, head down and ears covered.
10. The designated responsible individual must determine when activity can be resumed and safe areas should not be left unless direct instruction is provided. In general, a period of 30 minutes should elapse from the last sound of thunder or from the last visible lightning flash before play should be resumed.
11. Be prepared for and educated about the dangers of lightning. Plan and practice evacuation procedures. Prompt appropriate action can prevent injuries and death.

## REFERENCES

- Sports Medicine Handbook National Federation of State High School Association. Guidelines for Lightning Safety
- Bennett B.A. A model for lightning safety policy for athletics. J. Athl. Train. 1997, 32: 251-253
- NCAA Guideline 1d - Lightning Safety In: Halpin, T, Dick, R, eds. NCAA Sports Medicine Handbook, Indianapolis, In:NCAA; 1999.
- Walsh, KM, Bennett, B, Cooper, MA, Holle, RL, Kithil, R, Lopez, RE. National Athletic Trainers Association Position Statement: Lightning Safety for Athletics and Recreation Journal of Athletic Training 2000; 35 (4) 471-477.