

LIGHTNING SAFETY POLICY

Athletic Department
Lubbock Independent School District

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LIGHTNING SAFETY POLICY

Lubbock Public Schools Athletic Department

Object:

The object of this policy is to institute safeguards against the hazards of potential lightning risks.

Introduction:

On average, lightning causes more casualties annually in the United States than any other storm-related phenomena, except floods. Many people incur injuries or are killed due to misinformation and information and inappropriate behavior during thunderstorms. A few simple precautions can reduce many of the dangers posed by lightning. Lightning is the most consistent and significant weather hazard that may affect interscholastic athletics. Within the United States, the National Severe Storms Laboratory (NSSL) estimates more than 100 fatalities and 400-500 injuries requiring medical treatment occur from lightning strikes every year. The average lightning stroke is 6 miles long, and the average thunderstorm is 6-10 miles wide. The average thunderstorm travels at a rate of 25 to 30 miles an hour. Once the leading edge of a thunderstorm approaches to within 10 miles, you are at immediate risk due to the possibility of lightning strokes coming from the overhanging clouds. Because of this, many lightning deaths and injuries occur with clear skies directly overhead.

Prevention and education are the keys to lightning safety. Education begins with background information on lightning. Prevention should begin long before any athletic event or practice. The following guidelines are taken from national governing bodies such as the NCAA, National Athletic Trainers Association, and the National High School Coaches Association. I think it is important to have a policy of national governing bodies. If there is ever any litigation it is important to follow nationally accepted guidelines.

Part 1: Chain of Command

Designate a chain of command as to who monitors threatening weather and who makes the decision to remove a team or individuals from an athletics site or event. This emergency plan includes planned instructions for participants and spectators. The Licensed Athletic Trainer, Athletic Department Administrator, or Coach depending on who is present could all recommend the suspension or cancellation of a practice or event.

It would depend on who is in attendance. All have the responsibility to make sure the policy is followed.

The Licensed Athletic Trainer and the Athletic Department Administrator will co-command the implementation of the lightning policy if both are in attendance. This could apply at High School Football games, High School Soccer games, High School Track Meets, Junior High Football games, and Junior High Track Meets, High School Baseball games, Cross Country Meets, and all practices. If only one is in attendance then that person should activate the safety plan by suspending or canceling an event.

At games or events where a Game Manager or Athletic Department Administrator is present, that person will serve as the spokesperson to participating teams, school administrators, game officials, press box and news media. If one or both of the above is not present, the Licensed Athletic Trainer or Coach will activate the safety plan.

Part 2: Designate a Weather Watcher

The **Sports Medicine Department** will actively obtain weather reports the day of the game, event, or practice. This information will be shared within the department and the Licensed Athletic Trainer will disseminate the information within the chain of command.

Part 3: Monitor Local Weather Forecasts

All representatives in the "Chain of Command" are required to **monitor local weather forecasts**.

Be aware of National Weather Service-issued (NWS) thunderstorm "watches" and "warnings" as well as the signs of thunderstorms developing nearby.

- A "**watch**" means conditions are favorable for severe weather to develop in the area.
- A "**warning**" means that severe weather has been reported in the area and for everyone to take proper precautions.

Equally important is being aware of tornado "watches" or "warnings". The National Oceanic and Atmospheric Administration weather radio is an excellent tool for gathering daily forecasts and approaching storms. These radios can be purchased at Radio Shack.

Part 4: Define and List Safe Locations

Define and list safe locations for participating teams, fans, and personnel. Over the next couple of weeks we will be assessing each of our game and practice facilities to identify primary and secondary safe locations.

Primary Locations

Any building normally occupied or frequently used by people.

Example: A building with plumbing and/or electrical wiring that acts to electrically ground the structure.

Avoid using shower facilities for safe shelter and **do not use** the showers or plumbing facilities during a thunderstorm.

Secondary Locations

In the absence of a sturdy, frequently inhabited building, any vehicle with a hard metal roof (not a convertible or golf cart) and rolled up windows can provide some measure of safety.

A vehicle is certainly better than remaining outdoors. It is **not** the rubber tires that make a vehicle a safe shelter, but the hard metal roof, which dissipates the lightning strike around the vehicle.

DO NOT TOUCH THE SIDES OF THE VEHICLE.

Avoid being in or near:

High places and open fields, isolated trees, unprotected gazebos, rain or picnic shelters, baseball dugouts, communication towers, flagpoles, light poles, bleachers (metal or wood), metal fences, convertibles, golf carts, and water.

When inside a building, avoid:

The use of a telephone, taking a shower, washing your hands, doing dishes, or any contact with conductive services with exposure to the outside such as metal door or window frames, electrical wiring, telephone wiring, cable TV wiring, plumbing, etc..

Part 5

"30-30" Lightning Safety Rule: Suspension and Resumption of Athletic Activities.

The key to a **lightning safety plan of action** is knowing the answer to the following two questions:

1. How far away am I (or the group who I am responsible for) from a safe location?
2. How long will it take me (and/or my group) to get to a safe location?

These questions need to be answered **before** lightning storms threaten. By knowing the answer to the above questions you will greatly increase your chances of **not** becoming a lightning strike victim.

The "30-30" Lightning Safety Rule: Suspension of Play

To estimate the distance between you and a lightning flash, use the "**Flash to Bang**" method. The flash to bang method is the most reliable, easiest and most convenient, way to estimate how far away lightning is occurring.

Thunder always accompanies lightning, even though its audible range can be diminished due to background noise in the immediate environment, and its distance from the observer. Audible range of thunder is 8-10 miles.

The premise upon which the flash to bang method is based on the fact that light travels faster than sound, which travels at a speed of approximately one mile for every 5 seconds.

How to use the Flash to Bang

Count the number of seconds, once lightning is sighted, until the thunder (bang) is heard. Divide by 5 to obtain how far away (in miles) the lightning is occurring.

Example:

If an individual counts 15 seconds between seeing the flash and hearing the bang, 15 is divided by five equals three; therefore, the lightning flash is approximately three miles away.

Play is suspended as Flash to Bang method reaches 30 seconds. This indicates the lightning is at a 6 mile range.

Lightning awareness should be increased with the first flash of lightning or the clap of thunder, no matter how far away. This activity must be treated as a wakeup call to those monitoring inclement weather. The important aspect to monitor is how far away the lightning is occurring, and how fast the storm is approaching, relative to the distance to a safe shelter.

As a minimum, the National Severe Storms Laboratory and the NCAA Committee on Competitive safeguards and Medical Aspects of Sports strongly recommend that by the time the observer obtains a Flash to Bang count of 30 seconds, all individuals should have left the athletics site and reached a structure or location. Athletic events may need to be terminated.

The existence of blue sky and the absence of rain are not protection from lightning. Lightning can and does, strike as far as 10 miles away from the rain shaft. It does not have to be raining for lightning to strike.

Beware

In larger storms, the distance between successive lightning flashes was once thought to be 6 miles. Experts have revised that distance to 2-3 miles. That is just 10-15 seconds in the Flash to Bang count. While seeking shelter when the Flash to Bang count is under 30 seconds may put you at risk, as the next successive lightning strike may be on you.

Skyscan Lightning Detector

The Skyscan lightning detector will be used as an aid to the "Flash to Bang" method of lightning monitoring in this policy. The Athletic Trainer, Coach, or Athletic Department Administrator will monitor the Skyscan.

Even though technology and instrumentation have proven to be effective, they cannot guarantee safety. The Skyscan will be used to enhance warning during the initial stages of the storm by detecting lightning in relation to the area of concern.

"30-30" Safety Rule: Resumption of Play

Resumption of play can continue only when lightning or thunder **has not** been detected for 30 minutes. Every time lightning or thunder is detected within the 30 minutes, **the clock restarts.**

Speed of Texas Storms

A typical thunderstorm can travel up to 30 miles an hour. Experts believe 30 minutes allows for thunderstorms to be about 10 to 20 miles from the area. This minimizes the probability of a nearby, and dangerous, lightning strike.

Bolt out of the Blue

Evidence of blue sky in the local area, or a lack of rainfall are not adequate reasons to breach the thirty second minute return to play rule. Lightning can strike far from where it is raining, even when the clouds begin to clear and show evidence of blue sky.

- Criteria for suspension of activities - By the time the Flash to Bang count approaches 30 seconds, all individuals should already be inside a safe shelter.

- Criteria for resumption of activities - Wait at least 30 minutes after the last sound (thunder) or observation of lightning before leaving the safe shelter to resume activities

***Part 6: Obligation to Warn**

Lightning may be understood to all as a dangerous phenomenon, but the seeking of safe shelter and the specific time one should vacate to safety is generally not known. This principal can be assumed by the number of lightning casualties that occur to people seeking shelter under trees.

Stadium Announcements and Posted Awareness Instructions

Stadium announcements shall be repeated over the public address system (Table 1). Colorful notices and safety instructions will be promulgated and posted in visible, high traffic areas (Table 2).

Safety instructions will include the location of the nearest safe shelter.

Part 7: First Aid

People who have been struck by lightning **do not** carry an electrical charge. Therefore, cardiopulmonary resuscitation (CPR) is safe for the responder. If possible, an injured person should be moved to a safer location before stating CPR.

Lightning-strike victims who show signs of cardiac or respiratory arrest need emergency help quickly. Prompt, aggressive CPR has been highly effective for the survival of lightning strikes.

The Licensed Athletic Trainer, coach, or other medical personnel should consider his or her own personal safety before venturing into a dangerous situation and rendering care.

Table 1: Public Address Announcement

Hazardous lightning has been monitored in the immediate area and this sporting event has been temporarily suspended. All team members have been advised to seek shelter in a safe location. This suspension will last a minimum of 30 minutes.

All spectators are advised to leave the stadium bleachers. Stadium seating is an unsafe location during a lightning storm. Your health is at risk by remaining in the bleachers during this lightning storm.

Seek safe shelter. Avoid high places and open fields. Do not seek shelter under trees, picnic shelters, or baseball dugouts. Do not stand near flagpoles, light poles or metal fences.

Safe locations for each sporting location will follow later.

Table 2: Posted Awareness Instructions

Personal Lightning Tips

Practice and training increase athletic performance. Similarly, preparedness can reduce the risk of lightning hazard. Lightning is the most frequent weather hazard impacting athletic events. Baseball, softball, football, golf, soccer, tennis, track and field events...all these and other outdoor sports have been impacted by lightning.

Spectator Safety: If you hear it (thunder), clear it.
 If you see it (lightning), flee it.

At the first signs of lightning or thunder, leave the field. Go to your vehicle and take shelter there with your windows rolled up.

Avoid:

Metal or wooden bleachers.

High places or wooden fields.

Going under trees.

Baseball dugouts, picnic shelters, flagpoles, and metal fences.

Seek:

Any building normally occupied or frequently used by people.

Any vehicle with a hard metal roof (not a convertible) and rolled up windows. Do not touch the metal of the vehicle during the lightning storm.

Wait 30 minutes after the last observed lightning or thunder before you leave shelter. Game officials will signal a resumption of activities.

If lightning strikes nearby, you should:

1. Crouch down with feet together.
2. Place hands on ears to minimize hearing damage.

INJURED PERSONS Do not carry an electrical charge and can be handled safely. Render first aid and call **911** immediately.