

LIGHTNING SAFETY POLICY

Dallas Independent School District

Athletic Department

March 27, 2000

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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 inappropriate behavior during thunderstorms. A few simple precautions can reduce many of the dangers posed by lightning. In order to standardize recommended actions during thunderstorms, a group of qualified experts from various backgrounds collectively have addressed personal safety in regard to lightning, based on recently improved understanding of thunderstorm behavior. This "Lightning Safety Group", or LSG (Table 1), first convened during the January, 1999 American Meteorological Society Conference in Dallas, Texas to outline appropriate actions under various circumstances when lightning threatens.

KEY CONCLUSIONS:

The capricious nature of thunderstorms cannot guarantee the individual or group absolute protection from a lightning strike, however, being aware of, and following proven lightning safety guidelines can greatly reduce the risk of injury or death.

Remember, the individual is ultimately responsible for his/her personal safety and has the right to take appropriate action when threatened by lightning. Adults must take responsibility for the safety of children in their care during thunderstorm activity.

BACKGROUND:

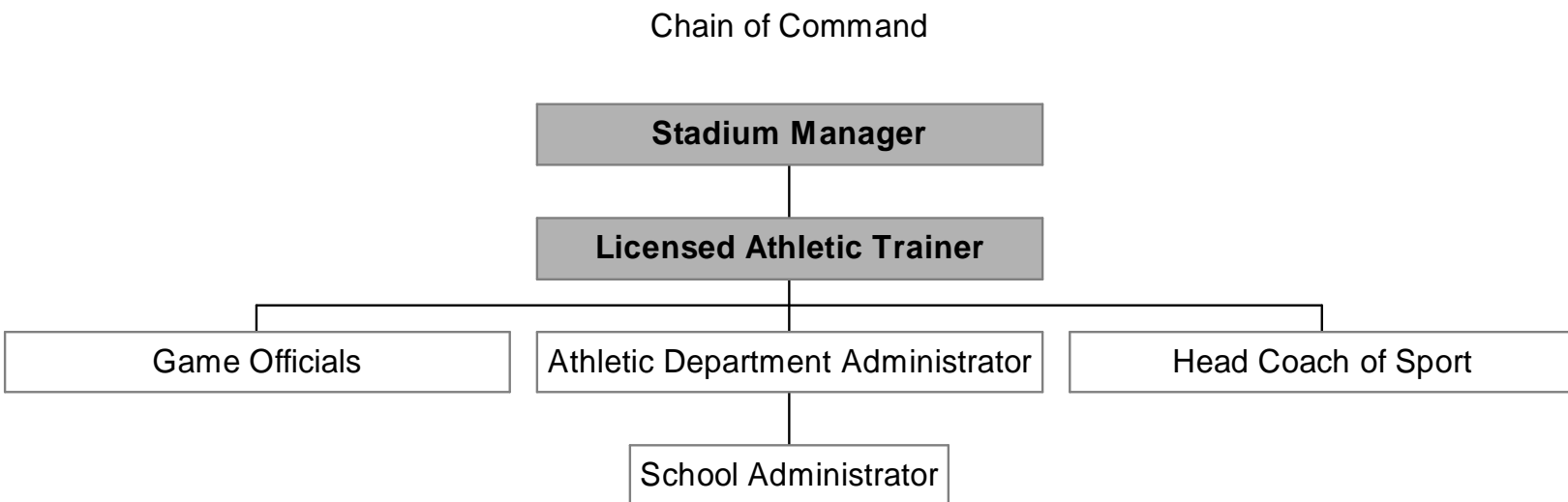
Lightning is the most consistent and significant weather hazard that may affect interscholastic athletics. Within the United States, the National Severe Storms Laboratory (NSSL) estimates more than 100 fatalities and 400-500 injuries requiring medical treatment occur from lightning strikes every year. While the probability of being struck by lightning is extremely low, the odds are significantly greater when a storm is in the area and the proper safety precautions are not followed.

Prevention and education are the keys to lightning safety. Education begins with background information on lightning. The references associated with these guidelines are an appropriate resource. Prevention should begin long before any in athletic event or practice. The following steps are recommended by the NCAA and NSSL to mitigate the lightning hazard.

The Policy

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 Stadium Manager and the Licensed Athletic Trainer will co-command the implementation of the lightning policy. Both the Stadium Manager and the Licensed Athletic Trainer can activate the safety plan by suspending an event.

The Stadium Manager assumes the responsibility as spokesperson to participating teams, school administrators, game officials, press box and news media.

PART 2: Designate A Weather Watcher

The *Sports Medicine Department* will actively obtain weather reports the day of a game and during the event. 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 an area.
- A “**warning**” means that severe weather has been reported in an area and for everyone to take proper precautions.

The NOAA (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 athletic teams. (Table 2)

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 a 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, communications towers, flagpoles, light poles, bleachers (metal or wood), metal fences, convertibles, golf carts, water (ocean, lakes, swimming pools, rivers, etc.)

When inside a building, Avoid:

The use of the telephone, taking a shower, washing your hands, doing dishes, or any contact with conductive surfaces 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 the 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 (Table 3)

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 about 8-10 miles.

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

How to use 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 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 the 6 mile range.

Lightning awareness should be increased with the first flash of lightning or the first 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 of a safe shelter.

As a minimum, the National Severe Storms Laboratory (NLSS) and 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 safe 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 Stadium Manager 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** (Table 3)

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 per hour. Experts believe 30 minutes allows for thunderstorms to be about ten to twelve 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 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.

(Table 3) The “30-30” Rule

- | | | |
|---------------------------------------|---|---|
| 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 principle 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 4). Colorful notices and safety instructions will be promulgated and posted in visible, high traffic areas (Table 5).

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 starting 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 victims 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.

Note

This policy is designed for the Dallas Independent School District's Athletic Stadiums.

This policy shall be used on local campuses, with local campus designated Chain of Command, prior to campus games and practices.

Special Acknowledgement

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Table 2: Safe Shelter for Participating Team

Jessie Owens, Forester, Loos, Sprague and Cobb

The field house and locker rooms are primary safe shelters. These buildings contain 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.

Franklin, Pleasant Grove and Seagoville Stadiums

The locker rooms are primary safe shelters. These buildings contain plumbing and/or electrical wiring that acts to electrically ground the structure.

Pleasant Grove and Reverchon Baseball Fields

The baseball dugouts are unsafe during lightning storms.

There are no primary safe shelters at these locations. The secondary choice is a vehicle or school bus with a hard metal roof (not a convertible) and rolled up windows can provide a measure of safety. Do not touch metal during the lightning storm.

**** Swimming Pools (Indoor & Outdoor)**

The pool and pool decks are connected to a much larger surface area via the water, underground water pipes, gas lines, electric and telephone wiring. A lightning strike to any one of the metallic networks may induce electrical shocks to several areas surrounding the pool.

Safety must be considered the same for both indoor and outdoor pools.

Participants, spectators and employees must leave the pool and surrounding pool deck area. Seek shelter inside the main building or in a fully enclosed metal vehicle with the windows rolled up.

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

Table 4: 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 location for: Sprague, Forester, Loos, Cobb and Jessie Owens Stadium.
(announcement for these locations)

The field house is a safe location, you may seek shelter inside the field house. Do not remain outdoors, hazardous lightning has been monitored in the area. This sporting event has been temporarily suspended.

The field house is a primary location for safety. A second choice for safe shelter is a fully enclosed vehicle with a metal roof, with the windows rolled up. Do not touch the metal of your car during this lightning storm.

This delay will be at least 30 minutes.

Safe location for: Franklin, Pleasant Grove, Seagoville and Reverchon(announcement for these locations)

Example; Franklin Field does not have a primary safe shelter for spectators during a lightning storm. A secondary safe shelter is a fully enclosed automobile with a metal roof, with the windows rolled up. Do not touch the metal of your car during this lightning storm.

This delay will be at least 30 minutes.

Table 5: Posted Awareness Instructions

PERSONAL LIGHTNING SAFETY TIPS

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

Advance planning is the single most important means to achieve lightning safety.

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 ball field. Go to your vehicle and take shelter there with your windows rolled up.

Avoid:

Metal or wooden bleachers.
High places and open fields.
Going under trees.
Baseball dugouts, picnic shelters, flagpoles, 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. Apply First Aid procedures to a lightning victim if you are qualified to do so.

Call **911** or send for help immediately.