Sweeny ISD Lightning Policy and Procedures

"If you can see it-flee it; If you can hear it-clear it"

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Sweeny ISD Lightning Policy and Procedures

OBJECTIVE:

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

EDUCATION:

The spectacular displays of lightning are seldom seen as a personal safety hazard. Lightning, however, is the second leading cause of weather related deaths taking an average of 80 lives per year and injuring two and a half times as many. While the chances of being struck by lightning are about as great as winning the lottery, it is important to understand that the odds increase significantly when a thunderstorm is in the area and safety precautions have failed to be met. It is the intent of this policy to educate those coaches, officials, and administrators who are responsible for the safety of student-athletes on the preventative measures and safety precautions to follow to avoid inherent risk and injury associated with lightning.

BACKGROUND:

Lightning occurs due to a natural electrical discharge within the atmosphere. As a thunderstorm develops a region of positive and negative charges are separated into layers. This separation produces an electrical potential, which continues to build in strength until the air can no longer resist the attraction resulting in a flash. This flash is commonly categorized in one of two ways: a cloud discharge/in cloud lightning, or cloud to ground lightning. Cloud to ground lightning is initiated by an electrical breakdown between the positive and negative charge regions. A faint luminous channel, known as the stepped leader descends in a downward pattern towards the ground. As this stepped leader nears the ground an opposite discharge ascends from the ground or other object to meet the stepped leader. At this point of junction the cloud is short-circuited to the ground and a brilliant flash of high current is seen. A flash has a billion volts of energy, with a peak current between 10,000 and 200,000 amperes.

Thunder is created when the air immediately around the lightning channel is superheated. This heated air expands rapidly producing the claps, rumbles and all other sounds of thunder. Thus, thunder is actually the results of lightning and always accompanies it. Thunder at a distance is heard beginning with a rumble while at nearer vicinities it is initiated as a clap followed by a long rumble. Since light travels much faster than sound, the amount of time between a lightning bolt and thunder clap allows the distance of the lightning to be calculated based on the sound traveling at a rate of one mile per five seconds. This method of calculation is known as the flash to bang system and will be discussed in more detail in the methods of gathering information section.

Cloud to ground lightning strikes are most prominent from late spring to early autumn, with the number of positive flashes peaking in July. Strikes tend to occur most frequently during the afternoon and early evening and the majority of fatalities have been reported to occur between 10 a.m. and 7 p.m. This puts athletics at an increased risk since practices traditionally takes place during the periods of elevated lightning occurrences.

CONCLUSION:

The goal of this policy is to minimize lightning causalities by emphasizing advanced planning and the recognition of a potential threat. However, it is also important to know what to do if caught by surprise. If you are caught in a dangerous situation, too far from shelter and you feel your hair stand on end or your skin tingle you should immediately crouch down on the balls of your get with your arms wrapped around your knees and your head down. Minimize your body's surface area and minimize contact with the ground! Don't be the highest object or connected to anything taller than its surroundings, avoid metal objects, individual trees and standing pools of water.

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 athletic site or event. This emergency plan includes planned instructions for participants and spectators.

The Licensed Athletic Trainer will command the implementation of the lightning policy. The Licensed Athletic Trainer can activate the safety plan by suspending an event.

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

If the Head Coach of a sport is playing off campus and no Licensed Athletic Trainer is present, the head coach will assume responsibility for the team. If you are the visiting team and you feel conditions have become unsafe for our athletes remove the athletes without approval from opposing team. Any individuals, athletes or staff who feel he or she is in danger of lightning has the right to leave the field to seek safe shelter.

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: Monitoring Local Weather Forecast

All representatives in the "Chain of Command" are required to monitor local weather forecast. Be aware of National Weather Service-issued thunderstorms "watches" and "warnings"

· WATCH: means conditions are favorable for severe weather to develop in an area.

· WARNING: means that severe weather has been reported in an area and for everyone to take proper precautions.

Part 4: Define and List Safe Locations

A safe shelter is defined as:

1. A safer location is any substantial, frequently inhabited building. The building should have four solid walls (not a dug out), electrical and telephone wiring, as well as plumbing, all of which aid in grounding a structure. Home dugouts/locker rooms is where our athletes need to be during a lightening delay. They should not be allowed on the field or out in the dugout. Visitors will be sent to the other primary locations listed below.

2. The secondary choice for a safer location from the lightning hazard is a fully enclosed vehicle with a metal roof and the windows completely closed. It is important to not touch any part of the metal framework of the vehicle while inside it during ongoing thunderstorms.

3. It is not safe to shower, bathe, or talk on landline phones while inside of a safer shelter during thunderstorms (cell phones are ok).

Some safe shelter at Sweeny ISD

Primary Locations:

- Sweeny Field House: High school gym, locker rooms
- Baseball Complex: Locker Rooms, Concession stand area (inside), restrooms, cars
- Softball Complex: Locker Rooms, Concession stand area (inside), restrooms, cars
- Tennis Complex: Locker rooms, Old Field House

Secondary Locations:

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

Do not touch the side of the car or steering wheel.

Part 5: Suspension and Resumption of Athletic Activities

The key to a lightning safety plan of action is knowing the answer to the following 2 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 my group to get to the safe location?

These question need to be answered before lightning storms threaten. By knowing the answer to the above questions you will greatly increase your chance of not becoming a statistic.

- **Flash to Bang Method:**

This is the easiest and most convenient. It requires no equipment and is an easiest way to determine the distance from the last lightning strike. We cannot predict where the next strike will occur. This method is performed by beginning a count which is equivalent to one second at the time you see a flash of lightning and continue counting until you hear the thunder. Take the number and divide by 5 to determine the distance in miles that the strike was from you.

If an individual counts to 30 seconds between seeing the flash and hearing the bang, 30 divided by 5 equals 6; therefore, the lightning is approximately 6 miles away.

Play is suspended as Flash to Band method reaches 30 seconds.

Lightning awareness should be increased with the first flash of lightning of the first clap of thunder, no matter how far.

As a minimum, the National Severe Storms Laboratory and NCAA Committee on Cooperative 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 athletic sites and reached a safe structure or location. Athletic events may 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.

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.

- **Alarm and Strike Alert Detectors**

We use the product provided to us by Perry Weather. It has weather station on it with the capability of detecting lightening within our area. Currently are lightening detection device is located on the flag pole behind the Jr. High. It is equipped with sirens so that when lightening is detected within our 0-8 Mile radius the siren will sound. One siren will sound to clear the field for 15 seconds. When it is all clear you will hear two sirens sound for 5 seconds each. Once you hear this it is safe to return to play.

- **National Lightning Network**

This network is a satellite network with 106 lightning sensors located throughout the United States. The network receives and disseminates this information every 15 seconds to the subscribers of this service. Another service is LightningStorm.com.

- **Weather Sites on the Web**

If there is an available access weather sites on the Internet should be used as an aid. Refer to Perry Weather app online or on your phone.

Resumption of Play:

"30-30" Safety Rule

Once a game or practice has been suspended the storm should be continued to be monitored. No contest or practice should be resumed until all lightning activity within the 8-mile radius (30 second count) for 30 consecutive minutes. This is called the "30-30" rule. This is to prevent any casualties caused by a back flash. Most people consider it safe to resume activity once a storm has passed or it has stopped raining. However, a central Florida study found more casualties do occur after peak flash rate.

Part 6: Obligation to Warn

Stadium Announcements and Posted Awareness Instructions.

Stadium announcements shall be repeated over the public address system.

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

Part 7: First Aid

Call 911

In the event that a person is struck by lightning do not hesitate to assist them; unlike electrical victims they do not carry a charge so they may be safely handled. If the victim is not breathing, yet has a pulse, begin mouth-to-mouth resuscitation, once every 5 second for adults. If a pulse is absent as well, it is imperative to initiate and sustain cardiopulmonary resuscitation (CPR) as soon as possible. The administration of CPR to a victim who appears dead can reverse cardiopulmonary arrest. If there are multiple victims, aid should be administered to the apparently "dead" first. Keep in mind, for the safety of the rescuer, the possibility of a second strike within the immediate area.

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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 and will start over with each subsequent lightning strike.

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:

Football field- Go directly under the stadium stands and away from the metal bleachers.

Athletes proceed to your locker room.

Sweeny baseball and Lady softball- Stay under the cover in the locker room for the home side dugouts. Visiting players need to report to the stands or the restroom area/breezeway. They should not be allowed to walk around the complex.

Softball/Baseball fans – may stay in the stands as they are grounded. They should not be allowed to walk around the complex.

Secondary location for baseball and softball-Go directly to your vehicle and/or bus. Close all windows and do not touch the steering wheel.

This delay will be at least 30 minutes

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Lightning Safety

Lightning may be the most frequently encountered severe storm hazard endangering physically active people each year. Millions of lightning flashes strike the ground annually in the United States, causing nearly 100 deaths and 400 injuries. Three quarters of all lightning casualties occur between May and September, and nearly four fifths occur between 10:00 am and 7:00 pm, which coincides with the hours for most athletic events.

Postpone or suspend activity if a thunderstorm appears imminent before or during an activity or contest (irrespective of whether lightning is seen or thunder heard) until the hazard has passed. Signs of imminent thunderstorm activity are darkening clouds, high winds, and thunder or lightning activity

Recommendations for Lightning Safety

1. Establish a chain of command that identifies who is to make the call to remove individuals from the field.
2. Name a designated weather watcher (A person who actively looks for the signs of threatening weather and notifies the chain of command if severe weather becomes dangerous).
3. Have a means of monitoring local weather forecasts and warnings.
4. Designate a safer shelter for each venue. See examples below.
5. When thunder is heard within 30 seconds of a visible lightning strike, or a cloud-to-ground lightning bolt is seen, the thunderstorm is close enough to strike your location with lightning. Suspend play for thirty minutes and take shelter immediately.
6. Once activities have been suspended, wait at least thirty minutes following the last sound of thunder or lightning flash prior to resuming an activity or returning outdoors.
7. Avoid being the highest point in an open field, in contact with, or proximity to the highest point, as well as being on the open water. Do not take shelter under or near trees, flagpoles, or light poles.
8. Assume that lightning safe position (crouched on the ground weight on the balls of the feet, feet together, head lowered, and ears covered) for individuals who feel their hair stand on end, skin tingle, or hear "crackling" noises. Do not lie flat on the ground.
9. Observe the following basic first aid procedures in managing victims of a lightning strike:
    - Activate local EMS
    - Lightning victims do not "carry a charge" and are safe to touch.
    - If necessary, move the victim with care to a safer location.
    - Evaluate airway, breathing, and circulation, and begin CPR if necessary.

- Evaluate and treat for hypothermia, shock, fractures, and/or burns.

10. All individuals have the right to leave an athletic site in order to seek a safe structure if the person feels in danger of impending lightning activity, without fear of repercussions or penalty from anyone.

Definitions

Safer Shelter:

1. A safer location is any substantial, frequently inhabited building. The building should have four solid walls (not a dug out), electrical and telephone wiring, as well as plumbing, all of which aid in grounding a structure.
2. The secondary choice for a safer location from the lightning hazard is a fully enclosed vehicle with a metal roof and the windows completely closed. It is important to not touch any part of the metal framework of the vehicle while inside it during ongoing thunderstorms.
3. It is not safe to shower, bathe, or talk on landline phones while inside of a safer shelter during thunderstorms (cell phones are ok).