

HOT WEATHER/LIGHTNING SAFETY PROCEDURES

Revised June 26, 2008

Hot Weather/Lightning Safety Procedures

Table of Contents

Section 1 – Hot Weather Procedures

| | | |
|------------|--|-----------|
| 1. | Elementary and Secondary Physical Education/Gym Alternate Schedule Solutions During Hot Weather | 1 |
| 2. | Secondary Schools Athletic Games and Scrimmages Hot Weather Procedures..... | 2 |
| 3. | Extracurricular Practice During Hot Weather - Athletics..... | 4 |
| 4. | Extracurricular Practice During Hot Weather - Bands..... | 5 |
| 5. | Hot Weather Hints | 6 |
| 6. | Excessive Heat Humidity | 9 |
| 7. | Heat Stress Precautions | 12 |
| 8. | Guide to Preventing Hot Weather Illness | 13 |
| 9. | Heat Index Chart..... | 17 |
| 10. | Air Quality Index (AQI) Ozone Information..... | 18 |

Section 2 – Lightning Safety Procedures

| | | |
|------------|---|-----------|
| 11. | Severe Storms and Lightning..... | 19 |
| 12. | Emergency Safety Tips..... | 25 |

Hot

Weather

Procedures

Physical Education/Gym Alternate Schedule Solutions During Hot Weather

The following procedures were established by a committee of elementary principals for hot weather conditions.

1. When temperatures reach 95 degrees or above, elementary students will remain in air-conditioned areas of the school. This would pertain to physical education classes and to recess.
2. When temperatures reach 95 degrees or above, elementary after-school programs will be held in air-conditioned areas of the schools until 5:30 p.m.

Secondary Schools Athletic Games and Scrimmages Hot Weather Procedures

Procedures when the THI factor is 105°

Due to commitments with other school districts and with officials, it is extremely difficult to cancel games without disrupting the working relationships with other districts and the officials association.

1. Varsity Games and Scrimmages:

All varsity games will be played as scheduled. Coaches and trainers should monitor the heat index carefully and take appropriate measures to ensure that athletes do not become overheated. This would include plenty of water, cold wet towels, ice, adequate rest for each athlete, and close monitoring of each athlete for symptoms of heat exhaustion or heat stroke.

2. Junior Varsity, Sophomore and Freshman Games and Scrimmages:

Trainers are to be at each contest and will follow the same procedures as the varsity. If the games are played between 4:00 and 7:00 p.m., the coaches and trainers should gain approval from the officials and other team for additional timeouts and longer half time breaks.

3. 7th and 8th Grade Games and Scrimmages:

Follow all the above procedures and each game or scrimmage will have an Emergency Medical Technician present. The EMT will be assigned by the Athletic Department.

4. “Pop-up” type awnings will be available to provide shade on the

marching areas at Arlington High, Bowie, Lamar (already has 2), and Sam Houston. Several shade trees are available immediately near the Martin practice area. The Seguin practice area is located next to the building which provides a shaded area as well as easy access to the building.

5. Students will be attired in shorts and loose-fitting apparel.
6. Students will be strongly encouraged and given time to hydrate their bodies by drinking large amounts of water before going outdoors.
7. A portable radio will be carried by one of the band directors to be in immediate contact with an athletic trainer should an emergency arise during marching rehearsals.
8. At football games early in the season, shorts and loose-fitting clothing will be worn instead of the regular marching uniform.
9. Students will be educated regarding physical conditioning and proper diet.
10. Large fans will be available for cooldown.

Extracurricular Practice During Hot Weather

Athletics

Principals will be notified through their pager and will notify sponsors and coaches when the temperature-humidity (THI) reaches 105°.

All outside extracurricular practice for junior high, freshman, and junior varsity teams will cease and students will return to the dressing room.

Varsity football teams will be allowed to practice outside under the following guidelines:

1. Both athletic trainers will be on the practice field.
2. Football players will have free access to water throughout practice.
3. Cold towels and large fans will be available for cooldowns during breaks and when the athletic trainers deem it necessary.
4. Frequent rest breaks with helmets off are necessary throughout practice.
5. Extra conditioning, for example wind sprints, agility drills, and distance running, will be eliminated.
6. Athletes with asthma must have the freedom to sit out without penalty if they are having problems.

Extracurricular Practice During Hot Weather

Bands

Bands will be allowed to have practice outside under the following guidelines:

1. During the “hot season”, August through Labor Day (and later, if the heat index continues to be a problem), marching rehearsals will be scheduled to begin at 6:00 or 6:30 p.m.
2. Actual “work periods” will be 20-30 minutes, followed by water and cooling-off periods of 5-10 minutes. During these work periods, actual physical activity lasts for only a few seconds at a time because they are in the early learning stages of the marching drill. Shorter work periods can be used, depending on the temperature and heat index, as the drill is learned, and the movement time lengthened.
3. Students will be asked to bring their own water bottles, possibly attached to their bodies, so that they may drink at any time during the “work periods”. Having insulated water jugs available on the practice area will provide additional water.
4. Students will be asked to bring a damp or wet towel, perhaps inside a plastic bag, to use to cool off their faces and the back of their necks when needed.
5. Ice, obtained from the athletic training room or cafeteria, will be available on the practice area.

Hot Weather Hints for Athletic Conditioning

Early fall athletic practice is frequently conducted in very warm and highly humid weather. Under such conditions, special precautions should be observed according to the committee on the Medical Aspects of Sports of the American Medical Association. Otherwise, the athlete is subject to:

1. **Heat syncope:** Fainting or near fainting following dizziness, usually while running or after a sudden change in position. Caused by a drop in blood pressure as the brain is deprived of oxygenated blood.
2. **Heat cramps:** Tightening or spasms of active muscles, without loss of consciousness. Caused by an electrolyte imbalance.
3. **Heat exhaustion:** Dizziness, fatigue, nausea and vomiting, which may be accompanied by irrational behavior or belligerence and some muscle cramping. Loss of consciousness may occur.
4. **Heat stroke (sun stroke):** Acute medical emergency. Extremely high body core temperature 106-108°Fahrenheit, no perspiration (hot, dry skin), disorientation, muscle twitching, convulsions, coma and possible death.

Treatment:

For heat syncope, heat cramps and heat exhaustion, move victim to a cooler, shaded area, elevate feet (or lower head), loosen or remove clothing, offer fluids by mouth, and cool skin with wet compresses or a fan. Activate the emergency medical system (EMS) by dialing 911.

For heat stroke, activate EMS. Oral fluid intake is not likely, but the other steps described above should be taken while waiting for the arrival of a rescue squad.

Prevention:

Follow guidelines for restricting activities based on the heat stress index. Temperature and relative humidity can be determined by using a sling psychrometer or can be obtained by listening to weather broadcasts.

Athletes should exercise preconditioning, heat acclimatization and water-replacement regimens. As the athlete becomes accustomed to hot weather activity, he or she perspires more freely (and thus dissipates body heat) and excretes salt (and thus conserves sodium). With a graduated training regime, such acclimatization can be expected to take place over a period of about one week.

Wear lightweight, light-colored, loose clothing.

Learn to recognize those people who may be predisposed to heat illness--victims of chronic disease, obesity, etc.--and watch them closely.

Conclusion:

A Temperature-Humidity Index (THI) of 105° F = Danger. Cancel or delay workouts until this “Index” drops below the danger level or a trainer or doctor is on site during the activity. The possibility of heat problems still exist at lower levels of the “Index”, and caution should be observed during any time of the day.

Practice very early or late in the day, but you still must consider the THI.

Each student should be weighed before and after practice. If he/she cannot be re-hydrated to within 1-2 pounds of his/her pre-practice weight, he/she should be held out of the next practice.

Free access to **WATER ANY TIME, BEFORE, DURING AND AFTER PRACTICE, WILL BE ENCOURAGED.** Give students a chance to drink water between individual drills and plays during scrimmages. Salt should be added to food if needed, but plain water is the safest, most effective drink during practice.

Other methods for increasing safety and comfort during hot weather practice include providing shade, misters, fans, cold towels and, most importantly, **LOTS OF WATER.**

Pull the student from practice if he/she looks worn out, is not sweating or experiences chills. Watch athletes carefully for signs of trouble, particularly the determined athlete who may not report discomfort. In the majority of heat related problems, the student/player has a contributing experience 24 hours before the problem. The contributing factor may be lack of sleep, or something taken internally, such as liquid, food, or medicine.

Excessive Heat, Humidity Pose Danger to Students

Last year's record-breaking heat wave posed unprecedented threats to the health of students. It is critically important that physical education teachers, coaches, band and drill team directors and all who supervise physical activity understand the risks to students who exercise in hot, humid conditions. The risk of suffering heat exhaustion or heat stroke significantly increases as temperatures reach 90°F with humidity as low as 20 percent.

Therefore, please review the following points as you develop your lesson plans and practice schedules.

- Start slowly, and take your time getting the kids “back in shape.” Even star athletes often return to school having lost the aerobic capacity they may have had at the close of last season.
- Advise students to wear light-colored, loose-fitting clothes which allow air to cool the skin.
- Ensure that your students drink fluids even before they feel thirsty. Their awareness of thirst may lag behind their need for fluid. Always urge children to drink water before, during and after exercise.
- Children can become acclimated to hot weather exercise, but must be allowed to do so gradually. Students involved in moderate-to-vigorous exercise daily will need 5-to-7 days to adjust to exercising in the heat. Those on more irregular exercise schedules will take longer to adapt.

- If students must exercise outside, they should begin with a 1-to-2 ratio of exercise to rest schedule. For instance, every five minutes of moderate to vigorous exercise should be followed by 10 minutes' rest and fluid replacement. Likewise, 10 minutes' exertion warrants 20 minutes' rest and fluid intake. As students adapt to the heat, gradually increase their exercise time as you decrease break time.
- Water is the best fluid for your body. However, fluids that contain no more than 7 percent sugar (sport drinks) also are acceptable.

Watch for these warning signs of heat illness

No two kids are exactly alike, which means you must constantly monitor **all** your students or athletes for signs of heat-related illness. **Children may try to ignore the seriousness of heat illness, but coaches and directors must take no chances when symptoms appear.** Learn to recognize the warning signs of the most dangerous forms of heat illness, **heat exhaustion** and **heat stroke**. Be ready to respond immediately with appropriate care.

| Condition | Symptoms | Response Care |
|-----------------|--|---|
| Heat Exhaustion | <ul style="list-style-type: none">• Normal or slightly elevated body temperature• Pale, clammy skin with profuse perspiration• General weakness with possible headaches• Nausea and/or vomiting• Dizziness and/or fainting | Stop activity immediately. Get victim to a cool, dry environment and drink plenty of fluids. Do not resume activity until normal fluid balances re-established (1-2 days) |
| Heat Stroke | <ul style="list-style-type: none">• High body temperature (106°F or higher)• Hot, red and dry skin conditions• Rapid and strong pulse• Victim may be unconscious | Requires immediate medical attention. While waiting for medical response, get victim to cool environment. |

Guidelines recommended by the Texas Association for Health, Physical Education, Recreation and Dance

Heat-Stress Precautions

- Drink plenty of fluids; avoid drinks containing sugar.
- Plan strenuous outdoor activity for early or late in the day when it is cooler.
- Stay indoors and in an air-conditioned environment as much as possible unless your heat tolerance is well-established. If air-conditioning is not available, pull shades over windows and use cross-ventilation and fans to cool rooms. In very high temperatures and humidity, turn off fans or aim them towards windows.
- Take frequent breaks when working outdoors.
- Eat more frequently but make sure meals are well-balanced and light.
- Consult with a physician about effects of sun and heat exposure while taking prescription drugs such as diuretics, antihistamines or other drugs.
- At first signs of heat illness (dizziness, nausea, headaches, muscle cramps), move to a cooler place, rest for a few minutes and slowly drink a cool beverage. Seek medical attention immediately if conditions do not improve.
- Wear sun block, hats and loose, light clothes to protect skin from sun's harmful rays.

From Texas Department of Health

A Guide to Preventing Hot Weather Illness

Hot weather is a part of life in Texas, but long stretches of record-breaking heat and drought are extraordinary. During these prolonged heat waves, the risk of heat-related illnesses, injuries and deaths climbs dramatically.

What is the danger?

According to health experts, one of the most dangerous factors during excessively hot weather is the addition of humidity. The combination of heat and humidity results in heat stress on humans and animals by interfering with the body's ability to cool itself through sweating. Victims of prolonged or high heat stress can develop heat cramps or heat exhaustion. If heat stress continues, the condition can progress to heat stroke and death.

What are heat illness symptoms?

The warning signs of heat illness can be mild or severe, but all are important danger signals. The most serious heat-related conditions are heat exhaustion and heat stroke. Signs of **heat exhaustion** include:

- profuse sweating
- paleness
- muscle cramps
- tiredness
- dizziness
- headache
- nausea or vomiting
- a weak-but-rapid pulse
- fast and shallow breathing
- fainting

Heat exhaustion can progress to heat stroke.

Heat stroke occurs when the body's cooling system fails. Sweating stops, and the body temperature can quickly exceed 106°F. Among heat stroke's symptoms are:

- extremely high (*usually more than 105°F orally*) body temperature
- red and dry skin
- failure to sweat
- rapid pulse
- throbbing headache
- dizziness
- nausea
- confusion
- seizures
- unconsciousness

Coma, paralysis and death can follow if emergency treatment is not immediately given.

Who is most at risk?

Prolonged or intense heat stress can be fatal to anyone, but people older than 60 appear to have the highest risk for death from heat illness, especially if they are frail, or have pre-existing heart disease, respiratory problems or diabetes. To a lesser extent, babies and young children--especially those left unattended in cars or enclosures--people with a history of alcoholism and others using certain drugs and medications are at high risk of heat illness.

People most at risk of heat illness from exertion may include: athletes, military personnel, manual laborers, farm workers and people who have diabetes or are obese. Anyone unused to high temperature and humidity may become ill during exertion.

How can you help someone with heat illness?

If the victim shows signs of **heat exhaustion**, help the victim to gradually cool off with water or non-alcoholic, caffeine-free drinks. Other treatments may include cool showers, rest in an air-conditioned place and wearing less clothing. If the victim shows signs of **heat stroke**, get the victim into shade or a cooler area, call 9-1-1 for emergency medical service and use any means to start cooling, such as immersing in cool water, spraying with a garden hose or fanning vigorously. Continue cooling efforts until the victim's temperature drops to 101-102°F. If emergency personnel have not arrived, call a hospital for advice. Get medical help as soon as possible.

How can you avoid heat stress?

Using common sense to stay cool is the most important protection and taking responsibility to help older people, young children and others is the most important protection a family or community has for the health of all its members. In excessive heat:

- drink two-to-five times more than usual amounts of water and non-sugar, non-alcoholic beverages to replace fluids lost in perspiration.
- wear loose-fitting, lightweight, light-colored clothing and wide-brimmed hats while in the sun.
- use sunscreens with an SPF 15 or more.
- take frequent breaks limiting physical activity. If warning signs, such as pounding heart and a shortness of breath occur, stop to rest in a cooler place.
- stay in an air-conditioned area if possible. People who lack air conditioning at home may spend the hot hours of the day in air-conditioned public places. If no air conditioning is available, fans are helpful.
- use a buddy system between co-workers in high-heat-stress jobs.

People 65 or older should have a friend or relative check on them or call twice daily during a heat wave. Some cities offer air-conditioned heat-relief shelters and many suspend utility cut-offs for people who are unable to afford using their air conditioners.

While planning activities, choose cooler hours to be outdoors. Before prolonged work or exercise away from the safety of air conditioning, listen to weather forecasts. Forecasters often predict both the heat and the humidity and give special heat warnings.

Heat Index Chart

| Humidity | 15 | 20 | 25 | 30 | 35 | 40 | 45 | 50 | 55 | 60 | 65 | 70 | 75 | 80 | 85 | 90 | 95 | |
|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-------|-------|-------|-------|-------|-------|-------|-----|-----|-------|
| 80 | | | | | | | 80 | 82 | 83 | 84 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | |
| T | 85 | 82 | 83 | 84 | 84 | 85 | 86 | 87 | 88 | 90 | 92 | 93 | 94 | 95 | 97 | 98 | 100 | 105 |
| e | 88 | 84 | 85 | 87 | 88 | 90 | 91 | 93 | 94 | 95 | 97 | 98 | 100 | 104 | 106 | 110 | 113 | 117 |
| m | 90 | 86 | 87 | 88 | 90 | 92 | 94 | 96 | 97 | 98 | 100 | 103 | 106 | 110 | 113 | 116 | 120 | 124 |
| P | 92 | 87 | 89 | 91 | 93 | 94 | 96 | 98 | 100 | 102 | 105 | 108 | 111 | 115 | 120 | 124 | 128 | 130 + |
| e | 94 | 91 | 92 | 94 | 95 | 97 | 100 | 103 | 105 | 108 | 111 | 115 | 120 | 125 | 130 + | | | |
| r | 96 | 93 | 95 | 97 | 98 | 101 | 104 | 107 | 109 | 113 | 118 | 123 | 128 | 130 + | | | | |
| a | 98 | 95 | 97 | 99 | 101 | 104 | 107 | 110 | 114 | 118 | 123 | 129 | 130 + | | | | | |
| t | 100 | 96 | 98 | 101 | 104 | 107 | 110 | 115 | 120 | 125 | 130 | 130 + | | | | | | |
| u | 101 | 97 | 100 | 102 | 105 | 108 | 112 | 118 | 123 | 128 | 130 + | | | | | | | |
| r | 102 | 98 | 101 | 104 | 107 | 110 | 116 | 121 | 127 | 130 + | | | | | | | | |
| e | 103 | 100 | 103 | 106 | 108 | 113 | 120 | 125 | 130 | 130 + | | | | | | | | |
| | 104 | 101 | 104 | 107 | 110 | 117 | 123 | 128 | 130 + | | | | | | | | | |
| | 105 | 102 | 105 | 108 | 112 | 119 | 126 | 130 | 130 + | | | | | | | | | |

Find the humidity on the top line, draw a line down to the current temperature to find the heat index.

Very Warm 80-90

Hot 90-105

Very Hot 105-130

Extremely Hot 130+

From the Texas Department of Health, Division of Emergency Preparedness

Air Quality Index (AQI) Ozone Precautions

| Air Quality Index Colors | | | |
|--------------------------|---------|--|--------------------------------|
| Color | AQI | Protect Your Health | Air Quality |
| Green | 0-50 | None | Good |
| Yellow | 51-100 | Unusually sensitive people should consider limiting prolonged outdoor exertion | Moderate |
| Orange | 101-150 | Active children and adults, and people with respiratory disease, such as asthma, should <u>limit</u> prolonged outdoor exertion. | Unhealthy for sensitive groups |
| Red | 151-200 | Active children and adults, and people with respiratory disease, such as asthma, should <u>avoid</u> prolonged exertion; <u>everyone else, especially children, should limit prolonged outdoor exertion.</u> | Unhealthy |
| Purple | 201-300 | Active children and adults, and people with respiratory disease, such as asthma, should <u>avoid all</u> outdoor exertion; everyone else, especially children, <u>should limit outdoor exertion.</u> | Very unhealthy |

Lightning

Safety

Procedures

Severe Storms and Lightning

Lightning is a threat during any severe thunderstorm. Coaches should move students off of the field or buses into a building for safety if lightning is occurring.

Coaches in charge of athletic events should be aware of approaching severe storms or other weather related emergencies. It is suggested that school officials could use the public address systems to warn spectators of approaching severe weather. Coaches, officials, or administrators should stop play when it is determined that it is unsafe to play. (Lightning warning detectors should be in the possession of coaches/administrators at all outdoor contests. The home team will be responsible for the device, and extra devices are available at the central athletic office.)

Regardless of the sophistication of weather monitoring devices and predictions, lightning creates situations that are impossible to anticipate. How can we go about judging the dangers of lightning beyond guesswork? What is the rule to be followed when (1) lightning is not visible but conditions are right for its development, (2) lightning is a possibility due to conditions, (3) lightning is imminent?

While the probability of being struck by lightning is very low, the odds are significantly greater when a storm is in the area and the proper safety precautions are not followed. More deaths in the United States are caused by lightning than any other natural phenomenon. One in twelve individuals struck are hit while playing golf. Also, more people are struck during involvement in recreational and sporting events than while working.

We have heard of lightning strikes from clear, overhead skies. These strikes have resulted in deaths and injury. We are in immediate risk of the possibility of a lightning strike when the leading edge of a thunderstorm is within 10 miles. Such lightning would come from the “anvil cloud” or overhanging leading edge of a thunderstorm.

Many people gauge the approach of a thunderstorm by the cold winds that suddenly kick up. These winds are a result of down drafts that usually extend less than three miles from the storm. Since thunder can be heard for only an average of three to four miles, depending on terrain, humidity and other surrounding noise, from the time leading winds are felt and thunder is first heard, the storm may be within three miles.

Have a Plan:

Written procedure for lightning safety is valuable to an athletic department in assisting coaches to deal as uniformly as possible to the threat of severe weather. In the event of dangerous and imminent lightning, it is the responsibility of the athletic director, athletic supervisor, trainer, coach, and/or game officials to remove teams and individuals from an athletic venue. Any one of these people can make the call. Coaches will often need to decide this issue, especially at practices.

What We Can Do:

1. Monitor threatening weather and obtain reports daily before practices or events. This can be accomplished through radio reports, television reports, Internet weather sites, newspaper forecasts and weather scanners. Be aware of potential thunderstorms and signs of thunderstorms that may develop nearby.
2. Be aware of “watches” and “warnings” issued by the National Weather Service. A “watch” means conditions are favorable for severe weather to develop in an area and proper precautions should be taken.
3. Know where the nearest “safe structure” is located to the area of playgrounds and practice fields. Be aware of the time it takes to move to the structure or location. Safe shelter includes a sturdy building that has metal plumbing or wiring to ground the structure.
 - A. Avoid using telephones unless needed for an emergency. People have been injured or killed while using a land-line telephone. A cellular phone or portable remote phone is a safe alternative if the user and the antenna are located within a safe structure and if all other precautions are followed.
 - B. Stay away from windows and open doors.
 - C. Do not use electrical equipment. Unplug appliances not necessary for obtaining weather information.
 - D. Do not take a shower during the storm and avoid contact with plumbing facilities and fixtures.

4. In the absence of a “safe structure”, the next best shelter is a vehicle with a hard top metal roof and windows up to offer a certain measure of safety. Do not use sheds, golf carts or convertibles. In a vehicle, it is the metal roof and body that dissipates the lightning around the car. Do not touch metal in the vehicle.
5. Utilize the “flash to bang” method of estimating how far away lightning is occurring. Remember that lightning can occur as far as 10 miles ahead of the rain shaft of a thunderstorm. Divide by five the number counted from the time the lightning is sighted to when the clap of thunder is heard to determine the approximate number of miles away that the lightning is occurring. Thunder always accompanies lightning and the first flash or clap should begin awareness, 30 seconds or six miles should result in all individuals leaving the playgrounds or athletic fields and reaching a safe location.
6. Postpone the practice or outside event for 30 minutes after the last flash of lightning or sound of thunder before returning to the outdoor facility for activity. Be prepared to terminate activity and cancel the event.
7. It is advisable that an announcement be read when possible to spectators and competitors in the event of ominous weather and halting a contest. The announcement should include:
 - A. Instructions for all spectators, competitors and contest personnel to move immediately to the nearest school building. (Make sure an access door is open).
 - B. A vehicle (with the cautions listed earlier) is the next alternative.
 - C. A warning to not take refuge under or near trees, tall objects, lone objects, bleachers or fences.

Additional Information

Nature of Lightning:

Bolts of lightning reach heat as high as 50,000 degrees. There are 16 million thunderstorms per year in the world. One half of all lightning bolts divide into two or more bolts. A lightning bolt can strike in one millionth of a second. Annually in the United States, about 100,000 thunderstorms occur. Ten percent of all thunderstorms are capable of producing tornadoes, high winds, and flash floods. The average thunderstorm is six to ten miles wide. The average rate of travel for a thunderstorm is 25 miles an hour. The average lightning strike is six miles long. The average lightning bolt is incredibly powerful, carrying up to 30 million volts at 100,000 amps. Two hundred deaths and 700 injuries are caused annually in the United States by thunderstorms. Lightning causes an estimated five to six billion dollars in direct or indirect property damages each year. Florida is the state with the highest rate of incident.

Correcting Myths:

“Heat lightning” that seems to light up the distant sky after a hot and humid day does pose a threat. Heat lightning is actually from a storm far enough away, the thunder is not audible. Should the storm move in your direction, it carries all of the threat of any other storm.

Rubber-soled shoes do not insulate or protect against a lightning strike. Lightning bolts traveling six miles to earth have little regard for Nike Air Shoes.

Tires on a car do not protect individuals from a strike; however, they are much safer inside a vehicle as compared to outside. Do not misunderstand; injury can occur in a car. Provided that the person is not touching metal, the hard top of a vehicle increases protection.

Lightning can strike at any time during a storm. It may occur up to 10

miles away from any rainfall or in the midst of heavy or light rain.

A person suffering from a lightning strike must receive immediate first aid and/or CPR. The victim does not carry an electrical charge of danger to someone touching them while tending to them.

To the old myth that lightning never strikes twice in the same place it can only be said that the behavior of lightning is random and unpredictable. The Empire State Building is hit about 25 times annually.

Flash and Bang:

For years we have been told that to gauge the distance of lightning one can begin counting one thousand one, one thousand two from the point of seeing lightning to the point of hearing thunder. The old idea was each second represented one mile of distance that the lightning was away. But not so any longer! The current method of counting seconds between seeing lightning and hearing thunder is called the “flash to bang” method. The newest “flash to bang” method says that the count number should be divided by five in order to determine more accurately the number of miles away that the lightning is occurring. So, if you count to five from flash to bang, this means the lightning is actually one mile away, count to 10 and the lightning is two miles away, etc. If this interval is decreasing rapidly as the storm approaches or the count reaches thirty seconds (or six miles), the outdoor activity must stop. All persons must immediately leave the athletic site and seek safe shelter.

Lightning Detectors:

Today a variety of storm and lightning detectors are available on the market. Some are portable. Others indicate by light and/or sound the distance (from up to 40 miles) of approaching lightning. Such commercial devices offer a cost-efficient and effective method of assisting in making timely and accurate decisions regarding when practice or contests should be stopped as well as returning to activity.

Conclusion:

The only way to reduce the chances involved in achieving lightning safety is to have a plan in advance for coaches and staff to fall back on.

Preparedness and implementation are the most important means to reduce the risk that challenges individuals.:

- (1) Check Weather
- (2) Shelter Awareness
- (3) Monitor Storm
- (4) Flash to Bang (detectors)
- (5) Suspend Activities
- (6) Evacuate People
- (7) Monitor Conditions
- (8) Resume or Cancel Activities

Emergency Safety Tips

In the event that someone is caught outdoors without a nearby shelter, the following are recommended tips for surviving the situation with the least possible risk.

1. Find a low spot or dry ditch away from trees, fences, bodies of water, metal objects and puddles of water. Avoid being the highest object in a field. Do not take shelter under a single tree.
2. If you are in a wooded area, crouch in a thick grove of smaller trees surrounded by taller trees.
3. Should you feel your hair stand on end, your skin tingle or hear a crackling noise, immediately crouch to minimize your body surface.
4. If on a golf course, get in a golf cart rather than stand in an open area beside it.
5. Crouch with the balls of your feet touching the ground and keep your feet close together. Wrap your arms around your knees to minimize your body's surface area. Do not lie flat! Minimize contact with the ground, because lightning current often enters a victim through the ground rather than by a direct overhead strike. The idea is to make your body as small an area as possible with minimum contact with the ground.