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## Shepherd Struck by Lightning in Wyoming

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### SUMMARY

A 17 year old male ranch helper was struck by lightning while moving sheep between camps in a hilly area near the border of the state. The victim had left the safety of a shepherd's wagon and was found lying under a tree, the victim of a lightning strike. He was brought to a nearby ranch house where CPR was administered. Ambulance personnel from a town 20 miles away arrived at the scene about 25 minutes after a 911 call had been placed, and transported the victim to an out of state hospital a few miles across the border. He was pronounced dead 3 and ¼ hours after ambulance arrival.

Employers may be able to minimize the potential for occurrence of this type of incident through the following precautions:

- **Inform employees about inclement weather procedures**
- **Provide audio or visual contact during inclement weather**

### INTRODUCTION

On a Thursday afternoon, June 25, 1992, a high school student who was working during the summer as a ranch hand, was struck by lightning while helping to move a sheep camp. The victim was found lying beside a large tree about 70' south of a bridge on a county road in hilly country near the state's southern border. He was lying on his back with his hands in his pockets. His cap was laying a few feet from him and he was not breathing. The tree above the victim showed signs of lightning strike, and the victim was in the path that would have been taken by lightning striking the tree. The victim's supervisor checked him, found no pulse or indication of breathing, and transported him to a nearby residence where CPR was administered. While others cared for the victim, the supervisor called 911. Law enforcement and ambulance personnel responded.

### INVESTIGATION

Through a reciprocal notification agreement with the Colorado FACE Program, the WY-FACE Project was notified of the incident by copy of a Colorado Certificate of Death on August 7, 1992. Reports were requested from investigating Law Enforcement agencies, the hospital where the victim died and the responding ambulance service. WY-FACE notified Wyoming OSHA of the event.

The victim was employed by a local ranch as summer help. He had worked for the company on two previous summers in the months of June through August. Prior to the incident, the victim was helping to

move a sheep camp to another location 20 to 25 miles away. The herders move the sheep about 5 miles a day, and haul a sheep wagon from one resting spot to the next.

The victim's job at the time of the incident was to see that sheep from two separate groups, belonging to two different owners, did not intermingle by crossing the river at the bridge. A shepherd was controlling sheep on the other side of the creek, and was out of visual range of the victim. During a rainstorm, sheep tend to not stray so, when the rain began, the victim and the dog returned to the sheep wagon to wait out the storm.

The victim was found lying under a tree that had been struck by lightning. The sheep dog was in the wagon. The manager was at the previous day's camp, and was bringing the pickup to haul the sheep wagon to the night's camping area. The sheep were up on the hill less than a mile away, toward the new camp.

The tree that was struck was outside the gate of a ranchhouse and about 70 feet south of a bridge crossing a creek on a county road. The sheep wagon was parked a few yards from the tree. The ranch is about 20 miles from the nearest ambulance service, with half of that distance on dirt roads. Rain had been falling for about 15 minutes prior to the incident, and the roads were muddy.

The victim had apparently gone with the dog to the sheep wagon during the storm. The dog was still inside the wagon and was dry when the victim was discovered lying on the ground. While there were no witnesses to the incident, it appears that the victim had stepped outside the wagon either to look down the road for the manager or to watch the storm when he was struck.

Based on evidence that the victim was found lying on his back with his hands in his pockets, that his cap was lying a few feet away and his clothes had burn holes at the chest of his T-shirt and also at the crotch of his pants, and that the tree showed signs of a lightning strike travelling toward the victim, it was determined that he was struck by the lightning bolt that struck the tree.

The victim was believed to have been struck not more than 20 minutes nor less than 10 minutes prior to discovery. On discovery the sheep manager ran to the nearby ranchhouse and called 911, then went back to carry the victim into the house while the ranch owner called the neighbor to administer CPR. The EMT who administered CPR prior to ambulance arrival was not able to get a pulse. ECG monitoring by the ambulance crew showed electrical activity, but no pulse prior to physician's care.

EMS personnel were on the phone line preparing to describe CPR procedures to the ranch owner when the EMT neighbor arrived. The neighbor began CPR which she continued until the ambulance arrived 26 minutes after being notified. CPR was continued enroute to an out-of-state hospital. Due to poor radio communication between the ambulance service and the hospital, and the distances involved in transporting the victim to the out-of-state hospital, two doctors from the hospital travelled by car toward the ambulance location, and rode back on board the ambulance to oversee/provide emergency treatment enroute. The victim arrived at the hospital an hour and a half after the ambulance was notified. Early information provided to the receiving hospital indicated that the victim had been struck by lightning, which caused him to fall from a bridge into the creek. As a result of available data, they necessarily considered treatment for multiple events. In-hospital CPR was continued for over two hours. The patient was pronounced dead three hours and forty minutes after notification to emergency services.

After the rain ended, the sheep were moved on to the new camp. After the ambulance left, the sheep manager moved the sheep wagon to the new location. There was no environmental damage to the area

after the lightning strike. No branches were broken, and no fire was started. There was no damage to the shepherd's wagon or to the ranch buildings resulting from the storm. The rain continued for another 30 to 45 minutes.

## **CAUSE OF DEATH**

The Medical Examiner listed the cause of death as Cardiac Arrest.

## **RECOMMENDATIONS/DISCUSSION**

In a study of 90 lightning-caused injuries and deaths conducted in central Florida, the National Oceanic and Atmospheric Administration has determined that people are most commonly struck as a storm is either beginning or ending - when they have a false sense of security. People are less likely to be struck during a large storm as during a small storm, when people take chances.

According to a 1991 release by U.S. West, "Lightning kills more people in the United States than any other natural hazard. It may strike some miles from the parent cloud." Precautions include "Avoid being the highest object in any area. Stay away from hilltops, lone trees, or telephone poles....If suitable shelter is not available, seek a ravine or valley, and drop to the ground in a crouched position, hands on knees. Do not lie flat."

Ranch workers should be trained in bad-weather procedures when they are hired for outside work. While lightning deaths are fairly rare, more people in the United States are killed by lightning than by any other natural hazard. Since ranch workers are apt to be in open fields with little opportunity to seek shelter when electrical storms come up, they should have adequate training and information to protect them from lightning strikes.

While ranch work pragmatically requires separation and working alone at great distances, procedures should be established to allow workers to be in contact during inclement weather, such as blizzard or electrical storm conditions. In this instance, visual contact might have been beneficial in either issuing a warning to get back in the wagon, or in responding more quickly to the incident.

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## **FATAL ACCIDENT CIRCUMSTANCES AND EPIDEMIOLOGY (FACE) PROJECT**

The National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research (DSR), performs Fatal Accident Circumstances and Epidemiology (FACE) investigations when a participating state reports an occupational fatality and requests technical assistance. The goal of these evaluations is to prevent fatal work injuries in the future by studying the working environment, the worker, the task the worker was performing, the tools the worker was using, the energy exchange resulting in fatal injury, and the role of management in controlling how these factors interact.

States participating in this study include: Georgia, Indiana, Kentucky, Maryland, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, Virginia, and West Virginia.

NIOSH Funded/State-based FACE Projects providing surveillance and intervention capabilities to show a measurable reduction in workplace fatalities include: Alaska, California, Colorado, Massachusetts, New Jersey, Minnesota, Missouri, Wisconsin and Wyoming.

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Additional information regarding this report is available from:

Wyoming Occupational Fatality Analysis Program  
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Cheyenne, WY 82002  
(307) 777-5439

**Please use information listed on the Contact Sheet on the NIOSH FACE web site to contact [In-house FACE program personnel](#) regarding In-house FACE reports and to gain assistance when State-FACE program personnel cannot be reached.**