

Arkansas Forestry Commission

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Online Resources

Centers for Disease Control and Prevention

www.cdc.gov/niosh/topics/heatstress/

US Forest Service Wildland Fire Safety Heat Stress Brochure

www.fs.fed.us/fire/safety/fitness/heat_stress/hs_pg1.html

National Weather Service Heat Index Information

www.nws.noaa.gov/om/heat/index.shtml

Six Minutes for Safety

www.wildfirelessons.net/uploads/6mfs/home.html



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Lessons Learned: Heat Stress

Incident

On July 5, 2011, Arkansas Forestry Commission (AFC) County Forester George Stagg, AFC Forest Ranger II Bobby Linder and AFC Forest Ranger II Keith Breshears were dispatched to a wildfire at 2:02 p.m. in Ashley County. The fire, burning in bottomland hardwood, was the result of a lightning strike. The air temperature was 94 degrees with a relative humidity of 49 percent, resulting in a heat index of 102. Stagg recalls this fire as the third the crew worked to contain in four days.

Breshears dozed fireline as Stagg followed behind on foot to check for break overs. The fire was controlled at 5 p.m. after burning 55 forested acres. Stagg was on the opposite side of the fire as Breshears finished putting in fireline. Breshears spoke to Stagg by radio, and Stagg said he would meet up with him.

After two to three minutes passed, Breshears was concerned and radioed Stagg again. Stagg said he was “coming, but coming slowly.” After another four to five minutes passed, Breshears went to an AFC pickup to get water and walked back toward where he last saw Stagg.

Stagg said he was feeling light-headed and dizzy that morning, but thought it was the result of a summer cold. He made sure to drink water en route to the fire and while fighting the blaze. As he was walking to meet Breshears, he began to feel dizzy. Breshears found Stagg lying on the ground in a shaded spot under a tree, with his head propped up on his arm. Stagg complained he felt nauseous.

Breshears gave Stagg water and told him to drink. Breshears grew more concerned as he listened to Stagg explain how he was feeling. He radioed Linder and told him to bring the pickup truck. When Stagg got to his feet and began to stand upright, he immediately fell back to the ground. Stagg did not lose consciousness, but was unable to walk out to a nearby road.

Stagg was loaded into the truck and taken to an EMT that was already on scene. The EMT called for an ambulance because Stagg’s blood pressure was extremely low. He was later transported to Ashley County Medical Center where he was treated for heat exhaustion and dehydration. Stagg was given IV fluids and kept overnight for observation. He was not released by his physician to return to work until the following Tuesday.

Safety Tips to Remember

- Heat-induced illness is a result of the body’s inability to cope with the high temperature. This condition can manifest itself as a minor symptom or as a life-threatening emergency. While recognition and treatment are important, prevention is the key.
- When responding to wildfires in extreme heat, personnel should adjust their activities to ensure they stay hydrated, take rest breaks as needed and communicate limitations to supervisors.
- Incident Commanders and supervisors must take these affects and limitations into consideration. A person’s ability to function can be drastically reduced during times of extreme heat, low or high humidity, fatigue and resource draw down.
- Staying hydrated is important in preventing injury or illness. Drink a minimum of one quart of water or more per hour in extreme conditions or arduous work. Drink water or electrolyte replacement beverages, and limit caffeinated drinks. Thirst is not an indicator of impending dehydration, but rather a sign that dehydration already exists.

Symptoms of Heat Illness

Heat Exhaustion

- Headaches
- dizziness/light headedness
- weakness, mood changes
- lack of concentration
- nausea
- vomiting
- decreased and dark colored urine
- fainting
- pale clammy skin

Heat Stroke

- Dry pale skin
- hot red skin
- mood changes
- seizures
- collapse