

<h1>NURSE REPORT</h1>	<p>OCCUPATIONAL HEALTH BRANCH DEPARTMENT OF HEALTH SERVICES STATE OF CALIFORNIA</p>
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NURSE REPORT #16 LETTUCE PACKER COLLAPSES DUE TO HEAT CDHS(COHP)-FI-92-005-16

Summary

Manual lettuce harvesting is often a two-person job. One person cuts the lettuce (the picker), while the other picks it up and packs it into a box (the packer). When full, these boxes weigh about 60 pounds. Wheel barrows are used to move these boxes.

On the day of this incident, it was unusually hot. The lettuce packer began packing lettuce early in the morning, and continued into the afternoon. However, he needed to take many breaks to drink water. During his lunch break, he only drank water and didn't eat anything. When back at work in the field, he collapsed. His supervisor called for an ambulance. The ambulance crew immediately started cooling him down by pouring fluids over him. He was taken to a hospital, where he was given treatment for heatstroke. He stayed in the hospital for close to a month. Although he recovered and went home, he has been advised not to return to this type of work in hot environments until he is examined again.

How could this injury have been prevented?

- Educate workers and field supervisors on early signs of heatstroke.
- Have workers immediately stop working if they show signs of heatstroke.
- Take immediate action to cool a worker if they become sick on a hot day.
- Make work tasks as easy as possible (especially on hot days).
- Provide shade for workers on hot sunny days.

CASE 292-127-01 September 4, 1992

The NURSE (Nurses Using Rural Sentinel Events) project is conducted by the California Occupational Health Program of the California Department of Health Services, in conjunction with the National Institute for Occupational Safety and Health. The program's goal is to prevent occupational injuries associated with agriculture. Injuries are reported by hospitals, emergency medical services, clinics, medical examiners, and coroners. Selected cases are followed up by conducting interviews of injured workers, co-workers, employers, and others involved in the incident. An on-site safety investigation is also conducted. These investigations provide detailed information on the worker, the work environment, and the potential risk factors resulting in the injury. Each investigation concludes with specific recommendations designed to prevent injuries, for the use of employers, workers, and others concerned about health and safety in agriculture.

BACKGROUND

On May 21, 1992 NURSE staff received a telephone report from a county Emergency Medical Services (EMS). The EMS reported that a 35 year-old Hispanic male suffered seizures while packing lettuce in a lettuce field on April 28, 1992. The lettuce packer was transported to a local community hospital by ambulance and admitted with a diagnosis of hyperthermia (heatstroke). On June 23, 1992, a nurse from the NURSE project interviewed the worker (who was recovering at home). On July 14, 1992, the nurse discussed the incident with the son of the farm labor contractor who employed the lettuce packer. He was responsible for the safety program. NURSE staff also reviewed the EMS record, the medical chart, and the "Doctors First Report of Occupational Injury or Illness."

The California Occupational Safety and Health Administration (Cal/OSHA) was not notified, and did not investigate this incident.

A nurse from the NURSE project reviewed the company safety program. He noted that it addressed all seven points as required by Title 8 California Code of Regulations 3203 - Injury and Illness Prevention Program. (As of July 1, 1991 the State of California requires all employers have a written seven point injury prevention program: 1. designated safety person responsible for implementing the program; 2. mode for ensuring employee compliance; 3. hazard communication; 4. hazard evaluation through periodic inspections; 5. injury investigation procedures; 6. intervention process for correcting hazards; and 7. a written health and safety program.)

The lettuce packer had worked for approximately two weeks in this geographic area for this farm labor contractor. This contractor employs approximately 200 workers (170 of whom are seasonal employees working 13-37 weeks per year and 30 are casual workers working 1-12 weeks per year). Some farm owners and operators use farm labor contractors to recruit, train, and manage workers. The safety director said that field foremen are trained in community first aid and cardiopulmonary resuscitation (CPR). He also said that all employees receive training for specific job tasks, including safety training. However, no specific training related to working in hot environments was given to workers. Both written materials and on-the-job training are used to provide job-specific training. **INCIDENT**

The worker began packing lettuce in the field at approximately 7:00 a.m. on April 28, 1992. The lettuce harvesting technique used in this incident involves both workers who cut the lettuce with a hand held knife at ground level and workers who pick it up and pack it in a box. These boxes, weighing approximately 60 pounds when full, are moved through the field on a modified wheel barrel. Boxes are then loaded onto a truck. The lettuce harvesting starts early in the morning and ends late in the afternoon. Workers are paid on a piece rate basis, calculated by the number of boxes of lettuce packed. Drinking water is available on the bus used to transport workers; the bus, which is parked next to the field, also provides the only shade from the sun.

During the morning of this incident, the supervisor noticed that the lettuce packer was taking breaks

every 10-15 minutes to drink water. After a lunch break (during which he did not eat) he began to fall behind in his work because he was continuing to drink water so frequently. His supervisor asked him if he was feeling well enough to work. The worker told him he was fine and continued to work; however, he continued to fall behind further as he took many breaks to drink water. His supervisor decided to talk with the worker again because he was so far behind the rest of the crew. At approximately 2:30 p.m., the supervisor discovered that the lettuce packer was incoherent. He then lost consciousness, collapsed to the ground, and had a seizure. The seizure lasted approximately two minutes. When it stopped, the worker was still unconscious and was having difficulty breathing. The supervisor realized the worker needed emergency medical treatment. At 2:39 p.m., he then called 911 on a mobile telephone in his car. A paramedic unit from the Emergency Medical Services (EMS) responded. The supervisor pulled the worker under a truck to shade him from the sun. The high temperature recorded in the area for this day was 93 degrees F, an unusually high temperature reading for this geographic area.

Upon arriving at 2:42 p.m., the paramedics removed the lettuce packer's clothing and poured saline solution over him to cool him. At this time, the worker began seizing again and paramedics (upon orders from the base hospital) gave him Valium to control the seizures. Paramedics also gave him oxygen. The paramedics attempted to intubate the worker but were unsuccessful due to his seizures. With the air conditioning in the ambulance turned on full power, the worker was transported to an acute care hospital. During transport, the worker continued having seizures and remained unconscious. The ambulance arrived at the emergency department at 3:31 p.m. In the emergency department, the worker was given specific drugs to reverse the metabolic effects of the hyperthermia and control his seizures. He was also covered with cooling blankets (water filled mattresses which are temperature controlled). The emergency department noted his core body temperature was 108.7 degrees F (which is over 10 degrees higher than normal) upon arrival to the hospital. Also upon arrival, his heart was beating very rapidly (almost three times faster than normal).

The lettuce packer was admitted to the intensive care unit and placed on a respirator. He remained in a coma, with a high fever, for several days and then slowly began to regain consciousness. He was hospitalized for 28 days. During his hospital stay, he was treated for seizures, a high fever, and for both kidney and liver damage which occurred because of the hyperthermia. The hospital records showed that he had previously been exposed to the hepatitis virus, but was not currently infected. There were no signs of previous illness which could have contributed to his heatstroke or high fever. The lettuce packer was then released in fair condition. He was advised, upon his release, not to continue working as a lettuce packer and not to work in hot environments without further evaluation.

PREVENTION STRATEGIES

1. Employers should train workers and field supervisors to be aware of the signs and symptoms of heat-related health conditions. Agricultural workers often work in the sun all day in high temperatures. Some workers may not be affected on hot days. Others may be susceptible to high temperatures and may suffer from heat-related problems. The lettuce packer in this incident was constantly taking breaks to drink water every 10-15 minutes. The supervisor observed this behavior but did not take action until the worker collapsed. In this incident, the worker developed hyperthermia while working at a temperature that was high for the geographic location. The delay in recognizing that the worker needed medical attention meant a delay in appropriate medical treatment. Heatstroke is a medical emergency and may result in death if not treated quickly by cooling the affected person.
2. Employers should provide working conditions that encourage workers not to forfeit their health to make more money. This lettuce packer was working on a piece rate basis. Being paid by piece rate may provide a disincentive to stop working because of illness. Although the lettuce packer denied feeling poor the morning of the incident, he could have lost money if he did not keep working. If he had been

encouraged by the supervisor to stop working, he might have prevented his heatstroke.

3. Employers should attempt to make work tasks as easy as possible. There are automated methods used by some agricultural companies and farm labor contractors to harvest and pack lettuce. These methods decrease the physical labor demands placed upon the field workers. In this incident, if the lettuce packer was not required to move heavy boxes, his work would not have been as strenuous. He was performing a very strenuous activity under temperatures higher than normal. If the lettuce packer was not required to work so hard on such a hot day, he might not have become overheated.

4. Employers should provide workers with personal protective clothing and ensure that it is used. High temperatures on hot, sunny days are an environmental exposure which may be hazardous to workers. In this incident, the only shade available to the lettuce pickers and packers was under the bus. If field workers, such as lettuce packers, were provided with umbrellas to shade them from the sun on hot days, or hats with large shades, this may decrease their exposure to the sun while they are working. This is an inexpensive way to help prevent heat-related problems.