California Occupational Health Program

NURSE REPORT #31
January 1994

Worker Scalped in Fruit Packing Plant[1]

California NURSE Project[2]

SUMMARY: CASE 193-209-01

Early one morning a worker was setting up her work station in a packing plant. Her job was to stamp fruit boxes as they moved past her on a roller transport system. First she had to put a hair net on and arrange the stamps on her table. Her table was right next to the roller transport system. As she laid the stamps on the table, one fell on the ground.

The worker began bending over to pick up the stamp. Her hair net was not on yet. Her long, loose hair grazed the fast moving rollers and started tangling in them. The rollers continued pulling her hair in until a large part of her scalp tore off.

Immediately, her supervisor turned off the rollers and wrapped the injured worker's head in a shirt. Co-workers ran to the plant office to call 911. Later, at a hospital doctors tried, but could not reattach the worker's scalp.

How could this injury have been prevented?

- Employers should require workers to put on all personal protective equipment before entering the work area (such as hair nets).
- Employers should make sure work areas are free of hazards (such as unguarded rollers).
- Employers should install the safest possible equipment in the work area.
- First aid kits should be in the work area.

BACKGROUND

On June 23, 1993, NURSE staff identified an injury in a packing plant while reviewing records at a Regional Trauma Center. On June 16, 1993, a packing line worker lost 40% of her scalp while setting up her work station area. Her hair became tangled in a roller conveyor system when she bent over to pick up a stamp off the floor.

On July 14, 1993, a nurse from the NURSE Project interviewed the injured worker by telephone. On September 10, 1993, the nurse and a safety engineer conducted an on-site investigation. They also discussed the incident with the plant co-owner and a supervisor who was in the plant during the incident. NURSE staff also reviewed the California Occupational Safety and Health Administration (Cal/OSHA) "Accident Report," the ambulance patient run sheet, and hospital medical records.

The plant co-owner notified Cal/OSHA on June 17, 1993. At the time of this NURSE Report, the Cal/OSHA investigation report was not available.

During the on-site investigation, the safety engineer reviewed the employer's written injury and illness prevention program and noted it addressed all 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 to 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.

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1. This document CDHS(OHB)-FI-94-005-31, was extracted from a series of the Nurses Using Rural Sentinal Events (NURSE) project, conducted by the California Occupational Health Program of the California Department of Health Services, in conjunction withe the NationalInstitute for Occupational Safety and Health. Publication date: January 1994.

2. NURSE Project, California Occupational Health Program, 2151 Berkeley Way, Annex 11, Berkeley, CA 94704.

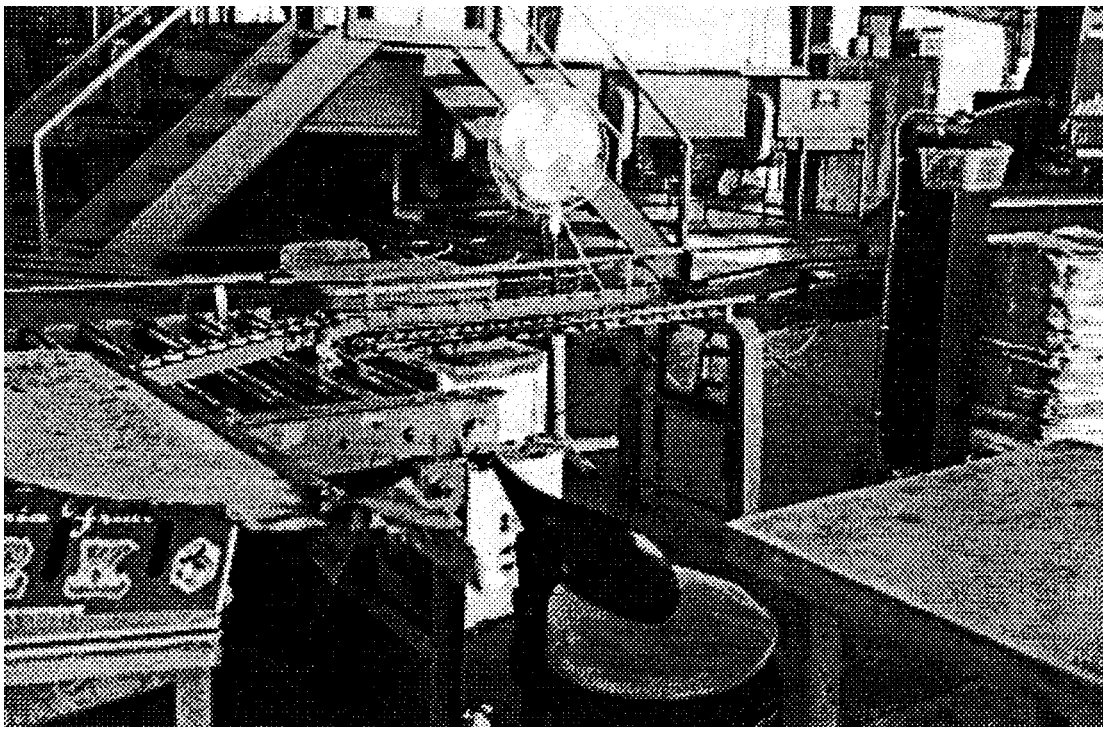

Figure 1. The conveyor system

intervention process for correcting hazards; and 7. provide safety training and instruction.)

The incident took place at a packing plant owned and operated by two brothers. It employs 10 full-time workers (working 38+ weeks per year), 30-90 seasonal workers (working 13-37 weeks per year), and 6 family members. The injured packing line worker was hired as a seasonal worker two and one half months before the incident. She stated she had received verbal and written safety training relating to her tasks.

INCIDENT

On June 16, 1993, at approximately 7:50 a.m., a 21 year-old Caucasian female packing line worker was setting up her work station table. Her job task consisted of stamping boxes with the type and size of fruit as they moved past her on a chain driven roller conveyor system. The rollers rotate rapidly to move the boxes down the conveyor system (see Figure 1).

The packing line worker laid the stamps on her work station table, located next to the conveyor belt. One of them fell to the ground. Because she had not yet started her job task, her long hair was not in a hair net. As she bent over to pick up the stamp, her hair became tangled in an unguarded section of the rapidly moving roller conveyor system. Although she tried, the packing line worker could not reach the emergency turn off button approximately 10-12 inches from the roller. The right front section of her scalp tore off.

A supervisor heard the packing line worker screaming. He saw her standing with her face and clothes covered in blood. He quickly shut off power to the roller conveyor system. Certified in first aid, the supervisor wrapped a shirt around her head to control the bleeding. Then, he retrieved the scalp from the roller conveyor system and placed it in a bag on top of ice. Concurrently, co-workers ran into the plant office to call 911.

Emergency Medical Services (EMS) received the call at 8:07 a.m., and arrived on the scene at 8:13 a.m. They applied head pressure dressings, administered oxygen, and started an IV. At 8:29 a.m., the injured packing line worker was transported to a Regional Trauma Center. Arriving at 8:52 a.m., emergency department staff cleaned her exposed skull bone and applied a clean, sterile dressing. She was given pain control medication.

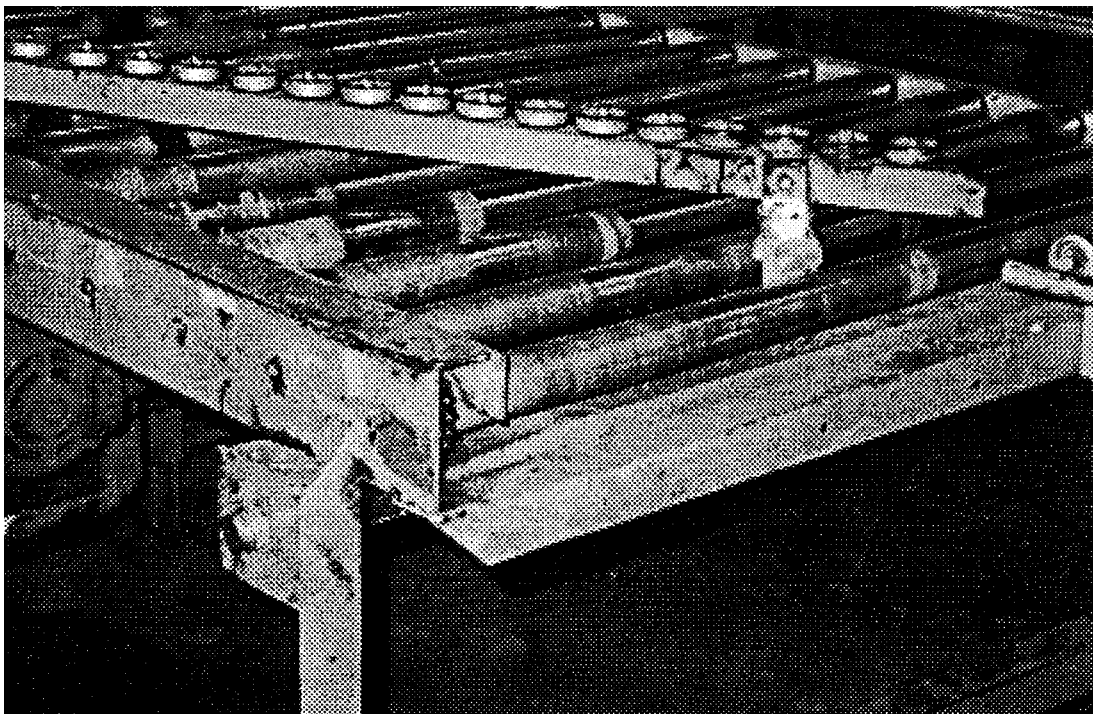

Figure 2. Unguarded rollers

At 10:20 a.m., she was transported, by helicopter, to another medical facility for microsurgery to reattach her scalp. She remained hospitalized for seventeen days and then was released for a holiday weekend. Upon readmission after the holiday, it was apparent the attachment was unsuccessful. The scalp was surgically removed. However, skin grafting surgery was performed in which the top layer of skin was taken from another part of her body and transplanted on her skull. She was released July 13, 1993.

The nurse and the safety engineer from the NURSE Project again met with the injured packing line worker on September 1, 1993. Although she stated she was recovering well and the graft was successful, she did not expect to return to work for at least a year.

PREVENTION STRATEGIES

1. Employers should require workers to put on all personal protective equipment before entering the work area. In this incident, the employer did require workers to wear hair nets. However, the injured worker was setting up her work station, and putting a hair net on was a part of that process. If she had been trained to put on her hair net before entering the work area, her hair may not have been loose and able to tangle in the rapidly moving roller conveyor system. The plant owners did implement this policy after the incident.*** Title 8 California Code of Regulations 3380(a): Personal protective devices of the proper type and design shall be provided to eliminate the hazard.**

2. Employers should keep the work environment free from hazards. In this incident, an unguarded area of the roller system caught the injured worker's hair. Although the chain drive was guarded, the moving rollers were not (see Figure 2). After the incident, the owners placed a temporary cardboard guard over the rollers not used to move smaller boxes. This covered the unused moving rollers closest to the injured worker's station while still allowing the system to function. A permanent adjustable guard should be installed.*** Title 8 California Code of Regulations 4002(a): All machines, or parts of machines which create hazards, shall be guarded.**

3. Employers should consider safety when installing and upgrading equipment. At the time of this incident, the employer was in the process of replacing the entire conveyor system with a pressure sensitive belt driven roller conveyor system. This type of system is designed to stop moving as soon

as there is resistance in the rollers. An example of resistance is hair entanglement. In this incident, the older style conveyor system was still in place at the injured worker's work station. If the plant would have installed the safer conveyor system, this incident may not have occurred.

4. Employers should place first aid kits in easily accessible locations in the work area. In this incident, although the supervisor was certified in first aid, he did not have quick and easy access to a first aid kit. It was in the plant office, which is approximately 200 feet from the incident location. In this incident, the supervisor responded quickly to stop the bleeding by wrapping a shirt around the injured worker's head. However, if the supervisor had quick and easy access to the first aid kit, the injured worker's head could have been wrapped in clean and sterile dressings instead of a shirt.

FURTHER INFORMATION

For further information concerning this incident or other agriculture-related injuries, please contact:

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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.