

Poisonous Spider Bites Vineyard Worker¹

California NURSE Project²

SUMMARY : CASE 192-028-001

A farm laborer was working in a vineyard, cleaning weeds away from the base of the grape vines with a shovel. He bent under the vines to check his work and was bitten on the left side of the neck by a spider. The spider may have been a Brown Recluse [1] or another poisonous spider. Fifteen minutes after the bite the worker began to feel dizzy and sick to his stomach. The employer drove the worker to a hospital emergency department, where the worker was treated and released.

How could this injury have been prevented?

- Check before working under vines and other hidden areas for spiders, yellow jackets, rattlesnakes, and other poisonous insects or animals.
- One person at the work site should be trained in first aid. The worker could have had a bad reaction to the spider bite.
- Call 911 (emergency services) for poisonous insect bites and stings.

BACKGROUND

On March 23, 1992 while reviewing the emergency department log at a local Level 2 Trauma Center a staff nurse from the NURSE Project noted a report of treatment for a spider bite. A farm laborer was bitten on the left side of the neck while working in a vineyard on March 14, 1992. The farm laborer was cleaning weeds and trash from the base of the vines prior to irrigation. The description of the spider was not complete (brown with two red dots on its abdomen), yet it matches that of a Brown Recluse spider. [1] While not generally fatal to adults, the Brown Recluse spider venom can cause serious illness for a week or more. A staff nurse from

the NURSE project interviewed the employee on March 23, 1992. On March 27, 1992 the Senior Safety Engineer of the NURSE Project contacted the farm owner/operator by telephone and discussed the incident. NURSE staff reviewed the emergency department medical records in detail. Cal/OSHA was not notified by the employer and did not investigate the incident.

The incident occurred on a small, family owned and operated vineyard which hires seasonal workers to work on the harvest. At the time of the incident the injured worker was the only person employed at the vineyard. The employee had been working as a seasonal employee (13 to 37 weeks per year) for this farmer the past three years and was on his second day of the new season.

At the time of their telephone discussion, the farm owner/operator told the NURSE Safety Engineer that the farm did not have a formal written safety program, 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: designated safety person responsible for implementing the program; mode for ensuring employee compliance; hazard communication; hazard evaluation through periodic inspections; injury investigation procedures; intervention process for correcting hazards; and a health and safety program.)

INCIDENT

At approximately 8:15 a.m. on March 14, 1992 a 23 year old Hispanic male working in a vineyard was bitten on the left side of his neck by a brown spider. The seasonal farm worker was cleaning up weeds and trash from around the base of the grape vines with a shovel.

1. This document, CDHS(COHP)-FI-92-005-09, was extracted from a series of the Nurses Using Rural Sentinel Events (NURSE) project, 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. Publication date: May 1992.

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

This operation requires considerable bending and stooping under the vines. The work was being done in a 20 acre vineyard of Thompson grapes. This was the initial clean-up prior to the delivery of water from the local community irrigation district system. The farm laborer bent under the vines to check his work and was bitten on the left side of the neck by a brown spider. He was wearing his regular work clothing, work trousers and a long sleeved shirt. The farm worker stated he felt a sharp sting on his neck and reacted by swatting his neck at which time he killed the spider. He then discovered that he had been bitten by a brown spider. He retained the dead spider which he later took with him to the hospital.

The bite occurred at about 8:15 a.m. A few minutes after the spider bite the site of the bite was warm to the touch and swollen. About fifteen minutes later the worker began to feel dizzy with some nausea. His employer, the owner of the vineyard, immediately drove the farm worker in the employer's pick-up truck ten miles to a local Level 2 Trauma Center emergency department. The injured worker arrived at the hospital at approximately 8:55 a.m., but was not treated until 9:50 a.m. He was treated with antihistamines for local and systemic reactions to the spider bite, and released. He was seen a second time on March 16, 1992 at the request of the emergency department physician. At this time he was noted to be on antibiotics, and given a brief wound check.

No medical transport unit was notified by the employer, although the local emergency medical service was available to the employer by calling 911. The owner/operator did not administer any first aid treatment prior to transporting the employee to the hospital. The farm owner had no formal first aid training.

PREVENTION STRATEGIES

1. The employer has the responsibility to have emergency medical services available for employees at remote work sites, including a person at the field site trained in first aid*. First aid training may have made the employer aware of dangers associated with insect bites. Spider bites can cause severe reactions such as anaphylactic shock (shock brought on by hypersensitivity to an allergin). Although in this incident the farm laborer did not go into shock, in other incidents workers may be more susceptible to insect bites and may experience more severe reactions. **Note: * Title 8 California Code of Regulations 3400 (b): "In the absence of an infirmary, clinic or hospital, in near proximity to**

the workplace...a person or persons shall be adequately trained to render first aid."

2. Poisonous insect bites are a common seasonal hazard in the agricultural work place. A nurse from the NURSE Project noted four spider bites and two snake bites during a two week review of records at this same hospital. The employer should instruct employees to be aware of the problem of insects and animals in the vines, and warn employees to check for them before working under the vines. Both yellow jackets and rattlesnakes can be found in the vines. If the employee had checked for insects and animals under the vines, he may not have been bitten by the spider.
3. Employers should request the aid of emergency medical services when there is the potential for a life-threatening situation to develop. The employer should have called 911 and let paramedics decide whether or not the employee should have been transported in an ambulance or a private vehicle. In this incident the employer would have been unable to provide treatment if the worker had gone into anaphylactic shock on the way to the hospital.

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.

[1] This note added by NASD editorial staff March 31, 2009:

Although the Brown Recluse spider is suggested as being responsible for the bite suffered by the vineyard worker, it is now well established that the Brown Recluse spider is not established in California, and it is most unlikely to have caused the bite described. A more likely identification, according to Rick Vetter of the University of California, Riverside, Department of Entomology, is the Bold Jumping Spider or the immature Black Widow spider. Brown Recluses can be specifically eliminated from this identification because they are found in tree trunks, under rocks, and in similar habitats, and not in vegetation. Also, Brown Recluses never have red on their bodies at any time in their life cycle. For additional information about spiders in California, visit the Spider Web page of the University of California, Riverside [apply the following link to "Spider Web page of the University of California": <http://spiders.ucr.edu/>]. For additional information about the Brown Recluse spider, consult the fact sheet from the Ohio State University [apply the following link to "fact sheet from the Ohio State University": <http://ohioline.osu.edu/hyg-fact/2000/2061.html>].