



The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces
through safety and health research



Tree Faller Dies After Being Struck by a Falling Snag—Pennsylvania

FACE 9221

SUMMARY

A 46-year-old male tree faller (the victim) died after being struck in the back of the head by a falling snag (dead standing tree) on his second day on the job. The victim was working with one co-worker and was selectively cutting trees which were approximately 24 inches in diameter. The co-worker was transporting the logs, which were of various lengths, approximately 12 miles up the mountainside on a logging road. A log skidder was used to move the logs. The victim was working on a small plateau in a mountainous region, felling timber. Two trees had been felled, limbed (limbs removed), and prepared for transport up the mountainside. When the trees had been attached to the skidder, the co-worker left the site to drag them to the mountaintop for loading onto a waiting truck. The victim then felled a third tree, which came to rest upslope from the plateau, suspended above ground by other standing trees. Evidence at the scene suggests the victim felled a fourth tree, which landed perpendicular to the butt end of the third tree. As he stepped back from the fourth tree, the snag fell, striking him a fatal blow to the back of the head. He was not wearing any type of head protection at the time of the incident. The top of the snag came to rest across the fourth tree, with the limb that struck the victim pinning him to the ground. NIOSH investigators concluded that, in order to prevent future similar occurrences, employers should:

- **train and instruct fallers to properly evaluate the area around timber to be felled so that potential hazards can be identified and controlled**
- **provide personal protective equipment to workers and ensure its use**
- **designate a qualified person to conduct periodic safety inspections.**

INTRODUCTION

On July 7, 1992, a 46-year-old male tree faller (the victim) was fatally struck on the back of the head by a limb of a falling snag while he was felling trees. On July 9, 1992, officials of the county coroner's office notified the National Institute for Occupational Safety and Health (NIOSH), Division of Safety Research (DSR) of the death. On July 10, 1992, a DSR safety specialist and a safety engineer traveled to the county coroner's office and the incident site to conduct an investigation. A videotape of the scene immediately following the incident, including the removal of the victim, was viewed in the coroner's office. A copy of the coroner's report and the videotape were obtained, and the incident site was photographed.

The employer in this incident was a logging company that employed five workers. The employer had no written safety program or safety policy. Training of employees was performed on the job. Although the victim was scheduled to start work for the company the day before the incident occurred, heavy rains had canceled all operations and the day of the incident

was the victim's first actual day at work. The company had no previous fatalities.

INVESTIGATION

The employer had been contracted to selectively cut timber on a tract of land in a mountainous region. Work had progressed for the preceding few months, clearing a logging road 12 miles back into the mountain from the blacktop road. On the day of the incident, a crew consisting of a logger (the victim) and a log skidder operator arrived at the work site at 6:30 a.m. This was the victim's first day on the job. The victim had been scheduled to start work the previous day, but all operations had been canceled because of heavy rains. The victim was working on a small plateau in the mountainous region.

After the victim felled and limbed two trees, the trees were attached to the skidder using logging chains and wire-rope chokers. The co-worker then boarded the skidder and hauled the logs up the logging road to a waiting truck at the top of the mountain.

After the co-worker left, the victim felled a third tree upslope from the plateau (Figure). The third tree became lodged in a standing tree and remained suspended above the ground. The victim then felled a fourth tree which landed perpendicular to the butt end of the third tree.

Although the incident was unwitnessed, evidence at the scene suggests that as the fourth tree completed its fall, or after it had fallen, the victim, who was facing downslope from the plateau, was struck on the back of the head by the limb of a falling snag. The snag slid 52 feet down the trunk of the third tree and came to rest with one limb lying across the fourth tree and the stump of the third tree, while the 5-inch-diameter limb that struck the victim came to rest against the victim's back, pinning him to the ground. The victim was not wearing any type of head protection or personal protective equipment at the time of the incident.

When the co-worker returned to the work site he found the victim pinned beneath the snag. He pulled the victim out from under the snag and checked for a pulse, but found none. The co-worker then drove the skidder back to the truck loading area and told the driver to summon emergency medical support (EMS). The first paramedics to arrive at the site could not detect any vital signs and summoned the coroner's office. A deputy coroner pronounced the victim dead at the scene. The victim was transported part way up the mountain on a collapsible stretcher, then loaded on a pick-up truck and taken to the truck loading area where he was transferred to an ambulance and transported to the local hospital morgue.

Investigation at the scene revealed that the snag was 70-feet-long as it rested on the ground. The point at which the limb contacted the victim was 62 feet from the base of the snag. The base of the snag was located 55 feet upslope from the stump of the third tree. Its location precluded contact with the third tree as the third tree fell. However, if the snag had uprooted previously and come to rest on the tree which supported the third tree, it could have been jarred, though not jarred loose, when the third tree fell. It could then have fallen, fatally striking the victim. It is also possible that vibration caused by the other felled trees caused the snag to uproot. The heavy rains and the advanced decay of the root system of the snag made it impossible to determine when the snag had been uprooted.

CAUSE OF DEATH

The coroner listed the cause of death as skull fracture.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should train and instruct fallers to properly evaluate the area around timber to be felled so that potential hazards can be identified and controlled.

Discussion: Fallers, particularly new employees, should be provided with training in safe work practices and instructed to evaluate their work area prior to beginning work. Such training should include factors such as the lean of the tree to be cut, wind conditions, and the locations of other trees in the immediate work area, as well as the need to identify potential hazards such as dead, broken, or rotten limbs or trees (snags). Once identified, any dead, broken or rotten limbs should be felled or otherwise removed before commencing logging, as detailed in 29 CFR 1910.266 (c)(3)(ii) and 29 CFR 1910.266 (e)(2)(ii) of the pulpwood standards.

Note: Currently, OSHA standard 1910.266 applies to pulpwood logging but does not apply to the logging of sawtimber-sized trees, as in this incident. OSHA is currently revising their logging regulations to include all types of logging operations. Although not enforceable, sections of 1910.266 of the pulpwood standard, particularly relating to safe work practices, do apply in this case.

Recommendation #2: Employers should provide personal protective equipment (PPE) to workers and ensure its use.

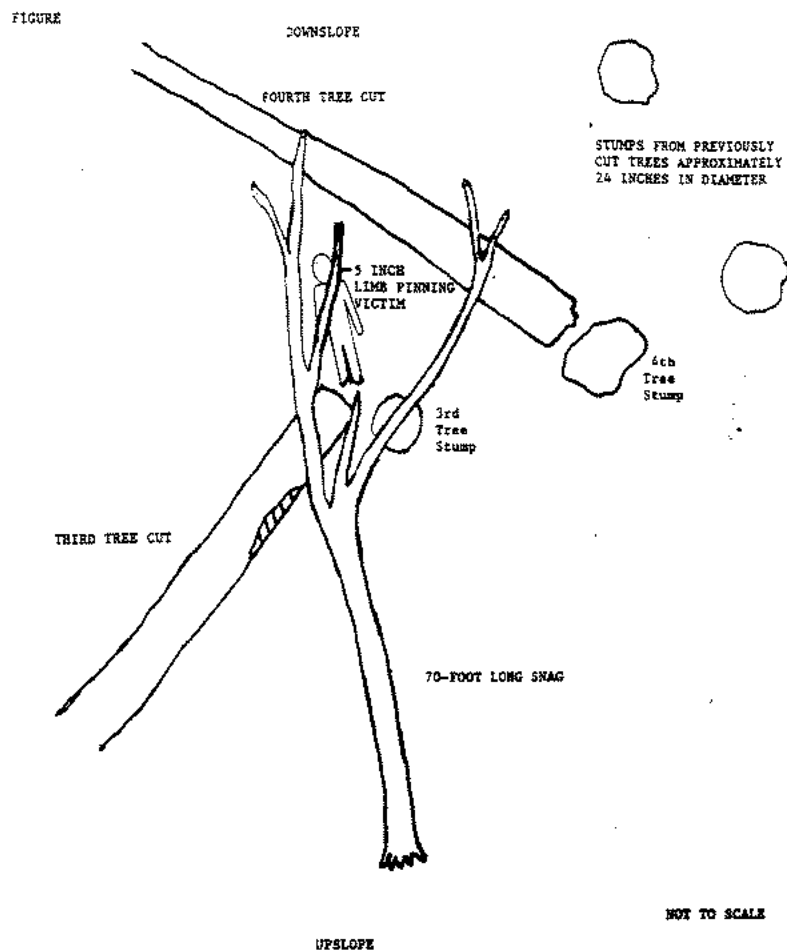
Discussion: 29 CFR 1910.266 (c)(1)(iii) requires that approved safety helmets be provided to workers. Even though 1910.266 did not apply to this situation, employers should provide workers with the required PPE, instruct workers in the proper use of the PPE, and require its use.

Recommendation #3: Employers should designate a qualified person to conduct periodic safety inspections.

Discussion: To ensure that workers, particularly new employees, are performing their assigned tasks in the safest possible manner, scheduled and unscheduled safety inspections should be conducted at job sites. Any potential hazards or improper work practices which are identified should be immediately corrected.

REFERENCES

29 CFR 1910.266. Code of Federal Regulations, Washington, D.C.: U.S. Government Printing Office, Office of the Federal Register.



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