



The National Institute for Occupational Safety and Health (NIOSH)

Promoting productive workplaces
through safety and health research



Carpenter Dies After Falling 10 Feet From A Step Ladder/Porch Floor—South Carolina

FACE 9412

SUMMARY

A 37-year-old male carpenter (the victim) died after falling 10 feet and striking his head on a concrete block retaining wall. The victim and two co-workers had been assigned clean-up work at a private residence that was under construction. The victim was working out of sight of co-workers when the incident occurred. The victim was last observed by his co-workers standing on a step ladder affixing blocks of wood to the ceiling rafters of a covered porch. Although the incident was unwitnessed, it can be assumed that the victim either lost his balance and fell from the ladder, or was descending the ladder and stepped backwards off the ladder and off the edge of the porch. The victim struck his head on a concrete block retaining wall, located about 6 feet below the open-sided porch floor. Guardrails around the porch floor perimeter were not present at the time of the incident. When the co-workers found the victim he was unconscious but breathing. One co-worker ran across the lot to another residence that was under construction, and asked the foreman to call for an ambulance. The ambulance arrived in less than 10 minutes, the victim was stabilized and transported to the local hospital. Two days later the victim was pronounced brain dead, all life support systems were removed and consequently he died that day. NIOSH investigators concluded that, to prevent similar occurrences, employers should:

- **provide adequate guarding for open-sided floors, platforms, and runways**
- **review and revise, where applicable, existing safety programs**
- **routinely conduct scheduled and unscheduled workplace safety inspections**
- **encourage workers to actively participate in workplace safety.**

INTRODUCTION

On March 23, 1994, a 37-year-old male carpenter (the victim) died from injuries received in a 10-foot fall from a step ladder/porch floor on March 21, 1994. On April 21, 1994, officials of the South Carolina Occupational Safety and Health Administration (SCOSHA) notified the Division of Safety Research (DSR) of this fatality, and requested technical assistance. On May 18, 1994, a DSR safety specialist conducted an investigation of this incident. The incident was reviewed with the employer, county coroner, and SCOSHA compliance officer assigned to the case. Photographs of the incident site were taken during the investigation.

The employer was a house-framing contractor that had been in business for 19 years and employed five workers, three of whom were carpenters. The employer had a written safety program, but the program was incomplete regarding specific guardrail requirements. The victim had been employed for 2 days prior to the incident; however, he had worked for the

employer for a 2-year period about 1 year previously. He had about 15 years experience as a carpenter. This was the first fatality experienced by the employer.

INVESTIGATION

The employer had been subcontracted to do the framing work for a new residence under construction at a private residential housing community. The house was a three-story wooden structure with a covered porch located at the second story level. The porch was located about 10 feet above ground level and a 4-foot concrete block retaining wall was located directly below the porch. Work had been in progress for 6 weeks, and the day of the incident was to have been the last day on the job. The workers (the victim and two co-workers), had been assigned clean-up work for the day.

On the day of the incident, the workers started work around 7 a.m. and proceeded to different parts of the house to clean up. The victim was last observed by his co-workers standing part way up an 8-foot-high fiberglass step ladder on the porch floor. The ladder was positioned with the ladder steps facing toward the open side of the porch, about 1-foot from its edge. The ladder was apparently being used by the victim to access the porch ceiling rafters. He had been using a hammer and nails to affix pieces of wood to the porch ceiling rafters in preparation for the hanging of sheetrock. Although the incident was unwitnessed, it is assumed the victim either lost his balance and fell from the ladder, or was descending the ladder, stepped backwards off the edge of the porch, and fell and struck his head on the concrete block retaining wall. The porch floor was located about 6 feet above the top of the concrete block retaining wall, and guardrails around the porch floor perimeter were not present at the time of the incident.

The co-workers found the victim unconscious but breathing about 10:30 a.m. One co-worker ran across the lot to another residence that was under construction, and asked the foreman to call for an ambulance. The ambulance arrived in less than 10 minutes, the victim was stabilized and transported to the local hospital. Two days later the victim was pronounced brain dead and all life support systems were removed.

CAUSE OF DEATH

The coroner's report listed the cause of death as subdural hemorrhage.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Employers should provide adequate guarding for open-sided floors, platforms, and runways.

Discussion: The victim was using a stepladder positioned on the floor of a porch about 1 foot from its edge. The floor was open-sided and unguarded. Also, the porch was 10 feet above ground level; a 4-foot-high concrete block retaining wall had been erected directly below the porch area where the victim was working. Guarding of the open-sided porch floor with a standard railing as required by CFR 1926.500 (d)(1)(i) was not present. **NOTE:** Since the incident, the employer has revised the safety program to require the guarding of all open-sided floors, platforms, and runways prior to the commencement of any work being performed.

Recommendation #2: Employers should review and revise, where applicable, existing safety programs.

Discussion: Although the employer had a written safety program, there was no procedure regarding the protecting of open-sided floors with guardrails and handrails. Safety programs should be periodically reviewed and revised, as necessary, to reduce and/or eliminate worker exposures to hazardous situations. The safety program should include, but not be limited to, protecting open-sided floors with appropriate guardrailing and handrails, ladder safety, the use of safety equipment, and the recognition and avoidance of fall hazards.

Recommendation #3: Employers should routinely conduct scheduled and unscheduled worksite safety inspections.

Discussion: Scheduled and unscheduled safety inspections should be conducted by a competent person to ensure that work sites are free of hazardous conditions. Regardless of how comprehensive, a safety program cannot be effective unless implemented in the workplace. These inspections may not guarantee the elimination of occupational hazards, but they do demonstrate the employer's commitment to the enforcement of the safety program and to the prevention of occupational injury.

Recommendation #4: Employers should encourage workers to actively participate in workplace safety.

Discussion: Employers should encourage all workers to actively participate in workplace safety and should ensure that all workers understand the role they play in the prevention of occupational injury. In this instance, the victim was working in an area without sufficient guarding. Workers and co-workers should look out for one another's safety and remind each other of the proper way to perform their tasks. Employers must instruct workers of their responsibility to participate in making the workplace safer. Increased worker participation will aid in the prevention of occupational injury.

REFERENCES

29 CFR 1926.500 (d)(1)(i) Code of Federal Regulations, Washington, D.C.: U.S. Government Printing Office, Office of the Federal Register.

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