

Kentucky Injury Prevention and Research Center
Bona fide agent for Kentucky Department for Public Health
333 Waller Avenue, Suite 242 • Lexington, KY 40504 • 859-257-5839

INCIDENT HIGHLIGHTS



DATE:
August 9, 2023



TIME:
2:45 p.m.



VICTIM:
52-year-old Hispanic
carpenter



INDUSTRY/NAICS CODE:
Finish carpentry contractor
/ 238350



EMPLOYER:
Finish carpentry contractor

SAFETY & TRAINING:
No formal program



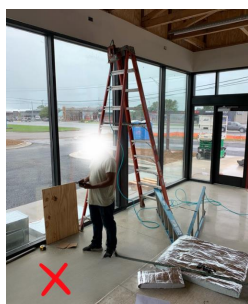
SCENE:
Commercial restaurant
dining room



LOCATION:
Kentucky



EVENT TYPE:
Fall from heights



REPORT#: 23KY096

REPORT DATE: November 3, 2023

Carpenter Dies After Fall from 6-Foot Ladder—Kentucky

SUMMARY

On August 9, 2023, a 52-year-old carpenter (victim) and his co-worker were obtaining measurements in preparation for a plywood installation project in a restaurant being constructed. In the process, the victim's ladder overturned and he fell and struck the concrete surface below.

[READ THE FULL REPORT>](#) (p.3)

CONTRIBUTING FACTORS

Key contributing factors identified in this investigation include:

- Unrecognized job hazards,
- Safety training,
- Reaching outside ladder side rails.

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RECOMMENDATIONS

Kentucky investigators concluded that, to help prevent similar occurrences, employers should:

- Implement a job hazard analysis process,
- When available, employees should utilize equipment that best reduces the risk of injury,
- Develop, implement, and enforce a formal health and safety program that includes ladder safety.

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[Kentucky FACE Program](#)



KENTUCKY

State **FACE** Program

Fatality Assessment & Control Evaluation

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Fatality Assessment and Control Evaluation (FACE) Program

This case report was developed to draw the attention of employers and employees to a serious safety hazard and is based on preliminary data only. This publication does not represent final determinations regarding the nature of the incident, cause of the injury, or fault of employer, employee, or any party involved.

This case report was developed by the Kentucky Fatality Assessment and Control Evaluation (FACE) Program. Kentucky FACE is a National Institute for Occupational Safety and Health-funded occupational fatality surveillance program with the goal of preventing fatal work injuries by studying the worker, the work environment, and the role of management, engineering, and behavioral changes in preventing future injuries. The FACE program is located in the Kentucky Injury Prevention and Research Center (KIPRC). KIPRC is a bona fide agent for the Kentucky Department for Public Health.

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INTRODUCTION

On August 9, 2023, a 52-year-old carpenter (victim) and his co-worker, also a carpenter, were obtaining measurements in preparation for a plywood installation project. In the process, the victim's 6-ft. fiberglass step ladder overturned and the victim fell and struck the concrete surface below. The victim succumbed to the injuries three days later, on August 12, 2023. On August 17, 2023, the Kentucky Labor Cabinet informed the Kentucky Fatality Assessment and Control Evaluation Program (FACE) of the incident. On September 27, 2023, the Kentucky FACE investigator conducted a site visit, at which time photographs of the scene were taken.

EMPLOYER

The employer is a finish carpentry contractor that consists of four total employees, including the owner. Founded in 2004, the company focuses primarily on the installation of trim and wood molding in residential settings. However, the company will occasionally perform contracted services on commercial buildings. According to the owner, the company works almost exclusively in Tennessee but opted to accept the commercial construction job in Kentucky at which the incident occurred.

WRITTEN SAFETY PROGRAMS and TRAINING

According to a company representative, the company has no formal safety program.

WORKER INFORMATION

The victim was a 52-year-old Hispanic male. The decedent did not graduate high school but had worked in carpentry for more than 20 years, seven of which were with the current employer. Prior to working in construction, the victim operated commercial trucks locally and across the United States.

INCIDENT SCENE

The incident occurred inside a newly erected commercial building that was still under construction at the time the incident occurred. The building is approximately 2,325 square feet and features 12-foot ceilings. The floor inside the building is constructed of polished concrete. Upon completion, the building will be utilized for a restaurant franchise (photos 1, 2, 3).

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Photo 1. Exterior photo of the building where the incident occurred.



Photo 2. Exterior photo of the building where the incident occurred.

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Photo 3. Interior photo of the location where the fall occurred (construction now finished). Photo also shows plywood ceiling panels that were being installed by the victim and his co-worker.

WEATHER

The weather on the day of the incident was approximately 77 degrees Fahrenheit, 84% humidity, 10 mph average southwest wind speed. The weather is not believed to have been a factor in this incident.¹

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INVESTIGATION

On August 9, 2023, the victim, a finish carpenter, and his co-worker arrived at the job site at approximately 7:00 a.m. to begin the day's task, installation of plywood panels on the ceiling of a newly erected commercial building. August 9 was the second, and projected final, day of the project for the involved company.

After arriving on scene, the victim and his co-worker unloaded the required tools for the job and began carrying out the day's tasks of taking measurements, cutting the panels to fit, and installing the plywood panels to the rafters of the building.

The rafters in which the plywood panels were being secured measured 11' 6" from the concrete floor below. As a result, both the victim and the co-worker were required to work at heights to perform the required job task. According to witnesses, several scissor lifts (photo 4) were available for use; however the victim opted to utilize a 6-ft. fiberglass step ladder (photo 5), while his co-worker utilized a 10-ft. fiberglass step ladder (photo 6).

Tasks were being completed as planned without incident until approximately 2:45 p.m., 7 hours and 45 minutes after the workday began. The victim and his co-worker both ascended their ladders to obtain measurements for the next panel. According to the co-worker, the victim was standing on the fourth rung from the bottom of the ladder (diagram 1). The victim was holding one end of the measuring tape with his left hand and reaching beyond the ladder side rails to obtain the proper measurement. While doing so, the co-worker stated that the ladder began falling to the victim's left (diagram 2). The victim fell approximately 46 inches to the concrete surface below, landing on his head and neck (photo 7). The co-worker immediately descended the ladder, moved the victim's ladder from its original position to access the victim, and attempted to provide aid. The co-worker yelled for help, and a heating, ventilation, and air conditioning (HVAC) contractor who was also at the job site hurried to the victim's side and called emergency services (EMS) due to the victim being unconscious. While waiting for EMS to arrive, the co-worker repositioned the victim and elevated his head. EMS arrived a short time later, at approximately 3:00 p.m., rendered aid on site, and then transported the victim to an out-of-state hospital. The victim was later transported to a larger out-of-state university hospital but succumbed to the injuries sustained from the fall three days later on August 12, 2023, at 8:45 p.m.

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Photo 4. Stock photo depicting the type of scissor lifts that were available for use at the job site.



Photo 5. Stock photo depicting the type of ladder utilized by the victim at the time the incident occurred.



Photo 6. Stock photo depicting the type of ladder utilized by the victim's co-worker at the time the incident occurred.

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Diagram 1. Diagram depicting the type of ladder utilized by the victim, the step he was standing on, and the distance the victim was from the surface. Diagram created by and property of Kentucky FACE.

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VICTIM

NOT TO SCALE

CO-WORKER

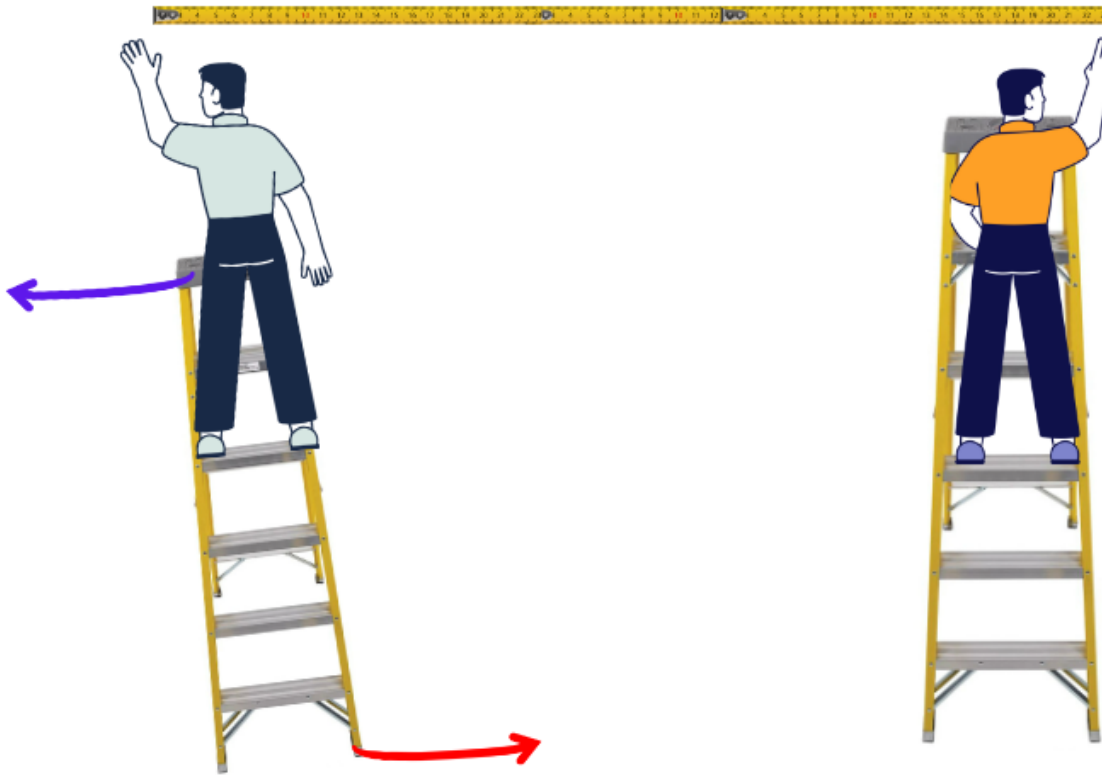


Diagram 2. Diagram depicting the step on which the victim was standing, and the manner in which the ladder fell that resulted in the victim's injuries. Diagram created by and property of Kentucky FACE.

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Photo 7. Photo of incident scene showing where the victim (red X) was lying unconscious prior to the arrival of EMS. Note: According to witnesses, the position of the victim's ladder (blue) and the victim are not the original positions. Both the victim and the ladder were moved to some degree post-incident.

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CAUSE OF DEATH

According to the death certificate, the cause of death was blunt force trauma to the head.

CONTRIBUTING FACTORS

Occupational injuries and fatalities are often the result of one or more contributing factors or key events in a larger sequence of events that ultimately result in the injury or fatality. Kentucky investigators identified the following unrecognized hazards as key contributing factors in this incident:

- Safety training.
- Reaching outside ladder side rails.

RECOMMENDATIONS/DISCUSSION

Recommendation #1: Implement a job hazard analysis process.

Discussion: The Occupational Safety and Health Administration (OSHA) defines a job hazard analysis (JHA) as a technique that focuses on job tasks to identify hazards before they occur. It focuses on the relationship between the worker, the task, the tools, and the work environment. OSHA states that ideally, after you identify uncontrolled hazards, you will take steps to eliminate or reduce them to an acceptable risk level. ²

OSHA provides guidance on how to identify workplace hazards when conducting a JHA. OSHA states that the goal is to discover the following:

- What can go wrong?
- What are the consequences?
- How could it arise?
- What are other contributing factors?
- How likely is it that the hazard will occur?²

A JHA can be used to identify the existing or potential hazards involved in each step of a work task. The following are the basic elements of a JHA:

- Task description
- Hazard description
- Hazard control(s)

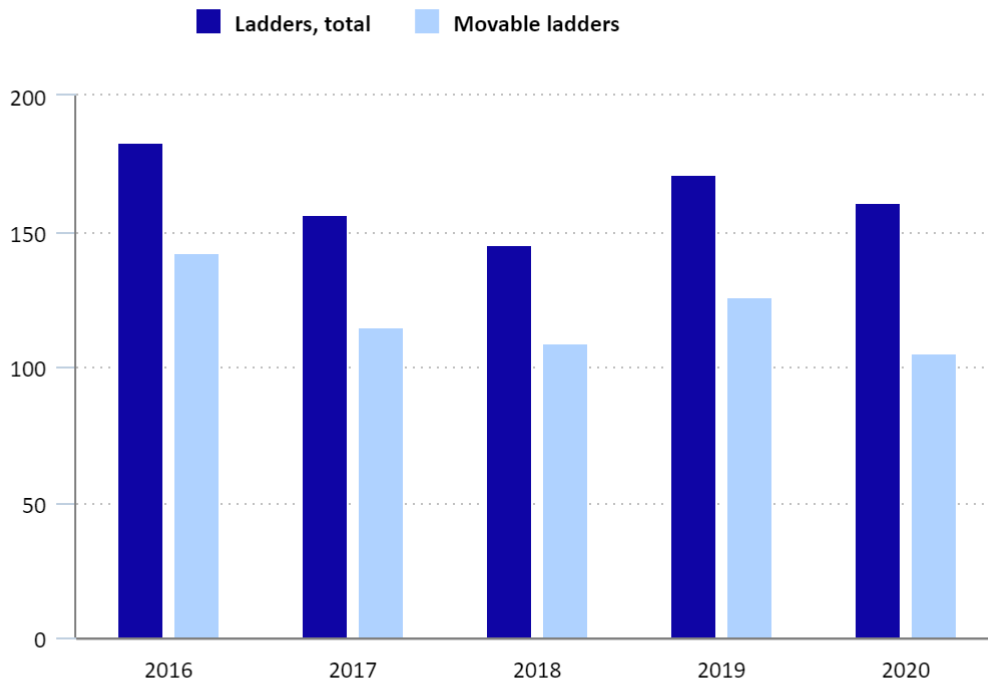
Had a JHA been previously performed, the employer could have likely observed the hazards associated with the job site, specifically the exposure to fall risk. Once risks are known, employers are equipped to select the best tools for the job, train employees properly, and select proper personal protective equipment.

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Recommendation #2: When available, employees should utilize equipment that best reduces the risk of injury.

Discussion: Falls from ladders are deadly: In 2020, falls from ladders were responsible for 161 fatal work injuries, a 5.8% decline from the 171 deaths in 2019. Movable ladders were involved in 105 of 2020’s deaths, with 5 deaths resulting from falls from fixed ladders (chart 1).³

Fatal work injuries due to ladders, all ownerships, 2016–20



Source: U.S. Bureau of Labor Statistics.



Chart 1. Chart produced by the [Bureau of Labor Statistics](#).³

The victim was utilizing a 6-ft. fiberglass step ladder at the time the incident occurred (photo 4). According to witnesses, scissor lifts were available and offered to the victim and his co-worker, but both declined. Although scissor lifts do not entirely alleviate the risk of falls from heights, they do offer additional protections over ladders. Scissor lifts are equipped with properly designed and maintained guardrail systems, which help reduce the risk of falling. The job site and work environment may not always allow for the utilization of a scissor lift; however, a properly conducted JHA can help employers determine the suitability. In this instance, scissor lifts were present, available for use, suitable for the



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task being performed, and lowered the risk of fall. To reduce the risk of injury, employees should utilize equipment that best reduces the risk of injury.

Recommendation #3: Develop, implement, and enforce a formal health and safety program that includes ladder safety.

Discussion: Health and safety programs play a critical role in worker safety. OSHA states that the main goal of safety and health programs is to prevent workplace injuries, illnesses, and deaths, as well as the suffering and financial hardship these events can cause for workers, their families, and employers. The recommended practices use a proactive approach to managing workplace safety and health. Traditional approaches are often reactive—that is, problems are addressed only after a worker is injured or becomes sick, a new standard or regulation is published, or an outside inspection finds a problem that must be fixed. These recommended practices recognize that finding and fixing hazards before they cause injury or illness is a far more effective approach.

The idea is to begin with a basic program and simple goals and grow from there. By focusing on achieving goals, monitoring performance, and evaluating outcomes, workplaces can progress to higher levels of safety and health achievement.

Employers will find that implementing these recommended practices also brings other benefits. Safety and health programs help businesses:

- **Prevent** workplace injuries and illnesses.
- **Improve** compliance with laws and regulations.
- **Reduce** costs, including significant reductions in workers' compensation premiums.
- **Engage** workers.
- **Enhance** social responsibility goals.
- **Increase** productivity and enhance overall business operations.⁴

Although ladders are commonly utilized on the job site, they present significant risk if utilized incorrectly. A helpful addition to a health and safety program may include instructions on how to safely use ladders, considerations on selecting the proper type of ladder, and risks associated with their use. As an example, reaching beyond the side rails of a ladder greatly decreases the stability the ladder offers, a contributing factor in this incident and useful information that could be included in a safety program to inform employees of known risk.

Developing and implementing a formal health and safety program can better prepare workers for hazards in the workplace and reduce on-the-job injuries.



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ADDITIONAL RESOURCES

[NIOSH Ladder Safety App - Infographic \(cdc.gov\)](https://www.cdc.gov/laddersafety/)

DISCLAIMER

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REFERENCES

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- [2] Job Hazard Analysis. <https://www.osha.gov/sites/default/files/publications/osha3071.pdf>
- [3] Bureau of Labor Statistics. <https://www.bls.gov/opub/ted/2022/fatal-injuries-from-ladders-down-in-2020-nonfatal-ladder-injuries-were-essentially-unchanged.htm>
- [4] Health & Safety Program. https://www.osha.gov/sites/default/files/SHPM_guidelines.pdf

INVESTIGATOR INFORMATION

This investigation was conducted by Beau Mosley, Fatality Investigator, Fatality Assessment and Control Evaluation, Kentucky Injury Prevention and Research Center, University of Kentucky College of Public Health.

ACKNOWLEDGMENT

The Kentucky FACE Program would like to thank the involved company for their assistance with the completion of this report.

PROGRAM FUNDING

The Kentucky Fatality Assessment & Control Evaluation Program is funded by grant 5U600H008483-18 from the National Institute for Occupational Safety and Health.