KENTUCKY State FACE Program
Fatality Assessment & Control Evaluation

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

REPORT#: 19KY034 **REPORT DATE:** 11-13-19

Gutter Installer Dies after Falling from Roof

INCIDENT HIGHLIGHTS

DATE:
July 20, 2019

TIME:
10:30 am

VICTIM:
Gutter / siding contractor

INDUSTRY/NAICS CODE:
238160

EMPLOYER:
Gutter / siding contractor

SAFETY & TRAINING:
No safety training

SCENE:
Private residence

LOCATION:
Kentucky

EVENT TYPE:
Fall from elevation

SUMMARY

On Saturday, July 20, 2019, a 47-year-old male gutter and siding installer (victim) was installing gutter guards on the second story roof of a private residence. While working, the victim fell 8 feet and 3 inches from the second story roof, struck the first story roof below, rolled off and fell an additional 10 feet to the concrete surface below.

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CONTRIBUTING FACTORS

Key contributing factors identified in this investigation include:

- Failure to utilize fall protection when working at heights.
- Working at heights with a medical condition which poses a direct safety threat.
- Failure to recognize job hazards.
- No safety training on fall protection.

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RECOMMENDATIONS

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

- Train employees on and enforce the use of fall protection when working at heights above 6 feet.
- Implement a job hazard analysis process.
- Employers who learn of physical disabilities which pose a direct threat to an employee's safety should perform threat assessments to evaluate his/her ability to safely perform assigned job duties.

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Fatality Assessment and Control Evaluation (FACE) Program

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This Case report was developed by the Kentucky Fatality Assessment and Control Evaluation (FACE) Program. Kentucky FACE is a NIOSH-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 Saturday, July 20, 2019, a 47-year-old male gutter and siding installer (the victim) was installing gutter guards on the second story roof of a private residence. The contractor was sitting with his legs crossed on the second story roof, leaning forward to install the gutter guards. In the course of his actions, the victim fell 8 feet and 3 inches from the second story roof, struck the first story roof below, rolled off and fell 10 additional feet to the concrete surface below. On August 6, 2019, the Kentucky Labor Cabinet informed the Kentucky Fatality Assessment and Control Evaluation Program (FACE) of the incident. On September 5, 2019, the Kentucky FACE investigator conducted a site visit at which time photographs and measurements of the scene were taken.

EMPLOYERS

The employer is a gutter and siding installer. The company has been in business for over 30 years and consisted of two employees, the owner and the victim.

WRITTEN SAFETY PROGRAMS and TRAINING

The owner of the company stated no written safety program is in place.

WORKER INFORMATION

The victim was a 47-year-old single male. The decedent was a high school graduate and had been employed with the company for four years. Prior to joining the company, the victim worked in the service industry. The owner informed FACE investigators that the victim did have construction experience, but did not elaborate.

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INCIDENT SCENE

The incident occurred at a private residence. The two-story brick home was constructed in 1920 and contained four bedrooms and 2.5 baths and the roof was covered with architectural asphalt shingles. The home sits on a 0.61-acre lot and measures 5,000 square feet[1].

Photo 1. Front of the private residence where the incident occurred. Photo property of the Kentucky FACE Program.

Photo 2. Rear of the private residence where the incident occurred. Photo property of the Kentucky FACE Program.

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Photo 3. Roofs from which the victim fell. Photo property of the Kentucky FACE Program.

WEATHER

The temperature was approximately 81°F at the time of the incident. The humidity was 84%, and the wind was 5 mph coming from the southeast. The weather was not considered to be a contributing factor in the incident[2].

INVESTIGATION

On August 6, 2019, the Kentucky Labor Cabinet informed the Kentucky Fatality Assessment and Control Evaluation Program of a fatality involving a gutter and siding contractor. A site visit and investigation were subsequently conducted.

On Saturday, July 20, 2019, two employees, the owner of the company and the victim, arrived at a private residence to install gutter guards on the existing gutters of a two-story, single-family home. The first story is partially covered by a half-roof measuring 10 feet from the concrete driveway below. The second story roof covers the majority of the structure, and measures 8 feet 3 inches above the first story roof. The owner and the victim were working on the second story of the residence just prior to the incident occurring. The second

story roof has a pitch of 1:12, meaning the roof rises one inch for every 12 inches it moves towards the peak. A roof with a 1:12 pitch equates to an angle of approximately 45˚. After working for approximately three hours, the owner exited the roof using a two-ladder system; one ladder resting on the first story roof extending to the second story and one ladder between the ground and the first story. The owner departed from the residence to pick up additional supplies needed to finish the job. As the owner was leaving, the victim's girlfriend was arriving at the residence. The owner stated he observed the victim sitting with his legs crossed on the second story roof, leaning forward to install the gutter guards as he pulled out of the driveway and left the premises. Within five minutes of leaving the residence, the owner of the company stated that he received a phone call at 10:30 AM from the victim's girlfriend, informing him that the victim had fallen from the second story roof, struck the first story roof, rolled off, and landed on the concrete driveway below. The owner immediately contacted 911 and returned to the residence. Upon his return, he observed the victim laying on the driveway unconscious, appearing to be suffering from a grand-mal seizure. A grand-mal seizure, also known as a tonic-clonic seizure, typically causes loss of consciousness and violent muscle contractions and is the result of abnormal electrical activity throughout the brain[3]. Emergency medical services arrived on the scene at 10:42 AM, and transported the victim to a local hospital. He was then airlifted to a larger metropolitan hospital where he was admitted in critical condition. The victim succumbed to his injuries seven days later on July 27, 2019.

CAUSE OF DEATH

According to the death certificate, the victim died due to blunt force injuries of the head due to a fall from a roof caused by reported seizure activity.

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. NIOSH investigators identified the following unrecognized hazards as key contributing factors in this incident:

- Failure to utilize fall protection when working at heights.
- Working at heights with a medical condition which poses a direct safety threat.
- Failure to recognize job hazards.
- No safety training on fall protection.

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RECOMMENDATIONS/DISCUSSION

Recommendation #1. Train employees on and enforce the use of fall protection when working at heights above 6 feet.

Discussion: According to OSHA, falls are the leading cause of fatalities in construction, accounting for one-third of all fatalities in the industry[5]. Failure to protect employees while working at heights and failure to properly train and document completion of fall protection training directly violates two separate OSHA standards. According to 29 CFR 1926.501 (b)(1): Each employee on a walking/working surface (horizontal and vertical surface) with an unprotected side or edge which was 6 feet (1.8m) or more above a lower level shall be protected from falling by the use of guardrail systems, safety net systems, or personal fall arrest systems[4]. The victim was working at heights above six feet when the incident occurred. The owner of the company did not provide fall protection, direct the victim to wear fall protection, or provide safety training on how to inspect or adjust a personal fall arrest system (PFAS) had it been provided. The victim was not utilizing fall protection when the incident occurred.

According to 29 CFR 1926.502(b)(1): The employer shall verify compliance with paragraph (a) of this section by preparing a written certification record. The written certification record shall contain the name or other identity of the employee trained, the date(s) of the training, and the signature of the person who conducted the training or the signature of the employer. If the employer relies on training conducted by another employer or completed prior to the effective date of this section, the certification record shall indicate the date the employer determined the prior training was adequate rather than the date of actual training[4].

OSHA standard 1926.503(a)(1) states the employer shall provide a training program for each employee who might be exposed to fall hazards. The program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be follow in order to minimize these hazards[5]. OSHA Standard 1926.503(a)(2) states the employer shall assure that each employee has been trained, as necessary, by a competent person qualified in the following areas:

- The nature of fall hazards in the work area;
- The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used;
- The use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones, and other protection to be used;
- The role of each employee in the safety monitoring system when this system is used;
- The limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs;
- The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection; and
- The role of employees in fall protection plans[5].

Companies who require employees to work at heights above 6 feet should train employees on fall protection, provide proper fall protection and enforce the use of fall protection in accordance to the associated OSHA standards.

Recommendation #2: Employers should 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[6]. The involved company had never visited this location prior to arriving on the day of the incident. If a JHA been previously performed, the employer would have likely observed the hazards associated with the job site, including the need for adequate fall protection. OSHA suggest a job hazard analysis be performed when completing the following types of jobs: jobs with the highest injury or illness rates; jobs with the potential to cause severe or disabling injuries or illness, even if there is no history of previous accidents; jobs in which one simple human error could lead to a severe accident or injury; jobs that are new to your operation or have undergone changes in processes and procedures; and jobs complex enough to require written instructions[4]. Companies should implement a job hazard analysis process to assess risk prior to performing work.

Recommendation #3. Employers who learn of physical disabilities which pose a direct threat to an employee's safety should perform an assessment to evaluate his/her ability to safely perform assigned job duties, and provide appropriate modifications.

Discussion: According to the death certificate, the victim died due to blunt force injuries of the head which resulted from a fall from a roof caused by reported seizure activity. The Americans with Disabilities Act (ADA) defines epilepsy as a chronic neurological condition characterized by recurrent seizures. It is also called a seizure disorder. A seizure happens when abnormal electrical activity in the brain causes an involuntary change in body movement or function, sensation, awareness, or behavior. Three million people in the United States have some form of epilepsy, and about 200,000 new cases of seizure disorders and epilepsy are diagnosed each year[7].

The Equal Employment Opportunity Commission (EEOC) states an employer may not ask questions about an applicant's medical condition or require an applicant to have a medical examination before the company makes a conditional job offer; nor is the applicant required to disclose such information. However, once an employer learns of a disability post-offer and the employer has a reasonable belief that the employee may be unable to perform their job or may pose a direct threat to themselves or others, the employer may ask for medical information. However, the employer may obtain only the information needed to make an assessment of the employee's *present* ability to perform her job and to do so safely[7]. Based on the information received, the employer may exclude an individual with epilepsy from a job for safety reasons when the individual poses a direct threat. A "direct threat" is a significant risk of substantial harm to the individual or others that cannot be eliminated or reduced through reasonable accommodation. This determination must be based on

objective, factual evidence, including the best recent medical evidence and advances in the treatment of epilepsy.

In making a direct threat assessment, the employer must evaluate the individual's present ability to safely perform the job. The employer also must consider:

- the duration of the risk;
- the nature and severity of the potential harm;
- the likelihood that the potential harm will occur; and
- the imminence of the potential harm.

The harm must be serious and likely to occur, not remote or speculative. Finally, the employer must determine whether any reasonable accommodation (for example, temporarily limiting an employee's duties, temporarily reassigning an employee, or placing an employee on leave) would reduce or eliminate the risk[7]. During an interview with the owner of the company, the owner stated that he was aware the victim had suffered from seizures in the past. However, no assessment occurred and the victim was still permitted to work at heights above six feet. Employers who learn of physical disabilities which pose a direct threat to an employee's safety should perform threat assessments to evaluate his/her ability to safely perform assigned job duties.

DISCLAIMER

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REFERENCES

[1] Private Residence Specifications. https://www.realtor.com
[2] Historical Weather. https://www.wunderground.com/history
[3] Grand Mal Seizures. https://www.mayoclinic.org/diseases-conditions/grand-mal-seizure/symptoms
[4] Fall Protection. https://www.osha.gov/Publications/OSHA3146.pdf
[5] OSHA Training Standards. https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.503
[6] Job Hazard Analysis. https://www.osha.gov/Publications/osha3071.pdf
[7] Epilepsy. https://www.eeoc.gov/laws/types/epilepsy.cfm

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.

ACKNOWLEDGEMENTS

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

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PROGRAM FUNDING

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SURVEY

Please take the time to complete our brief survey regarding this report:
https://uky.az1.qualtrics.com/jfe/form/SV_8FV9Nq1zSs3kwu1