

MARYLAND DIVISION OF LABOR AND INDUSTRY
MARYLAND FACE PROGRAM
CASE: 94015
DATE:

To:Project Officer, State FACE Project, Division of Safety
Research, NIOSH, CDC

From:Maryland FACE Program, Division of Labor and Industry

Subject:Gutter product installer dies as a result of falling 22.5
feet from a roof in Maryland.

SUMMARY

A 26-year-old male gutter product installer died when he fell 22.5 feet from the roof of a single family dwelling to the ground below. The victim had accessed the roof to survey the job and to develop a work-plan. The victim wore no personal protective equipment as he walked upon the steeply pitched roof. The victim asked the helper who remained on the ground to obtain equipment from the truck. Moments later when the helper and another co-worker looked toward the house the victim was not in sight. The two employees began to search for the victim and found him on the ground behind the building. The victim had fallen from the roof, struck his head on a slate walkway, and hemorrhaged copiously from the nose and mouth. The emergency medical service (EMS) was notified and responded within ten minutes. Upon arrival the EMS determined that resuscitation efforts were not possible because of the severity of injury.

The Maryland FACE investigator suggests that, to prevent similar occurrences employers should:

- *develop, implement, and enforce a safety and health program to instruct employees in hazard recognition and to provide clear guidance on safe work procedures and safe work practices;*
- *ensure that work performed at elevations above six feet is always reviewed prior to initiation to formulate a work plan that addresses the unique safety concerns of the job and the personal protective equipment required to safely complete the job;*
- *ensure that all jobs performed at elevations are assessed to determine the safest feasible means to bring workers to the elevation required for task completion.*

INTRODUCTION

On the morning of April 14, 1994 a 26 year-old male assistant installer of a gutter modification product died after falling from the roof of a private single family residence. Two hours after the fatality occurred officials of (MOSH) Maryland Occupational Safety and Health were notified and immediately contacted the Field Investigator (FI) of the Maryland FACE Program to conduct an investigation. The FI went to the site, reviewed the incident with the MOSH inspector, and took photographs. Police, Forensic Investigator, and Medical Examiner reports and photographs of the site were requested and reviewed. Subsequent interviews were conducted with the company co-owner, the division manager, the foreman, and a co-worker.

The employer was engaged in the installation of a product which modifies existent gutter systems. At the time of the incident the company employed eleven people. The installation crew consisted of four individuals: the victim, an assistant installer; two installers; and a helper/trainee. The company had been in business for one year, and fully operational with a complete installation crew for eight months. The victim had been with the company for eight months and was considered an experienced crew member. All four members of the installation crew were on the site when the fatality occurred. Because the work on gutter systems is performed outdoors, inclement weather can impose work delays. The job at the site of the fatality had been postponed the previous day because of rain.

The company had no written safety program. Safety policies and safe work procedures were communicated orally during on-the-job-training and on an ongoing basis by the division manager and the senior installer/foreman. Tailgate meetings would sometimes address safety issues, but these meetings were neither structured, nor scheduled. The small crew size, often only two employees working on a job, allowed workers to watch each other and ensure that safe work practices were used. No previous injuries or fatalities had occurred for the company during their one year of operation.

The victim was considered to be an experienced employee, having been with the company for eight months on a full-time basis. He had experience in the roofing trades prior to beginning employment with this company. Because of the victim's senior status with the company it was not unusual for him to be the first on the roof of a job to survey for safety considerations and formulate the initial work plan.

INVESTIGATION

The four person installation crew had arrived at the private single family dwelling about 9:20 a.m. The job was the second one of the day for three of the crew members, including the victim, and involved installation of a product which modified the existent gutter system of the house. The victim and the helper had positioned two ladders against the 14'4" eave of the front

elevation of the garage of the home. The helper held the ladder as the victim, an assistant installer, climbed to the roof. The victim was an experienced crew member and was in the process of performing a routine survey of the roof to assess safety considerations, potential tie-off points for safety equipment, and make an initial determination about a work plan. The crew was instructed to always use safety belts and lanyards to tie-off when performing installations from flat or gently sloping roofs. Jobs on buildings with steeply pitched roofs were routinely completed from ladders. The initial survey of the job was always made by experienced employees, without fall protection equipment.

The job site was a large home with a complicated floor plan and a wood shingle roof that had four distinct peaks. The section of the structure where the victim fell was steeply pitched, approximately 10 in 12, (e.g., an increase of 10 inches elevation for each 12 inches of run) or about a 40 degree slope. The morning was described as warm and clear, but the previous day and night had been rainy. Witnesses stated the roof appeared dry, but no one other than the victim had been on the roof to assess its condition.

After having accessed the roof the victim called down to the helper to get equipment out of the truck to clean debris from the gutter. Presumably the victim then proceeded up the slope and over the peak of the roof. Two installers were working at the truck preparing the product for installation when the helper returned to gather the equipment. One of the installers asked the helper where the victim was. Because the victim could not be seen on the roof the installer proceeded to look around the back of the house. The victim was found face down with his head and torso on a slate walkway, his head oriented away from the building, and his legs in some bushes beside the walkway. The installer who found the victim hollered to a co-worker to call 911 because their co-worker had fallen from the roof.

The victim had apparently fallen from the roof edge at the rear elevation of the house which measured 22' to grade level. The victim's body was in a prone position perpendicular to the side of the building, his head approximately 10 feet from the building's foundation. The ground at the rear elevation sloped away from the building, adding approximately six inches to the fall, for a total height of 22.5'. When examined from the ground the gutter directly above the position of the victim's body had a slight deformation, suggesting that some part of the victim had pulled the gutter out of shape during the fall.

The exact circumstances precipitating the fall are unknown because there were no witnesses to the incident. None of the victim's co-workers heard a yell or cry from the decedent. The co-workers were engaged in unloading equipment from the back of the truck and preparing the product approximately 75 feet from where the fall occurred. The victim fell from the far side of the garage roof which faced a heavily wooded landscape. The work boots of the victim were observed to be worn smooth.

The employee who found the victim was unable to feel a pulse. He stayed with the victim until the EMS arrived about ten minutes later. The fire department rescue squad examined the victim and determined that the severity of the injuries made resuscitation efforts impossible. The victim had hemorrhaged approximately 1-2 liters of blood from the nose and mouth. The police department notified the Office of Chief Medical Examiner who dispatched forensic investigators to the scene to investigate and collect the body for autopsy.

Following the fatality the helper/trainee, the least experienced member of the crew, resigned and was unavailable to either the employer or various investigators. The employer did engage the services of a clinical psychologist experienced with critical incident stress debriefing to counsel the staff and their family members as they grieved the death of their co-worker.

CAUSE OF DEATH

The death certificate prepared by the Office of the Chief Medical Examiner listed severe head and neck injuries as the cause of death.

RECOMMENDATIONS/DISCUSSION

Recommendation #1:Employers should develop, implement, and enforce a safety and health program to instruct employees in hazard recognition and to provide clear guidance on safe work procedures and safe work practices.

Discussion: In this incident the employer had no written safety and health program or written procedures for safe work practices. There was verbal communication of safety directives regarding the use of personal protective equipment and the conduct of operations on the job site. A program designed to minimize the exposure of employees to the risk of working at elevations could require the use of PPE at all times, even during the initial survey of a job from the roof. Alternatively, a safe work procedure could dictate that employees do not access roofs with greater than a specified pitch, composed of certain materials, or under other specific environmental conditions.

Recommendation #2: Employers should ensure that work performed at elevations above six feet is always reviewed prior to initiation to formulate a work plan that addresses the unique safety concerns of the job and the personal protective equipment required to safely complete the job.

Discussion: Prior to beginning work a competent person¹ should evaluate the worksite to determine a work plan and the safest approach for completing specific tasks required of the job. Work at elevations above 6 feet is a known hazard that should be addressed through a detailed safety and health plan which proscribes safe work practices for all aspects of the job. Almost all work performed on a gutter system would be at elevations of six feet or greater. In the case discussed above the survey of the roof could have been done from a ladder placed at several vantage points around the perimeter of the building.

Recommendation #3: Employers should ensure that all jobs performed at elevations are assessed to determine the safest feasible means to bring workers to the elevation required for task completion.

Discussion: This company, and many others, rely on ladders to perform tasks at elevations greater than 6'. The site conditions or task requirements of a job may make the ladder the only practical or possible means of access to a job at an elevation greater than six feet. In some cases, an alternate means of safe access, such as a scaffold system or a manlift, can and should be considered.

¹ Competent person - one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authority to take prompt corrective measures to eliminate them.

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Fatality Assessment and Control Evaluation

The Maryland Division of Labor and Industry administers the Fatality Assessment and Control Evaluation (FACE) Program under a cooperative agreement with the National Institute for Occupational Safety and Health, Division of Safety Research (NIOSH/DSR). The Maryland FACE Program performs investigations of selected occupational fatalities, prepares summary reports, and engages in prevention activities. The goal of our program is to prevent fatal work injuries in the future by studying the working environment, the worker, the task being performed, the tools employed, the energy exchange resulting in fatal injury, and the role of management in controlling how these factors interact.

NIOSH/DSR developed the FACE research protocol in the early 1980s and continues to perform FACE investigations. To increase the research and prevention activities of NIOSH/DSR, states across the nation have been invited to participate in the State FACE Project.

Maryland and the fourteen states listed below currently participate in the State Based FACE Project: Alaska, California, Colorado, Georgia, Iowa, Indiana, Kentucky, Massachusetts, Minnesota, Missouri, Nebraska, New Jersey, Wisconsin, and Wyoming.

Additional information regarding this report or the Maryland FACE Program is available from:

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