

# MICHIGAN



## Prevention through comprehensive research and investigation

### INVESTIGATION/RESEARCH PLAN. PROVIDE. TRAIN. PREVENT FALL INJURIES & DEATHS

Since 2010, Michigan has conducted surveillance for work-related (WR) skull fractures using records from Michigan's hospitals/emergency departments, Workers' Compensation Agency and death certificates. Skull fracture surveillance for the years 2010-2015 identified 78 WR skull fracture injuries due to a fall. During the same time period, MIFACE identified 124 WR deaths due to a fall; 48 (38.7%) of the deaths occurred in Construction. From 2001-2009, there were an additional 183 WR deaths in Michigan due to falls (98 (53.5%) in Construction).

- A 37-year-old male fell 22 feet from scaffolding onto uneven concrete at a construction site of a new hotel. His supervisor reported that he had "tripped". He lost a tooth at the site. He sustained traumatic closed head injury, acute encephalopathy and maxillary sinus fracture, was hospitalized for three days.
- A 37-year-old male temporary worker died when he fell approximately 25 feet from a ladder while helping to install a chimney liner (exhaust sleeve) at a private residence.
- A 28-year-old painter died from a fall from a second story roof while painting deck spindles.

### IN ORDER TO PREVENT SIMILAR INCIDENTS IN THE FUTURE

- Use fall protection equipment (Guardrail Systems; Safety Net Systems; Personal Fall Arrest Systems, Positioning Device Systems, Warning Line Systems, Controlled Access Systems, Safety Monitoring Systems) to protect workers from a 6-foot or greater fall to a lower level as prescribed by federal and state fall protection standards.
- Conduct a risk assessment: identify hazards for the work at height task and evaluate the risks to determine the right tool (ladder, scaffold, aerial lift, etc.) for the job.
- Use ladders for low-risk, short duration work, where a risk assessment shows that other more suitable work equipment cannot be used due to the layout of the work area, and where the ladder can be used safely. Use the NIOSH Ladder Safety App (<https://www.cdc.gov/niosh/topics/falls/mobileapp.html>) to correctly select, position, inspect and use a ladder.
- Prior to conducting roof work, assess: structural integrity, ladder security and placement, weather conditions, holes/skylights, line of sight, pitch, and differing roof heights (if greater than 6 feet, need fall protection).
- Ensure holes are guarded or covered. Covers must support twice the intended load, marked, and secured to prevent accidental displacement.
- When using a personal fall arrest system, ensure appropriate anchorage, proper harness fit and appropriate lanyard length.
- Train workers to use the equipment safely. The training must be conducted by a competent person and include information on how to recognize fall hazards, what procedures to follow to minimize the hazard(s) and how to inspect, erect/disassemble and maintain the fall protection equipment involved in the work.

### DID YOU KNOW?

- Studies show half of all people hitting a hard surface with a velocity of 18 miles per hour- that's 27-feet per second- will be killed. This means you could die from a fall of only 11 feet.
- A 200-pound person falling at a distance of 6 feet produces 1,200 pounds of force.
- The construction industry experienced the highest frequency of fall-related deaths, while the highest counts of nonfatal fall injuries continue to be associated with the health services and the wholesale and retail industries.
- Workers who are male, Hispanic, older, self-employed, work in smaller establishments, and work doing construction, maintenance, and repair experience higher ladder fall injury rates.

- OSHA: <https://www.osha.gov/stopfalls/edresources.html>  
<https://www.osha.gov/SLTC/fallprotection/construction.html>
- CPWR: <http://stopconstructionfalls.com/>
- MIOSHA Construction Safety: Fall Protection Part 45. [http://www.michigan.gov/documents/CIS\\_WSH\\_part45\\_55749\\_7.pdf](http://www.michigan.gov/documents/CIS_WSH_part45_55749_7.pdf)
- NIOSH: <https://www.cdc.gov/niosh/topics/falls/default.html>
- MSU Hazard Alerts: Ladder Safety, Scaffold Safety, Stop Falls (3 Alerts). <http://www.oem.msu.edu/Alerts.aspx>
- National Safety Council: <http://www.nsc.org/Pages/OSHA-Fall-Stand-Down-Landing-Page.aspx>
- Massachusetts FACE Program: Personal Fall Arrest Systems (PFAS) Safety: <http://www.mass.gov/eohhs/docs/dph/occupational-health/pfas-construction-contractors.pdf>

### MICHIGAN FATALITY ASSESSMENT & CONTROL EVALUATION

INFORMATION: 1.517.353.1846

E-MAIL: [debra.chester@ht.msu.edu](mailto:debra.chester@ht.msu.edu)