Working at Elevations Safety Talk



WHAT'S AT STAKE?

Humans experience adverse physical effects at altitudes above 1,500 meters. Since air pressure is low at high altitudes, oxygen is scarce and lungs require more effort to deliver oxygen into the bloodstream. Although the majority of major construction projects take place at altitudes where humans don't need to acclimate, developments in parts of Bolivia, Peru, Tibet, and Ethiopia (to name a few) in the last 50 years exhibit signs of a future where we continue to push the limit and build skyward.

There are dangers that pose a threat to the wellbeing of your workers. Working at high altitudes is challenging and dangerous, but with OSHA on your side to guide you through the legal processes of fulfilling such a unique contract, you can rest assured that every precautionary stopgap is utilized to keep workers safe and your job site OSHA compliant.

WHAT'S THE DANGER?

Working at Heights

Working at heights means that an individual is working in a place that requires necessary precautions to prevent them from falling at a distance, resulting in serious injury. Working at heights is one of the most prominent causes of major work related injuries and fatalities. Falls from ladders, scaffolding, and lifts onto debris can cause serious injury even when the height is perceived to not be dangerous. Employers need to ensure that they take all measures necessary to lower the risk of their workers falling from a height using preemptive hazard recognition to constant site assessment.

Falls

Fall prevention should not be taken lightly. In 2016, 11,495 lost-time injury (LTI) claims were made in Ontario alone. That is 31 workers a day suffering from serious injury due to falls. Nine resulted in fatalities, while 70% of those falls were same level falls (ground level). Workers should try to avoid working at height if at all possible. If they can't, they should ensure that they use the right equipment and safety procedures for their specific task, ensuring their personal workspace is safe for themselves and others around the site. Remember to secure all items when at height, as falling tools is as big a hazard as falling people!

Relevant OSHA Regulations

According to OSHA's guidelines for respiratory protection as outlined in statute 1910.134, "air breathed by employees must have an oxygen content of at least 19.5 percent." Oxygen content below the approved levels can result in physiological problems or render an employee unable to cope with other workplace hazards. Although OSHA recognizes the marked differences in an employee who is acclimated to low oxygen and an employee who is not, the definition of oxygen-deficient conditions are consistent across all employee needs. As such, the OSHA Respiratory Protection Standard insists that employees working at high altitudes are provided with a supplied-air respirator that delivers the approved 19.5 percent oxygen by their employer.

Altitude Sickness / Other Health Concerns

Altitude sickness usually occurs when a person makes a rapid ascent to an altitude of more than 8,000 feet. Altitude sickness can be classified as acute mountain sickness (AMS), high-altitude pulmonary edema (HAPE), and high-altitude cerebral edema (HACE). The symptoms of altitude sickness can be classified into two categories:

- **Early symptoms:** headaches, fatigue, and insomnia
- **Later symptoms:** shortness of breath, extreme fatigue, respiratory failure, cerebral edema, coma, and death

People with symptoms of AMS usually don't require medical care, but if symptoms progress, they should consider consulting an emergency medicine physician, hyperbaric chamber expert, neurologist, or critical care specialist. If you believe you have symptoms of AMS, it's imperative to return to a lower altitude immediately to offset the development of further symptoms. Remember that acclimation takes time, and it's important to listen to your body when working at high altitudes.

HOW TO PROTECT YOURSELF

OVERHEAD PLATFORMS/ELEVATED WORK STATIONS/HOLES IN FLOOR AND WALLS

Falls are among the most common causes of serious work related injuries and deaths. Employers must set up the work place to prevent employees from falling off of **overhead platforms, elevated work stations or into holes in the floor and walls.**

Reduce Falls

Employers must set up the work place to prevent employees from falling off of overhead platforms, elevated work stations or into holes in the floor and walls. OSHA requires that fall protection be provided at elevations of four feet in general industry workplaces, five feet in shipyards, six feet in the construction industry and eight feet in longshoring operations. In addition, OSHA requires that fall protection be provided when working over dangerous equipment and machinery, regardless of the fall distance.

To prevent employees from being injured from falls, employers must:

- Guard every floor hole into which a worker can accidentally walk (using a railing and toe-board or a floor hole cover).
- Provide a guard rail and toe-board around every elevated open sided platform, floor or runway.
- Regardless of height, if a worker can fall into or onto dangerous machines or equipment (such as a vat of acid or a conveyor belt) employers must provide

guardrails and toe-boards to prevent workers from falling and getting injured.
- Other means of fall protection that may be required on certain jobs include safety harness and line, safety nets, stair railings and hand rails.

OSHA requires employers to:

- Provide working conditions that are free of known dangers.
- Keep floors in work areas in a clean and, so far as possible, a dry condition.
- Select and provide required personal protective equipment at no cost to workers.
- Train workers about job hazards in a language that they can understand.

THE DO’S & DON’TS OF WORKING AT HEIGHTS

- **DO** as much work as you can while you are on the ground.
- **DO** make sure that the employees can safely move to and from the area where they are working at height.
- **DO** ensure that the equipment that you’re using for the job is strong, stable and suitable enough to get the job done. Inspect and maintain them regularly.
- **DO** be careful when you are working near to a fragile surface.
- **DO** ensure that you are protected from falling objects.
- **DO** make preparations for emergency evacuations and rescues.
- **DON’T** overload the ladders that they are working on, with equipment or materials.
- **DON’T** try to reach too far when you’re on a ladder or stepladder.
- **DON’T** use ladders or stepladders to do work that entail heavy or strenuous tasks. Only use them to do work that’s quick and light.
- **DON’T** allow incompetent workers do any work at height.
- **DON’T** lean or place the ladder on or fragile upper surfaces.
- **DON’T** stay quiet when you feel someone is compromising their own safety or the safety of others

FINAL WORD

Injuries from falls are one of the most common and severe workplace accidents. Employees must understand how to identify fall hazards and the ways they can protect themselves.