Strategies to Improve Your Fall Protection Program

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According to the U.S. Bureau of Labor Statistics, falls are one of the leading causes of workplace fatalities. And, fall protection has been at the top of the Occupational Safety and Health Administration (OSHA) list of Top 10 Most Frequently Cited Standards for the past 10 years. Even with significant updates to fall protection regulations and standards, and continual advances in fall protection equipment technology, the number of fatalities continues to increase in the United States.

While those data points are troubling enough, the fall risk situation in this country is even more dire when compared with other nations. Statistics from the U.S. compared to those from similar countries, such as the U.K. and Australia, illustrate the discrepancies in a glaring fashion. While the gross domestic product (GDP) and new construction figures show that the U.S. is producing more, the increase in production is not nearly comparative to the dramatic difference in workplace fatalities. These numbers illustrate that there is an urgent problem in the U.S. that needs to be addressed.

By embracing proven strategies to improve a fall protection program, hundreds of workers in this country could be saved from fatalities every year – not to mention workers affected by serious injuries with days away from work.

The four strategies outlined below provide great potential to reduce fall risk.

Strategy 1: Recognize and Address Fall Hazards

In both the OSHA 1926 and 1910 documents, the regulation language makes it very clear that organizations have a duty to identify and address fall hazards to protect workers – specifically for the following three types:

1. Specific locations where organizations have a duty to provide fall protection (1926.501(a)(2)/1910.22);
2. Integrity of surfaces to avoid fall through hazards (1926.501/1910.22); and
3. Systems criteria to facilitate effective implementation of protection measures (1926.502/1910.29)

While there are a variety of locations organizations need to address, a significant portion of work at heights occurs on roofs and other similar walking-working surfaces and locations with unprotected edges. Although OSHA previously stated that there is no safe distance to an unprotected edge, in the new rule, OSHA provides some definition on how to best protect workers in this situation.

Conventional means of protection (guardrail, safety nets or personal fall protection systems) are required when working less than 6 feet from the edge. From 6-15 feet, the new rule allows for a designated area with warning line for infrequent or temporary work. For work more than 15 feet from a roof edge, the new rule allows the application of an administrative control, preventing workers from getting closer to an unprotected edge. It is important also to remember these options only apply to infrequent and temporary work.

Strategy 2: Use PPE Correctly

Some fall protection control methods are considered passive, while others are active. Any solution that includes personal protective equipment (PPE) is an active system, since it requires some – and in various cases, significant – participation by the worker. Required actions range from adhering to warnings and signs to conducting equipment inspections to completing attachments for each work activity. Because of this reliance on human behavior, active solutions should only be put into place when passive methods to control fall hazards are deemed impractical.

However, active fall protection solutions that rely on fall protection PPE such as harnesses and lanyards are often used, despite their many drawbacks. Workers who rely on this equipment for their safety must be properly instructed on when to use which items, and how to properly use them.

Wearing a fall protection harness is not as intuitive as putting on safety glasses or a hard hat, so training and reinforcement of proper inspection and wear is essential. A proper fit is critical to its effectiveness. If the importance of fit doesn't resonate with workers through traditional training techniques, a simulated suspension can be more meaningful, as workers can see and, more importantly, feel what happens when a harness is not fitted correctly. Even suspending for a few seconds can be very uncomfortable, which helps workers understand the consequences of wearing a harness improperly.

Similarly, while lanyards are commonly considered to be a simple connecting means, they can be used incorrectly to the point of catastrophic failure. For example, showing the devastating effect of a lanyard going over a leading edge means more than simply telling a worker that it isn't safe. If a worker can visualize themselves on the end of a lanyard that snaps when loaded, they are more likely to heed warnings and prioritize proper use.

The primary downside to relying on PPE systems is that they have so many opportunities to fail. Even a properly designed system can fail if the anchorage isn't strong enough, a component is incompatible, a procedure isn't followed, or a worker isn't properly trained. Unfortunately, too often workers believe that if they are tied off, they are protected.

In reality, being tied off is often simply a false sense of security. Sadly, fallen workers are often found on the ground with harnesses on. In many cases, PPE is available, but proper anchorages and related practices are not in place and workers are forced to improvise. Key considerations for establishing appropriate anchorages include: strength, system compatibility, and location – including potential free fall distance, fall clearance and swing fall hazards.

Strategy 3: Improve Personnel Training

In addition to the training recommendations provided in the previous PPE strategy discussion, it is important to plan personnel training with the goal of influencing or changing behavior – not just to check a box. While OSHA regulations require training, it is typically ineffective to spend valuable training time reviewing the actual regulations. Guidance from regulations and standards can be used to shape training, but more practical, hands-on and experiential aspects of training tend to impact behavior and garner change.

Second to experiencing the equipment firsthand, using equipment testing videos and dummy drops are effective ways to visually demonstrate how equipment should and should not be used. Organizations can also leverage virtual reality (VR) or augmented reality (AR) technology to immerse trainees in a familiar work environment with fall hazards.

Strategy 4: Institute Prevention through Design

While it is easier to see fall hazards in an existing structure, safety practitioners around the world have found that it is safer and more cost effective to implement fall protection before structures or processes are built. This concept – referred to as Prevention through Design (PtD) in the United States – ensures that safety measures are evaluated and implemented during the programming and design phases of a project. Organizations who have applied PtD programs have proven meaningful results: life-threatening work hazards are reduced, productivity is improved, and costs are lowered. Despite all these positives, PtD has been slow to gain momentum since it's not "business as usual," and requires an earlier, more proactive approach to safety.

Utilizing a PtD program ensures that safety is considered early and often throughout the design and construction process. Ideally, this becomes part of an organization's culture, and all parties embrace the idea of addressing safety throughout a project's continuum. Simply put, safety is no longer an afterthought, but instead becomes a key aspect of planning before any work begins on site.

Recommendations

Each of the strategies outlined can individually contribute to reduced fall risk. However, used together within a man-

aged fall protection program, these methods can really improve safety for an organization.

Take a programmatic vs. project approach to fall protection. Individual initiatives and project-specific safety measures are helpful, but a coordinated approach will better influence culture, competence and behavior among the whole team. For help creating and managing a program, reference the current ANSI/ASSP Z359.2 standard for detailed guidance.

Consider solutions beyond PPE. Challenge leaders and workers to find more passive means of protection, so safety doesn't rely so heavily on human behavior. With some opportunities to fail, using PPE-based systems leaves an organization with a significant amount of residual risk.

Get outside help. Falls don't happen often, but they are typically catastrophic and costly when they do. And, fall protection requires a synthesis of structural engineering and safety disciplines. If a team doesn't have access to well-informed individuals, get more training and/or find an external expert to assist.

About the Author

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