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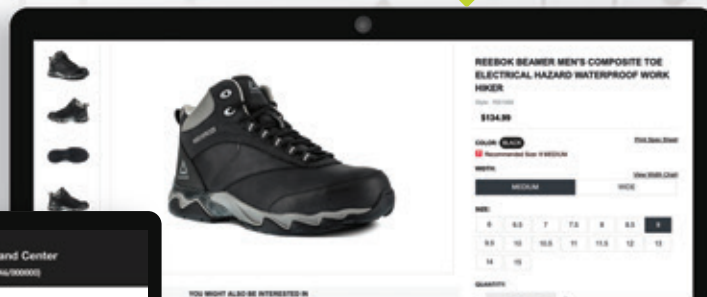


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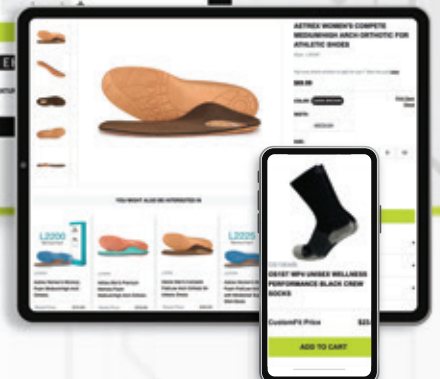
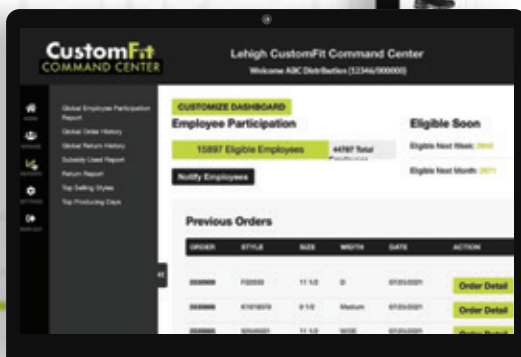
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**63%** of respondents  
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## Show of Hands: Insights and Strategies to Prevent Hand Injuries

Hands are one of the most frequently injured body parts. Hand injuries can affect anyone, in any industry, at any time.

A new survey commissioned by SafeStart reveals which interventions are working—and which ones aren't—when it comes to hand safety. From distraction and line of fire to culture and glove compliance, safety professionals shared their views on reducing hand injuries.

The good news: there are five major interventions that can lead to more frequent glove use, fewer distraction-related issues and a more robust hand safety program.

Download the free guide to learn what the survey revealed and to discover fresh insights into preventing hand injuries.



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# Tapping Into the Hive Mind

An ASSP effort compiles worthwhile insights from safety's collective expertise.

They say that two heads are better than one, but in today's age of ubiquitous communications, you can tap into a global collective on any topic you like. The key is to ensure the information is qualified, and that means talking to the real experts — and that takes effort.



One such effort in the realm of safety is the 2024 installment of the American Society of Safety Professionals' annual Corporate Listening Tour. In its fourth year, ASSP uses the tour to meet with a spectrum of safety executives who share what they feel are the primary safety challenges currently facing organizations and how occupational health and safety professionals can address them.

Tapping into this safety "hive mind" uncovers a wealth of substantive and strategic safety insights. This year's effort took away five pivotal pieces of shared knowledge that are worth applying to any organization's safety efforts:

1. Focus on what matters. Emphasize preventing serious injuries and fatalities rather than minor incidents to avoid diluting resources. This may result in a slight rise in less severe incidents, but the goal is to allocate valuable time and resources where they have the greatest impact.

2. Manage workforce changes and safety priorities. With workforce changes and a shortage of skilled labor, ensuring safety becomes more challenging. High turnover and difficulties in attracting and retaining good employees increase the risk of incidents and employee burnout. OSH professionals need to influence the training of new employees and contribute to retention strategies.

3. Embrace OSH-related applications of AI. Technology, and especially artificial intelligence, is reshaping the workplace. While this offers opportunities for safety improvements, it also introduces new risks. OSH professionals should leverage AI to enhance safety while ensuring that traditional, proven safety practices are not overlooked.

4. Manage cultural shifts and governance in uncertain times. The uncertainties of the economy and politics impact business operations. That's just a fact of life, but safety professionals can drive changes in organizational culture by ensuring leaders always take accountability for safety and highlighting its importance, even during uncertain times.

5. Empower influential OSH leaders in the changing workplace. Occupational health and safety leaders and managers must keep their technical skills and certifications up to date while seeking support from their organizations to become better leaders capable of increasing safety/operational excellence.

I encourage you to visit [www.assp.org/about/tackling-todays-safety-challenges](http://www.assp.org/about/tackling-todays-safety-challenges) to read more about ASSP's Corporate Listening Tour and to download the full report. You'll find considerable, collective wisdom in its pages. **OH&S**

**DAVID KOPF**

Publisher & Executive Editor, OH&S Magazine

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**CORPORATE ADDRESS**

Corporate Headquarters:  
1105 Media  
6300 Canoga Avenue, Suite 1150,  
Woodland Hills, CA 91367  
[www.1105media.com](http://www.1105media.com)

**MEDIA KITS**

Direct your Media Kit requests to Lynda Brown,  
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**SALES STAFF**

INTEGRATED MEDIA REPRESENTATIVE-WEST **Barbara Blake**  
972-687-6718  
INTEGRATED MEDIA REPRESENTATIVE-EAST **Jenna Conwell**  
610-436-4372

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Contact information is available at [www.ohsonline.com](http://www.ohsonline.com).

**Email:** To email any member of the staff, please use the following form: [FirstInitialLastname@1105media.com](mailto:FirstInitialLastname@1105media.com)

**Corporate Office**

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# Evaluating and Upgrading Fall Protection Systems: A Guide for Safety Managers

Staying ahead of the curve requires proactive assessments and enhancements in fall protection.

BY DAN HUNTINGTON

**W**hen it comes to keeping workers safe, making sure they're protected from falls is a top priority, especially in workplaces where they have to work from heights. A worker's risk of falling is very real, which means it's not only important to meet the tough safety requirements, but also to truly care about keeping your people safe.

With safety managers in mind — since they have the responsibility of making sure everyone is safe — here are some step-by-step procedures on how to regularly check and improve your fall protection initiatives.

## The Imperative for Regular Evaluations

Regular evaluations of fall protection measures are essential in industrial work environments. As operational practices evolve and site conditions change, safety systems must not only meet the baseline compliance with OSHA regulations and pertinent industry standards but also offer robust defense against identified workplace hazards.

These critical evaluations serve to examine the suitability of fall protection measures, ensuring their ongoing relevance and effectiveness in safeguarding workers from the inherent dangers of heights. By consistently aligning safety measures with the latest best practices and technological innovations, organizations can reinforce a culture of safety that proactively evolves to meet the complex challenges of modern industrial activities.

## Comprehensive Evaluation Criteria

**1. Hazard identification.** A proactive approach involves conducting regular walk-throughs and engaging with employees to identify potential fall hazards, ensuring no risk is overlooked.

**2. Control selection.** Determining the most suitable fall protection methods requires a balance between compliance, feasibility and worker comfort, aiming for solutions that minimize risk while supporting operational efficiency.



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the integrity of fall protection gear through meticulous inspections can prevent equipment failure, a common cause of fall-related incidents.

**4. Work area inspection.** Changes in work processes or environment may introduce new hazards, highlighting the need for adaptive fall protection strategies that accommodate these changes.

**5. Compliance and standards.** Keeping abreast of regulatory updates and industry best practices is essential for maintaining an effective and legally compliant fall protection program.

## Indicators for System Upgrades

System upgrades become necessary when evaluations reveal compliance gaps, equipment wear, or inadequacies in addressing specific workplace hazards. Additionally, technological advancements present opportunities to enhance safety outcomes through more sophisticated fall protection solutions.

quired when regular evaluations indicate that the current fall protection system fails to meet the latest OSHA regulations and industry standards.

**2. Technological advancements.** The introduction of new and improved fall protection technologies offers opportunities to enhance overall safety outcomes, warranting upgrades to existing systems.

**3. Changes in work practices.** Upgrades should be considered when there are significant changes in work practices or processes that render the current system less effective or obsolete.

**4. Regulatory updates.** When new laws or regulations are enacted, systems must be upgraded to ensure compliance with the updated legal requirements.

**5. Feedback from employees.** Worker feedback can highlight practical challenges with the current system, suggesting areas where upgrades can improve usability and safety.

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*Promoting a culture where safety is a shared value encourages worker participation in safety initiatives.*

”

### Strategies for Effective Upgrading

As industrial operations advance and workplace landscapes transform, the enhancement of fall protection systems becomes an imperative rather than an option. Upgrading these systems necessitates a strategic approach, underpinned by a thorough understanding of the latest advancements in safety technology and a steadfast commitment to mitigating workplace hazards.

The strategies for effective upgrading of fall protection systems require careful planning and execution. They must be comprehensive, targeted and embedded within the organization's safety culture to effectively minimize the risk of falls and protect the workforce. This proactive mindset towards upgrading not only reinforces the safety practices but also solidifies the organization's dedication to the well-being of its employees. Here are strategies to guide the process:

**1. Embracing technological innovations.** The integration of advanced materials and smart technologies in fall protection equipment offers improved safety and worker acceptance.

**2. Targeted risk assessments.** Customized fall protection strategies—informed by detailed risk assessments—ensure that resources are directed toward mitigating the most significant risks.

**3. Cultivating a safety culture.** Promoting a culture where safety is a shared value encourages worker participation in safety initiatives, enhancing the overall effectiveness of fall protection measures.

**4. Commitment to continuous improvement.** Adopting a continuous improvement mindset allows organizations to evolve their safety practices based on lessons learned from incident analyses and safety performance reviews.

**5. Comprehensive training programs.** Training programs should be updated to reflect any changes in equipment or procedures following system upgrades, ensuring that all workers are competent in the latest safety practices.

### The Role of Fall Protection Experts

Collaboration with experienced safety solution providers is essential in navigating the complexities of fall protection. Fall protection experts offer not only innovative products but also consulting services to assist in risk assessments, system design and compliance verification, ensuring that fall protection strategies are both effective and sustainable.

**1. Expert risk assessment.** Providers conduct thorough evaluations of workplace environments to identify specific fall hazards and recommend tailored safety solutions.

**2. Custom system design.** Leveraging their expertise, provid-



ers can design fall protection systems that are uniquely suited to the need. Compliance assurance. Safety solution providers help ensure that fall protection systems meet or exceed current OSHA regulations and industry standards.

**4. Sustainable safety strategies.** Providers offer insights into long-term safety management, promoting strategies that are not only compliant but also adaptable to future changes.

**5. Training and education.** Through comprehensive training programs, fall protection experts ensure that employees are well-informed and competent in utilizing fall protection systems effectively.

**6. Ongoing support and maintenance.** Providers offer continuous support—including regular system inspections and maintenance—to ensure the longevity and reliability of fall protection measures.

### Building a Proactive Safety Culture

Developing a proactive safety culture where every employee feels responsible for safety outcomes is fundamental to the success of fall protection programs. Initiatives such as safety ambassador programs, regular safety meetings and open communication channels encourage worker engagement and foster a collective commitment to maintaining a safe working environment.

### Conclusion

The task of evaluating and upgrading fall protection systems is a continuous journey toward achieving a zero-incident workplace. By adhering to a structured evaluation framework, embracing technological innovations and fostering a proactive safety culture, safety managers can significantly reduce the risks associated with work at height.

Partnering with reputable safety solutions providers enriches this process, offering access to specialized expertise and cutting-edge safety technologies. Ultimately, the goal is to ensure that every worker returns home safely at the end of the day, underscoring the organization's commitment to their well-being and safety. **OHS**

*Dan Huntington is General Manager for Kee Safety and an experienced Fall Protection Industry Expert, formally trained in OSHA fall protection standards and risk assessment.*



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## Avoid Suspension Trauma with a Comprehensive Fall Protection Program

Fall protection and awareness of suspension trauma are essential for ensuring workplace safety, as proper equipment use and effective rescue plans can prevent injuries and save lives.

BY PHILIP JACKLIN

It's an unfortunate fact that falls have been a leading cause of injury and death in the workplace, in construction and in general industries. Falls don't just occur in the workplace though. Even if workers are off the clock and at home, each year roughly 500,000 Americans visit the emergency room after falling off or getting injured from a ladder. In the workplace, employers are legally required by the federal Occupational Safety and Health Administration (OSHA) to provide fall protection for employees who will work over four feet off the ground, or to their next lower level.

Fall protection equipment can be any device, apparatus, or other personal protective equipment (PPE) that aims to protect workers from falling off their walking working surface or the consequences of falling. Equipment like guardrails actively

prevents people from falling. Furthermore, fall arrest equipment refers to the specific equipment that does not necessarily prevent a worker from falling but can successfully suspend the worker before hitting the ground below if manufacturer instructions are followed. These pieces of equipment could include—but are not limited to—body harnesses, lanyards or self-retracting lifelines (SRLs). However, once a worker's fall is successfully arrested with their fall arrest equipment, one hazard is replaced by another. Remaining upright for too long and developing symptoms like low blood pressure is referred to as orthostatic intolerance. It plays a significant factor in developing suspension trauma, but its effects can be mitigated if workers are trained to recognize the signs and symptoms.



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### What is Suspension Trauma?

Suspension trauma is a life-threatening condition that occurs when the body responds to being in an upright position for a prolonged time with sweating, dizziness, nausea, heart palpitations or loss of consciousness among other symptoms. While fall protection equipment aims to prevent the almost certain debilitating or fatal results of falling from heights, the body still assumes some of the forces incurred from the fall. Shock-absorbing elements in lanyards or SRLs shoulder most of the burden, but the remaining shock suffered is distributed around the victim's body and can cause a decrease in heart rate, blood pressure and cardiac output. This is a tricky hazard to mitigate because the effects of orthostatic intolerance will vary between workers, and it's often difficult to determine the rate or intensity at which suspension trauma occurs.

### The Effects of Suspension Trauma

The body's upright position while being suspended in a fall arrest harness can block airways and restrict blood flow around the body, creating poor circulation. Typically, the leg straps constrict blood from naturally traveling between the upper and lower halves of the body. Blood can start collecting in the leg muscles and will become increasingly toxic. If this occurs for too long, that toxic blood can enter the body's main bloodstream once the harness is removed. This can damage the organs to the point of fatality if enough progresses.

Restricted blood flow also greatly in-

creases the chances of developing a blood clot, which has been fatal for some fall victims as the effects appeared sometime after the victim was rescued. Additionally, the heart is put under increased pressure during suspension trauma. Blood pressure can decrease, and the victim could fall into shock at this point. If blood flow diminishes to a certain extent, it can affect brain activity and the victim can lose consciousness.

### Prevent Suspension Trauma

If someone falls, 9-1-1 should be called immediately. However, this should not be expected to be the main means of rescuing a fallen worker. OSHA requires that employers prepare and implement fall protection rescue plans for workers who must don fall arrest equipment. The rescue plan should be put into effect as emergency personnel are responding. They must aim to rescue the worker as quickly as possible. It can take as little as a few minutes for the effects of orthostatic intolerance to begin and suspension trauma to set in. Depending on the general health of the individual, the victim could lose consciousness, go into cardiac arrest or die. Due to the panic and stress of the situation, fall victims often have difficulty accurately communicating the state of their well-being to first responders. Best practices suggest that an organization's rescue plan includes someone dedicated to staying in constant communication with the victim. Emergency medical personnel will benefit from knowing more details about the fall victim and the fall incident

so that they can provide proper treatments and hopefully prevent further permanent damage from occurring.

Proper donning procedure and ensuring the proper fit of a body harness is one of the most effective methods of preventing suspension trauma. In order for the connecting device and harness to absorb the most shock possible from the fall, a harness must be properly adjusted to fit each user. Proper leg strap tightness is a significant contributing factor to the severity of suspension trauma. The common rule of thumb for proper tension of leg straps is referred to as "flat hand, not fat hand." If the user can fit their clenched fist (or, fat hand) under the leg straps, they should tighten the straps until they can only fit their extended palm (or, flat hand) underneath the leg straps. If the flat hand cannot fit under the straps, loosen until it can. Leg straps that are too tight can cause further injury during the fall. Leg straps should remain stationary on the leg while the worker walks around while wearing the harness. Any that slip up and down during normal walking movements should be checked for proper tightness. If a user falls in a harness that is too loose, they could potentially be ejected from the harness during the fall. At the very least, their body will jostle while the fall is being arrested and greater fall forces felt by the user can be anticipated. The more fall forces passed onto the body and not absorbed by the fall protection equipment, the greater the risk of injury. It's also important to note that fall protection equipment must be removed from service after successfully arresting a fall and should not be used again.

### Reduce the Effects of Suspension Trauma

Rescue training is another effective method of preventing suspension trauma after a fall. Besides learning to recognize the signs and symptoms of orthostatic intolerance that can lead to suspension trauma, employees should be trained in self-mitigation methods as well. All body harnesses compliant with the ANSI Z359 standard are equipped with a sub-pelvic strap that can assist with promoting body movement while a victim awaits rescue. The sub-pelvic strap sits directly underneath the buttocks and, if the user is conscious after their fall, can slide down the legs to orient the body in a more "seated" position. This position helps promote circulation and can help delay orthostatic intolerance. Users can also practice

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*Proper donning procedure and ensuring the proper fit of a body harness is one of the most effective methods of preventing suspension trauma.*

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vigorously moving their legs up and down to promote blood flow and increase circulation.

In recent years, manufacturers have strongly encouraged the addition of suspension trauma straps to body harnesses. Many manufacturers include harness options with trauma straps already integrated into the harness before purchase, but some users prefer to add them to their harness after purchase. While use slightly varies between manufacturers, these suspension trauma straps can be deployed to create a loop underneath the fall victim's dangling feet. Once properly tensioned, the user can press their feet against the straps to encour-

age movement, improve circulation and increase blood flow. If used properly, these straps can effectively delay the effects of orthostatic intolerance and reduce the long-term effects of suspension trauma.

### Conclusion

Suspension trauma will vary for each fall victim, but its effects can be potentially lessened if effective actions are taken during fall rescue procedures. Still, mitigating hazards is a reactionary measure while attempting to eliminate hazards can proactively protect workers from suffering suspension trauma. The goal should always be to prevent the incident from occurring altogether, instead of planning to remedy issues only as they happen.

Increased awareness and training can greatly benefit an organization's fall protection program. Fostering a safety culture leads to a world with no falls, not just fewer. That vision starts with the initial design of a building's architecture and requires partnership and cooperation from all levels of an organization. A more robust safety culture can help prevent injuries and save lives. **OHS**

*Philip Jacklin is the Continuing Education Program Manager for Diversified Fall Protection. Since 2018, Philip has been training workers nationwide on best practices when using their fall protection, and advising safety managers, EHS leaders, plant maintenance managers, and other safety professionals on how to create more efficient fall protection programs.*



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# Improving Roofer Safety in 2024

Roofing is one of America's most dangerous professions, necessitating enhanced safety measures to reduce the annual fatalities and accidents.

BY PAT OVERSON



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**R**oofing work is an essential service for residential and commercial property owners across the country. A home or commercial space literally cannot function without a roof over it. The high demand for roofing services means a limited number of contractors are trying to meet an increasing demand. As more roofers work on roofs this year, it is important to remember that a roofing contractor occupies one of the most dangerous civilian professions in America.

Over 50 roofers are killed in roofing accidents every year, according to data from the Bureau of Labor Statistics.<sup>1</sup> Only loggers deal with more workplace fatalities every year. The prevalence of workplace accidents and fatalities means that improving safety must always be a mission of each roofing company. Don't be passive about safety standards. Here are a few practical steps to improve roofer safety this year.

## Continuing and Engaging Education

The best tool to emphasize good safety standards is education, and sadly too many roofing companies don't take safety education as seriously as they should. Often the safety conversation is a brief two-minute chat before a job or not having the conversation at all.

Ideally, every roofing company would hold weekly safety meetings that are educational and engaging. Every week, companies should have a new and relevant safety topic to discuss.

For example, we recently had a cold streak come through so we spent our safety meeting discussing how to protect from frost and cold on a slippery roof. Accordingly, we're planning a long meeting about dealing with heat exhaustion right before the summer arrives. The key is making sure the safety meetings are engaging. Don't just have management talk to their team. Pose hypotheticals to them and ask them questions about how a safety process is supposed to be implemented on a job site.

Make sure the team knows the safety standards. Make sure they know how to use the equipment and test them on that equipment use. Wearing a safety harness is something a roofer knows how to do, but still have them practice applying one while not on a job site. Treat safety meetings like school. Repeat the same safety info constantly so the team retains it and make team members who missed the meeting reschedule so that they can also get the information.

Don't skimp on the safety meetings this year. Conduct more of them and make them more engaging.

## Double Up on Safety

Roofers working alone on a job is sadly an all too common occurrence in our industry. Working alone increases the risk of serious injury exponentially. If roofers stopped doing solo jobs, our industry could dramatically decrease workplace injuries. It's impossible to fix the whole industry, but it is possible to ensure that a roofing team isn't conducting solo roofing jobs in 2024. Ask roofers to work in pairs no matter how small the job is. This can often be hard for small roofers who are trying to complete a backlog of jobs, but losing a team member to injury is going to lead to worse outcomes. Take extra time to complete their jobs and always have at least two people work a job.

## Safety First Superintendents

Competent superintendents are essential for any roofing team, and it is important to only hire superintendents with a proven safety record. Rather than just promoting superintendents from within, assess someone's commitment to safety in real time.

Don't promote the guy that has too many writeups. Promote the guy who has little to no writeups. A good superintendent will spend time with his team on safety initiatives, inspecting PPP gear and writing up contractors breaking safety rules. Hire competent superintendents who take safety seriously this year.

## Safety Off Roof

Safety doesn't just apply when the team is on a roof. Make sure the team is being safe on the ground as well. This means making sure tools and debris are safely secured in the back of the vehicle. It means the team is being safe driving to and from the job site. Roofing companies often don't teach this type of safety, and it is important. A good way to ensure the team is driving safely is to install GPS on all company-owned trucks. These can monitor where team members are and most importantly how fast they are driving.

## Vehicle Maintenance

Poorly maintained vehicles in the fleet are a

huge safety risk to everyone on the road. A truck with low tire pressure can cause a tire to pop and the truck to crash, while old and cracked windshields can obstruct vision. Assign someone on the team to do routine truck inspections and schedule maintenance when needed. Inspecting the trucks will prevent accidents and save money on costly emergency repairs.

Roofing is a dangerous job, which is why roofers need to improve their safety strategy this year. Create frequent and engaging safety courses, have workers in teams no matter how small the job is, and be safe driving to and from a job site. Taking these steps will help prevent accidents that will hurt the health of any roofing company. **OHS**

*Pat Overson is the Owner of Overson Roofing (oversonroofing.com), a roofing contractor in Mesa Arizona.*

## REFERENCE

1. [tinyurl.com/yckcnvdb](https://tinyurl.com/yckcnvdb)

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# Falls are a Major Occupational Threat – How Do I Protect My People?

Occupational falls — often underestimated and primarily occurring at lower levels — have become the second-leading cause of worker deaths, necessitating a tailored and comprehensive approach to safety hazard mitigation across all industries.

BY GEN HANDLEY

**A** fall at work can be more dangerous than it seems. A major misconception of common slips, trips and falls is that they cause the most harm from tall heights and upper levels. The reality is that workers are more likely to die from the injuries experienced from falls at lower levels, which increased almost 3 percent according to the latest numbers on fatal occupational injuries.<sup>1</sup> This data also found that fatalities from slips, trips and falls increased nearly 2 percent in 2022.

This makes occupational fall injuries the second-highest cause of worker deaths behind transportation incidents and a top safety priority for safety managers across all industries. The biggest challenge in addressing the broad category of slips, trips and falls is mitigating the varying possible causes for a worker to slip, trip, fall and hurt themselves. Because a deadly slip can occur almost anywhere, they need a customized, comprehensive approach to safety hazard mitigation, requiring various safety measures and protocols in completely different ways.

## The Threat of Falls at Work

This danger of falls is present in a range of circumstances that can be found in almost any sector or job. The National Institute for Occupational Safety and Health<sup>2</sup> says fall incidents at work can frequently involve circumstances including:

- Slippery, cluttered or unstable walking/working surfaces
- Unprotected edges
- Floor holes and wall openings
- Unsafely positioned ladders
- Misused fall protection

However, the potential risk for a fall hazard within the work environment can be more complicated than that, involving other factors such as cold weather and tem-



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peratures,<sup>3</sup> additional PPE and equipment and improper footwear.

## The Impact of Falls at Work

When an employee falls and hurts themselves at work, the consequences and required time off can broadly range from a sprained ankle to a major head injury. These injuries hurt not only the employees themselves, but their surrounding loved ones and coworkers, sometimes creating a lasting emotional impact on their lives.

It also impacts the company and its operations, requiring the time off needed to recuperate and remedy the problem so that it does not occur again and hurt more employees. According to the National Council on Compensation Insurance's (NCCI) Workers Compensation Statistical Plan<sup>4</sup> database, falls or slips were the third most costly lost-time workers' compensation claims from 2020 to 2021, after motor vehicle crashes and burns.

## What Employers Can Do

Thankfully, employers are not completely powerless to the many distinct, potential slips and falls hazards in their workplaces. The key is to remain organized and proactive, recognizing what these hazards are and staying ahead of them before they harm a person doing their job.

## Regular Fall Hazard Assessments

In order to stay ahead of occupational fall hazards, it's key to assess them on a regular basis, documenting all existing as well as future dangers that could harm employees down the road. Fall hazards and risks can easily shift with changes in staff or weather. So, make sure assessments are conducted consistently or as needed.

## Ongoing Safety Training

One of the most effective methods to proactively make sure people can perform their work around fall hazards safely is



through safety training. Determine the type of training according to whichever fall hazards have been identified and require the financial and time commitment for this level of safety education.

### Regular Clearing of Walkways

This may be an obvious point. However, the walkways in work environments must be always cleared of clutter and tripping hazards like electrical cords. What isn't as obvious is committing to this practice and making it a habit within the workplace, incorporating it into daily tasks and routines.

### Fall Protection Technology

In addition to safety practices, employees can be equipped with fall detection apps<sup>5</sup> and wearables which can request immediate emergency help if the worker experiences an injury. In real time, fall protection devices will detect a dangerous impact and get help to the worker's location as quickly as possible.

### Provide Proper Footwear

Employees can also be provided with properly fitting footwear<sup>6</sup> that can grip the surfaces they are working on more effectively and comfortably. In some cases, specific PPE footwear may be required, however, this can also be determined in the fall hazard assessment.

### Develop Fall Protection Plan

Overarching all of this can be a fall protection plan, which outlines all of the procedures and policies that can help employees reduce the number of fall hazards in the workplace. OSHA has developed a template for a Fall Protection Plan<sup>7</sup> that "must be developed and evaluated on a site-by-site basis." Additionally, "it is recommended that builders discuss the written Fall Protection Plan with their OSHA Area Office prior to going on a jobsite."

### Be Prepared

No matter what, fall hazards are going to exist in the workplace and on worksites.

However, employees can be prepared for the hazards and aware that they exist as well as what can be done now to prevent someone from spraining a limb at work or much worse. **OHS**

*Gen Handley is a Marketing and Growth Coordinator for SafetyLine Lone Worker, an automated, cloud-based lone worker monitoring service that helps companies protect remote or isolated workers. Gen has more than 10 years of freelance writing and marketing experience.*

### REFERENCES

1. [tinyurl.com/jvy2ntbj](https://tinyurl.com/jvy2ntbj)
2. [tinyurl.com/4j42n44d](https://tinyurl.com/4j42n44d)
3. [tinyurl.com/5n8d39fs](https://tinyurl.com/5n8d39fs)
4. [tinyurl.com/3dp8cyax](https://tinyurl.com/3dp8cyax)
5. [tinyurl.com/bdzbp8bn](https://tinyurl.com/bdzbp8bn)
6. [tinyurl.com/2ys4j7ra](https://tinyurl.com/2ys4j7ra)
7. [tinyurl.com/93ctrbkh](https://tinyurl.com/93ctrbkh)

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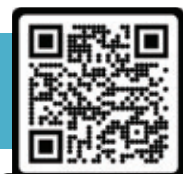
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# Breathing Easier: The Crucial Role of Gas Detection in Confined Space Entry

Effective gas detection and a comprehensive confined space entry plan are crucial for ensuring worker safety and preventing fatalities in hazardous environments.

BY DANTE MOORE

Every year, industrial workers around the globe face the daunting task of entering confined spaces to perform necessary inspections, maintenance and operations. These spaces—characterized by their limited openings not designed for continuous occupancy—present a variety of hazards, most of which are invisible, odorless and potentially lethal gases.

Confined spaces are breeding grounds for silent killers: noxious, hazardous gases. Without adequate ventilation, gases such as hydrogen sulfide, carbon monoxide, methane and others can accumulate to toxic levels. Moreover, oxygen-deficient environments pose a significant risk of suffocation, especially on immediate entry.

When it comes to confined spaces, it's not just about detecting the presence of hazardous gases. It's about doing so in a way that is reliable, accurate and timely.

## Gas Detection: Your First Line of Defense

The significance of gas detection can't be overstated. In confined space work, the margin for error is slim, and the consequences of oversight are grave. Safety regulations—such as those stipulated by the Occupational Safety and Health Administration (OSHA)—mandate the monitoring of atmospheric hazards as part of a confined space program.

These regulations are born out of a history of unfortunate incidents, where both workers and would-be rescuers have succumbed to the perils of unsafe environments. Compliance is not just a legal obligation; it is a moral imperative to protect human life.

From portable, personal gas detectors and area monitors to robust live monitoring software, workers should rely on tools tailored to meet the safety demands of confined space entry. By utilizing

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*Compliance is not just a legal obligation; it is a moral imperative to protect human life.*

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multi-gas monitors and area monitors that share not only real-time gas readings but also man-down alarms and panic alerts, both nearby peers and safety personnel can mitigate hazards before an evacuation is even needed. When combined with live monitoring software, users can also take advantage of a variety of sensor options that can be configured to cover any and every confined space hazard they may face.

Most importantly, shared readings can help eliminate up to 60 percent of confined space would-be rescuer deaths by informing rescuers—before they enter—why their peer is in danger. This creates a safety culture where workers know someone’s always got their back, even in the most dangerous working conditions.

However, this is all easier said than done. So how does one go about creating an effective safety culture around confined space entry?

### Creating a Confined Space Entry Plan

A well-rounded confined space entry plan—including setting up the right confined space monitor—is critical to minimize risk.

Planning for confined spaces can help prevent unnecessary incidents and reduce the risk of injury or death. No two confined spaces are the same. So prior to entry, it is essential to examine each space for risk and hazard assessments, choose the right confined space monitor based on entry requirements and train workers.

### Confined Space Testing Best Practices

Regulations generally require testing the atmosphere within a confined space with a direct-reading monitor before a person enters. This is commonly performed with a confined space monitor equipped with a remote sampling pump, which allows the user to see not only if the space is safe but

also how safe.

Although testing after that is only required before re-entry, it’s safest to continuously monitor for atmospheric hazards because conditions can change within moments, leaving workers unaware of danger. Area monitors are helpful for continuous monitoring because of their long battery life and easy set-up. Simply turn the monitor on and place it in the confined space to ensure that you always have visibility into the gas readings.

### Quickly Communicate Working Conditions

Communication is a major factor in protecting workers in confined spaces. Attendants are required to monitor the areas and the status of the workers within them. However, because of ever-changing conditions and loud environments, it can be a challenge for attendants and peers to understand the status of entrants.

For example, conditions within a confined space can change rapidly, and what was once a safe environment can quickly become hazardous due to the processes taking place within or near the space. With peer-to-peer connected gas monitors, alarms for gas hazards, immobility or other safety emergencies are instantly shared to peers and the attendant, enabling a quick and effective response.

Additionally, safety teams can take this a step further by implementing a live monitoring solution. Live monitoring allows anyone anywhere to be alerted when gas hazards put workers in danger so that everyone can respond accordingly.

### Your Guardian Against the Unseen

Overall, the role of gas detection in confined space entry can’t be overemphasized. Each year, the technology and expertise provided by gas detection companies can help avert countless potential disasters, save lives and promote a culture of safety that resonates throughout the industry.

Personal, multi-gas monitors, area monitors and live monitoring software are not merely tools to get the job done; they’re guardians against the unseen. They allow your workers to enter confined spaces with confidence and emerge safely, ensuring everyone goes home to their families at the end of the day and that everyone can breathe a little easier knowing they’re safe. **OHS**

*Dante Moore is an applications engineer at Industrial Scientific.*

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## How To Decide Which Supplied Air Respirator Is Best

Choosing the right supplied air respirator involves understanding specific hazards, regulatory requirements, and ensuring proper fit and comfort to maintain worker safety in toxic environments.

BY SYLVIA FONTES

**C**hoosing a supplied air respirator (SAR) can be a stressful task. Even if you pay top dollar and shop with a trusted supplier, there's no guarantee the SAR you choose is best for your situation.

How then can you confirm the supplied air respirator you buy is the best fit for your needs? That's simple: Let's discuss what a SAR is, why you might need one (or a lot of them) and the factors to consider before making an informed decision.

### What Is a Supplied Air Respirator?

Supplied air respirators are a type of personal protective equipment (PPE) that provides clean, breathable air to the user, even in a toxic environment. Some of the work required in abrasive blasting, construction work, mining and many other jobs would be considerably more difficult (or even impossible) without the assistance of supplied air respirators.

Here are three common situations where using a SAR is either suggested or required:

- Contaminated environments where the air could or would

otherwise be harmful to human health

- Inadequate oxygen level environments where the oxygen level currently is or could become deficient
- Confined space entry where there are atmospheric hazards

### How Can I Choose the Right Supplied Air Respirator?

Selecting the correct supplied air respirator requires you to assess the hazards, work conditions and regulatory requirements under which the SAR will be deployed. Ideally, you can find a SAR that not only adequately protects the health of your workers but also allows them to perform their tasks effectively and comfortably.

Here is a list of factors to consider and determine before you buy SAR equipment:

- **Type of hazard.** Understand the specific hazard present in the environment. What contaminants are present and at what concentrations? What is the oxygen level in the environment?
- **Duration of exposure.** Consider how long workers will be exposed to hazardous conditions. This will impact the type of SAR and air supply you need.



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- **Mobility requirements.** Is the required work stationary, or will the worker need to move? This will determine whether you need a fixed system or a portable system. Air hose length is a maximum of 300 feet, which needs to be considered.

- **Work environment conditions.** Extreme conditions may require specialized respirators designed to operate effectively in high heat, cold or humidity. Working in confined spaces might necessitate lightweight and compact SAR systems for ease of movement and comfort.

- **Fit and comfort.** A proper fit is essential for the effectiveness of the respirator. Consider the size and shape of the facepieces and whether they are compatible with other PPE, such as safety goggles and helmets. Comfort is also important, especially for equipment that will be worn for extended periods.

- **Regulatory compliance and standards.** Ensure the SAR is approved by the National Institute for Occupational Safety and Health (NIOSH) in the United States. Compliance with industry-specific standards may also be required, depending on the work environment. Make sure the SAR you choose meets those requirements.

- **Maintenance and training requirements.** Consider the maintenance needs of the SAR system. Some systems may require more frequent maintenance or replacement parts. Training for workers on how to use and maintain the SAR properly is essential for safety. The complexity of the system can influence the extent of training needed. Medical clearance for the worker and fit testing of the respirator is also required.

- **Cost and availability.** Evaluate the total cost of ownership, including maintenance and replacement parts. While cost should not be the primary consideration when it comes to safety, it is still a factor. It is even possible to spend less to get the best SAR for your situation.

Choose a respirator that not only protects workers but also allows them to perform their tasks effectively and comfortably. Consulting with safety experts and manufacturers can provide valuable insights into the most appropriate SAR system for specific work environments. But you should first consider and note your response to these factors.

### What Are the Types of SARS Available?

These systems can vary significantly in design and benefits offered. Each has limitations, depending on the work environment and task requirements.

Here are the two main types of SARs available:

- **Continuous flow SAR.** This system provides a continuous flow of air to the respirator headpiece from an external source, such as an air compressor or pressurized tank.

- **Pressure demand SAR.** This system supplies air only when the wearer inhales, creating a pressure inside the mask that can be higher or lower than the outside environment. It requires a tight-fitting facepiece.

### Choosing the Right SAR Helmet or Hood

Supplied air respirators can be paired with various types of helmets and hoods to protect workers from inhaling hazardous substances. The choice between different headgear options depends on the specific requirements of the work environment, the level of mobility needed and personal comfort preferences.

- **Full facepiece helmets.** These are rigid helmets that cover

the entire face and sometimes the head, offering both respiratory protection and head protection from impacts and debris.

- **Loose-fitting hoods.** These hoods cover the head and neck and sometimes extend to cover the shoulders and upper body. They are designed to be used with SAR systems that supply a continuous flow of air.

- **Half-mask or full-face masks.** These facepieces cover the nose and mouth (half-mask) or the entire face (full-face), connecting directly to the air supply hose. They require a tight seal to the face to be effective.

- **Integrated helmet and visor systems.** These systems offer a combination of respiratory protection with a full-face visor and head protection, integrating multiple safety features into one unit.

Each type of headgear offers a unique balance of protection, comfort and usability. Factors like the duration of use, the need for mobility and the presence of other hazards (e.g., risk of head impacts) will significantly influence the best choice of headgear for a given situation.

### How to Choose the Correct Air Supply for SARS

- **Compressed air tank.** Can provide a continuous supply of high-quality air when filled and maintained properly. The duration of the supply is limited to the tank volume.

- **Air compressors.** Can provide a continuous supply of air for extended periods to multiple users. Air compressors are typically noisy, however, and you'll need a reliable power supply. Air quality is dependent on the surrounding environment and must meet the Grade D breathing air criteria.

- **Ambient air pump.** Sources the surrounding air, filters it and delivers to users in situations where the air quality is acceptable but may not be safe to breathe without filtration. Also suitable for when long-duration respiratory protection is needed. Does require a reliable source of power.

### General Considerations for Selecting SAR Air Supplies

Here are the four bottom-line steps to follow when selecting SAR equipment:

- **Assess the environment.** Understand the specific hazards and conditions of the work environment to choose the most appropriate air supply.

- **Evaluate the task requirements.** Consider the duration, mobility needs and the number of users to ensure the selected air supply meets operational demands.

- **Compliance and standards.** Ensure the air supply system complies with industry standards and regulations for respiratory protection.

- **Training and maintenance.** Factor in the need for user training, medical clearance, fit testing and ongoing maintenance requirements to keep the system in optimal condition.

Choosing the right air supply for a supplied air respirator system is a crucial part of workplace safety. Because it requires careful consideration of the specific needs and constraints of the work environment, consult an expert such as a Certified Industrial Hygienist (CIH) or other qualified safety professional. **OHS**

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*Sylvia Fontes, MS, CIH, is a Certified Industrial Hygienist and Director of Environmental Health Services for Forensic Analytical Consulting Services, Inc. (FACS).*



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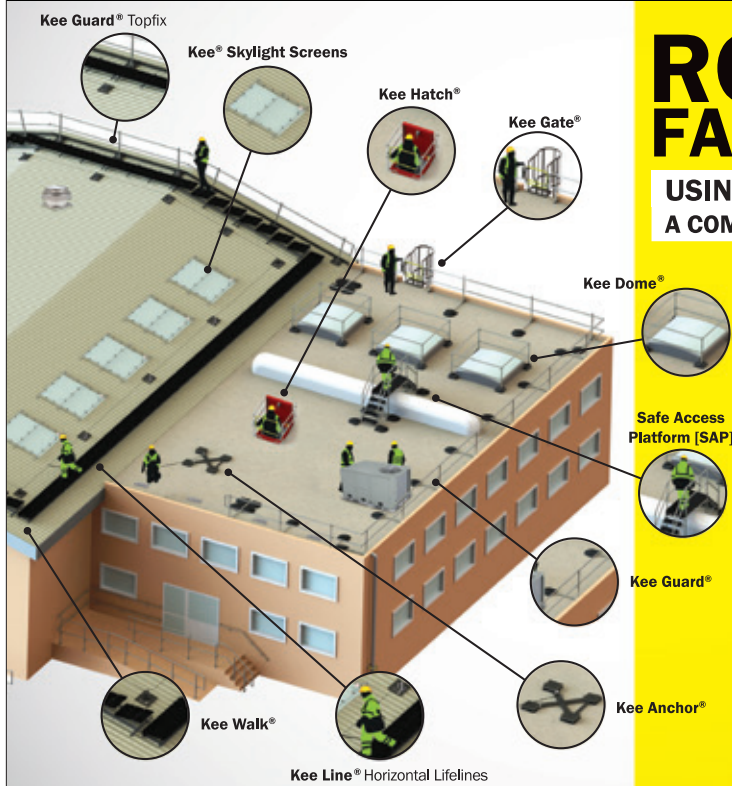
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# Driving Sustainability: The Role of ESG Metrics and Sustainable PPE in Reducing Scope 3 Emissions

Investors and stakeholders increasingly emphasize the importance of environmental, social and governance metrics to drive corporate sustainability and ethical business practices.

BY RODNEY TAYLOR



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Is it possible to do well while doing good? Environmental, social and governance (ESG) describes a set of business performance metrics that are focused on environmental sustainability and ethical issues. ESG metrics hope to drive companies to do just that. ESG has been one of the most buzz-worthy terms in the business community for the last several years.

Increasingly, investors are applying these non-financial ESG factors as part of their analysis frameworks. Growth in ESG has been nothing short of amazing. A 2022 study by the Capital Group found that nearly 90 percent of investors consider ESG issues as a part of their investment analysis. Stakeholders hope that greater inclusion of ESG factors in investment decisions will contribute to more stable and predictable markets. This thinking is particularly relevant for environmental risks, the “E” in ESG. The “E” considers a company’s utilization of natural

resources and the effect of its operations on the environment, both in its direct operations and across its supply chains.

## Emissions Scopes: Focus on Scope 3 Emissions for PPE

Every business has carbon emissions (or carbon footprint) associated with its normal operations. These emissions are generally categorized into “scopes” to help bucket emissions sources and associated responses.

Emissions scopes are defined as follows:

- **Scope 1.** Direct emissions from company assets. Scope 1 includes emissions from combustion, process emissions and accidental emissions from leaks and spills.
- **Scope 2.** Indirect emissions from purchased energy like heating and cooling buildings and running production processes.
- **Scope 3.** All other emissions associated with a company’s activities. This

includes all other indirect emissions associated with a company’s upstream and downstream operations.

A good shorthand to understand what each scope includes is that Scope 1 pertains to what the company burns, Scope 2 relates to the energy the company buys and Scope 3 is everything else. All the indirect emissions from goods purchased by the company are included in Scope 3 emissions.

Right now, there is a heavy focus on Scopes 1 and 2 emissions, particularly for water conservation and direct energy consumption. But Scope 3 emissions are just as important and can provide low-hanging fruit for sustainability gains. Scope 3 emissions are often the largest culprit of a company’s carbon footprint, potentially accounting for more significant carbon emissions than Scopes 1 and 2 combined. Just think about all the purchased plastics in a typical manufacturing facility, all of which represents Scope 3 carbon emissions.

Another key issue for end users is that Scopes 1 and 2 reductions almost always require capital investment. Many Scope 3 emissions reductions can be achieved without any additional investment at all. For example, just by converting from a non-sustainable glove to a sustainable one, an end user can claim credit for emissions reductions, all with no additional investment. As a result, there will be increased focus on reducing the carbon footprint associated with purchased goods, such as PPE.

End users looking to reduce their Scope 3 emissions will need suppliers that can provide sustainable products and have done the work to reliably quantify the carbon emissions of the products they provide.

## Sustainable Technologies and Sustainable Reporting for PPE

There have been huge advancements in sustainable materials that provide solutions that not only perform on par with non-sustainable alternatives but can also offer a

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lower total cost of ownership at comparable prices to incumbent solutions, particularly in the industrial glove sector. At one time, “green” products were generally expected to offer lower performance at a premium price. Advances in technology and economies of scale fueled by increased customer demand for sustainable products have turned those expectations on end.

Several leading industrial glove manufacturers have developed innovative technologies aimed at reducing carbon footprints. These technologies leverage recycled or renewable content and/or have been designed with sustainable end-of-life strategies like recyclability or enhanced biodegradability. Now an array of sustainable PPE solutions that meet requirements for safety performance provide the same form, fit, and function and are offered at comparable prices to incumbent PPE. Combine these products with reliable sustainability data and end users have real sustainability wins that can be included in company ESG reporting.

**Steps End Users Should Take to Leverage the Benefits of Sustainable PPE**

- Get buy-in from executive leadership. Sustainability is undoubtedly on the radar of senior leadership. But company management may be so focused on capital-intensive Scopes 1 and 2 projects that they haven’t had the opportunity to consider the potential benefits from Scope 3 emissions, such as sustainable PPE. Sustainable PPE could provide a quick emissions reduction win to help leaders see

the potential benefits of allocating resources to Scope 3 programs.

- **Align on metrics.** The infrastructure for environmental policy is still very much in development. There is a huge gap around common language, assessment frameworks, performance metrics and policies. Despite, these challenges, the business community and other sustainability stakeholders have aligned on CO2e as a critical emissions metric. A variety of different greenhouse gases (GHGs) or Global Warming Potential (GWP) gases have been linked to human activity. Carbon dioxide (CO2) is the most common. CO2e or carbon dioxide “equivalent” emissions describes the warming potential of all company GHGs as a single unit. Start by assessing your company’s CO2e. Whatever assessment scheme we all ultimately settle on will include carbon emissions. Innovative product solutions must be combined with new ways of assessing the environmental impact of using these products. PPE suppliers must not only invest in the development of sustainable products but also build processes and tools that provide end users with reliable sustainability reporting data.

- **Demand certifications and third-party test results from PPE suppliers.** Readers with industrial safety backgrounds readily grasp the need for independent, third-party testing for PPE. In the safety community, marketing claims that cannot be backed by reliable test data often aren’t worth the paper they are printed on. The same thinking holds true for sustainability claims. According to an American Marketing Association study, 58 percent of environ-

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mentally focused ads have at least one deceptive claim. But avoiding deceptive “green-washing” is relatively straightforward. Product suppliers need to provide certifications from accredited bodies or test reports from third-party lab testing to back their claims, just as they do for safety-related claims. Any company can claim they are using recycled materials. So it is very important to look for certifications like the GRS (Global Recycled Standard) or RCS (Recycled Claim Standards) on sustainable products to validate that the products and raw materials have been sourced from compliant providers. The point is that product testing and reliable data sources are the keys to avoiding greenwashing. End users have the power to demand test results and certifications to validate product claims and ensure sustainable materials content.

- **Celebrate actions with stakeholders and employees.** With sustainability initiatives, progress may be more important

than perfection. Be sure to celebrate actions all along your environmental sustainability journey, and make sure to include your employees. According to a study by the National Environmental Education Foundation, almost 90 percent of employees say their company’s sustainability efforts enhance their job satisfaction and overall feelings about the company. Think about how wearing sustainable hand protection made from recycled water bottles might impact compliance and employee engagement. Several end-user partners are posting their own company water bottle to glove metrics to drive employee engagement and overall buy-in for any changes in PPE.

The increasing need for sustainable products has accurately been labeled “one of the key challenges facing industry in the 21st century.” Industry will continue to focus on the huge potential for environmental sustainability gains linked to purchased goods like PPE. To support this shift, safety equipment suppliers must recognize their critical role in not only developing sustainable products but providing reliable data to quantify the benefits of these solutions for end users. End users have the power to drive action by demanding independent, third-party test results and material certifications to validate environmental sustainability claims. **OHS**

*Rodney Taylor is the Director of Sales, United States, for Watson Gloves.*

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## Why ‘One Size Fits All’ Is Wrong

Choosing task-specific, properly fitting PPE is essential for worker safety, productivity and cost-effectiveness.

BY PATRICK ICASAS

**T**ypically, “one size fits all” is marketed as a benefit, a convenient, cost-effective option for both manufacturers and consumers. However, in the realm of safety equipment, this concept fails dramatically. For personal protective equipment (PPE), “one size fits all” is not just ineffective; it’s dangerous. Let’s explore why site managers and safety officers should steer clear of generically spec’d products and review what alternatives they should consider.

### Proper Fit Versus ‘One Size Fits All’

When it comes to casual fashion like t-shirts, jeans and Crocs, it’s okay if things don’t fit perfectly (in some cases it’s even a plus). Here, the stakes are low; it’s merely about personal style.

However, ill-fitting PPE—particularly hand protection—poses a significant risk to worker safety. Let’s take gloves, for example. The glove could slip off at the worst time, exposing the hand to an edge or impact. A loose glove could compromise a worker’s grip and cause them to drop a heavy load. If gloves are too tight or too loose, they

can diminish tactile sensitivity, leading to errors in handling machinery or pressing control panel buttons.

If the PPE gets too uncomfortable, workers may choose not to wear it at all. The American Academy of Ophthalmology reported that an estimated 2,000 work-related eye injuries occur every day in the United States, with more than 75 percent of those injuries resulting from employees choosing not to wear the eye protection provided for the assigned task.

Any company-issued PPE should be available in a range of sizes so that every individual worker can find one that fits properly. If there are no sizes available, then the PPE should have clasps, ties or Velcro straps. Then the wearer can adjust the fit based on their comfort level. The fit must be snug — not so loose as to compromise safety but not so tight as to be uncomfortable or cut off circulation.

### The Risks of “One-Size-Fits-All” PPE

Sometimes businesses try to save on costs by buying one specific glove and handing them out to all employees, regardless of what their



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*Higher-quality PPE, while more costly upfront, can often lead to substantial savings over time.*

”

jobs are or what the hazards might be. This may seem like a good idea on the surface (and only if you stop at the budget), but it's a terrible idea through any other lens.

Can you imagine using latex gloves for welding? Or using foundry mitts to handle power lines? These are extreme examples, yes. But they're just as likely to injure a worker as supplying them with PPE that has the wrong levels of protection. What if a utilities company decided to save money by buying their employees a 12 cal/cm<sup>2</sup> arc flash suit when they needed a 40 cal suit? The two are entirely different products, and the difference in performance can literally mean life or death for the wearer.

“Jack of all trades” PPE can also lull workers into a false sense of security. They might not exercise any extra caution because they think the safety equipment will keep them safe, even when it won't.

Each worker should have PPE that is specifically selected for the hazards associated with their tasks. If a worker changes tasks or stations—particularly to ones with different hazards—they may need entirely different gloves. The only scenario where the same gloves are suitable for multiple tasks is when they meet or exceed the safety requirements for each specific activity.

We recommend conducting a thorough site assessment to identify specific hazards in each department, and then obtaining the most suitable, task-specific PPE.

### PPE Saves More than It Costs

Standardizing PPE across all functions may stem from a lack of knowledge or minimal effort, but it is often driven by financial mo-



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tives. A business might get a good deal out of buying in bulk, but they'll end up paying more in direct and indirect injury costs when someone gets hurt. A single injury could cost the company at least six figures. Where's the bargain now?

By investing in task-appropriate PPE, managers not only prevent costly injuries but also maintain productivity and morale, thus protecting the bottom line. It may hurt in the short-term, but the long-term gains will more than make up for it.

Speaking of long-term gains, consider that higher-quality PPE—while more costly upfront—can often lead to substantial savings over time. Tougher, more durable gloves, for example, have been proven to reduce annual glove replacement costs since they last significantly longer than the “one size fits all” stuff. They also increase site productivity because workers don't stop to replace their gloves every few hours.

### To Each Their Own

Now, not every person on the team needs to get custom-fitted, tailored PPE. But all PPE should be carefully chosen, taking into consideration the specific requirements of the task and the individual needs of the worker. This will ensure that workers stay safe, the facility stays OSHA-compliant and the business stays incident-free. **OKS**

*Patrick Icasas is the Content Strategist for Mechanix Wear. Prior to working at Mechanix Wear, he wrote for various SaaS, telecom and manufacturing corporations.*

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# Gauging Hand Safety

What is glove gauge, and how does it affect hand safety and performance?

BY RAGHU CHAKKRAVARTHY AND IAN LANPHER

**G**love gauge is a commonly used term to classify knit safety gloves. From cotton to nylon to aramids, string knit gloves typically range from 7-gauge to 21-gauge and offer varying degrees of hazard protection. But does gauge have any effect on glove performance? To answer this, we first need to understand what glove gauge means.

## What is a Glove Gauge?

Put simply, glove gauge refers to the thickness of gloves. Gauge defines the number of stitches in each inch of knit material. As the number of stitches increases, so does the gauge. This means the yarn is thinner, allowing for a thinner glove. When there are fewer stitches per inch of yarn, the yarn is thicker and thus the glove is thicker. Some often assume that lower-gauge equals lighter, while higher-gauge equals heavier—but in fact, the opposite is true. Lower-gauge gloves are thicker and heavier, so they are more durable but less dexterous. In comparison, higher-gauge gloves are lighter, so they are less durable but offer more flexibility and dexterity. Now let's get back to our original question, does gauge affect performance?

## How Gauge Affects Glove Performance

No one gauge is better than the other. It all depends on the tasks and hazards for which they're needed. However, it is important to know how glove gauge affects protection, dexterity, and durability to help choose the right protection for your team. Refer to the chart below for a quick reference of glove gauge versus glove performance:

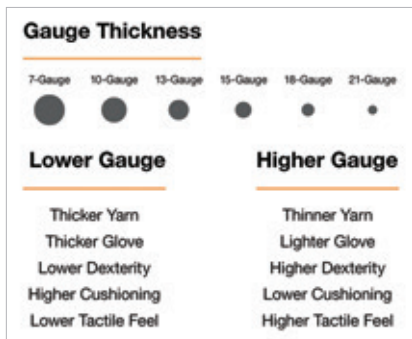


Chart courtesy of Superior Glove



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## Glove Gauge and Protection

Traditionally, workers relied on lower-gauge gloves for high-risk tasks involving cut and puncture hazard as they provided a thicker barrier. However, thicker gloves lack the dexterity and tactile feel to do precision work, often leading workers to remove their gloves and increase the risk of injuries. However, thanks to technological advancements in manufacturing yarn, we can now integrate high levels of mechanical protection like extreme cut resistance into thinner higher-gauge gloves.

## Glove Gauge and Dexterity

Dexterity, also referred to as range of motion, is the ease at which a task can be performed. Workers will often choose to remove safety gloves because they lack the required dexterity to work efficiently and comfortably, especially when it comes to precision work.

- 18-gauge to 21-gauge (Higher-gauge gloves): More dexterous because they are thinner and lighter, so they offer more flexibility and a higher tactile feel. This makes them ideal for tasks that require fine motor skill and precision work.

- 13-gauge to 15-gauge (Medium-gauge gloves): Sit in between in terms of their thickness. They offer some more cushioning than higher-gauge gloves but more dexterity than lower-gauge gloves. This allows a happy

balance between the benefits and tradeoffs of higher- and lower-gauge gloves.

- 7-gauge to 10-gauge (Lower-gauge gloves): Less dexterous because they're thicker, so they offer less flexibility and have a lower tactile feel. This makes them a better option for heavy material handling that requires more cushioning but less dexterity.

## Glove Gauge and Durability

Glove durability is commonly referred to the glove's longevity or wear-life. Generally, lower-gauge gloves are more durable because they are thicker and there is more material to wear out. This is why, lower-gauge gloves are often the preferred option for tasks that are rough or abrasive. Glove gauge is not the only factor that impacts durability. Palm coatings can also significantly increase longevity of higher-gauge gloves that may be the deciding factor when working with tasks that also require more dexterity and precision work. **OHS**

*Raghuvaran (Raghu) Chakkravarthy is the Safety Director for Gilbane's Federal Division, serving clients and projects on multiple continents throughout the world. Ian Lanpher is a hand safety expert and North American Construction Specialist for Superior Glove, which designs and manufactures safety gloves, sleeves and complementary PPE. To learn more about selecting safety gloves, visit [tinyurl.com/ye2a5uhr](https://tinyurl.com/ye2a5uhr).*

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## The Updated NFPA 70E Standard: Bridging the Gap Between Compliance and Electrical Safety

The NFPA 70E Technical Committee has published its 2024 revisions to the standard, prioritizing safety and adaptability over mere compliance.

BY XAVIER ALCARAZ, MSPH, CIH, CSP

**N**FPA 70E, known as the “Standard for Electrical Safety in the Workplace,” plays a crucial role in ensuring the safety of workers handling electrical systems. While still a voluntary standard issued by the National Fire Protection Association, NFPA 70E helps companies and employees comply<sup>1</sup> with OSHA 1910 Subpart S and OSHA 1926 Subpart K.<sup>2</sup> It establishes guidelines for safe work practices to proactively identify and mitigate risks associated with electrical hazards, such as shock, arc flash, and arc blast. The core objective of NFPA 70E is to provide a practical framework that ensures worker safety when dealing with electrical systems.<sup>3</sup>

The NFPA 70E Technical Committee has now published its 2024 revisions to the standard to focus more on hazard identification, risk assessment, and aligning with the hierarchy of controls to ensure electrically safe work conditions. Although no specific or individual market or regulatory event spurred NFPA to draft this revision, industry experts note that these updates remind employees and employers of best practices in the face of potential complacency.<sup>4</sup>

The theme of the 2024 revisions is proactive hazard control and mitigation. They underscore the responsibility of both the employer and employees to maintain safety. (For an example, see “Informative Annex O, Employee Safety-Related Design Concepts and Facility Owner Responsibilities.”) If violations are found (through inspection or incident reporting), OSHA may issue citations referencing the NFPA 70E standard. Additionally, the code states that it can be applied by other governmental entities that may have regulatory influence/control over electrically-related systems. It also notes that it can be used by insurance companies that may wish to inspect facilities for coverage or liability-related issues. (See section 90.4 Enforcement.)

### Updating NFPA 70E and Key Changes for Employers

Because the NFPA 70E 2024 updates prioritize safety and adaptability over mere compliance, these changes are expected to help reduce injuries, foster a strong safety culture, and align the standard with industry advancements. The updated standard stresses the need for employers to be explicit in their policies and procedures. This is especially necessary as safety compliance becomes a larger regulatory emphasis. Additionally, as younger generations enter the workforce<sup>5</sup>, employers may need to adapt to the potential influence of changing employment patterns.<sup>6</sup>

Below are the key changes to the 2024 revision for employers.<sup>7</sup>

#### Documentation Updates:

- Employers must have an established, documented, and implemented plan for achieving an Electrically Safe Work Condition (ESWC).
- An emergency response plan is now mandatory within job safety planning.
- Employers must fully audit their electrical safety programs every three years to comply with the latest NFPA 70E updates.
- Updating the program must fill any gaps identified between the current documentation and the new standard.

#### Work Practice Changes:

- Related safety practices may need updating in line with changes to the standard.
- Employers must assess all electrical PPE, tools, and equipment. Items must be repaired or replaced if their condition is not suitable.
- An internal or 3rd party audit of how the electrical safety program is applied in the field is required annually.

### Training & Retraining:

- All workers must be retrained on the updated 2024 NFPA 70E.
- New workers must receive the full 2024 NFPA 70E training.
- Training can be classroom, on-site, or a combination of both.
- After training, employers must assess worker competency to apply the knowledge correctly.

Primarily, the updates prioritize enhanced safety by incorporating the latest research and insights on minimizing electrical hazards in the workplace.

### Implications for Workplace Safety

The 2024 update of NFPA 70E, the standard for electrical safety in the workplace, features important changes to key terms. These revisions make the standard easier to understand and apply correctly, ultimately improving workplace safety.<sup>891011</sup>

■ **“Electric Shock” Emphasis:** The term “electric shock” now consistently comes before “shock.” This makes it clear when the standard refers to the dangerous effects of electrical current on the body. However, in specific references to “hearing protection boundary” and “lung protection boundary,” “shock” means a shock wave (like from an explosion), not an electrical shock. This significant terminological clarification prevents ambiguity.

■ **Ambiguous Terms such as Flexible “Protectors”:** Terms that have been replaced, updated or superseded. For example, The term “leather” has been removed from the description of “protec-

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*Employers must have an established, documented, and implemented plan for achieving an Electrically Safe Work Condition (ESWC).*

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tors” (gloves and mittens worn over rubber-insulating gloves). This change allows for newer, potentially more effective materials, keeping safety gear in line with technological advancements.

■ **Article Scopes:** Each article now includes a concise scope statement at the beginning. This gives a clear overview of the article’s content, making it easier for readers to find the necessary safety information. For example, Article 110 focuses on establishing an electrically safe work condition, emphasizing the need for a comprehensive safety policy that prioritizes hazard elimination.

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■ **Lockout/tagout:** Check for current/voltage at every work point versus a single point to establish an electrically safe work condition.

Clear and consistent language is crucial in safety standards. By refining terms and definitions, the NFPA 70E 2024 aims to reduce confusion and ensure everyone involved in electrical work understands the safety requirements, and has the power and responsibility to take safety-supportive action.

Furthermore, the revisions directly contribute to reduced risk. Following the standard's guidelines minimizes the likelihood of serious electrical accidents or injuries. As technologies have evolved, the NFPA 70E updated now provides guidance on the safe adoption of new electrical systems and equipment.

Overall, the 2024 update emphasizes the following goals:

■ **Proactive Safety Focus:** Emphasizing hazard elimination (for example, see Article 110, General Requirement for Electrical Safety-Related Work Practices) and outlining requirements for an electrically safe work condition promotes proactive safety practices.

■ **Emergency Preparedness:** Incorporating emergency response planning aligns with the need for readiness in the face of electrical hazards.

■ **Personnel Qualifications:** Clarifications of personnel qualifications highlight the vital role of expertise in reducing risks.

■ **Supply Source, Stored Energy Hazards:** New notes address potential risks, improving the comprehensiveness of establishing a safe work environment.

■ **Safety Checks:** Enhanced procedures for testing conductor parts emphasize thoroughness, aiming to minimize oversights.

■ **Evolving Understanding:** Adjusted shock protection boundaries, arc flash assessment updates, labeling, and PPE reflect the latest comprehension of electrical hazards.

■ **Future Readiness:** New protocols and the maintenance assessment annex focus on safety for future equipment and procedural needs.

### Applicability

The standard defines specific areas of application including:

■ Wiring and protection systems and subsystems such as grounded connectors, branch-circuits and feeder circuits

■ Overvoltage and over-current protection

■ Other services and related issues such as attachment points and types, building clearances, and supporting structures

It also defines what situations the standard does and does not apply to such as covering:

■ Both public and private settings, encompassing edifices, constructions, mobile residences, RVs, and marine constructions.

■ Grounds, parcels, car parks, fairgrounds, and industrial facilities.

■ The setup of wiring and apparatuses that establish a connection with the electricity source.

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spaces, storage facilities, vehicle storage, mechanical workshops, and leisure facilities, which are separate from the main parts of power generation stations, substations, or control hubs.

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- Systems designed for transferring electric power from vehicles to the electrical system of a building or for the two-way flow of electric current.

And, for example, it does not apply to:

- Electrical setups within vessels, boats (excluding floating structures), trains, airplanes, or motor vehicles (excluding mobile homes and RVs)
- Electrical systems situated beneath the earth's surface in mining operations and on machinery used in surface mining that is self-propelled, along with its associated electrical trailing cables.
- Electrical infrastructures within railway systems dedicated to the creation, conversion, conveyance, storage, or distribution of energy solely for the propulsion of trains
- Telecom equipment setups that are strictly managed by telecommunications service providers
- Electrical configurations strictly managed by an electric utility company, applicable to specific installations under the utility's direct control

## Conclusion

Electrical safety represents a joint commitment from both employers and employees. It transcends the notion of being solely an employer's duty; safeguarding employees

against electrical hazards necessitates a synergistic approach from the workforce and the management. Employers are tasked with establishing an Electrical Safety Program (ESP) to which employees must adhere. This includes applying the ESP's guidelines, training for safe task execution, and utilizing the appropriate tools and safety gear. The essence of NFPA 70E extends beyond mere post-incident employer actions—it's about proactively averting injuries. While an employer's ESP lays the groundwork, an employee's engagement

with their electrical safety practices plays a pivotal role in their protection.

As usual, the complete 2024 NFPA 70E standard<sup>12</sup> should always be consulted for the full and official changes. A limited free version is available<sup>13</sup>, but requires account creation. Public input also drives future revisions. The deadline to submit ideas for the 2027 edition is June 4, 2024. **OHS**

*Xavier Alcaraz, MSPH, CIH, CSP, is the Managing Principal and Health, Safety & Well-being Practice Director at BSI.*



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## REFERENCES

1. [tinyurl.com/2np9tdnt](https://tinyurl.com/2np9tdnt)
2. [tinyurl.com/53e5w6tp](https://tinyurl.com/53e5w6tp)
3. [tinyurl.com/2fjcyjut](https://tinyurl.com/2fjcyjut)
4. [tinyurl.com/2w3skjpr](https://tinyurl.com/2w3skjpr)
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## What You Don't Know Can Hurt You

Employees must be trained on the hazardous chemicals in their work area. What do employers need to know to comply with standards and protect their employees?

BY RACHEL KRUBSACK

**T**he potential for accidents, incidents, and injuries is always present when people work with, or are in the vicinity of, hazardous chemi-

cals. OSHA estimates that 43 million workers produce or handle hazardous chemicals in more than five million workplaces across the country. That's a lot of potential! The

good news, though, is that Hazard Communication (HazCom) training can help ensure chemical safety in the workplace.

When employees know and understand

Physical	Health Hazard
• Flammable (gases, aerosols, liquids, or solids)	• Acute toxicity (any route of exposure)
• Oxidizer (liquid, solid, or gas)	• Skin corrosion or irritation
• Self-reactive	• Serious eye damage or eye irritation
• Pyrophoric (liquid or solid)	• Respiratory or skin sensitization
• Self-heating	• Germ cell mutagenicity
• Organic peroxide	• Carcinogenicity
• Corrosive to metal	• Reproductive toxicity
• Gas under pressure	• Specific target organ toxicity (single or repeated exposure)
• In contact with water emits flammable gas	• Aspiration hazard



the hazards of the chemicals they work with and how to safely use them, they can greatly decrease any risk that might be present. OSHA's HazCom Standard at 29 CFR 1910.1200 requires you to communicate this information.

All employees exposed to hazardous chemicals in the workplace must be provided with information and training on the hazardous chemicals in their work area. "Exposure or exposed" is defined in the standard to mean "that an employee is subjected in the course of employment to a chemical that is a physical or health hazard, and includes potential (e.g., accidental or possible) exposure. "Sub-jected" in terms of health hazards includes any route of entry (e.g., inhalation, ingestion, skin contact or absorption)."

### How Does OSHA Define Hazardous Chemical?

Under HazCom, a hazardous chemical is defined as "any chemical which is classified as a physical hazard or a health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or hazard not otherwise classified (HNOC)." A physical hazard or health hazard may pose any of the hazardous effects listed in the table on page 46.

Section 2 of a safety data sheet (SDS) tells you whether a chemical is considered hazardous. It identifies the hazards of the chemical and the appropriate warning information associated with those hazards. The required information includes:

- The chemical's hazard classification (e.g., flammable liquid, category);
- Signal word;
- Hazard statement(s);

- Pictograms;
- Precautionary statement(s);
- Description of any HNOC; and
- For a mixture that contains an ingredient(s) with unknown toxicity, a statement describing how much (percentage) of the mixture consists of ingredient(s) with unknown toxicity. This is a total percentage of the mixture and not tied to the individual ingredient(s).

### Getting Started With Training

Your written HazCom program can serve as a training blueprint, as it reflects what your company is doing to comply with the provisions of the standard and to protect employees from chemical hazards. It should include a list of all hazardous chemicals in the workplace and address:

- Training on chemicals in the work area;
- Labels on shipped and in-house containers;
- SDSs;
- The methods used to inform employees of the hazards of non-routine tasks and the hazards of unlabeled pipes in their work area; and
- Multi-employer workplaces.

### What Must Be Covered in Training?

Employees must be trained at the time they're assigned to work with a hazardous chemical and whenever a new chemical hazard is introduced. Annual training is a best practice and refresher training may

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be provided as needed, i.e., if employees are working unsafely.

OSHA allows you to design information and training to cover specific chemicals or categories of hazards, such as flammability or carcinogenicity. If you have few chemicals, you may wish to train on specific chemicals, while a large number of chemicals may be better suited to training by hazard category.

Training must include:

- An explanation of the HazCom Standard at 1910.1200. In sum, the standard gives employees the right to know and understand the hazards of the chemicals they work with. Information about chemical hazards must be passed downstream from the manufacturer, importer, or distributor to the employer, who then shares it with employees who will be exposed to these hazards. This information is in the form of labels and SDSs;

- The location, availability, and details of the employer's written HazCom program, including the required list of hazardous chemicals;

- How to read SDSs and use the information they contain (i.e., first aid information), and how to access SDSs in the workplace (i.e., binder or computer in the work area);

- An explanation of the labels received on shipped containers and the workplace labeling system used by the employer (if different than on shipped containers);

- Operations in the work area where hazardous chemicals are

present;

- How to detect the presence or release of a hazardous chemical in the work area, such as monitoring conducted by the employer or continuous monitoring devices;

- The physical and health hazards of the chemicals in the work area; and

- How employees can protect themselves from these hazards, including specific procedures the employer has in place to protect employees, such as appropriate work practices, emergency procedures, and personal protective equipment (PPE) to be used.

If you have employees who do special, non-routine tasks that may expose them to hazardous chemicals - such as a tank clean out - you must inform them of those chemicals' hazards, how to control exposure, and what to do in an emergency. This also means evaluating the hazards of these tasks and providing appropriate controls, including protective equipment and any additional training as required.

You also must inform employees of the hazards associated with chemicals contained in unlabeled pipes in their work areas.

And finally, on multi-employer worksites, the employer is responsible for providing updated training when their employees are exposed to new hazards, even if these hazards are created by other employers.

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## What Kind of Training Is Acceptable?

Computer-based or video-based training can provide an overview of HazCom and its requirements. OSHA says, however, that this type of training on its own does not meet the intent of the standard. You also must cover site-specific information, that is, the chemicals that are present in your workplace, the details of your written HazCom program, the location of SDSs, and your workplace labeling system if it's different than that on shipped containers.

Employees must have the opportunity to ask questions and receive answers in a timely manner. If employees receive work instructions in a language other than English, training must be provided in that language. It's also important to consider the education and technical background of the employees to ensure that they completely understand the information. For example, if employees have low literacy, you may consider verbal instruction versus reading documents.

No formal certification is required to conduct HazCom training. However, OSHA does expect that the trainer has the knowledge and understanding to present the information so that it's understandable to all employees and that it's specific to the workplace. The trainer must be familiar with:

- The requirements of the standard that apply to the workplace;
- The hazardous chemicals in the workplace to which workers are exposed, as well as the types of hazards they pose;

■ The written HazCom program implemented in the workplace; and

■ The measures used in the workplace to protect workers.

As the employer, you may determine who's qualified to conduct training. That may be someone within your company or a third party.

Keeping records that document who was trained, when the training was conducted, and what was covered helps to document compliance with OSHA's train-

ing requirement in case of an inspection.

## Key to Remember

An effective HazCom training program helps ensure employees' safety when they're exposed to hazardous chemicals in the workplace. **OHS**

*Rachel Krubsack is an EHS Editor with J.J. Keller & Associates, Inc. Her topics of expertise include hazcom, OSHA training requirements, and hearing conservation.*



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## REFERENCES

1. [tinyurl.com/2np9tdnt](http://tinyurl.com/2np9tdnt)
2. [tinyurl.com/53e5w6tp](http://tinyurl.com/53e5w6tp)
3. [tinyurl.com/2fjcyjut](http://tinyurl.com/2fjcyjut)
4. [tinyurl.com/2w3skjpr](http://tinyurl.com/2w3skjpr)
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# Getting SMART About Training

How using SMART goals can help drive safety training success.

BY DAVID KOPF



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**C**hances are you've heard of a SMART goal. The acronym SMART stands for specific, measurable, achievable, realistic and time-related, and it's been around since consultant and former corporate planning director George Doran introduced the concept in a 1981 paper, "There's a S.M.A.R.T. way to write management's goals and objectives," which was published in the *Journal of Management Review*.

It also turns out that SMART goal planning is a great tool for ensuring sound and effective safety training, according to Rachel Hook, GSP, ASHM, Training and Quality Manager at KPA, which provides safety management and workforce compliance software and services for a wide range of businesses. Hook has a background in safety management and writes and reviews training curricula at KPA.

"Training is something we do every day here at KPA, and doing it efficiently is something that's important to us not only for our business but for our employees," she says. "So having SMART goals that drive training is something that we feel can really help our customers and clients."

## A Common Framework

To begin with, SMART goals align everyone's focus, ensuring that all team members understand that safety is a priority. This alignment helps to foster a positive safety culture and reinforces the message that every aspect of our operations is important, Hook explains.

That simple SMART acronym then creates a common framework to help the organization shape safety training and ensure its success:

- **Specific:** This addresses questions such as what needs to be achieved, who is responsible, and what steps should be taken to reach these goals.
- **Measurable:** Here, we consider how to track progress. For instance, this could involve using software to monitor training completion rates or to analyze post-training assessment scores.
- **Achievable:** It's crucial to evaluate whether the goals are attainable within the set timeframe. Do employees have the necessary resources to achieve these goals?
- **Relevant:** This prompts us to reflect on the reasons behind

setting these goals. For example, have there been recent increases in workplace incidents, or are there new employees who need training? Understanding the context helps in setting meaningful and impactful goals.

■ **Time-bound:** Establishing a deadline provides a clear timeline and helps maintain accountability and discipline. Ensuring employees are trained in a timely manner is essential for them to perform their duties safely and effectively.”

How would this work in the real world? Well, an example would be providing forklift safety training to the warehouse team. A good SMART goal would be to have all warehouse employees complete forklift safety training by the end of the quarters, Hook says. Why? Because it is specific, measurable, achievable, relevant, and has a clear timeline. Because that SMART goal is so well defined, it also helps the training planners more rapidly start thinking about the “how,” Hook notes.

“In this instance, you’re probably going to use a combination of hands-on training, and some software learning for them to retain the information,” she explains. “Are you going to do group training or individual training? What do your employees need to know in order to hit this goal? What resources will they need?”

Another example might be that a company that has noticed an uptick in hand injuries. Safety managers decide to have all employees participate in at least two safety meetings focused on hand safety by the end of the month. Again, all the characteristics of that plan adhere to the SMART approach, so management can implement that training much more quickly.

“

*It’s important to celebrate when goals are hit and training wins are hit. And always be flexible and adjust as needed, based on results and feedback.”*

— Rachel Hook, KPA

”

“When will you train them? is it’s going to take place in the morning?” Hook asks. “Will all training take place during work hours? How is this going to be communicated to employees?”

### Getting Started with SMART Goals

In terms of getting started with using SMART goals for safety training, Hook suggests that trainers let leading indicators help to drive the goals that they implement using the SMART system.

“I would lead with some things that you’ve been seeing or you

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have heard about, because that's going to be relevant and make the most impact," she explains. "For example, employees might come to you with hazards that they've identified and that maybe have been causing some issues. I would identify specific safety hazard risks or other areas for improvement."

This helps management and safety managers remain proactive and not reactive when it comes to safety planning. Ideally, the goals being set should be out ahead of any possible problems.

"When you have identified those goals, you need to communicate them to everyone that's taught — management down to employees," Hook says. "But more than just communicating, you need to address why the goal matters. You have to address the 'why' behind it and who it's going to impact. It's important to involve your team and be transparent on the need for the goals ... that way, everyone is on the same page."

Once a goal is identified and underway, it's important to focus on the "measurable" part of the SMART acronym. Different methods to measure progress could be post-training assessments, tabulating the percentage of workers receiving training, and calculating average scores on training, for example.

"You want to make sure that there's some type of metric that you can measure these goals by," Hook stresses. "It's important to celebrate when goals are hit and training wins are hit."

"And always be flexible and adjust as needed, based on results and feedback," she adds. "Your work environment will evolve,

new hires will come on, so these trainings will have to adjust and change over time."

### Avoiding Pitfalls

Most of the problems that occur with SMART goal planning really come down to misapplying the method.

"It's important to look at the acronym SMART itself when you're thinking of pitfalls," Hook explains. "For example, not being specific enough, or not fleshing out the 'whys' behind the goals. If you simply create a goal but are not specific, then you're going to have a hard time getting buy-in from key stakeholders. Along with that, you can't have a goal and not communicate it — you have to tell those key stakeholders and your employees. Also, not having a relevant goal will prevent you from improving metrics. If the goal isn't relevant, you're not going to see an improvement in injuries or incidents going forward."

A big issue Hook says she sees is non-attainability or an impossible timeframe. "If we say, 'we're going to have all our employees trained on X by tomorrow,' that is not realistic," she underscores.

Last but not least, Hook cautions that flexibility should be a key part of the process, saying, "Goals might need to be adjusted based on your results and then feedback that you get." **OHS**

*David Kopf is the publisher and executive editor of Occupational Health & Safety magazine. He can be reached at [dkopf@1105media.com](mailto:dkopf@1105media.com)*

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## Streamlining Safety

User-friendly features in eyewashes and emergency fixtures make all the difference.

BY RYAN PFUND

User-friendly features in eyewashes and emergency showers are essential for ensuring quick and effective response during emergency situations. After all, when less time and motion is required for activating plumbed emergency equipment – with readily available tepid water – the better the outcome for users in need of prompt washdown relief from chemical or hazardous exposures.

This article analyzes key product features of eyewashes and emergency shower equipment that are designed to streamline operation of this equipment and improve results. At a glance, these features include ergonomic activation, extended washdown coverage technology, reliable tepid water delivery systems, integrated eyewash and shower systems, portable eyewash stations and emergency signaling systems.

First, it's helpful to understand how eyewashes and emergency showers operate, in general, and the standard technique employed by users.

### Understanding How Equipment Should Work

Emergency safety showers and eyewashes are designed to flush away hazardous substances from the eyes, face or body, and prevent permanent eye and skin damage from chemical burns or foreign substances generated by grinding, hammering,

chipping, testing, pouring, storing, transporting and disposing operations.

Emergency, or drench, showers work by simply pulling down on the drench shower handle while standing directly underneath the showerhead to drench the entire body. In general, the shower valve operates by a pull rod mechanism. It is important to remain under the shower for a 15-minute continuous flush and be sure to remove clothing while drenching, as contaminated clothing left on skin could exacerbate the user's injury.

Eye and eye/face washes work by pushing a handle or lifting a bowl cover. The face should then be positioned directly in the flushing fluid, while the user holds their eyelids open with their hands. The user should roll their eyes around while they are positioned directly in the eyewash streams to effectively rinse the entire eye for 15 minutes.

To encourage a full and effective flush of the affected area, whether it's with an eyewash or drench shower, it's essential to have direct and on-demand access to tepid water — per ANSI requirements. ANSI Z358.1-2014 stipulates that an injured worker remains beneath the drench shower and/or flush their eyes/face for a minimum of 15 minutes to increase the likelihood of a complete and successful treatment, and minimize the possibility of inadvertently spreading hazardous material to other areas.

## Optimal Emergency Response Features

Here are examples of system features that can ensure quick and effective response during emergency situations:

**Ergonomic activation.** It's important that equipment is designed with accessible and easy-to-activate mechanisms that minimize physical strain and maximize ease of use during emergency situations. This involves ensuring the mechanism can be easily seen, reached and operated by individuals in distress. This is particularly beneficial if the user's hands are contaminated or injured, or if the user is wearing protective gear or experiencing disorientation due to the emergency.

Clear and intuitive design features reduce the need for extensive training on usage, reduce margin for error when using the equipment and increase confidence of personnel when they use the fixture. Features such as angled nozzles and supportive handholds enhance usability, especially for individuals of varying heights and physical abilities.

Examples of such activations include large, easy-to-grab pull handles, push handles, foot controls or swing activation. Equipment with fittings that are bright yellow in color are highly visible, helping to draw users' attention to them when an emergency strikes.

**Enhanced washdown coverage.** When harmful contaminants reach the delicate eye area, and extend to the outer portions of the face, or contact the body, every second counts. Therefore, evaluating the amount of total face and body coverage provided by the eye/face wash and/or shower is key. For drench showers, in particular, steady water flow under varying water supply conditions from 30–90 psi should be assured by integral flow control in the sprayhead assembly.

Newer models of emergency fixtures are designed to deliver a more uniform and complete spray pattern distribution. Older shower designs push the flow of water to the outer rim of the showerhead, creating a hollow space in the center of the pattern that can miss affected areas.

Using the latest technology in fluid dynamics, new drench shower designs work in tandem with a pressure regulated flow control and the spinning motion of water, which creates an optimal spray pattern to rinse off contaminants as quickly and thoroughly as possible. The contoured shape combined with the spinning water funnels the water into a concentrated, yet gentle, deluge to ensure the most effective flush available.

Modern eye and eye/face wash models utilize a much more accurate method to maintain the flow of water over varied pressures. With the right flow control, a gentle, non-injurious flow of water can be delivered based on the pressure supplied to the fixture, allowing for minimal variance across a wide range of pressure.

Due to advances in fluid dynamics technology, newer eye/face washes provide 20 percent better washdown and protection than other designs.

**Ensuring tepid water for comfortable and complete flushing.** As mentioned earlier, it's important to provide reliable, on-demand, tepid water for flushing fluid. ANSI/ISEA suggests an incoming water temperature between 60° F and 100° F (15.6–37.8° C). This temperature range feels most comfortable to users and helps encourage the full 15-minute flush of the injured area.

Both thermostatic mixing valves (TMVs) and electric tankless water heaters can deliver tepid water on-demand reliably and efficiently. For TMVs, look for models that precisely control output temperature and provide protection from variations in input tem-



*Emergency safety showers and eyewashes are designed to flush away hazardous substances from the eyes, face or body, preventing permanent damage from chemical burns or foreign substances.*



perature and pressure. These models should deliver accurate temperature control to within  $\pm 3^\circ$ . Alternatively, electric tankless water heaters are also efficient and precise in supplying tepid water, and draw energy only when needed, saving energy and utility costs.

**Combination eyewash and shower systems.** Conveniently combined eyewash and emergency shower units streamline response efforts by providing both functionalities in a single unit. This integrated design reduces confusion during emergencies and ensures that users have access to the appropriate decontamination solution quickly. These two-in-one designs can save space and typically fit easily into a variety of restrictive work environments.

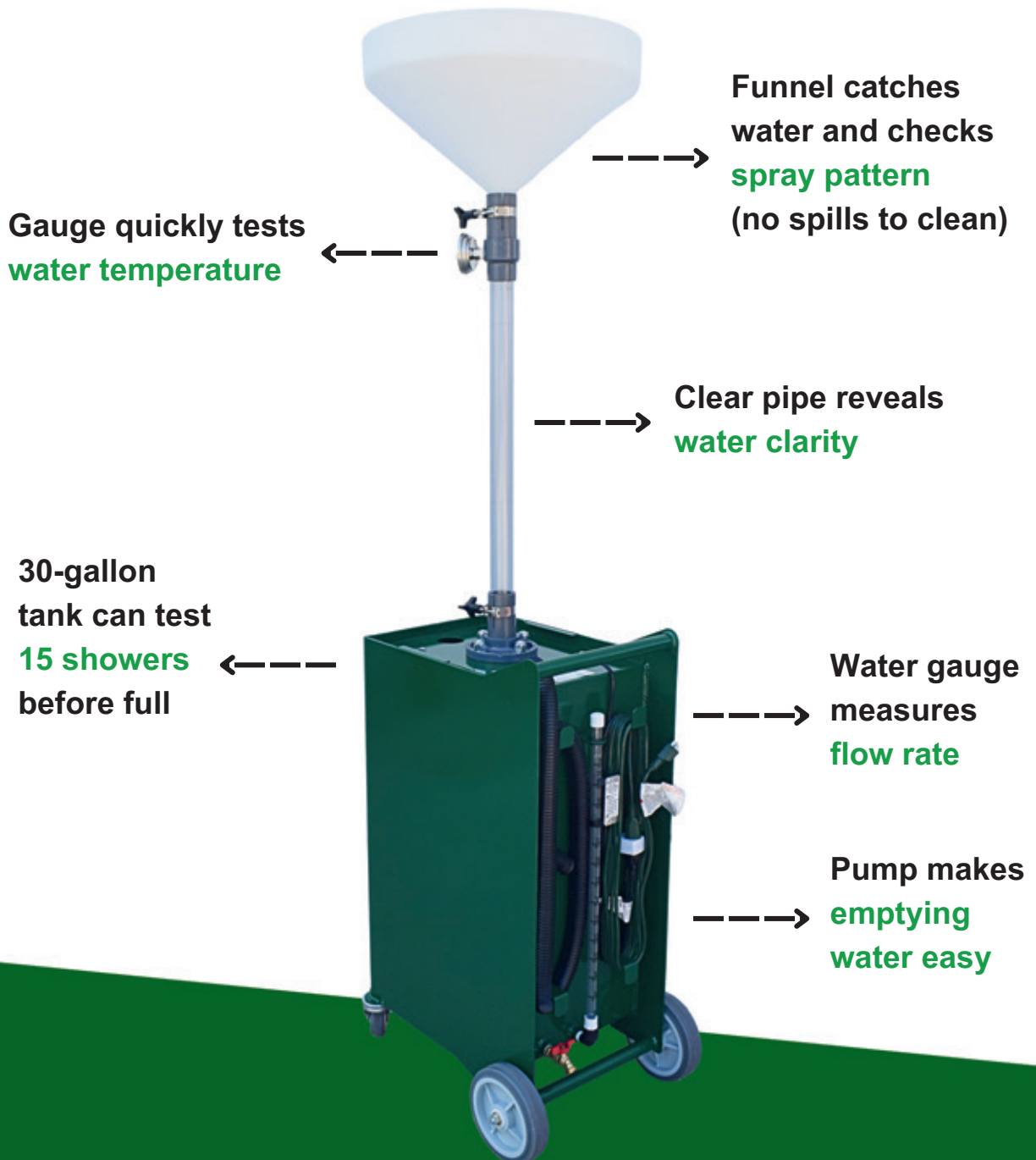
**Portable gravity-fed eye washes.** When work environments are dynamic in nature or have no water supply or power available, portable eyewash stations can provide an adaptable emergency water source solution. With a compact design that allows user accessibility in tight spaces, a gravity-fed eyewash meets the ANSI/ISEA Z358.1 standard with a constant 15-minute flush using as little as seven gallons of water. These models can be used with a waste cart to make it easy to relocate and transport the unit to hazard areas. Models with clear tanks allow easy fill-level checks.

**Integrated alarms and indicators.** Eyewashes and emergency showers equipped with integrated alarms and visual indicators alert nearby personnel – and emergency responders – when the equipment is activated. Not only do these models help improve emergency response time, they help to dissuade unwanted tampering of these devices when not in use.

While user-friendly features play a vital role in eyewashes and emergency showers, personnel training and product testing are also important to ensure swift and effective response during emergencies. Emergency equipment manufacturers offer free job site evaluations to help with product selection, equipment maintenance and testing, employee training placement of fixtures and ANSI compliance. **OHS**

*Ryan Pfund, Senior Product Manager, Bradley Fixtures Corporation, Menomonee Falls, Wis., a USGBC & ISEA member and manufacturer of locker room products, plumbing fixtures, washroom accessories, partitions and emergency fixtures.*

# What if safety shower testing didn't suck?



# Weekly Checkup: 5 Essential Tests for Emergency Safety Showers and Eyewash Stations

This weekly inspection and testing regimen will promote workplace safety through regulatory adherence

BY JEFF JONES

In workplaces handling hazardous materials, every second counts in the event of exposure. Emergency shower and eyewash stations offer immediate on-the-spot decontamination, crucial for minimizing the effects of chemical exposure within the first 10-15 seconds.

To uphold safety standards, the American National Standards Institute (ANSI) sets requirements for these emergency devices, mandating their accessibility within 10 seconds of an incident. Yet, many safety showers and eyewashes are currently out of compliance with ANSI regulations, creating greater risk for worker injuries and leaving employers open to penalties and fines from OSHA. According to a study done by a large emergency equipment manufacturer, approximately 88 percent of emergency showers and eyewash stations are not in full compliance with standards detailed in ANSI/ISEA Z358.1-2014.

ANSI/ISEA Z358 mandates that weekly activations be done on a weekly basis to visually check that emergency showers and eyewashes are operating correctly, as well as to flush the plumbing so that water does not stagnate. It's common to hear of employers struggling to meet these requirements, since testing emergency showers and eyewashes can be a painstakingly slow and messy process. However, there are certain testing tools that can expedite this process.

When conducting weekly activations, there are five important compliance requirements that are important to check if your safety showers and eyewash stations meet.

## Mechanical Performance

Emergency safety showers and eyewash stations rely on various mechanical components to deliver water promptly and effectively during emergency situations. Valves, levers, and activation mechanisms



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must be fully operational and free of obstructions. Any malfunction in these parts can cause delays in water flow, compromising decontamination efforts and potentially exacerbating injuries.

During weekly testing, it is essential to conduct a thorough inspection of all mechanical components, ensuring their functionality and addressing any issues promptly.

## Water Clarity

The clarity of the water flowing from emergency safety showers and eyewash stations is paramount to ensure proper decontamination. Contaminated water can worsen injuries and introduce additional hazards to the affected individual.

During weekly testing, activate the unit and observe the stream for any discoloration, cloudiness, or foreign particles. If the water appears murky or contaminated, immediate action must be taken to flush the system and address the underlying issues. Regular monitoring of water clarity helps maintain the effectiveness of emergency

decontamination procedures and ensures the safety of employees.

## Spray Diameter

According to ANSI/ISEA Z358.1-2014 standards, the spray pattern from emergency safety showers and eyewash stations must meet specific size requirements to ensure adequate coverage for the eyes, face, and body of the affected individual. At a height of 60 inches above the floor, the water pattern should have a diameter of at least 20 inches. This ensures comprehensive coverage, allowing for effective decontamination in emergency situations.

During weekly testing, it is essential to utilize a measuring device to confirm that the spray pattern meets this standard. Adjustments may be necessary to ensure optimal coverage and compliance with regulatory requirements.

## Flow Rate

An adequate flow rate is essential to deliver a sufficient volume of water for effective irrigation and decontamination



*Maintaining an appropriate water temperature is critical to prevent further injury and enhance the comfort of the affected individual during decontamination.*



during an emergency. ANSI/ISEA Z358.1–2014 mandates minimum water pressure and flow rate requirements to ensure optimal performance of emergency safety showers and eyewash stations. Plumbed emergency drench showers and eyewashes require a minimum water pressure of 30 pounds per square inch (PSI), with typical facilities supplying their fixtures with at least 45 PSI inlet supply pressure.

Additionally, the standard specifies minimum flow rates of at least 20 gallons per minute (GPM) for drench showers and 0.4 GPM for eyewashes. Confirming flow rates with the equipment manufacturer ensures compliance and effective emergency response capabilities. Insufficient flow rates can impede the decontamination process, potentially delaying treatment and increasing the risk of injury to affected individuals. Therefore, regular monitoring of flow rates is essential to maintain the functionality of emergency safety showers and eyewash stations.

### Water Temperature

Maintaining an appropriate water temperature is critical to prevent further injury and enhance the comfort of the affected individual during decontamination. ANSI/ISEA Z358.1–2014 defines tepid water as ranging from 60–100°F (15.6–37.8°C). Lukewarm (tepid) water is required for the full 15-minute flush, as it encourages affected users to continue flushing for the entire duration.

Fluid that is too cold or too hot can deter flushing for the full 15 minutes and may exacerbate bodily injuries or chemical interactions with the eyes and skin. Maintaining tepid water temperatures helps ensure the effectiveness of emergency decontamination procedures and promotes the safety and well-being of employees.

By adhering to these weekly testing protocols and promptly addressing non-compliance, employers uphold safety standards, protect employee health, and mitigate regulatory risks. Prioritizing the maintenance of emergency safety equipment fosters a culture of preparedness and safety in the workplace. Regular testing and maintenance ensure the reliability and effectiveness of emergency safety showers and eyewash stations, providing employees with the necessary resources for prompt and effective decontamination in the event of exposure to hazardous materials. **OKS**

*Jeff Jones is the owner and operator of Green Gobbler Safety. Jeff helps companies adhere to regulatory requirements for emergency showers and eyewashes through providing efficient and effective testing equipment, such as the safety shower test cart.*



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## 3 Ways to Manage Third-Party Risk in Construction

Hiring third parties in construction can pose risks in construction, but with a clear strategy in place, those risks can be managed.

BY TAYLOR THORN

**T**hird-party contractors are a common way to distribute construction labor and leverage specialized expertise. Most residential projects involve an average of 24 subcontractors,<sup>1</sup> and there are often more on the commercial side.

But as OSHA rules state,<sup>2</sup> any time you hire a third party in construction, you assume responsibility for their actions on a job site. And without the right processes in place, these third parties can pose an enormous risk to your operation. If someone lacks the right safety training for instance, you could be liable for any injuries that occur on site – along with any regulatory fines that result.

In order to manage third-party risk, it helps to have a clear strategy. Here, I'll share three best practices that can help.

### 1. Centrally Organize Documents

You need specific documents on file for every third-party contractor. At a minimum, this typically includes a:

- Subcontractor contract agreement
- Certificate of insurance (COI)
- Certificate of bond

These documents can quickly become tough to manage,

though, especially as you expand your team. And if a third-party worker gets injured on site, the last thing you want to do is comb through physical and digital folders to find their insurance information.

That's why it's important to have a system – ideally digital – for organizing and filing documents. Make sure:

- **Create a document checklist.** The right software should let you customize this checklist for various types of third parties (e.g., one for electricians, another for carpenters, etc.).
- **Clearly label each document.** A standardized naming system makes it easier to find docs when you need them.
- **Centralize your document storage.** Cloud-based software is helpful here; it lets you access your files from anywhere, whether you're at the office or on a job site.

With a solid system in place, you can more efficiently manage third-party documentation. And if an incident or audit occurs, you can quickly locate any files you need.

### 2. Clarify and Communicate Safety Requirements

While many general contractors (GCs) have similar safety require-



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“

*If someone lacks the right safety training for instance, you could be liable for any injuries that occur on site – along with any regulatory fines that result.*

”

Workers should understand how to report incidents if they occur.

For certain contractors, it's also important to gather proof of specialized training. Electricians, for instance, likely need NFPA 70E certification<sup>3</sup> so they can minimize the risk of shock and electrocution.

To keep tabs on each contractor's safety education, I recommend using safety management software. The right tool should let you:

- **Customize your safety curriculum.** You should be able to design custom training modules or pull from a preset library.
- **Track safety education progress.** For example, there might be a dedicated progress bar for each third party that shows the percentage of completed requirements.

- **Use mobile for ongoing education.** A mobile app lets workers brush up on safety procedures no matter where they are on site. The most effective software will support microlearning (i.e., bite-sized safety education) to make continuous learning a manageable experience.

- **Push safety reminders at custom intervals.** For instance, you might set up weekly reminders to complete a digital toolbox talk. Then, workers can choose how they prefer to receive notifications (email, SMS, or push).

With a tech-first approach to safety education and communication, you can more easily mitigate risk.

### 3. Integrate Point Solutions

I've emphasized the value of digital tools a lot so far. They let you easily organize, access, and automate a lot of safety and risk management practices.

But too many companies rely on disconnected point solutions: one tool to track COIs, another to manage safety education, a third for incident reporting, and so on.

This approach isn't just expensive. It

opens up companies to additional risk. The more point solutions in use, the easier it is for information to fall through the cracks. And if there's an audit, it's harder to pull a unified record for individual third parties.

That's why I suggest using software that integrates as many core functions as possible. That includes all of the capabilities we've explored here, along with:

- Asset management tools that make it easy to inspect and maintain your equipment.
- Reporting tools to stay on top of crew safety trends and near misses.
- A compliance calendar that provides a 30,000-foot view of upcoming trainings, inspections, and deadlines.

More integration gives you all the information you need in one place. The benefit: third-party management with a lot less headache.

### Third-Party Safety Matters for Your Safety Culture

Managing third-party risk takes time. But a tech-forward strategy can shave hours off your day-to-day work. What's more, you'll be able to better ensure safety compliance with every third party you contract.

That safety benefit is huge. When everyone on your crew maintains a safe environment, they can make inroads toward building a strong safety culture that protects workers and your company. **OHS**

*Taylor Thorn is Senior Director of Product at KPA, a provider of EHS compliance software and services.*

#### REFERENCES

1. [tinyurl.com/mr4y4fdc](https://tinyurl.com/mr4y4fdc)
2. [tinyurl.com/4z8ap49d](https://tinyurl.com/4z8ap49d)
3. [tinyurl.com/4ekbrb3](https://tinyurl.com/4ekbrb3)

ments in place, they're not carbon copies. Third-party contractors work with multiple GCs, so they need to know your company's specific requirements.

It's your responsibility to make sure all third parties have the same level of training and consistently meet your safety standards. After all, the last thing you want is for an incident to occur that could have been prevented if that worker had the right upfront safety knowledge.

Before you clear third-party contractors to work, make sure they're familiar with:

- **Safety best practices.** This includes everything from fall prevention to proper PPE use.

- **On-site hazards.** Workers should know about common hazards and have easy access to safety data sheets.

- **Incident reporting workflow.**



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# How Jobsite Tech Poses Safety Challenges in Construction

Understanding why what happens in the field shouldn't stay in the field.

BY JEFF STAY

**W**ith the growing risks in jobsite safety, organizations are turning to technology more than ever. However, not all solutions are helping. In some cases, technology is presenting risks of its own. Specifically, the abundance of technology, especially mobile solutions, without a way to make the information it captures useful for the entire company.

The ubiquity of low-cost digital tools and apps as well as the rise of AI make it easy for project managers and site supervisors to download their technology products of choice off the radar of the CIO's or CTO's office. Along with app sprawl, shadow IT and security risks, this creates jobsite safety gaps.

For example, now it's simple to capture jobsite conditions with photos, videos and notes in real-time instead of relying on memory when manually filling out the daily log at the end of the day or replace illegible paper sign-in sheets with digital attendance forms. Another time saver is the ability to log on to see the status of projects instead of driving from site to site. And if a digital form for a particular process doesn't exist, it's simple for anybody on the jobsite to create one in minutes on a smartphone.

## Cracks in the Digital Foundation of Jobsites

This is the modern-day jobsite, suffused with technology but rife with disconnected sources of information. This is due to multiple projects using several digital tools, many with overlapping features. Those digital tools contain information that is helpful to workers across the company, from jobsite crews up to the C-Suite. Except that the way technology is used in these examples results in silos of information and forgotten field notes. Also, for those many jobsites that still rely on handwritten forms, there's the potential for human error as admins re-key information collected from the jobsite into a platform like Procore, for example.

Now imagine an OSHA investigation, a lawsuit or a client's outside legal counsel and insurance agent requesting documentation that local and state mandates are being followed. In these very common situations, the ability to gather the right information—and have confidence in its veracity—can be and will be time-consuming, taking hours, if not days and weeks, depending on the complexity of the inquiries.

During this time, parts of the jobsite or the entire project may

be shut down, impacting productivity and profitability. Frustration mounts as the C-suite knows they have the right information but cannot get a complete picture in a reasonable amount of time, thanks to information spread across a variety of spreadsheets, PDFs, apps, desktop files and more.

### Gray Work Creates Safety Risks

The time squandered in search of that information is known as “gray work.” Along with elevating safety risks, gray work eats into the productivity and profitability of jobsites.

What could this look like? Aside from investigations and lawsuits, there are everyday jobsite occurrences where gray work’s impact on safety is apparent:

Construction labor shortages could force a reassignment of workers without proper certifications. This can further derail projects and result in fines, or worse, injuries. Yet, a holistic view across the company’s training and certifications data would have identified more skilled workers and a better redeployment of all workers across projects.

Another example is safety incidents that are captured but not immediately shared or used as an opportunity to teach and retrain. Therefore, the same issues reoccur.

The third example is a post-storm clean-up and the resulting jobsite hazards. In these situations, dangerous environments such

as downed power lines or destabilized structures (homes, buildings, scaffolding, etc.) may be appropriately identified and documented, but the information from the field is not immediately delivered to key stakeholders in the office.

These are just a few examples of how disjointed processes and systems can potentially lead to safety gaps.

### Surging Momentum

Now consider that construction technology shows no signs of slowing. In fact, \$50 billion was invested in architecture, engineering and construction (AEC) tech between 2020 and 2022, representing an 85 percent increase over the previous three years, according to Pitchbook.

While there’s no question that technology can make construction more profitable, reducing unnecessary work is critical to getting the most from those investments. Solving the associated safety risks comes down to connecting the field to the office, making information from across the company centralized, accessible and useful for everybody. **OHS**

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*Jeff Stay is the president and co-founder of FastField, a Quickbase Company. He has more than 15 years of experience working in mobile technology to support jobsite safety.*

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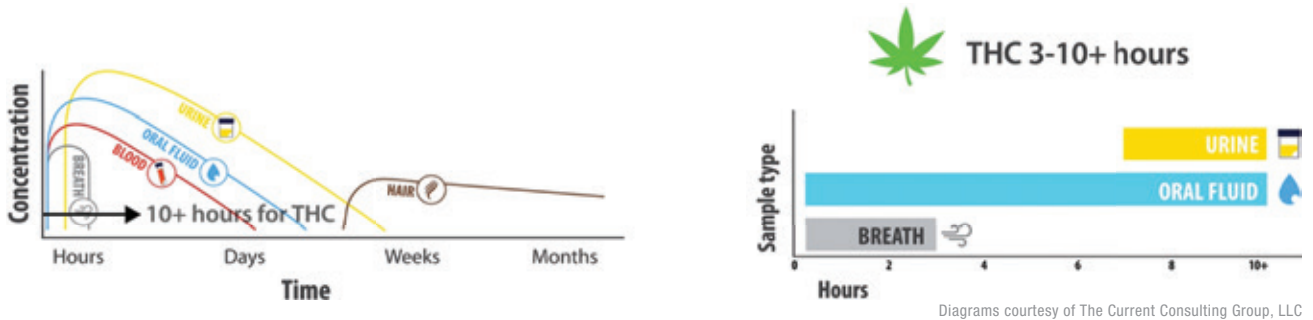
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# What You Need to Know About the Future of Workplace Testing

How evolving cannabis laws are impacting workplace safety protocols and why maintaining and updating rigorous drug testing remains essential for employers across various industries.

BY KATHERINE MILLER



It should come as no surprise that employers are concerned about workplace safety, often turning to drug and alcohol testing to help assuage those fears. A recent survey of U.S. employers found that 44 percent reported concerns about workplace safety due to cannabis legalization, and 86 percent of employers reported a belief that drug testing increased the safety of the workplaces. With the rising popularity of cannabis and other drugs, some employers question if it is worth continuing to drug test, particularly for cannabis. While workplace drug and alcohol testing offer many benefits, perhaps the most pertinent is helping to maintain a safe workplace.

Of major concern for many employers is cannabis. Why? First, not only is cannabis rising in popularity, it is also rising in potency. From 1995 to 2021, THC, the active ingredient in cannabis, rose in seized samples from 3.96 percent to 15.34 percent. Second, 15 percent of Americans 12 and older report using cannabis in the past month. Third, workplace cannabis-positive tests are on the rise. 2022 saw a 7.3 percent cannabis positivity rate for post-accident urine tests, following a steady increase over the prior 10 years.

## Cannabis in the Workplace: Statistics

A recent study found that approximately 60 percent of the 46 million Americans struggling with a substance-use disorder have a job. In the same year, 4.3 percent of all non-mandated urine tests performed by one large national lab were positive for cannabis. As of January 2024, 24 states and D.C. permit recreational cannabis use and 38 states and D.C. permit medical cannabis use, though not all have programs that are currently up and running. Currently, cannabis is the most commonly used federally illegal drug in the United States.

Increasingly, states are limiting employer's rights to test for cannabis under certain circumstances, making some employers question the need for continued cannabis testing. With cannabis use becoming more popular, it is more imperative than ever that employers are aware of the signs and symptoms of cannabis use and continue testing for its presence in the workplace, when permissible.

## Why Drug Test?

Drug testing provides pertinent information that is accessible only

as a result of testing. The removal of cannabis from a testing panel removes access to information that impacts the safety of the workplace as a whole. Continued drug testing is a single data point of assessment that provides employers with information such as:

- Does the employee use drugs?
- Was the employee able to give up drugs for long enough to obtain a job?
- Is an employee more prone to risky decisions in the workplace?
- Did the employee do enough research ahead of time to know that your company tests for drugs, including cannabis?
- Does the employee have a habit that they can't stop, no matter the consequences?

Continued testing for cannabis provides important information about employees and/or applicants that could impact how a workplace functions. Knowing that an employee is substance dependent could impact safety, time management, and what functions employees are allowed to perform in order to cut down on employer liability.

The key to continued cannabis testing, even in states that restrict it, is looking only at recent use. Gone are the days of trying to see if cannabis has been used in the past week plus. Now, when trying to balance workplace safety with tricky state laws, employers should look at if employer has recently used cannabis and could reasonably still be impaired from said use when at the worksite or during working hours. Choosing a test specimen that detects recent use and has a short window of detection is key in this new era of workplace safety.

## Employer Impacts of Drugs in the Workplace

Employers that are contemplating the removal of cannabis or other drugs from their test panel should be aware of the potential impacts on their workplace. Generally, the impact of drug use is talked about in terms of three major areas: increased premature deaths and fatal accidents, increased injuries and higher accident rates, extra sick leave and/or greater absenteeism, and loss of production. However, additional problem areas because of drug use

may include, but are not limited to:

- Tardiness.
- Negative impacts to job performance.
- Poor decision making.
- Loss of efficiency.
- Theft.
- Lower co-worker morale.
- Increased interpersonal issues.
- Interferences with attention and/or concentration.
- Higher turnover rates.
- Increased rates of disciplinary procedures.

It's difficult to put a price on the impact of a drug user in the workplace. Take the increased safety concerns to the user, other employees, and potential clients, and add in the aforementioned impacts such as lost work time due to lowered productivity, and it's easy to see that even one drug user in a workplace can have a large impact on your bottom line as well as overall workplace safety.

### The Future of Workplace Drug Testing

With new laws, such as those in New York, California, and Washington, limiting an employer's options in terms of testing for cannabis, employers may find themselves wondering what the next step is. Do you drop cannabis entirely from your drug test panel and focus on other, less commonly used drugs? Or do you continue testing for cannabis in a way that is generally permissible while also preserving the safety of your workplace?

Increasingly, employers are choosing to switch to test specimens that fit the needs of this new phase of workplace drug testing and legal cannabis. Impairment tests, looking at things such as eye movements, are increasing in popularity for employers that want to determine if an employer is impaired NOW rather than has used cannabis over the prior 30 days.

When looking for a specimen that both fits the legal needs of testing for cannabis in many states, as well as continues to support a safer workplace, look for a test specimen that has a short window of detection (the period of time during which a drug is detectable in the user's system) and correlates with the window of impairment for cannabis (the amount of time post-ingestion where most cannabis users feel impairing effects). Additionally, look for a specimen, if not performing impairment testing, that tests for the parent drug rather than metabolites. This likely allows you to comply with more restrictive state testing laws such as those in California or Washington.

More employers are switching to oral fluids, especially with the recent approval of oral fluid by the Department of Transportation (DOT). It's likely not unrelated that industry providers such as labs and Third-Party Administrators (TPAs) are saying that both urine (46 percent) and oral fluid (46 percent) will be the most commonly used specimens in the future, whereas in years past urine was considered the "gold standard" and future of workplace drug testing.

Legal in nearly all 50 states and the District of Columbia, oral fluid offers an easy, legally compliant solution for most employers, can be used for federally mandated positions, and is often combined with other testing methods to create a specific, customized drug and alcohol testing program. Oral fluid has high positivity rates, increasing workplace safety, and detects parent drug, meaning a positive oral fluid test correlates with recent use (within the past hours to days), rather than historic use.



*With the rising popularity of cannabis and other drugs, some employers question if it is worth continuing to drug test, particularly for cannabis.*



### Conclusion

While it may seem prudent to employers to eliminate cannabis from their panel in order to ease a perceived burden, employers who choose to do so are, in fact, opening themselves to a variety of potential costly consequences. Federally mandated employers are required to continue testing for cannabis, no matter their state's stance on the substance. To ensure a safe workplace in today's environment, it is essential to choose a test specimen such as oral fluid that is legally compliant while offering the benefits of a drug-free workplace. **OHS**

*Katherine Miller is Senior Director of Compliance Services at The Current Consulting Group, LLC. She is a CAPM certified project manager and an expert in state drug testing laws. In addition to managing a variety of internal services and key client relationships and projects, consulting on state law questions, and authoring articles, Miller manages and updates Current Compliance, the industry's leading online subscription database service on all state laws related to workplace drug testing.*

### REFERENCES

1. "The 2023 Employer Drug Testing Survey." The Current Consulting Group, LLC, 2023.
2. "Percentage of THC and CBD in Cannabis Samples Seized by the DEA, 1995-2021." The National Institute on Drug Abuse, 21 Nov. 2022. [tinyurl.com/5n8xthtj](https://www.tinyurl.com/5n8xthtj)
3. "Key Substance Use and Mental Health Indicators in the United States: Results from the 2022 National Survey on Drug Use and Health." SAMHSA, 13 Nov. 2023. [tinyurl.com/y7xtrtbe](https://www.tinyurl.com/y7xtrtbe)
4. "Post-Accident Workforce Drug Positivity for Marijuana Reached 25-Year High in 2022, Quest Diagnostics Drug Testing Index Analysis Finds." Quest Diagnostics, 18 May 2023. [tinyurl.com/dsct6jfn](https://www.tinyurl.com/dsct6jfn)
5. "60 percent of Americans battling drug or alcohol addictions also have jobs. Here are the professions with the highest rates of substance-use disorder." Fortune, 4 Aug. 2023. [tinyurl.com/2p8cwndk9](https://www.tinyurl.com/2p8cwndk9)
6. "Quest Diagnostics Drug Testing Index: Full year 2022 tables." Quest Diagnostics, 2023. [tinyurl.com/2593wndk](https://www.tinyurl.com/2593wndk)
7. "Marijuana and public health." Centers for Disease Control and Prevention, 21 Sept. 2023. [tinyurl.com/5crvbccn](https://www.tinyurl.com/5crvbccn)
8. "Drugs and Alcohol in the Workplace." National Council on Alcoholism and Drug Dependence, Inc., 26 April 2015. [tinyurl.com/42tbake4](https://www.tinyurl.com/42tbake4)
9. "The Industry Drug Testing Survey." The Current Consulting Group, LLC., 2023.



## SlateSafety

slatesafety.com

229 Peachtree St NE  
Suite 1970  
Atlanta, GA 30303

### Contact Information

678-506-2998  
info@slatesafety.com

Zack Braun  
CoFounder & CEO

Tyler Sisk  
CoFounder & CTO

Joe Boettcher  
CoFounder & CDO

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# Assessing EHS Needs: Making the Case for Technology in the Workplace

Modernizing safety protocols involves integrating technology into EHS management.

BY ZACK BRAUN



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Imagine it's a typical warm summer day. Your project is moving along, but as each week passes, setbacks pull the project off the pace to completion. As the pressure to meet project milestones builds, your team has to streamline processes to keep up with the project plan. Soon the typical water, rest and shade protocol becomes insufficient, and you are tasked with creating and implementing an actual heat stress management policy. You know people are getting too hot but you don't have the data to prove it.

## The Rising Importance of EHS in Modern Workplaces

The rising importance of environmental health and safety (EHS) comes from a collective understanding that a safe workplace is not a luxury but a necessity. This understanding is compounded by the dynamic nature of modern workplaces, which encompass diverse environments, novel materials and advanced machinery.

Ethical considerations, such as corporate social responsibility (CSR), have also significantly influenced EHS's growing focus. Companies now recognize that ensuring employee health and safety reflects positively on their brand and is crucial to employee retention and satisfaction.

## Recent Trends and Statistics

Statistically, the urgency for robust EHS measures is evident. According to The Bureau of Labor Statistics (BLS), nearly 5,500 workers died on the job in 2022.<sup>1</sup> BLS also reports that private industry employers reported almost 3 million nonfatal workplace injuries and illnesses in 2022.<sup>2</sup>

Heat-related illnesses are particularly a growing concern and are often underestimated. The increasing frequency of extreme weather conditions due to climate change exacerbates this issue, making it more critical than ever for businesses to adopt comprehensive EHS strategies that are both proactive and reactive. Each work environment presents its unique set of challenges. With the undeniable significance of EHS now in focus, all organizations must identify their specific EHS needs.

## Identifying EHS Needs in Your Workplace

A distinct set of risks characterizes each work environment, such as the dangers of operating heavy machinery or exposure to chemicals. Similarly, in the healthcare sector, workers are exposed to biohazards, ergonomic risks and emotional stress.

Conducting a thorough risk assessment involves identifying these hazards and understanding the frequency and severity of potential incidents. This holistic approach ensures that all aspects of worker safety are considered, from physical hazards to ergonomic and psychological risks.

## Assessing Your Current EHS Practices

Evaluating your current EHS practices is crucial. This involves reviewing accident reports, examining workplace processes and engaging with employees to understand their safety concerns.

Some questions could be:

- Are safety drills conducted regularly?
- Is there a clear protocol for reporting hazards?
- How effectively are safety training and educational programs



*A safe workplace is not a luxury but a necessity.*



being implemented?

These questions help identify areas where your current safety measures are falling short. Additionally, benchmarking against industry best practices can provide insight into areas for improvement and innovation in your EHS strategies. After assessing current EHS practices, the next step is to explore how modern solutions, like technology, can elevate EHS strategies to new heights.

### How Technology Enhances EHS

Technology integration into EHS has revolutionized its management, shifting the focus towards more predictive and preventive strategies.

Some types of technological advancements are reshaping EHS management, offering promising solutions to enhance workplace safety and efficiency, including the following:

- **Virtual reality (VR) training simulations.** VR training simulations immerse employees in realistic scenarios to practice safety procedures without real-world risks. These simulations improve learning retention and decision-making skills, preparing workers to respond effectively to emergencies.

- **Predictive maintenance systems.** Predictive maintenance predicts equipment failures using data analytics, reducing the risk of unexpected breakdowns. By proactively identifying issues, organizations can minimize downtime and maintenance costs, ensuring reliable operations and safer work environments.

- **Internet of Things (IoT) sensors.** IoT sensors monitor environmental conditions and employee health in real time. From air quality to physiological indicators, these sensors provide valuable insights to mitigate risks and enhance worker well-being. Wearable IoT devices can detect signs of ergonomic or heat stress, promoting proactive health management. By looking at physiological signs, sensors monitor workers' vital signs, such as heart rate and core body temperature, alerting

them to potential health risks like heat stress or musculoskeletal (MSD) injuries.

- **Drones.** Drones represent another leap in technology for EHS. They are instrumental in hard-to-reach or hazardous areas, providing real-time surveillance without exposing human workers to risk.

### Benefits of EHS Technologies

The advantages of adopting these technologies are numerous. Real-time connectivity, data and alerting allow for immediate response to potential hazards, drastically reducing emergency response time.

Predictive analytics are crucial in risk assessment, identifying potential safety breaches before they result in accidents or injuries. This enhances workplace safety and boosts employee morale, as workers feel more secure knowing that proactive measures are in place to protect their health and well-being.

Furthermore, these technologies allow for better compliance with regulatory requirements, enabling easy access to accurate data that demonstrates adherence to safety standards. However, companies will never achieve these benefits without first focusing on properly integrating EHS technology into their workflows.

### Integrating EHS Technology Solutions

The first step is establishing a clear EHS technology integration strategy and identifying specific safety goals. Are you looking to reduce workplace accidents, improve emergency response or ensure regulatory compliance?

After setting these goals, evaluate how to utilize technology to achieve them. This may involve a gap analysis to identify the areas technology can impact most. It's also important to consider the long-term vision of your EHS strategy and how the chosen technology will adapt to future changes and advancements.

### Choosing the Right Technology

Selecting the right technology requires careful consideration of several factors:

- **Ease-of-use.** If a technology is too complex or unintuitive, the workforce may not adopt it effectively.

- **Scalability.** The technology should be able to grow with your business and adapt to changing needs. This also includes new potential features by the vendor to grow to other parts of your business.

- **Integration.** The new technology

should seamlessly integrate with existing systems to ensure a smooth transition and avoid data silos.

- **Cost-effectiveness.** Affordability and ROI are always vital considerations for any business.

- **Data Security.** Look for technologies that offer robust cybersecurity and privacy features, which are especially important in today's digital age.

### Implementation and Training

The success of any new technology depends heavily on its implementation and the training provided to the users. A phased implementation approach can be effective, starting with a pilot program to test the technology in a controlled environment. Many vendors understand the challenge of implementing new technology and offer free trials. During the pilot, it is best practice to gather all stakeholders from across the organization such as in IT, Legal and Procurement to ensure a smooth rollout. Feedback from this phase can guide the full-scale rollout.

Training is equally important. Employees should know how to use the new technology and understand its importance in their daily work. Continuous training and support are essential to ensure long-term adoption and effectiveness.

As workplaces evolve and safety concerns become increasingly complex, the integration of technology into EHS strategies has become more critical than ever. By embracing emerging technologies, organizations can proactively address safety challenges, enhance employee well-being and achieve operational excellence. With a commitment to continuous improvement and a focus on leveraging cutting-edge solutions, businesses can create safer, healthier and more productive work environments for their employees, ultimately driving long-term success and sustainability.

*Zack Braun, CEO of SlateSafety, co-founded the company during his studies at Georgia Tech in 2016, securing over \$4M in funding from NSG, DoD, and DHS through 7 SBIRs, while advancing real-time worker safety technology, driven by his passion for impactful wearable and IoT applications.*

### REFERENCES

1. [tinyurl.com/3abvawsh](https://tinyurl.com/3abvawsh)
2. [tinyurl.com/bddefy2k](https://tinyurl.com/bddefy2k)



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## Cardiac Arrest: Empowering Readiness

Understanding the crucial role that AEDs play in workplace emergency preparedness.

BY IAN DURRANT

In today's fast-paced work environment, statistics reveal a troubling reality: a workplace injury occurs every seven seconds in the United States, totaling 5,250 fatal injuries<sup>1</sup> and 2.8 million non-fatal injuries<sup>2</sup> each year.

Workplace injuries and risks vary by industry but all workplaces should prepare for potentially fatal and unexpected incidents such as sudden cardiac arrest (SCA). According to the AHA<sup>3</sup>, more than 356,000 cardiac arrests occurred outside of the hospital, and unfortunately 60 percent to 80 percent of sudden cardiac arrest victims die before reaching the hospital. Studies show<sup>4</sup> that more than 10,000 SCAs specifically occur in workplaces every year.

This alarming rate highlights the need for robust safety preparedness plans specifically to address the potential for sudden cardiac arrest. Central to these plans is the integration of Automated External Defibrillators (AEDs) because an AED is used to assist victims of sudden cardiac arrest. Sudden cardiac arrest can strike without warning across all demographics, making the availability and effective use of AEDs crucial in drastically improving survival chances in life-threatening situations. There are many things to consider when preparing for unexpected emergencies like sudden cardiac arrest, including what regulations you need to follow, what to consider when selecting an AED, what the optimal placement of an AED is, what maintenance requirements there are and what training needs to be conducted to ensure safer communities and workplaces.

### Understand Workplace Standards

The foundation of any workplace safety program is adherence to

the Occupational Safety and Health Administration (OSHA) standards, which are designed to minimize hazards and ensure worker safety. Employers and safety managers should fully understand and enforce OSHA standards along with any additional relevant industry-specific regulations, and stay up to date OSHA laws and regulations, as well<sup>5</sup>.

In addition to OSHA, other standards like the American National Standards Institute<sup>6</sup> (ANSI) provide guidelines that help organizations exceed basic legal requirements and enhance safety measures. Following and ideally exceeding ANSI guidelines will help businesses prevent workplace injuries that could lead to potential injury, fatality or litigation. Make sure you continue to stay up to date on regulatory requirements for your workplace because regulations can change. In addition to guidelines varying by industry, AED requirements may vary by state so if you have facilities that are in more than one state, guidelines may be different.

### The Importance of AEDs in Saving Lives

AEDs are a crucial component in responding to sudden cardiac arrest events. As mentioned above, sudden cardiac arrest can happen unexpectedly to all demographics and an AED is used to assist victims when sudden cardiac arrest strikes with little or no warning. An AED is a lightweight, portable device designed to deliver an electric shock through the chest to the heart. This shock can potentially stop an irregular heartbeat (arrhythmia) and allow a normal rhythm to resume following sudden cardiac arrest. According to the American Heart Association (AHA)<sup>7</sup>, 9 in 10 cardiac arrest victims who receive

a shock from an AED in the first minute live and your chance of survival while waiting for emergency medical services during a cardiac emergency decreases by 10 percent every minute without CPR.

### Selecting the Right AED

Choosing the right AED involves several factors. It is important to select a device that is simple to use, with clear instructions that can assist an untrained bystander in performing life-saving measures. Modern AEDs provide step-by-step voice commands and visual aids to guide the rescuer through the process. Features to consider include the ease of maintenance, battery life, and the availability of pediatric settings or attachments if the device will be placed in an environment frequented by children. Make sure you are selecting an AED that is easy to use so even an untrained bystander can follow the prompts. These types of AEDs help responders deliver CPR by providing text, voice, and visual guidance as well as real-time feedback on compression rate and depth.

### Placement and Accessibility

AEDs should be easily accessible and placed in locations where they can be quickly reached during an emergency. The standard is that AEDs should be accessible within three minutes from any location within a facility.

Strategic placement of AEDs is critical for effective emergency response. AEDs should be placed in community areas like schools,

gyms and athletic facilities, large offices, and shopping centers. In workplace environments, optimal placement for AEDs involves high-traffic and easily accessible areas such as main lobbies, large office spaces, conference rooms, employee cafeterias, and near elevators in corporate buildings and business complexes. They should be clearly marked and placed where anyone can access. Avoid placing an AED in areas that are not always available like a locked office or enclosed cabinet. If you are storing in an enclosure or cabinet, it should be clearly labeled and easy to open by anyone if needed.

### Maintenance and Regular Checks

Maintaining an AED is essential to ensure its functionality in an emergency. Regular maintenance checks are highly recommended and should include inspecting the battery level, ensuring pads are sealed and within their expiration date, and confirming that the device software is up to date. Many AED models now come equipped with self-testing features that alert the owner if there is a problem. Make sure that you are conducting regular maintenance checks so all of the components required during an emergency are working properly.

### Training and Empowerment

The data is clear: training your employees to immediately intervene with CPR and an AED can help save lives.

In a study of Public-Access Defibrillation (PAD)<sup>8</sup>, communities with volunteers trained in CPR and the use of AEDs had twice as many vic-



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*An AED is a lightweight, portable device designed to deliver an electric shock through the chest to the heart, potentially stopping an irregular heartbeat and allowing a normal rhythm to resume following sudden cardiac arrest.*

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tims survive compared to communities with volunteers trained only in CPR. While AEDs are designed to be used by anyone, training helps increase confidence and efficiency in an emergency situation. CPR and AED training sessions are widely available through many organizations like the American Heart Association and the Red Cross. These sessions not only teach an individual how to use an AED but also how to perform CPR.

### Creating an Emergency Response Plan

There are many types of emergencies that can happen in the workplace that you need to be prepared for. AEDs, first aid kits, rescue systems, fire protection equipment, and personal protective equipment are all common emergency preparedness products that help you be prepared when a medical emergency occurs. Make sure you have all the appropriate medical emergency equipment on hand, available to work as

intended and have an emergency response plan that ensures safety and efficiency when unexpected situations arise.

An effective emergency response plan is more than just having an AED on site. It involves training staff and volunteers, conducting regular drills to rehearse the response to a cardiac emergency, and ensuring clear signage and communication about the location and use of AEDs. Organizations should also have policies in place for regular training refreshers and equipment checks.

### The Statistics Speak for Themselves

Incorporating AEDs into emergency preparedness plans goes beyond meeting health and safety requirements — it represents a vital commitment to preserving human life. Equipping people and organizations with the necessary tools and knowledge to effectively tackle cardiac emergencies can save lives and promote a culture of safety and preparedness. By prioritizing

access, maintenance, and training, communities and organizations can genuinely prepare to manage life-threatening situations.

Workplace injuries and hazards differ across industries, but all settings must be equipped to handle severe incidents such as sudden cardiac arrest (SCA). Despite having robust safety measures in place, organizations must be ready to address various types of workplace injuries and unforeseen events. AEDs play a critical role in this readiness.

The availability of AEDs, along with compliance with regulatory standards and ongoing training, significantly enhances a workplace's ability to respond effectively to emergencies. Therefore, it is crucial for workplaces to continuously review and improve their emergency response strategies to ensure they are well-prepared to act during critical moments. **OHS**

*Ian Durrant is the Sr. Manager, Global Public Safety Marketing for ZOLL Medical Corporation and has been in the industry for nearly 20 years.*

### REFERENCES

1. [tinyurl.com/35t5krfb](https://tinyurl.com/35t5krfb)
2. [tinyurl.com/33cr4a2m](https://tinyurl.com/33cr4a2m)
3. [tinyurl.com/3a6sjs24](https://tinyurl.com/3a6sjs24)
4. [tinyurl.com/yckd vx5x](https://tinyurl.com/yckd vx5x)
5. [tinyurl.com/k3wzmj7r](https://tinyurl.com/k3wzmj7r)
6. [tinyurl.com/s8ch9amj](https://tinyurl.com/s8ch9amj)
7. [tinyurl.com/4m336u9e](https://tinyurl.com/4m336u9e)
8. [tinyurl.com/yxr9wf2y](https://tinyurl.com/yxr9wf2y)

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Photos courtesy of Intertek Alchemy

## Maximizing Manufacturing Safety Through Mobile Apps

Like everything, safety starts with using the right tools. Here's how to leverage simple, but powerful training apps.

BY HOLLY MOCKUS

In modern manufacturing, where quality and safety are paramount, the integration of technology and innovative training methodologies has become increasingly vital. Among the advancements making waves in the industry are mobile training apps that empower companies to efficiently develop site-specific and machine-specific training courses. By seamlessly combining mobile capabilities and eLearning platforms while leveraging on-the-floor observations, manufacturers can upgrade their approach to facility safety, ensuring that training is not just theoretical but deeply rooted in real-life scenarios.

### Don't Rely on the Buddy System

At the forefront of this training revolution are on-the-job training (OJT) apps. Unlike conventional safety training methods, which often rely on generic materials and hypothetical scenarios, OJT apps enable companies to craft training courses tailored to the unique challenges and machinery present in their facilities. The most successful OJT apps find the perfect balance between simplicity for those creating the courses, with an output that is feature-rich for the trainee. Intuitive interfaces and comprehensive features include the ability to record processes, input instructions, create quizzes, and generate immersive training experiences. These solutions help

bridge the gap between theoretical knowledge and practical application, equipping team members with the skills and expertise they need to navigate their work environment safely and efficiently.

A major benefit of modern mobile training apps is their ability to ensure accuracy of the instruction being provided. Too often OJT can be improvised, with even seasoned operators passing along personal shortcuts they've developed over the years. But when equipped with the right OJT app, every instructor is using the same centrally vetted and approved instruction. Direct interaction between the trainer, trainee, and the app itself ensures the right way is the only way demonstrated.

Safety leaders also welcome the capacity for on-the-floor delivery. Picture a scenario where a new employee tasked with operating a complex piece of machinery receives hands-on training right next to the equipment they will be working with. With mobile apps, trainers can demonstrate best practices and safety protocols in front of the machine they will be using, making it easier to comprehend without operating the machine itself, keeping the worker safe while learning.

OJT apps help ingrain a culture of safety and reduce avoidable injuries. But it's important this on-the-floor activity integrates seamlessly with your central training management system. All re-



cords of training activity should be aggregated in a central, ready to access location, and quickly reportable both by employee and by training topic.

### Following through with On-the-Floor Observations

Complementing these technological advancements in OJT are similar advancements for on-the-floor observations, which serve as a crucial validation that training is being correctly applied on the floor. The mobile technology also provides a feedback mechanism for refining training programs and reinforcing safety standards. Supervisors can conduct real-time assessments, identify areas for improvement, and provide immediate guidance to employees by utilizing coaching apps designed for on-the-floor observations. This continuous cycle of observation, feedback, and implementation ensures that training remains dynamic and responsive to evolving operational needs, ultimately enhancing facility safety in tangible ways.

Much like the OJT app, modern coaching apps create consistency in messaging and experience. The app can be accessed via any phone or tablet, effectively equipping every supervisor with the same — already vetted and approved — blueprint for validation and corrective actions as needed. Let's use lockout tagout (LOTO) training as an example. A follow-up observation can be baked into the LOTO training. A supervisor is alerted the on-the-floor follow up is needed. And every supervisor will conduct the validation observation identically by following the app. Documentation of the follow-up is documented real time and automated. Any corrective action required, is captured and administrated consistently by following the blueprint already provided within the app.

Before implementing any new technology, it is important to understand its offline capability as well. Manufacturing floors and machine shops are notorious for WiFi dead zones. But the right technology is built to work around this. Many of the more successful apps will perform without WiFi, storing the activity locally on the device in the interim, and syncing with the LMS or other company database when the device is back within the organization's WiFi.

### Flexibility in Safety Training

Thus far our focus has been on-the-floor, task-specific elements. This is not to suggest basic safety training is not important. It most certainly is. After all, standard safety training is the foundation that everything previously discussed is built upon. This foundational safety training is where many organizations already check the boxes. But as with anything, going beyond "checking the boxes" can yield better results.

One way to enhance safety training is to build flexibility into your training program. eLearning is among the most popular forms of training, and should certainly be part of your mix. Getting eLearning content from your LMS provider typically streamlines the training admin and reporting elements, just be sure the safety training content is relevant for your needs. eLearning itself is flexible in its ability to be delivered on a company computer in the facility or remotely on nearly any computer or mobile device. But this is still not the be-all and end-all.

Group training using audience response technology is another critical tool in the safety training toolbox, especially for shops and facilities with a sizable workforce. Audience response technology — often referred to as clickers, or remotes — enables an organization to



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*Intuitive interfaces and comprehensive features include the ability to record processes, input instructions, create quizzes, and generate immersive training experiences.*

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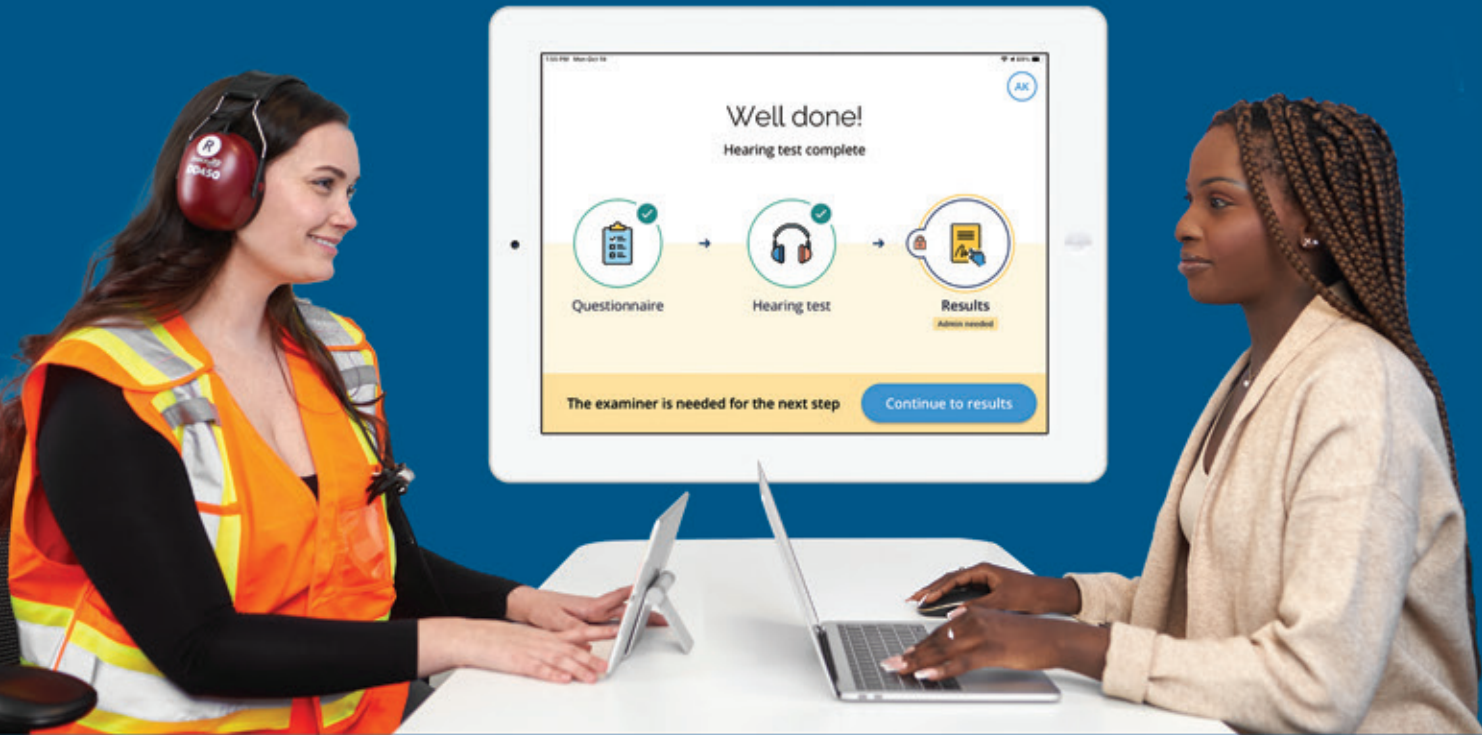
deliver training to dozens of workers simultaneously. This is perfect for general safety training as well as refresher training on key topics.

With minimal investment, a company can significantly reduce the amount of time it takes to plan, organize, and complete safety training. This electronic approach also means you can say goodbye to paper sign-in sheets. At the start of a training session, the clickers are handed to each employee and with the push of a button, their activity for that session is automatically synced to their employee record. This includes training attendance, completion, and verifying they answered knowledge check questions. If a particular individual is struggling, a facilitator will see this and can schedule more direct training with that individual.

By harnessing the power of technology to promote collaboration, communication, and shared learning experiences, companies can empower their workforce to achieve new levels of safety excellence and operational efficiency. As the industry continues to embrace innovation, integrating these training technologies and formats into existing training frameworks will be instrumental in building resilient, high-performing teams capable of meeting the challenges of modern manufacturing facilities head-on. **OHS**

*Holly Mockus is the Director of Content & Industry Strategy for Intertek Alchemy. With over more than years of manufacturing industry experience, Holly helps steer the courses included in Intertek Alchemy's training library. Holly is passionate about the importance of providing high-quality training for frontline workers.*

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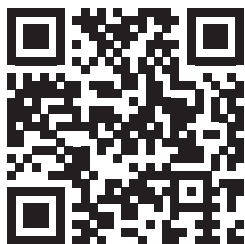
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# Exploring the Impact of Climate Change on Worker Health & Safety

The climate crisis significantly endangers worker health and safety across various industries, necessitating immediate adaptation strategies and legislative support.

BY MIA BARNES

**T**he climate crisis impacts habitat health and biodiversity. The sentiment is true for engineers, academics and health care workers alike. Climate change side effects seep into every corner of life more annually, including workplaces. The repercussions expand until they diminish workers' health and safety. How do these concerns correlate, and how will alleviating environmental burdens improve occupational wellness?

## Effects of Climate Change on Worker Health

Rising temperatures and extreme weather are only a couple of influences on health. Increasing natural disasters and harsh outdoor conditions make it challenging to thrive on the clock. Heat alone will impact an estimated 70 percent of workers<sup>1</sup> worldwide.

Threats like hurricanes, wildfires, blizzards and dust storms compromise stability even before the event. Outdoor workers have more challenges since they bear the weight of the elements. Climate change also amplifies pollution. Indoor and outdoor air quality is in jeopardy, arriving in higher concentrations.

These factors are reasons why health ailments are more prevalent<sup>2</sup> than ever, including:

- Respiratory compromises
- Skin-related conditions and burns
- Heat stroke or exhaustion
- Waterborne illness
- Mental health concerns
- Cancer
- Asthma
- Cardiovascular disease
- Dangers related to proximity to natural disaster-prone areas

## Occupational Risks and Adaptation Strategies

The connection between a person, climate change and reduced workplace health is proven. What are the most affected sectors, and how can companies and policies protect the workforce?

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*Heat alone will impact an estimated 70 percent of workers worldwide, showcasing the widespread influence of climate change on occupational health.*

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Outdoor workers are exposed to environmental risks, such as UV radiation, air pollution and intense heat. They are more likely to encounter invasive species that carry toxic microorganisms and unknown illnesses. This includes construction, forestry and urban infrastructure.

Agriculture and fisheries are also affected since the volatile climate upends their work. The Gulf of Maine has witnessed oceanic temperatures rise 99 percent faster<sup>3</sup> than the global ocean, threatening aquatic life and forcing workers to interact with dangerous waters.

The health care sector is always at high risk, but it is worse with climate change. Infectious diseases spread faster with increased indoor air and water pollution. A lack of infection isolation is part of the problem<sup>4</sup> because facilities may not consider how climate change exacerbates it.

Truckers and public transit workers drive in intense natural conditions. Their jobs require them to be on the road regardless of conditions, so they may be inclined to drive in severe weather because of this obligation.

Several other notable sectors face climate challenges:

- Manufacturing and industry. Poor ventilation, heat stress and supply chain disruptions caused by climate-induced material shortages.
  - Tourism and hospitality. Natural disasters near certain destinations and unsustainable tourism practices.
  - Water treatment. Interaction with foreign contaminants and pollutants.

## Current Safety Guidelines and Regulation

Legislative action must support health and safety with climate-considerate standards. Several institutions work on more comprehensive policies<sup>5</sup>, with The Occupational Safety and Health Administration (OSHA) having the most prominent hand. It has several campaigns and rules to boost workplace wellness, including an Emergency Action Plan standard requiring companies to have strategies to deal with severe weather.

The National Institute for Occupational Health and Safety (NIOSH) has many suggestions. The Worker Safety in Extreme Heat and Wildfire Smoke Exposure resources prepare to fight these pressures.

Others include:

- Environmental Protection Agency (EPA). Provides models for clean air and water and disaster preparedness resources.
- **International Labor Organization (ILO)**. Has the Decent Work Agenda to promise safe conditions.
- American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). Contains ventilation and energy efficiency standards to improve indoor environments.

## Improvement Strategies

Workers need restorative breaks to recharge mentally and physi-

cally. Also, staff working outdoors need access to shaded and air-conditioned spaces. OSHA promotes this with its “Water. Rest. Shade.” campaign. Employers should offer workers training programs and help, suggesting the best ways to make the most of break time.

This includes stress management, self-care, mindfulness exercises and opportunities to connect with colleagues. The tips should supplement an already supportive mental care network. People facing climate change threats<sup>6</sup> may also have eco-anxiety. This is when they experience fear and unrest about the worsening climate. Facing it every day forces them to confront this mental health concern.

All industries must invest in robust personal protective equipment (PPE). Hard hats, sun visors, glasses, cooling vests and masks are several options depending on the work environment. Though electric vehicles are not considered PPE, they are a tool that makes a critical facet of their work safer with reduced pollutants.

A climate risk emergency response plan is the most critical document for workers. They must know how to react during a crisis to protect themselves and those they work for. Urge consistent training and educational awareness based on updated assessments.

Modern devices can assist corporations<sup>7</sup> in mitigating climate change impacts on health. What options do they have?

■ **Wearables.** Smartwatches, patches and smart clothing to track vital signs.

■ **Mobile apps.** Software for self-reporting and monitoring, providing break reminders and health advice.

■ **Predictive analytics.** Analytics to inform companies when to schedule work based on historical weather data.

■ **Drones.** Monitors work sites, assessing temperature changes, pollution density and resource awareness.

### Recognizing the Power of Climate Change on Workers

Climate change compromises worker safe-

ty and wellness daily. Organizations must understand how it affects businesses and threatens workers. Protecting staff means having more robust safety measures while doing everything possible to combat the climate crisis. **OHS**

*Mia Barnes is a professional freelance writer and researcher. She specializes in workplace health, mental health support and employee wellness, and is also the founder and Editor-in-Chief of the online healthy living publication, Body+Mind magazine.*

#### REFERENCES

1. [tinyurl.com/3449nme3](https://tinyurl.com/3449nme3)
2. [tinyurl.com/h7dptk76](https://tinyurl.com/h7dptk76)
3. [tinyurl.com/4jw8jij5](https://tinyurl.com/4jw8jij5)
4. [tinyurl.com/yymb3jkw](https://tinyurl.com/yymb3jkw)
5. [tinyurl.com/8c27t3cz](https://tinyurl.com/8c27t3cz)
6. [tinyurl.com/na2v445x](https://tinyurl.com/na2v445x)
7. [tinyurl.com/3yax6c4m](https://tinyurl.com/3yax6c4m)

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# Building a Safety Culture That Works: More Than Just Rules and Procedures

Construction safety culture can transform by prioritizing leadership, employee engagement and proactive measures beyond traditional rules and procedures.

BY JARED ANDERSON

**T**he construction industry thrives on a robust safety culture. Cultivating an effective safety environment goes beyond adhering to policies and procedures and pursuing incident-free days. While metrics and measures have their place, the genuine concern for the well-being of everyone on the worksite is the real driving force. It is about taking proactive steps to prevent incidents and prioritizing the safety of the individual and the organization.

The journey toward effective safety management begins with all employees, from the CEO to the superintendent, acknowledging their responsibility to each other and their loved ones for a safe work environment. Organizations must commit to fostering a safe environment for employees, subcontractors and the community, ensuring everyone returns home.

To bring about strategic changes in safety management, organizations must engage and educate leaders, identifying opportunities for improvement within the company.

## Laying the Groundwork for Effective Safety Management

Investing in corporate leaders, field leaders and frontline workers forms the foundation of an effective safety culture. Successful organizations empower their leaders with the right resources, recognizing that strong leadership requires proper support in management, leadership and communication skills, especially in leading safety initiatives.

Effective safety management — and the systems supporting it — hinges on leadership involvement in building genuine and trusting relationships. An elevated level of engagement and commitment throughout the organization is vital for the success of a

“

*Investing in corporate leaders, field leaders and frontline workers forms the foundation of an effective safety culture.*

*Successful organizations empower their leaders with the right resources.*

”

safety-centric culture. While developing skills and awareness is crucial, soft skills sustain a safe culture over time.

Field leadership programs not only enforce hard skills but also teach the soft skills, such as listening and leading, needed to empower individuals to be safety leaders in the field. This approach encourages leaders to pay attention to new employees, foster a supportive environment and instill a top-down commitment to safety through productivity, quality and project management.

Establishing strong relationships, starting from the onboarding process, is crucial. According to Tony Govind, director of human resources at Adolphson & Peterson Construction (AP), genuine conversations during the onboarding process — facilitated by the director of safety — build trust, common ground, and a heightened sense of care and concern for one another's safety.

### Cultivating a Thriving Safety Culture

A successful safety culture transcends traditional enforcement methods, moving away from punitive measures toward emphasizing the human aspect of safety. Employee involvement and positive recognition play pivotal roles in building and sustaining a robust safety culture.

Employees are less likely to make risky decisions when reminded of the personal motivations behind working safely: their homes and loved ones. A deeper awareness of colleagues' personal lives encourages intervention when unsafe situations arise.

Safety should be integrated into everyday work. Initiatives like starting daily meetings with a “Safety Spotlight” can encourage employees to share firsthand experiences with job danger, express thoughts on daily safety concerns and volunteer for safety responsibilities.

Employee buy-in and involvement are key to a strong safety culture. Engaging people at various levels is vital, creating a sense of pride and making employees feel like they're part of the solution. Establishing a safety committee with representatives from various departments and tenures is crucial to ensure ongoing employee involvement. This committee can discuss trends, address outstanding issues, review incident reports and share best practices for continuous improvement.

In addition to employee involvement, recognizing and rewarding

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positive behavior on jobsites is essential. Recognition, even in simple forms like a dedicated section in a newsletter or regular meetings, contributes to employee satisfaction, recruitment and retention.

### Protecting Workers Today, Tomorrow and Beyond

Construction companies aiming to attract and retain top talent must make practical changes to safety management. Providing ongoing educational opportunities for employees is crucial for informing them about hazards and best practices and empowering their participation in safety program development.

Investing in the safest equipment is essential for a sustained safety culture. As technology evolves, organizations must ensure employees have the latest equipment for physical protection on various projects. Leaders should actively listen to onsite employees, providing the right equipment for fall protection and ensuring employees feel safe at all times.

The National Safety Council, advocating for jobsite safety, offers valuable insights and educational resources. Organizations can use these resources to facilitate two-way conversations about jobsite safety, complemented by data and assessments to identify areas for improvement.

While the pandemic presented safety challenges for the construction industry, some changes are crucial for a sustained safety culture. Companies should continue emphasizing hygiene practices, making accessible wash stations and regular cleaning standard

procedures.

A strong safety culture in construction is no longer about blame and punishment but starts with leaders fostering relationships to emphasize the human side of safety. Organizations should go beyond policies, understanding why individuals work safely and encourage a culture of caring for others through committees, employee recognition, equipment investment and ongoing efforts.

- When executed correctly, a successful safety culture:
- Attracts employees of all levels
- Holds everyone responsible for safety
- Emphasizes that all injuries are preventable
- Promotes two-way communication and relationships
- Encourages care for others and speaking up about unsafe behaviors or conditions
- Empowers employees to willingly follow rules and procedures **OHS**

*Jared Anderson is the Midwest Safety Director at Adolfsen & Peterson Construction (AP). He has more than 13 years of experience in commercial and industrial construction safety. He leads the Midwest safety initiatives for AP, developing and implementing corporate policies while supporting projects. He identifies risks with project leads and advocates for partnerships to improve safety programs. A strong advocate for AP's Incident and Injury Free (IIF) safety culture, Jared fosters a work environment built on genuine care and concern for others.*

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# Shifting the Role Workplace Safety Plays in Manufacturing and Industrial Organizations

Despite advancements, workplace safety remains secondary in many firms, highlighting the need for a cultural change and dedicated roles to prioritize it based on historical and research insights.

BY BEEMAL VASANI

**T**he realm of workplace safety has undergone significant transformations since governments worldwide began taking worker and occupational health seriously in the 1970s. Despite these advancements, many manufacturing and industrial organizations still relegate safety to a secondary status, often adding it as an afterthought to a manager's list of responsibilities. In this comprehensive exploration, let's delve into the historical context and current practices.

This will include emphasizing a cultural shift towards prioritizing safety within organizations, highlighting the crucial necessity for a dedicated safety role from the upper echelons to the grassroots level of organizations. Drawing on third-party research and insights from workplace safety reports, the aim is to spotlight the critical importance of making safety a proactive and integral part of organizational processes.

## Historical Perspective

To understand the contemporary challenges surrounding workplace safety, it's essential to acknowledge the historical context. Governments around the world only began prioritizing worker and occupational health in the 1970s, marking a significant shift in attitudes towards employee welfare. Examining safety's journey, it becomes evident that its position within organizations has not evolved at the same pace as technological and industrial advancements.

At the onset of the safety revolution, the focus was primarily on complying with basic safety regulations. Fast forward to the pres-

ent, and safety has become a multifaceted concept, encompassing not only compliance but also a proactive approach to prevent accidents and injuries. However, the implementation of safety measures is often an afterthought in the innovation and implementation process, leading to potentially avoidable incidents and injuries.

Drawing from third-party research, workplace safety reports illustrate the consequences of neglecting safety measures and highlight the correlation between proactive safety processes and accident prevention. Safety, despite its undeniable importance, still struggles to secure a primary seat at the corporate table.

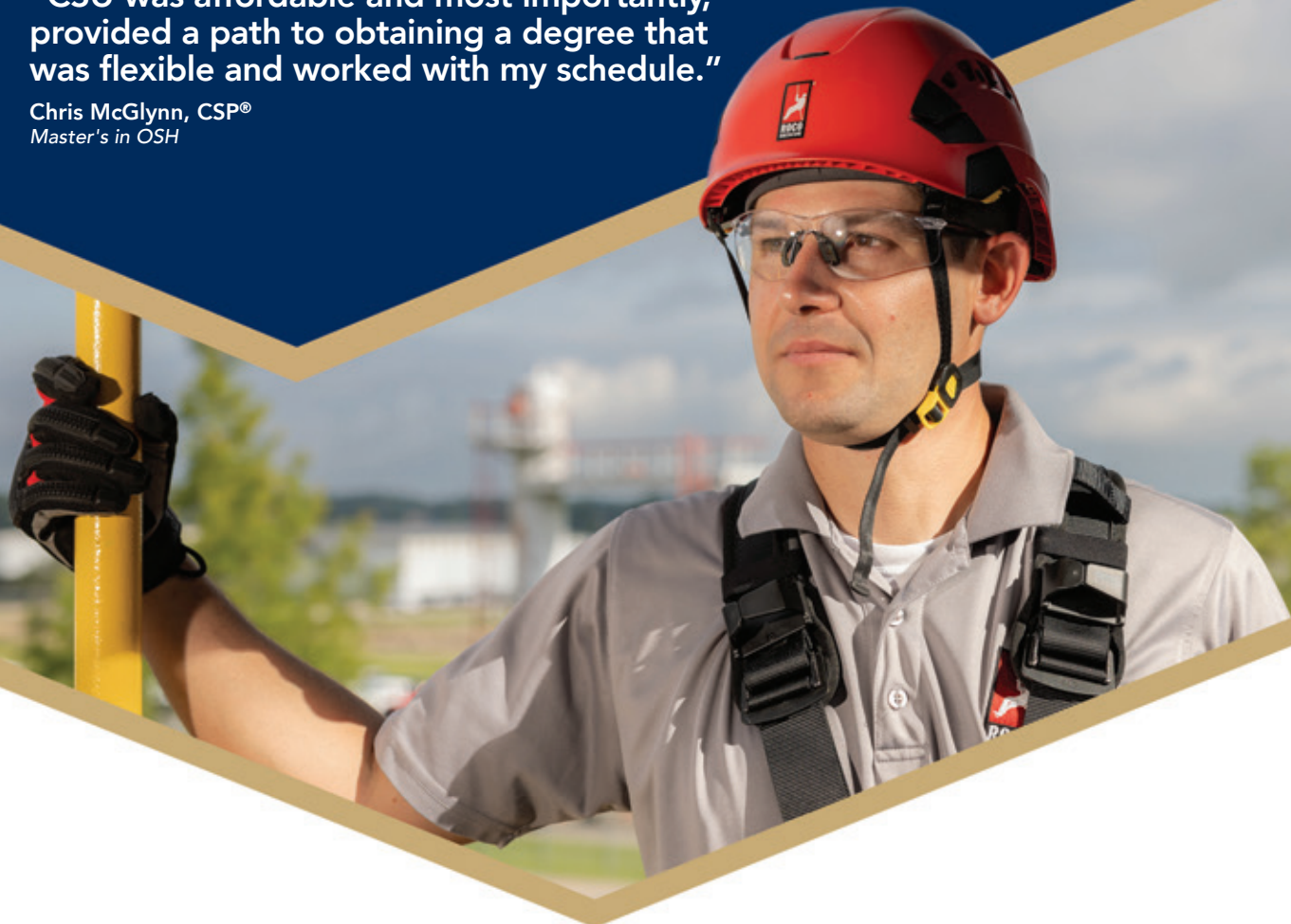
## Flipping the Safety Paradigm

Traditionally, safety considerations come into play towards the end of the innovation and implementation processes. This reactive approach leaves organizations vulnerable to inherent risks that could have been mitigated with a proactive stance. By integrating safety considerations at the onset of discussions, companies can ensure that their processes are not only innovative and efficient but also safe from the outset.

This shift in approach requires a cultural change within organizations. Safety should not be viewed as an additional step but as an integral aspect of business operations. Workplace safety reports emphasize the need for a cultural transformation, where safety is considered a priority at every stage of the decision-making process. The proactive integration of safety practices leads to a reduction in accidents and injuries, contributing to a safer and more productive workplace.

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*Despite these advancements, many manufacturing and industrial organizations still relegate safety to a secondary status, often adding it as an afterthought to a manager's list of responsibilities.*



### Higher Education's Role

Recognizing the growing importance of safety in the workplace, higher education institutions are expanding safety programs to meet the demand for qualified safety professionals. Colleges and universities, including Murray State University, Strayer University, Fordham University and the University of Miami, offer specialized courses in safety and occupational health. This influx of educated safety professionals represents a new generation equipped with the knowledge and skills to drive change within the manufacturing and industrial sectors.

These programs not only educate individuals on safety regulations but also instill a proactive mindset, emphasizing the importance of preventing accidents rather than merely responding to them. The graduates from these programs play a pivotal role in reshaping safety practices within organizations, contributing to the establishment of a safety-conscious culture from the ground up.

### Introducing a 'Safety Champion' in the Workplace

While some large corporations have the luxury of chief safety officers, not every company can afford such a dedicated role. However, every organization can take steps to ensure that safety remains a priority at all levels. This includes the establishment of a safety committee composed of key ambassadors within the organization.

These safety champions can play a crucial role in disseminating regular communications on various health and safety topics. This decentralized approach ensures that safety information reaches every corner of the organization, fostering awareness and accountability. By appointing safety ambassadors, organizations create a network of individuals who actively contribute to promoting a culture of safety, even in the absence of a dedicated safety officer.

### Leadership's Evolution in Safety

The concept of safety within manufacturing and industrial workplaces has evolved significantly from a leadership standpoint. Initially seen as a mere compliance requirement, safety has now emerged as a strategic imperative for organizational success. However, there is still a considerable gap between acknowledging the importance of safety and implementing effective safety practices.

Leaders must reevaluate how safety is currently handled within

their organizations. This involves scrutinizing existing processes, identifying potential hazards and implementing tangible solutions to create safer job sites. Workplace safety reports and third-party research underscore the importance of recognizing and mitigating factors such as repetitive or sustained motion that can lead to injuries.

To take safety more seriously, leaders must foster a cultural shift within their organizations. Safety should not be focused on compliance but as a catalyst for efficiency and employee well-being. Implementing safety measures from the outset can prevent not only accidents but also long-term health issues, creating a more sustainable and secure work environment.

### Creating a Safety Culture

The transformation of safety from a reactive to a proactive approach necessitates a cultural change within organizations. Safety should be an integral part of daily operations, discussions and strategic planning, rather than an afterthought. This cultural shift requires commitment from leadership, active participation from employees and the integration of safety into every aspect of the business.

The workplace safety report data emphasizes the significance of embedding safety practices into the organizational culture. Metrics measuring safety and performance can be instrumental in setting tangible goals for improvement. Wearable technology provides a tangible solution by offering insights into how movements affect workers. This technology generates concrete data metrics on issues like musculoskeletal disorders (MSD), enabling proactive intervention before health concerns escalate.

### Towards a Secure Future

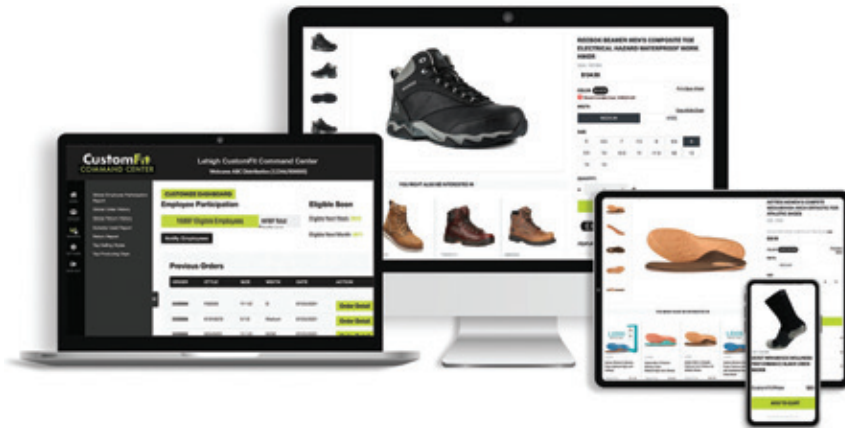
Understanding the crucial role of safety within manufacturing and industrial organizations, certain limitations may hinder the establishment of a dedicated safety position. Thus, it becomes essential to prioritize a top-down approach to safety, ensuring that the responsibility for cultivating a safety culture starts from leadership and extends throughout the organization. The historical context, current challenges and potential solutions outlined in this comprehensive exploration highlight the urgency of making safety a proactive and integral part of organizational processes.

Moving forward, safety should hold a prominent seat at the corporate table, guiding strategic planning and fostering a safer, healthier and more productive working environment. The prevention of accidents through strategic planning can save companies time and money while simultaneously creating a better working environment for employees. Metrics measuring safety and performance should be used to set tangible goals. Wearable technology provides an avenue for uncovering concrete insights about the risk profile of workers, allowing the prevention of injuries before they occur.

The road ahead involves not just acknowledging the importance of safety but actively integrating it into conversations surrounding operations, innovation and decision-making. Safety should be an inherent part of the organizational DNA, contributing to a workplace culture where the well-being of employees is prioritized at every step. In this way, safety becomes not just a compliance requirement but a strategic advantage that ensures the long-term success and sustainability of manufacturing and industrial organizations. **OHS**

*Beemal Vasani is the Head of Business Development at Ansell Inteliforz.*

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# Meeting the Unique Needs of Off-Shift Workers Requires a Focus on Mental Health and Wellness

For site leadership, combatting burnout means meeting the unique needs of off-shift workers through programs and initiatives that support their whole health and wellness.

BY NICOLE JAMES

**E**mployees working in high-risk environments are regularly exposing themselves to labor-intensive and dangerous tasks. Now add in doing this work at 3:00 a.m. when the rest of the world is asleep. That's what off-shift workers experience every day on the job. Nontraditional shifts, including late night and early morning hours, can be isolating for workers, making them feel disconnected from the larger team that works traditional daytime hours. Combined with trade work that can be physically draining, it can lead to more frequent and more severe feelings of burnout.

Burnout isn't just feeling tired or unmotivated at work. The World Health Organization defines burnout as the result of chronic workplace stress that has not been successfully managed, causing feelings of energy depletion or exhaustion, increased mental distance from one's job and reduced professional efficacy. For off-shift workers, feelings of burnout can be compounded by the innate challenges of working off hours including disrupted sleep schedules, feelings of exclusion and impacts on social life.

For site leadership, combatting burnout means meeting off-shift workers' needs through initiatives that support their whole health and wellness. This means prioritizing their mental health and well-being, fostering a supportive and inclusive work environment, and setting them up for success both at work and at home.

## Three Steps to Combatting Burnout in Off-shift Workers

1. Build a community and engage workers. The most basic challenge of off-shift work is in the name. Workers are on the job site when few others are, including leadership. They're off when most people are working, and it can lead to feelings of loneliness, isolation and disconnection, which plays an important role in workers' happiness and, ultimately, their health. It's important to close that gap by building a community and fostering inclusion through programs that connect off-shift workers and their regular-shift counterparts.

Forming committees or work groups can provide an outlet for off-shift workers to feel more involved and allow them to gather more regularly with people who are experiencing the same things as them. Off-shift workers often feel forgotten, but even small things like playing music on the site or providing engaging activities like games or challenges can bring off-shift workers together and show them that they are top of mind for leadership. When workers feel included and engaged, they're more content with their roles and are less likely to feel as if their leaders and fellow colleagues have forgotten them during their middle-of-the-night shifts.

2. Enable wellness through communication. While off-shift workers are exposed to the same environment and are often performing similar tasks as their day-shift counterparts, the considerations that need to be made when it comes to staying safe and sustaining energy throughout the shift aren't identical.

It's important to provide wellness education that is tailored to off-shift workers. Energy campaigns that hit on the four main considerations for off-shift workers of nutrition, caffeine, exercise and sleep can engage workers in their own health and on the worksite.

Providing information on foods to eat to keep energy up and stay full throughout the night shift — or the difference between healthy and unhealthy caffeine consumption — will help workers better care for themselves, and the materials are another form of thoughtful communication between workers and site leadership. Even putting information on screens or posters around the site shows off-shift workers that leadership cares and values them. Show workers how their health impacts their job performance and satisfaction, their family and home life, and their overall quality of life. This can motivate them to make positive behavior changes.

3. Promote vulnerability and embrace mental health. Nutrition, sleep and social interactions all affect mental health. The nature of off-shift work creates mental health challenges that can be hard to overcome without support. It's important to recognize this and work toward switching the mentality around off-shift work from negative to positive. This ties into the previous steps of building a community and enabling wellness. It also includes normalizing mental health awareness on the worksite through interpersonal communication, providing resources and creating avenues for workers to get help if they need it.

Normalization of mental health starts from the top down. If leadership is vulnerable, it will trickle down to workers. Vulnerability is really about creating a safe space and making connections by asking someone how they're doing that day and being there to listen. When leadership sets the tone for the whole team, it creates a culture of care and a safe environment where workers feel they can open up and get the help they need.

## Better Supporting Off-shift Workers

Off-shift workers can feel like they got the short end of the stick, and the disconnect from the rest of the team and from their social circle can quickly contribute to burnout. However, programming that's tailored to their unique needs and brings them together as a team can help create an inclusive and motivated environment that workers are happy to come to every night. When leadership shows that level of care and concern for off-shift workers' mental health and wellness, it helps keep them motivated and energized while on shift and satisfied with the job and employer in the long run. **OHS**

*Nicole James is an Athletic Training Division Manager at Onsite Innovations, leading tailored programs that match organization and business goals, while ensuring employee safety. With years of experience, James optimizes programs to improve work quality and boost retention.*

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**SOUTHCO** introduces the Keypanion app, a new wireless access control solution. The Keypanion app enables a simple, plug-and-play system, allowing users to share digital keys and manage equipment access from their phone, at any time and from any location. To learn more about the Keypanion™ app, check out this video. More information at [tinyurl.com/yzhcx5ke](https://tinyurl.com/yzhcx5ke).



### RISK ASSESSMENT SOFTWARE

**SPHERA** has updated its Advanced Risk Assessment (ARA) solution to empower managers to proactively monitor, assess and manage risk. SpheraCloud ARA updates include a revamped interface with a contemporary cloud-based design and integration with plant and risk management systems via library API capability and management of users centrally or through the identity management system. More information at [tinyurl.com/bdd9y3cj](https://tinyurl.com/bdd9y3cj).



### AI SAFETY ASSISTANT

**PROTEX AI** launched their new Generative-AI safety assistant, Copilot. Protex Copilot empowers safety and operations teams to shift from reactive to proactive safety management, making data-driven decisions that reduce risks and enhance safety outcomes. Its capabilities include conversational data analysis, automated toolbox talk presentations, assisted site walks and corrective action suggestions. More information at [tinyurl.com/e4yc3nwx](https://tinyurl.com/e4yc3nwx).

### GENERATIVE AI CAPABILITIES

**BENCHMARK GENSUITE** released "Genny AI," proprietary Generative AI capabilities now available through its core platform. Genny AI assists frontline teams and program leaders by improving data collection, accelerating data summarization, and identifying operational issues with more speed and accuracy. This enables them to proactively manage risks, while streamlining operations and achieving performance goals. More information at [tinyurl.com/bmectvu6](https://tinyurl.com/bmectvu6).

### ANGLE LIGHT

**NIGHTSTICK** announces a fixed head angle light expansion: the SAVIOR TURBO Dual-Light Angle Light. The SAVIOR TURBO has an ATEX Zone 0 and Intrinsically Safe Class I Div. 1 certification for use in and around potentially hazardous environments. Designed to create a safer and more efficient first response, this sleek low-profile Angle Light integrates an LED spotlight and LED floodlight into a single robust casing. More information at [tinyurl.com/mvvpkbev](https://tinyurl.com/mvvpkbev).



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# Core Methods for Significantly Preventing Soft-Tissue Injuries

**S**oft-tissue injuries are prevalent, persistent and pernicious, and result in significant direct costs and pain and lost productivity, as well as hampered workflow. These injuries are also known as strains/sprains, musculoskeletal disorders, repetitive motion injuries, repetitive strain injuries, cumulative trauma disorders, etc. You can see the impacts of these injuries through lost-time and cost reports, such as the Traveler's Insurance "Injury Impact Report" and Liberty Mutual's "Workplace Safety Index." This unacceptably steady state has continued despite sincere interest, commitment and pledges on the part of safety leaders to reduce these injuries.

However, with all that said, we've seen numerous companies dramatically reduce the incidence of soft-tissue injuries. I'm referring to reports of up to 85 percent of larger organizations that previously thought they'd "tried everything." What those companies were actually doing was attempting variations on the same theme: Common "solutions" tended to strongly emphasize workplace controls — the aspect of ergonomics that focuses on adjustments and modifications to tools, workstations, environment, etc. to make these safer and reduce cumulative trauma. While a well and good initial step, it's not enough.

Here's what has made considerable, substantive improvements: Start by redefining "ergonomics" as "improving the fit between people and their tasks", rather than merely "redesigning or adapting tools and workstations to fit the work and workers." This alternate cast goes well beyond word-splitting hairs.

That's because an "improving fit" mindset can expand to incorporate three methods:

1. Fitting tasks "closer" to people by redesigning, modifying and purchasing external tools where possible (the "traditional" approach to ergonomics mentioned above.) While I agree this should be the first method applied, this doesn't always work. For example, where it's not cost-effective in an older plant, or where capital budgeting doesn't allow for this now, or where people are exposed to sources of cumulative trauma in uncontrollable environments (in the field, in the elements, at home or off work) only enlisting this strategy is like trying to help someone significantly lose weight by monitoring and controlling what they eat at work while ignoring what they consume at home.

2. Helping people more effectively adapt their actions to how they work through changing their perception, decisions and a range of actual actions — all of which avert or greatly reduce potential physical tensions from entering their body. This can be provably accomplished through transferring mental and physical skillsets specifically designed to elevate performance while simultaneously tamping down possibly destructive forces on their body or, at very least, from tensions pooling in vulnerable body areas that are more prone to injury.

3. Combining the methods of one and two above. This is the most preferable, like opening a stubborn jar by simultaneously twisting the lid clockwise and the bottom counter-clockwise.

There's ample information and countless experts who focus on method one (improving external controls), so here are some

proven strategies for expanding to cover methods two and three, which account for internalization, placing individuals in greater control of personal and psychosocial contributors. Together, they lead to greater safety and performance, and help accomplish all manner of tasks with greater ease and control:

- Mentally; help workers employ a simple plan for taking personal control over their own safety, everywhere, that makes sense to them and is easy both to understand and simple to actually apply in practice and with a wide range of tasks. The focus here is on improving awareness and decision-making.

- Mentally; transfer tangible skills for directing their attention to better self-monitor force building within the body. This helps them become internally motivated to make very small, simple yet powerful adjustments to self-protect from injury. Attention control has to include doable practices, not just appealing to "will" or exhorting them to "pay attention" or to "think before you act."

- Mentally; show how to apply "smarter" use of force, such as employing the right amount in the right place, in the right direction, at the right time to get tasks done most effectively and safely, while minimizing potential fatigue due to exerting no more than the force actually required to easily accomplish tasks.

- Mentally; use the Three Laws of Motion to boost effectiveness and minimize "equal and opposite" forces entering the body.

- Physically; teach how to better use their upper limbs to accentuate strength while rerouting forces down to the legs and away from concentrating forces in the more vulnerable neck and back. This also improves balance through a smarter use of hands for using tools, lifting one- and two-handed, climbing, pushing, pulling, carrying, etc.

- Physically; demonstrate how to enlist the strength of the entire body, rather than trying to "over-muscle" (using too much but less effective force from just the upper body) to gain effective strength and to prevent injury.

- Physically; use the power of small positional changes to augment effectiveness while enhancing personal safety.

- Physically; make use of the power of proximity (how even a few centimeters change in proximity to a task can make a significant difference in control, strength, effectiveness and safety).

These above approaches work surprisingly well, with all kinds of people, in a wide array of companies, in numerous industries and throughout the world, and for longer than three decades. I hope some of this might also help you, your people and your company. **OHS**




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*Robert Pater is the Managing Director and creator of the MoveSMART® system for preventing strains/sprains, slips/trips/falls, hand injuries implemented in over 60 countries. Their emphasis is on "Energizing, Engaging Expertise" to simultaneously elevate safety performance, leadership and culture.*



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