Silica Stats and Facts

DID YOU KNOW?

Silica is one of the most common naturally occurring elements on the planet. Silica, the mineral compound silicon dioxide (SiO2), is found in two forms – crystalline or noncrystalline (also referred to as amorphous). Sand and quartz are common examples of crystalline silica.

Experts estimate 1 to 2 million U.S. workers are still exposed to silica. With thousands afflicted by silicosis annually and litigation rising, will silica be the next asbestos?

A striking irony about silicosis is that while it is one of the oldest recognized occupational diseases, experts say they really don’t know how many people are suffering and dying from it today.

“I know from personal experience lots of silicosis is misdiagnosed or not recognized,” says Tee Guidotti, M.D., Ph.D., director of the division of occupational medicine and toxicology in the School of Medicine at George Washington University.

Many other experts agree that silicosis is a far bigger issue than the story told by the official numbers. Indeed, it may be that the principal reason silica remains such a deadly hazard in U.S. workplaces is because too many people think it’s no longer a serious problem.

Official Numbers

Silicosis is caused by breathing small particles of crystalline silica. Once the particles are inside the lungs, they become trapped and cause areas of swelling around them. Over time, these swollen areas grow larger, breathing becomes increasingly difficult, and lung failure may cause death. In addition, silica exposure is also being connected to diseases besides silicosis, including cancer, tuberculosis, immunological disorders and kidney

ailments.

Occupational exposure to silica particles of respirable size occurs in a variety of occupations, including mining, quarrying, drilling and sand blasting activities. Because silica sand is an inexpensive and versatile component of many manufacturing and construction processes, millions of workers throughout the world are at risk for the disease.

There are three types of silicosis:

- Chronic silicosis, the most common form of the disease, usually develops after 10 or more years of exposure to relatively low dust concentrations.
- Accelerated silicosis results from exposure to high concentrations of silica over a 5- to 10-year period.
- Acute silicosis is a rare but highly fatal disease that is caused by brief but massive exposure to dust with high quartz content.

David Goldsmith, Ph.D., associate research professor, division of occupational medicine and toxicology in the School of Medicine at George Washington University, recalls that the worst case of acute silicosis occurred in the 1930s during the construction of the Gauley Bridge hydroelectric tunnel at Hawk’s Nest, W.Va.

Approximately 2,000 workers were digging a tunnel through high-silica rock with no respiratory protection, even though the health effects of silica exposure had been documented for decades. As many as 1,500 men died as a result of inhaling silica dust. This incident, sometimes called America’s worst industrial disaster, introduced the nation to the dangers of silica dust.

The Work-Related Lung Disease Surveillance Report issued by the National Institute for Occupational Safety and Health (NIOSH) states, “Over the past several decades, silicosis mortality has declined, from well over 1,000 deaths annually in the late 1960s to fewer than 200 per year in the late 1990s.”

Though the country would seem to be winning the war against silica-related deaths, Goldsmith cites current estimates that 2

million U.S. workers are still exposed to silica. He and other experts including NIOSH researchers say the true prevalence of the disease is unknown.

“It looks like it’s not a big problem, but the national data are bad on this condition,” says Edward Petsonk, M.D., senior medical officer in the Division of Respiratory Disease Studies at NIOSH’s Morgantown, W.Va. research center.

The annual number of silicosis deaths does not begin to tell the story of how many people suffer from the disease. First, not all cases of silicosis are fatal. Second, even in death, the disease is often undiagnosed. Petsonk and other experts point to the startling results of a recent study by Kenneth Rosenman, M.D., professor of medicine at Michigan State University, published last year in the American Journal of Industrial Medicine.

“Our research showed that silicosis deaths represent 4 to 8 percent of the silicosis cases per year,” says Rosenman. “This means estimates based on deaths alone miss more than 90 percent of the silicosis cases in the country.” By that calculation, some 2,500 to 5,000 silicosis cases could be occurring each year.

In addition, Rosenman’s study revealed that 53 to 77 percent of the silicosis cases that occurred each year in Michigan were either not being diagnosed or not reported to the state’s surveillance system.

Respirable crystalline silica – very small particles at least 100 times smaller than ordinary sand you might find on beaches and playgrounds – is created when cutting, sawing, grinding, drilling, and crushing stone, rock, concrete, brick, block, and mortar. Activities such as abrasive blasting with sand; sawing brick or concrete; sanding or drilling into concrete walls; grinding mortar; manufacturing brick, concrete blocks, stone countertops, or ceramic products; and cutting or crushing stone result in worker exposures to respirable crystalline silica dust. Industrial sand used in certain operations, such as foundry work and hydraulic fracturing (fracking), is also a source of respirable crystalline silica exposure. About 2.3 million people in the U.S.

are exposed to silica at work.

Workers who inhale these very small crystalline silica particles are at increased risk of developing serious silica-related diseases, including:

- Silicosis, an incurable lung disease that can lead to disability and death;
- Lung cancer;
- Chronic obstructive pulmonary disease (COPD); and
- Kidney disease.

To protect workers exposed to respirable crystalline silica, OSHA has issued two respirable crystalline silica standards: one for construction, and the other for general industry and maritime.

NIOSH recommends the following measures to reduce exposures to respirable crystalline silica in the workplace and to prevent silicosis and deaths in construction workers:

1. Recognize when silica dust may be generated and plan ahead to eliminate or control the dust at the source. Awareness and planning are keys to prevention of silicosis.
2. Do not use silica sand or other substances containing more than 1% crystalline silica as abrasive blasting materials. Substitute less hazardous materials.
3. Use engineering controls and containment methods such as blast-cleaning machines and cabinets, wet drilling, or wet sawing of silica-containing materials to control the hazard and protect adjacent workers from exposure.
4. Routinely maintain dust control systems to keep them in good working order.
5. Practice good personal hygiene to avoid unnecessary exposure to other work site contaminants such as lead.
6. Wear disposable or washable protective clothes at the work site.
7. Shower (if possible) and change into clean clothes before leaving the work site to prevent contamination of cars, homes, and other work areas.
8. Conduct air monitoring to measure worker exposures and

ensure that controls are providing adequate protection for workers.
9. Use adequate respiratory protection when source controls cannot keep silica exposures below the NIOSH REL.
10. Provide periodic medical examinations for all workers who may be exposed to respirable crystalline silica.
11. Post warning signs to mark the boundaries of work areas contaminated with respirable crystalline silica.
12. Provide workers with training that includes information about health effects, work practices, and
13. Report all cases of silicosis to State Health Departments and OSHA

Slips, Trips, Falls Stats and Facts

DID YOU KNOW?

You can **slip** when you lose your footing, you can **trip** when you catch your foot on or in something, and you **fall** when you come down suddenly. Spills, ice, snow, rain, loose mats, rugs, and stepladders are some of the common causes of slips, trips, and falls. In addition, poor lighting and clutter can cause injuries such as sprains, strains, bruises, bumps, fractures, scratches, and cuts.

In 2016, 697 workers died in falls to a lower level, and 48,060 were injured badly enough to require days off of work. A worker doesn’t have fall from a high level to suffer fatal injuries; 134 workers were killed in falls on the same level in 2016, according to *Injury Facts*. Construction workers are most at risk for fatal falls from height – more than seven times the rate of other industries – but falls can happen anywhere, even at a “desk job.”

NSC data for 2016 includes falls from height and falls on the same level, by industry:

- Construction: 24,700 injuries, 384 deaths
- Manufacturing: 22,040 injuries, 49 deaths
- Wholesale trade: 10,250 injuries, 21 deaths
- Retail trade: 29,830 injuries, 29 deaths
- Transportation and Warehousing: 23,490 injuries, 46 deaths
- Professional and business services: 22,090 injuries, 111 deaths
- Education and health services: 43,660 injuries, 18 deaths
- Government: 63,350 injuries, 44 deaths

Facts

Slips, trips, and falls are common causes of injuries in retail stores.

Falls from portable ladders (step, straight, combination and extension) are one of the leading causes of occupational fatalities and injuries.

Most recent traumatic injury data show:

- 27% of the 900,380 nonfatal work injuries resulting in days away from work in 2018 were related to slips, trips, and falls.
- 235,740 injuries due to contact with objects and equipment in 2018 were so severe that they resulted in time away from work.
- In 2018, 1,276 U.S. workers died in work-related crashes involving motor vehicles (24% of all deaths).
- Workers less than 25 years of age have higher rates of occupational injuries treated in emergency departments than other age groups
- An estimated 2.5 million workers sustained work-related injuries and were treated in emergency departments during 2018.
- In 2018, the rate of emergency department-treated, work-related injuries was estimated at 160 per 10,000 full-time

equivalent workers.

- Male workers accounted for approximately 65% of the work-related injuries treated in emergency departments.
- The three leading causes of work-related injuries treated in an emergency department were contact with objects and equipment, overexertion and bodily reaction, and falls, slips and trips without a fall.
- Fall fatalities are nearly equally divided between men and women. However, more women will experience a slip-and-fall accident. According to the Bureau of Labor Statistics, falls accounted for 5% of the job-related fatalities for women compared to 11% for men.
- Falls account for over 8 million hospital emergency room visits, representing the leading cause of visits (21.3%). Slips and falls account for over 1 million visits, or 12% of total falls.
- Fractures are the most serious consequences of falls and occur in 5% of all people who fall.
- Slips and falls do not constitute a primary cause of fatal occupational injuries, but represent the primary cause of lost days from work.
- Slips and falls are the leading cause of workers' compensation claims and are the leading cause of occupational injury for people aged 55 years and older. If you are thinking about making a workers' compensation claim then you might want to take a look at using someone like the house of workers compensation lawyers to help you with your claim.
- According to the Consumer Product Safety Commission (CPSC), floors and flooring materials contribute directly to more than 2 million fall injuries each year.
- Half of all accidental deaths in the home are caused by a fall. Most fall injuries in the home happen at ground level, not from an elevation.
- Of all fractures from falls, hip fractures are the most serious and lead to the greatest health problems and number of deaths. The following statistics describe the slip-and-fall crisis affecting our nation's elderly.

- Each year in the United States, one of every three persons over the age of 65 will experience a fall. Half of which are repeat fallers.
- According to the CDC In 2005, more than 15,000 people over the age of 65 died as a result of a fall. Up from 7,700 a decade earlier.
- The CDC also reports that approximately 1.8 million people over the age of 65 were treated in an emergency room as a result of a fall.
- For people aged 65-84 years, falls are the second leading cause of injury-related death; for those aged 85 years or older, falls are the leading cause of injury-related death.
- Incidence of falls goes up with each decade of life.
- Of all deaths associated with falls, 60% involve people aged 75 years or older.
- Falls account for 87% of all fractures among people over the age of 65 and are the second leading cause of spinal cord injuries and brain injury symptoms.
- Half of all elderly adults (over the age of 65) hospitalized for hip fractures cannot return home or live independently after the fracture.
- Falls represent 40% of all nursing home admissions and are the sixth leading cause of death among people aged 70 years or older.
- Over 60% of nursing homes residents will fall each year.
- According to The National Institute on Aging, every year 30% of people over the age of 65 will sustain a fall, of which 10% will result in a serious injury.
- 67% of fall fatalities are among people aged 75 years or older.
- People over the age of 85 are 10-15 times more likely to experience a hip fracture than are people aged 60-65 years.
- 85% of worker’s compensation claims are attributed to employees slipping on slick floors (Industrial Safety & Occupational Health Markets 5th edition)
- 22% of slip/fall incidents resulted in more than 31 days away from work (US Bureau of Labor Statistics (2002).
- Compensation & medical costs associated with employee

slip/fall accidents is approximately $70 billion annually (National Safety Council Injury Facts 2003 edition).
- Occupational fatalities due to falls are approximately 600 per year down from 1200 during since the 1970s.
- Total injuries due to falls estimated at $13-14 million per year in U.S. Falls are the number one cause of accidental injury, resulting in 20.8 percent of all emergency room visits in 1995. (Motor vehicle accidents accounted for 11.9 percent of ER visits.)
- Disabling (temporary and permanent) occupational injuries due to falls are approximately $250,000-$300,000 per year.
- Falls occur in virtually all manufacturing and service sectors. Fatal falls however are in construction, mining and certain maintenance activities.
- According to Workers Compensation statistics from ITT-Hartford Insurance Company, falls account for 16% of all claims and 26% of all costs. This compares to 33% of costs associated with sprains and strains.
- According to the American Trucking Association, slips and falls are the leading cause of compensable injury in the trucking industry.
- Falls from elevation (approximately 40% of compensable fall cases, approximately 10% of occupational fatalities).
- Falls on the same level (approximately 60% of compensable fall cases). (W. Monroe Keyserling, Ph.D. 2000)

Tips to Stay Safe

- If you see something you might slip or trip on, tell your supervisor right away.
- Clean up spills and anything slippery. Check with your supervisor about how to use cleaning products. Don’t use cleaners that could make the floor slippery.
- Clear walkways, stairs, and lobbies of anything that might be a tripping hazard, such as cords, wires, empty boxes, and clutter.
- Make sure that floor mats lay flat rather than wrinkled or bunched.
- Use handrails when you walk up and down steps.

- Before using any ladder or stepladder, make sure it opens fully.
- Check that ladder extensions are fully locked and that the ladder legs are stable on a flat, non-slippery surface.
- Clean off any slippery material on the rungs, steps, or feet of a ladder before you use it.
- Don’t go over the load limit noted on the ladder.

Spill Prevention and Control Stats and Facts

DID YOU KNOW?

In Canada over 42,000 workers get injured annually due to fall incidents. This number represents about 18% of the “time-loss injuries” that were accepted by workers’ compensation boards or commissions across Canada (based on statistics from Association of Workers’ Compensation Boards of Canada, 2016).

Statistics show that the majority (67%) of falls happen on the same level resulting from slips and trips. The remaining 30% are falls from a height. This document will summarize information on “falls on the same level” (slips and trips). Falls from an elevation, such as falls from ladders, roofs, down stairs or from jumping to a lower level, etc., is discussed in the Safety Belts, Harnesses, and Lanyards document since each type of fall requires different features in a fall prevention program.

According to the CDC, about 1.1 million people are treated for burn injuries every year. Of all burns requiring hospitalization, 38-58% are due to hot liquids or steam. People over age 65 are at an elevated risk, and account for nearly 9000 emergency room visits for scalds every year. More than three-quarters occur in

the home, and about two-thirds of victims are women. The most common cause for scald injuries is **hot food or beverage (42%), followed by hot water or steam (30%). Coffee accounts for about 15% of all nonfatal scald injuries suffered by persons age 65 and over.**

Unnecessary Injuries

Hot coffee injuries are completely unnecessary and are often due to negligence on the part of restaurant owners. To prevent the growth of bacteria, food must be maintained at a temperature of 140° Fahrenheit. At this temperature, it takes five seconds for a liquid to cause a burn that requires skin graft surgery. This is dangerous, and worthy of a warning.

However, many restaurants keep their coffee at higher temperatures, which significantly increases the risk of injury. At 160° F, serious injury is almost instantaneous. In the infamous hot coffee case, **McDonald's maintained its coffee at a completely unnecessary 180-190° F, which could result in instantaneous burns, even after allowing a reasonable time for cooling.**

Spilled coffee on your laptop keyboard sucks but chances are good your laptop can still be saved if you act quickly. You should promptly turn off your device and remove the battery as well—time counts here. Cleaning as much of the moisture off as you can by pressing paper towels against the keyboard or any other cracks it found itself in. Most importantly, do not turn on your device for several days to allow time for all moisture within it to evaporate. Water only will damage circuitry in the presence of electricity. You could safely dunk a laptop into a pool that was powered off with no battery in it and use it again once it was fully dry, though I would not recommend testing this out yourself.

Phone fell into the pool. Similar to above, you want to recover the device and power it off immediately and remove the battery. Dry the phone off as thoroughly as possible with paper towels. Afterwards, place your device in a sock or wrap it in breathable fabric and place it into a container of rice. This will wick out remaining moisture. Leave the device in the rice for at least a

day. Turning on your device while there is still moisture in it will cause permanent damage.

According to the **National Safety Council**, 697 workers died in 2016 from suffering a multi-level fall, and 48,060 workers obtained injuries serious enough to require days off work. Although transportation- related deaths are the most common cause of fatality in the US workplace, fall-related deaths take the second spot, according to the **US Bureau of Labor Statistics**. In fact, fall injuries account for nearly $70 billion in worker's compensation and medical bills each year in the United States.

The National Safety Council gathered some data in 2016 to determine which industries' workers are at the highest risk of fall-related injuries. They found that construction and manufacturing sectors were responsible for the greatest number of injuries and deaths, with transportation and warehousing companies also claiming a large portion of injuries. However, workers across all industries are at risk of slips, trips, and falls. Read Scattering's **list of the top workplace safety hazards** in the US**.**

It is important to keep in mind that a worker doesn't have to fall from a great height for the accident to be serious. Falls can happen anywhere, anytime, in any workplace environment. Furthermore, falls are completely avoidable if the correct safety measures and practices are in place. This article will cover fall safety in the workplace, as well as how to reduce your workers' risk of a fall-related workplace injury.

In the United States in 2014, 4,679 fatal work injuries were reported according to the Census of Fatal Occupational Injuries (CFOI) conducted by the U.S. Bureau of Labor Statistics. Fatal STFs account for 793 of the 4,679 fatalities or 16.9%.

Falls, slips, and trips increased 10 percent to 793 in 2014 from 724 in 2013. Falls to lower level were up 9 percent to 647 from 595 in 2013, and falls on the same level increased 17 percent.

Slips, trips, and falls (STFs) account for the majority of general industry accidents. They are responsible for 16.9% of all

accidental deaths and come in second to motor vehicles as a cause of fatalities. About 65 percent of all work days or 95 million work days are lost due to slips, trips, and falls and they account for approximately 25 percent of all reported injury claims per year.

Generally, slips, trips and falls happen when there is a loss of traction between the shoe and the walking surface or from unintentional contact with an object which may lead to a fall. Except where domestic, mining, or agricultural work is performed the OSHA standards for walking/working surfaces apply to all permanent places of employment.

Road Construction Stats and Facts

DID YOU KNOW?

Road construction risks the lives of both drivers and workers on a daily basis. Our law firm has compiled the following statistics to bring awareness to the dangers of work zones and to encourage increased safety.

If you've been the victim of an accident caused by an unsafe work zone or any other type of road construction, our experienced car accident attorneys can help. The sooner you contact our law firm, the sooner we can start collecting evidence to prove your case.

Get in touch with us today by taking advantage of our free legal consultation.

The construction industry is known for being one of the most dangerous fields to work in. Out of every 5,000 private-industry worker fatalities, 20 percent are in construction. That means one

out of every five worker deaths is construction-related!

Construction also results in many non-fatal injuries that cost companies millions of dollars per year. This makes safety paramount in the industry. While safety measures and precautions, like those outlined by OSHA, can be costly upfront, their ROI can be massive.

A successful construction business will maintain effective safety programs, stay updated on OSHA regulations and pay the expenses involved even when business is slow. Not only because OSHA violations can range anywhere from a warning to $70K per incident, but because they care about their employees.

Federal OSHA is a small agency; with our state partners we have approximately 2,100 inspectors responsible for the health and safety of 130 million workers, employed at more than 8 million worksites around the nation – which translates to about one compliance officer for every 59,000 workers.

Worker fatalities

5,250 workers died on the job in 2018 (3.5 per 100,000 full-time equivalent workers) – on average, more than 100 a week or more than 14 deaths every day.

Construction's "Fatal Four"

Out of 4,779 worker fatalities in private industry in calendar year 2018, 1,008 or 21.1% were in construction – that is, one in five worker deaths last year were in construction. The leading causes of private sector worker deaths (excluding highway collisions) in the construction industry were falls, followed by struck by object, electrocution, and caught-in/between. These "Fatal Four" were responsible for more than half (58.6%) the construction worker deaths in 2018, BLS reports. Eliminating the Fatal Four would save 591 workers' lives in America every year.

- Falls – 338 out of 1,008 total deaths in construction in CY 2018 (33.5%)

- Struck by Object – 112 (11.1%)
- Electrocutions – 86 (8.5%)
- Caught-in/between* – 55 (5.5%)

Federal, state and local governments remain the major contributor of highway construction funding, but the number of public-private partnerships (P3s) is on the increase. Under a P3, private firms either receive money from the government in order to build, operate or maintain parts of the road network, or these firms acquire the right to generate revenue in exchange for a fee paid to the government. A significant amount of the funding for constructing and maintaining highways originates from the United States Highway Trust Fund. This financial instrument derives most of its revenue streams from sources such as fuel and vehicle taxes. The fund was initially established in the late 1950s to finance the United States Interstate Highway System and other transportation projects. However, the Highway Trust Fund has been unable to meet obligations for highway and transit spending for over three years, and several billion U.S. dollars had to be incurred from the U.S. Treasury's general fund. In 2018, the public sector spent about 92.5 billion U.S. dollars on highway construction. Highway and road construction put in place in the United States is projected to grow to about 103 billion U.S. dollars by 2022. Highway and bridge construction is expected to vary across the United States, growing in about 20 states but remaining in stable in others. Some states have increased investment into transportation construction in recent years; since 2013, 15 states that have raised gas taxes for increased investments.

U.S. gross output originating from highway and street construction – including reconstruction, repairs and maintenance – amounted to around 70.3 billion U.S. dollars in 2017. The leading companies in the field of highway construction include Kiewit, Colas and Lane Construction. The highway construction industry has been recently limited by budgetary constraints and a lack of investment into transport infrastructure which has trickled through since the recession.

While the construction industry is inherently risky, proper safety and health training, as well as regular inspections and updated equipment, can mitigate some of these risks. Working to eliminate safety hazards associated with falls, falling objects and electrocution can save companies thousands per year.

Cost savings to the company are secondary to the obvious benefits of keeping workers safe. A safe workplace can also result in indirect benefits like a positive company reputation, the ability to recruit the best talent and improved employee morale.

Regardless of why a company decides to focus on workplace safety, it should be viewed as an essential task. It’s important that every construction crew member, even seasoned veterans, attend training and regular safety meetings. Even using simple methods, like using three points of contact approach of climbing on and off heavy machinery should be relearned.

When construction companies make safety a priority, everyone wins. And if you’re not in construction, staying aware and practicing things like road construction safety will help keep everyone safe.

Safe Patient Handling Stats and Facts

DID YOU KNOW?

Rates of musculoskeletal injuries from overexertion in healthcare occupations are among the highest of all U.S. industries. Data from the Bureau of Labor Statistics (BLS) show that in 2014, the rate of overexertion injuries averaged across all industries was 33 per 10,000 full time workers. By comparison, the overexertion injury rate for hospital workers was twice the average (68 per

10,000), the rate for nursing home workers was over three times the average (107 per 10,000), and the rate for ambulance workers was over five times the average (174 per 10,000). The single greatest risk factor for overexertion injuries in healthcare workers is the manual lifting, moving and repositioning of patients, residents or clients, i.e., manual patient handling.

Hospitals have high rates of nonfatal occupational injuries and illnesses. On average, U.S. hospitals recorded 6.4 work-related injuries and illnesses for every 100 full-time employees in 2013, compared with 3.3 per 100 full-time employees for all U.S. industries combined. In 2013, 34 percent of recorded hospital worker injuries nationwide that resulted in days away from work were associated with patient interactions. Safe patient handling programs can reduce injuries such as musculoskeletal disorders (MSDs). Reducing injuries not only helps workers, but also will improve patient care and the bottom line. If your hospital is considering developing or refining a comprehensive safe patient handling program to protect workers and patients, having the right data, evidence, examples, and tools can help ensure success. OSHA has developed a series of online resources to help you develop and implement safe patient handling assessments, policies, procedures, programs, training, and patient education in your hospital.

Patient Handling Ergonomics

Occupational safety and health programs have fostered research to identify injury risk factors and safety interventions to prevent injuries during patient handling. Evidence-based research has shown that safe patient handling interventions can significantly reduce overexertion injuries by replacing manual patient handling with safer methods guided by the principles of “Ergonomics.” Ergonomics refers to the design of work tasks to best suit the capabilities of workers. In the case of patient handling, it involves the use of mechanical equipment and safety procedures to lift and move patients so that health care workers can avoid using manual exertions and thereby reduce their risk of injury. At the same time, patient handling ergonomics seeks to maximize the safety and comfort of patients during handling.

One major source of injury to healthcare workers is musculoskeletal disorders (MSDs). In 2017, nursing assistants had the second highest number of cases of MSDs. There were 18,090 days away from work cases, which equates to an incidence rate (IR) of 166.3 per 10,000 workers, more than five times the average for all industries. This compares to the all-worker days-away from work rate of 30.5 per 10,000 workers.

These injuries are due in large part to overexertion related to repeated manual patient handling activities, often involving heavy manual lifting associated with transferring, and repositioning patients and working in extremely awkward postures. Some examples of patient handling tasks that may be identified as high-risk include: transferring from toilet to chair, transferring from chair to bed, transferring from bathtub to chair, repositioning from side to side in bed, lifting a patient in bed, repositioning a patient in chair, or making a bed with a patient in it.

Sprains and strains are the most often reported nature of injuries, and the shoulders and low back are the most affected body parts. The problem of lifting patients is compounded by the increasing weight of patients to be lifted due to the obesity epidemic in the United States and the rapidly increasing number of older people who require assistance with the activities of daily living.

The consequences of work-related musculoskeletal injuries among nurses are substantial. Along with higher employer costs due to medical expenses, disability compensation, and litigation, nurse injuries also are costly in terms of chronic pain and functional disability, absenteeism, and turnover. As many as 20% of nurses who leave direct patient care positions do so because of risks associated with the work. Direct and indirect costs associated with only back injuries in the healthcare industry are estimated to be $20 billion annually. In addition, healthcare employees, who experience pain and fatigue, may be less productive, less attentive, more susceptible to further injury, and may be more likely to affect the health and safety of others.

Industries where patient handling tasks are performed include:

- Long-Term Care (includes facilities that provide skilled or non-skilled nursing care);
- Acute Care – (includes hospitals, out-patient surgical centers, and clinics);
- Home Healthcare workers; and
- Others – such as physical therapists, radiologists, sonographers, etc.

Some examples of areas of a facility that may be identified as high-risk include: bathing rooms, extended care wings, and diagnostic units (e.g., radiology, emergency department, spinal unit, orthopedics department).

Given the increasingly hazardous biomechanical demands on caregivers today, it is clear the healthcare industry must rely on technology to make patient handling and movement safe. Patient transfer and lifting devices are key components of an effective program to control the risk of injury to patients and staff associated with lifting, transferring, repositioning or movement of patients. Essential elements of such a program include management commitment to implement a safe patient handling program and to provide workers with appropriate measures to avoid manual handling; worker participation in the assessment and implementation processes and the evaluation and selection of patient handling devices; a thorough hazard assessment that addresses high risk units or areas; investment in equipment; care planning for patient handling and movement; training for staff; and program review and evaluation processes. The education and training of healthcare employees should be geared towards assessment of hazards in the healthcare work setting, selection and use of the appropriate patient lifting equipment and devices, and review of research-based practices of safe patient handling.

The use of assistive patient handling equipment and devices is beneficial not only for healthcare staff, but also for patients. Explaining planned lifting procedures to patients prior to lifting and enlisting their cooperation and engagement can increase patient safety and comfort, and enhance their sense of dignity.

Hazards and Solutions (Transfer, Repositioning, and Lifting Devices)

Acute Care and Long Term Healthcare Workers

- **Safe Patient Handling Tools and Resources.** OSHA has developed a series of online resources to help hospitals develop and implement safe patient handling assessments, policies, procedures, programs, training, and patient education.
- **Beyond Getting Started:** A Resource Guide for Implementing a Safe Patient Handling Program in the Acute Care Setting. Association of Occupational Health Professionals in Healthcare (AOHP), (2014). This resource guide addresses patient handling with the goal of providing the necessary tools for occupational health professionals to implement a safe patient handling program.

The OSHA Hospital e-Tool specific modules that address safe patient handling include:

- A Patient Handling Program module
- An Ergonomics module
- A Patient Handling Controls module
- An Awkward Postures module
- Nursing Home eTool. OSHA, (2000). Assists employers and employees in identifying and controlling the hazards associated with nursing homes and residential care facilities.
- Guidelines for Nursing Homes: Ergonomics for the Prevention of Musculoskeletal Disorders(PDF). OSHA, (Revised 2009). These guidelines provide recommendations for nursing home employers to help reduce the number and severity of work-related musculoskeletal disorders (MSDs) in their facilities.
- Safe Lifting and Movement of Nursing Home Residents. U.S. Department of Health and Human Services (DHHS), National Institute for Occupational Safety and Health (NIOSH) Publication, No. 2006-117, (November 2006). This guide is

intended for nursing home owners, administrators, nurse managers, safety and health professionals, and workers who are interested in establishing a safe resident lifting program. This guide also presents a business case to show that the investment in lifting equipment and training can be recovered through reduced workers' compensation expenses and costs associated with lost and restricted work days.

Safety Data Sheets Stats and Facts

DID YOU KNOW?

Safety Data Sheets (SDS)

A safety data sheet, or SDS, is a standardized document that contains occupational safety and health data. The International Hazard Communication Standard (HCS) mandates that chemical manufacturers must communicate a chemical's hazard information to chemical handlers by providing a Safety Data Sheet. SDS's typically contain chemical properties, health and environmental hazards, protective measures, as well as safety precautions for storing, handling, and transporting chemicals.

Globally Harmonized System

GHS is a set of international guidelines that were developed by the United Nations. These guidelines were created to ensure the safe manufacturing, handling, use, disposal, and transport of hazardous materials. The GHS system is used to:

- Classify chemical data and hazard criteria.
- Identify a chemical's health, physical, and environmental

hazards.
- Provide chemical manufacturers and distributors with a well-defined system to communicate a chemical's hazard information and protective measures.

SDS Structure and Format

Safety data sheets have sixteen sections. The early sections, one through eight, focus on quick access to essential information that might be required by chemical handlers for safe handling practices or by emergency response personnel. Sections nine through eleven contain technical and scientific data, e.g., stability, reactivity, physical & chemical properties. Sections twelve through fifteen are not mandatory; however, they are required to be fully GHS compliant. The last section, section sixteen, contains information about the SDS itself, e.g., the revision date and changes since the last version.

SDS Information for Employers

Employers must ensure that employees have access to safety data sheets for all of the hazardous chemicals they handle. Employers may fulfill this requirement in a variety of ways. For example, SDS binders are quite common as are computer-based SDS databases. What's important is that employees have access to the safety data sheets for all of the chemicals that they are using. If the employer does not have an SDS for one of these chemicals they should contact the manufacturer to obtain the current version of the SDS for that chemical. In this sense, the online SDS databases have a clear advantage over binder-based systems since the database vendor usually takes care of indexing and updating the safety data sheets.

Reality Alert

A YMCA employee was hospitalized after inhaling a volatile mixture of two common pool chemicals. The poisonous chlorine gas vapors quickly spread through the Y, endangering more than 100 members, mainly children. A prompt response from the local fire department

and a hazardous materials team is the only reason injuries were not more serious. According to the Center for Disease Control, the employee's failure to follow the chemical guidelines could have resulted in dozens of fatalities. In addition to symptoms such as vomiting and skin blisters, chlorine gas can cause a fluid buildup in the lungs called pulmonary edema which can be fatal. The executive director stated the employees were familiar with the chemicals and attributed the incident as a failure to interpret the chemical's safety information.

Chemical Exposure Statistics

The Occupational Safety & Health Administration (OSHA) estimates that exposures to chemicals used for large-scale cleaning account for approximately 860,000 occupational illnesses and 60,000 deaths every year. Pool maintenance-related injuries account for more than 5,000 emergency room visits annually, according to the CDC. These statistics highlight the potential dangers chemicals pose, and why it's crucial to provide protection for their employees and patrons.

The chemical industry is one of the largest and most important industries worldwide. The United States is one of the largest national producers of chemical products globally. Including the pharmaceutical sector, its chemical shipments value was more than 797 billion U.S. dollars in 2019. The value added by U.S. chemistry in 2018 amounted to over 378 billion U.S. dollars.

Chemical companies from the United States are among the industry's leading global players. With a revenue of 42.9 billion U.S. dollars in 2019, Dow is the largest U.S. chemical company, and the world's second largest behind German chemical company BASF. Other leading U.S. chemical companies are LyondellBasell, and DuPont.

In 2016, several of the leading global chemical companies announced mergers, effectively changing the dynamics of the global chemical industry. One of the most famous mergers that happened at that time was the Dow Chemical and DuPont merger, which was cleared by European regulators in March 2017. Following the finalization of the merger in September 2017, the new

conglomerate DowDuPont existed as a single entity until April 2019, when it separated into three companies: Dow, DuPont, and agricultural chemistry company Corteva.

With the exception of Germany, the U.S. is the world's largest exporter of chemical goods. In 2019, U.S. chemical exports were worth some 196.5 billion U.S. dollars. The leading countries of destination for U.S. chemical exports were Canada, Mexico, and China. However, U.S. demand for chemical imports is also large. In 2019, these imports were worth around 102 billion U.S. dollars.

Corresponding with its dimension, the chemical industry is an important employer. Approximately 544,000 people work at U.S. chemical companies, including the pharmaceutical sector. This number is distinctly lower than in the late 1990s, when almost one million employees were reported. In 2019, an average U.S. chemical production worker had a working week of 42.3 hours, and in 2019 had an hourly wage of 25.40 U.S. dollars.

The U.S. chemical industry spends relevant amounts for research and development. In 2019, more than ten billion U.S. dollars were spent for R&D purposes in the chemical industry. That means that R&D funds have almost doubled over the last decade. Accordingly, the United States is the global leader in developing new chemical and pharmaceutical entities.

What do Safety Data Sheets Contain?

OSHA has issued an update to the old Material Safety Data Sheets (MSDS) requirements. The new requirements for Safety Data Sheets include 16 specific sections that, according to OSHA, are "ensuring consistency in presentation of important protection information." However, they are still similar to the old Material Safety Data Sheets in that they still contain information about the properties of a particular substance. They should be available for all chemicals and substances and they're designed to provide workers and emergency personnel with proper procedures for handling a specific substance. The new update requires SDS to be in a **uniform format** and include this information (from OSHA's SDS Quick Card and Appendix D):

- **Section 1, Identification:** includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use.
- **Section 2, Hazard(s) identification:** includes all hazards regarding the chemical; required label elements.
- **Section 3, Composition/information on ingredients:** includes information on chemical ingredients; trade secret claims.
- **Section 4, First-aid measures:** includes important symptoms/effects, acute, delayed; required treatment.
- **Section 5, Fire-fighting measures:** lists suitable extinguishing techniques, equipment; chemical hazards from fire.
- **Section 6, Accidental release measures:** lists emergency procedures; protective equipment; proper methods of containment and cleanup.
- **Section 7, Handling and storage:** lists precautions for safe handling and storage, including incompatibilities.
- **Section 8, Exposure controls/personal protection:** lists OSHA's Permissible Exposure Limits (PELs); ACGIH Threshold Limit Values (TLVs); and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the SDS where available, as well as appropriate engineering controls; personal protective equipment (PPE).
- **Section 9, Physical and chemical properties:** lists the chemical's characteristics.
- **Section 10, Stability and reactivity:** lists chemical stability and possibility of hazardous reactions.
- **Section 11, Toxicological information:** includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity.
- **Section 12, Ecological information:** includes information on Eco toxicity and other adverse environmental effects.
- **Section 13, Disposal considerations:** a description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging.

- **Section 14, Transport information:** includes special precautions, which a user needs to be aware of, or needs to comply with, in connection with transport or conveyance either within or outside the premises.
- **Section 15, Regulatory information:** safety, health and environmental regulations specific for the product in question.
- **Section 16, Other information:** includes the date of preparation or last revision.

Properly Displaying Safety Data Sheets

The requirements for displaying SDS have stayed the same with the new update from OSHA. The main requirement for SDS is that they're maintained on site, are readily accessible, and are available for every product used in the facility, including products brought from home. It's important all employees not only know where every SDS is kept, but **have access to them at all times** without barriers. This means they should not be stored on a password protected computer, locked inside a room or file cabinet, or stored in hard-to-find places. Employees should not have to ask a supervisor for a SDS. Large facilities with multiple sites must maintain complete and up-to-date SDS at every location. SDS may be maintained electronically, but this method must be barrier free, without any password protection or log-in barriers. Electronically-stored SDS must be backed up by a hard copy in case of a power outage or computer malfunction. There are no specific guidelines for organizing SDS outlined by OSHA; typically, they're organized in a three-ring binder or some other type of folder.

PPE – Respiratory Stats and

Facts

DID YOU KNOW?

You might need respiratory protection if inhalation hazards exist in your work environment. If you wear a respirator at UW, you must use it according to the UW Respiratory Protection Program designed to protect employees and students by establishing accepted practices for assessing respiratory hazards and selecting, using and caring for respirators.

Occupational respiratory disease surveillance is the ongoing, systematic collection, analysis, and dissemination of health and hazard data to monitor the extent and severity of occupationally-related lung disease and related workplace exposures for use in public health education and in disease prevention.

Since 2009, OSHA's Respiratory Protection Standard has consistently ranked fourth on the agency's annual Top 10 List of Most Frequently Cited Standards. Despite the wealth of OSHA guidance and compliance resources available to employers, not to mention an entire industry dedicated to respiratory PPE, air quality monitoring and engineering control technologies, it's clear that many employers continue to struggle with respiratory protection in the workplace.

Respiratory Protection: A Matter of Life & Death

NIOSH National Occupational Respiratory Mortality System (NORMS) data shows that between 2006 and 2016, 51,822 U.S. residents died from occupational-related respiratory illnesses. That's an average of more than 5,000 each year. In 2016 alone, occupational-related respiratory illnesses took the lives of 4,500 Americans. That's nearly equal to the total number of U.S. workers killed on-the-job during that same year (5,190). That makes occupational respiratory illness the single greatest cause of occupational fatalities.

These numbers can be a little confusing. To help clear things up, we first need to draw the distinction between on-the-job fatalities versus occupational-related fatalities. Respiratory exposure to harmful substances rarely results in immediate, on-the-job fatality. In fact, the BLS Census for Fatal Occupational Injuries (CFOI) 2011-2017 shows that in 2016, inhalation of harmful substances resulted in just 39 of the 5,190 on-the-job fatalities recorded that year. For comparison, the CFOI showed that the most common cause of on-the-job fatalities in 2016 was transportation-related incidents which resulted in 2,083 worker deaths. Sadly, it is almost always the case that occupational respiratory mortality is due to years of repeated exposures that eventually result in chronic, terminal respiratory illnesses like silicosis, mesothelioma, pneumoconiosis and other lung diseases. By the time workers are aware of their symptoms, it’s often too late.

Thankfully, major revisions to OSHA’s Respiratory Protection Standard introduced in 1998 have helped to gradually lower the rate of fatal occupational respiratory illness from greater than 24 per 100,000 workers pre-1998, to around 15 per 100,000 workers by 2016.

Pre-Job Briefings Stats and Facts

DID YOU KNOW?

Implementation of operation and management control over all activities within the facility, plant or factory premises remains the formative step towards compliance and safe works.

Due to the interdependent nature of HSE, O&M and management – overlap of roles, responsibilities and execution presents itself

as a shape-shifting challenge.

Pre-job brief or briefing is a sure shot and tested way towards preventive asset management. The task execution, its associated crew and the equipment or site in question contains all these hurdles and riddles that need to be overcome and should be answered in the best possible manner.

For some people, a bad day at work means missing a deadline or getting yelled at by your boss. For others, it means a serious injury – or worse.

There were 5,250 workplace deaths last year, a slight increase from 2017, according to new data from the Bureau of Labor Statistics. The rate of fatal work injuries remained unchanged at 3.5 per 100,000 workers.

“We’re treading water when it comes to worker safety,” says Ken Kolosh, the statistics manager for the National Safety Council. “We need to do a better job of protecting workers. Death on the job is not what it should take to get the job done.”

The most common workplace deaths were related to transportation, with transportation accidents accounting for more than 2,000 work-related deaths. That’s 40% of all work-related fatalities.

The second-most common workplace fatalities involved contact with objects and equipment, which increased 13% to 786 incidents last year. The increase reflected a 39% spike in the number of workers caught in running equipment or machinery, and a 17% increase in the number hit by falling objects or equipment.

Many of the most dangerous jobs on the list, including fishing, farming, logging, and roof construction are also socially important, notes Robert Hughes, an assistant professor in the legal studies and business ethics department of the Wharton School at the University of Pennsylvania.

“We need food, we need homes with roofs, and a society like ours couldn’t do without lumber,” he said. “Jobs that involve driving are dangerous, but our society can’t do without drivers.”

Still, employers have an ethical (and legal) obligation to provide a safe work environment.

First-line supervisors of landscaping, lawn service, and groundskeeping workers

- Fatal injuries per 100,000 full-time equivalent workers: 20.2
- Total fatal injuries: 142
- Most common fatal accidents: transportation incidents
- Total non-fatal injuries: 1,990
- Median annual wage: $47,030
- Number of workers: 100,320

Recordkeeping-Reporting Stats and Facts

DID YOU KNOW?

According to the U.S. Department of Labor, slips, trips and falls (STFs) were responsible for more than 308,000 non-fatal workplace injuries in 2012 (the most recent data available). STFs rank second it accidental deaths behind motor vehicle crashes.

Unfortunately, there is no way to 100% guarantee that injuries won’t happen on your job site. The bad news is that accidents do happen from time to time.

But there *is* good news!

There are preventative measures that can be taken to decrease the risks of injuries and/or fatalities on the job.

Of course, there are many ways to increase safety, but one basic measure is to have an effective housekeeping plan. **Housekeeping** is

defined by OSHA as the practice of maintaining a clean, clutter-free, organized work site that eliminates or greatly reduces the risk of a slip, trip or fall.

It may seem minute, but the consequences of neglecting work site housekeeping are not.

Your Business is Greatly Effected

For employers, it is costly not to invest time into putting together a plan. Injured workers lead to:

- An increase in spending to recruit and properly train temporary workers
- A decrease in efficiency
- A decrease in the number of days worked on the job site
- An increase in workers' compensation premiums

How To Create a Safer Work Environment Using a Housekeeping Plan

1. **Conduct an inspection at your work site to expose the possible trouble areas for slips, trips and falls.** Some common types of hazards leading to STFs are: inadequate lighting, electrical cables, unexpected placement of equipment, loose flooring, uneven walking surfaces. There are many more – and each list will differ from job site to job site.
2. **Create a plan for how to eliminate these potential hazards.** Strategize in order to envision what your work site would look like without those trouble areas. Then, devise your plan for how to achieve this! Again, this will look different for every work environment, but your plan could include things like: assigning cleaning responsibilities to specific employees, ensuring employees are wearing proper footwear on the job, making sure light switches are easy to locate, create extra storage space for cables and tools. Your list will be specific to your job site needs.
3. **Make this a part of your daily routine.** Housekeeping is not a "every so often" thing, nor is it a "whenever we think of it" thing. Housekeeping practices must be maintained and

kept-up with in order to be effective.

4. **Employees must be trained in your housekeeping practices.** In order for your housekeeping plan to work, you and your employees must be on the same page. Mandatory training programs will allow workers to hear the end goal of your specific housekeeping plan. Each employee should understand his/her role in keeping the work site safe.

It's normal for these plans to evolve with your work site as it undergoes change. But, we promise you will not regret putting together a good housekeeping plan to stick to!

When creating a safer, more sanitary workplace, don't overlook the simple steps. Relatively minor issues can add up over time, contributing to issues that take a serious toll on your employees' health and safety. Housekeeping is one such issue. While organizing and cleaning your workplace may seem like a minor concern, it has a powerful impact on safety and sanitation over the long run. The more consistent you are about housekeeping, the easier and less expensive it is to avoid issues like:

Slip & Fall Accidents

Slip and fall incidents are the second most common source of injury in the workplace, and the quality of your housekeeping is directly related to these risks. To understand this, it's important to consider all the ways in which poor organization or cleanliness can cause people to fall, such as by:

Creating Obstacles– If you have boxes, files, and other storage items strewn around your office, employees may trip over them. You can keep this problem to a minimum by creating a designated storage area and informing employees of its location.

Leaving Slippery Spots– When you spill oil, grease, and other liquids on hard floors, you put anyone who walks on these floors at risk of slipping. To limit this problem, designate certain areas for eating and drinking, and dissuade employees from bringing food and drink anywhere else. You should also clean up any spills that happen as soon as possible.

Ignoring Torn Carpets— When your carpets become torn at the edges, people risk tripping as they walk over them. You should thus repair torn parts of your flooring as quickly as possible, and mark it off in the meantime.

Few people who suffer slip and fall accidents see them coming. Thus, the better you are at eliminating sources of such accidents, the less likely they are to happen.

Needlesticks and Sharps Stats and Facts

DID YOU KNOW?

According to the Centers for Disease Control and Prevention (CDC), about 385,000 sharps injuries occur annually to hospital employees.

Potential Hazard

Exposure to blood and other potentially infectious materials (OPIM) because of:

- Unsafe needle devices.
- Improper handling and disposal of needles and other sharps.

Possible Solutions

- Use safer needle devices and needleless devices to decrease needlestick or other sharps exposures. See Safer Needle Devices.
- Properly handle and dispose of needles and other sharps according to the Bloodborne Pathogens Standard.

OSHA estimates 5.6 million workers in the U.S. healthcare industry are at risk of occupational exposure to bloodborne pathogens via

needlestick injuries and other sharps-related injuries.

Each year 384,000 needlestick injuries and other sharps-related injuries are sustained by hospital-based healthcare personnel. This equates to an average of around 1,000 sharps injuries occur per day in U.S. hospitals.

Including other non-acute healthcare facilities, it is estimated that 600,000 healthcare personnel incur a needlestick injury each year in the U.S.

40% of injuries occur after use and before disposal of sharp devices, 41% of injuries occur during the use of sharp devices on patients, and 15% of injuries occur during or after disposal (CDC unpublished data)

Direct and Indirect Costs of Needlestick Injuries

Approximately 1000 needlestick injuries occur per day in the United States, leading to $1 Billion in unnecessary costs for healthcare providers. This amounts to $3042 per victim. The costs are attributed to laboratory fees for testing exposed employees, labor associated with testing and counseling, and the costs of post-exposure follow-ups.

As the CDC’s Sharps Safety Workbook points out, other costs are more difficult to quantify: the emotional costs associated with fear and anxiety about possible consequences of an exposure, direct and indirect costs associated with drug toxicities and lost time from work, and the societal cost associated with an HIV or HCV seroconversion; including the possible losses of a workers’ services in patient care, the economic burden of medical care, and any associated litigation costs.

A report from the Centers for Disease Control and Prevention (CDC) in the United States lists the following percentages for injury rates from a study with data collected from 1995 to 2007:

Injuries involving hollow-bore needles:

- During or after disposal: 22%

        - In transit to disposal.
        - Improper disposal.
        - During disposal.
    - After use, before disposal: 19%
        - Activation of safety feature.
        - Recap needle.
        - During clean
    - During use: 52%
        - Access IV line.
        - Transfer/process specimens.
        - Pass/transfer equipment.
        - Collision with sharp or worker.
        - Insertion or removal of needle.

Injuries involving solid sharps:

    - During or after disposal: 3%
        - In transit to disposal.
        - During disposal.
    - After use, before disposal: 15%
        - Sharp left in unusual location.
        - During clean up.
    - During use of the item: 70%
        - Processing specimen.
        - Collision with sharp or worker.
        - Manipulate sharp in patient.
        - Handle, pass, transfer equipment or specimen.
        - Suture needle handling.
        - Other

Equipment design, nature of the procedure, condition of work, staff experience, recapping, and disposal have all been mentioned as factors that influence these occurrences.

By The Numbers: New-Young Worker Safety

DID YOU KNOW?

Young workers have high rates of job-related injury. These injuries are often the result of the many hazards present in the places they typically work, such as sharp knives and slippery floors in restaurants. Limited or no prior work experience and a lack of safety training also contribute to high injury rates. Middle and high school workers may be at increased risk for injury since they may not have the strength or cognitive ability needed to perform certain job duties.

Fast Stats:

- In 2018, there were about 19.4 million workers under the age of 24. These workers represented 12% of the total workforce1.
- In 2017, 377 workers under the age of 24 died from work-related injuries2.
- In 2017, there were 22 deaths to workers under 18 years of age2.
- In 2017, the incidence rate for non-fatal injuries for workers, ages 16–19, was 112.1 per 10,000 full-time employees (FTE) and 96.3 per 10,000 FTE for workers, ages 20–243.
- In 2017, the rate of work-related injuries treated in emergency departments for workers, ages 15–19, was 1.25 times greater than the rate for workers 25 years of age and older4.

Workers new to a job are three times more likely to be injured during the first month on the job than more experienced workers.

“Young workers” are under the age of 25. “New workers” can be of any age who are on the job for less than six months or who are assigned to a new job.

Between 2011 and 2015, 33 young workers aged 15 to 24 died in work-related incidents, according to Workplace Safety and Insurance Board (WSIB) statistics. In 2015, five young workers died.

Between 2011 and 2015, the WSIB approved 31,689 lost-time claims from young workers. In 2015 alone, injuries to young workers resulted in more than 6,400 lost-time claims. More than 60 per cent (4,072) of those claims were from male workers.

In 2015, many of the injured young workers aged 15 to 19 years old were food counter attendants and kitchen helpers. Many of the injured young workers aged 20 to 24 years old were laborer's in processing, manufacturing and utilities.

Getting that first job is an exciting time. For the young worker, there's the euphoria of disposable income combined with the confidence boost of learning someone other than a family member or coach is willing to give them a chance. Nowhere on the radar are there thoughts of being injured, maimed, or even worse during that initial foray into the workforce. But grim statics show there's reason for concern. And it's the collective responsibility of all involved—employers, parents, educators, and the young workers—to take accountability to ensure that first job doesn't end in tragedy.

The Occupational Safety and Health Administration views "young workers" as employees under the age of 25. Assistant Secretary of Labor Dr. David Michaels pointed out in a June 24, 2014, U.S. Department of Labor blog that young workers are twice as likely to be injured on the job as older workers. OSHA statistics also reveal that one teenaged worker is injured on the job every nine minutes. And when it comes to workplace fatalities, where even one is one too many, in 2014, 351 young workers were killed on the job, with 21 of the victims younger than 18.

Why are young workers so much more likely to be injured on the job? This question makes me reflect back on my workplace injuries. I've been injured to the point of needing emergency room treatment twice in the past 36 years, and both incidents occurred prior to

me turning 21. The first event required stitches after I took a rock to the head on an excavation work site. Hard hats were readily available and we were encouraged, but not required, to wear them. After the stitches, I was a hard hat convert. The second incident resulted in a tetanus shot. I stepped on a nail while assisting on a maintenance project at a manufacturing facility. From what I remember, safety footwear with puncture resistant midsoles was not worn; they were definitely not required at that facility.

It's almost that time of the year for high school and college students. School's out for the summer! While most would like to kick back and spend the summer at the beach, the reality is most youth will be entering the work force in full or part time positions. For many this may be their first job, some may have just finished their degree or diploma and finally able to work in their chosen field. In Alberta, youth, (ages 15-24) represent approximately 323, 300 workers in Alberta. Of all the Canadian provinces, Alberta had the second lowest youth unemployment rate at 10.7%. With all these young workers eagerly entering the workforce, it is important they are aware of the risk associated with employment and how they can prepare for a safe and long-lasting career!

More stats about youth workers:

- Workers with less experience are more likely to be injured than those with a year or more of experience?
- Over 50 per cent of all incidents involving young workers occur during their first six months on the job.
- Youth workers are 1/3rd more likely to get injured than those workers over 25
- Youth workers had the highest lost time and disabling injury frequency in 2015
- Males, age 15-24 you are more likely to get injured on the job than any other worker.

Why are young workers getting injured on the job?

While ALL workers are at risk for injuries on the job, here are

some reasons that explain why young workers are at a greater risk for injury at work:

- Lack of training and work experience
- Lack of confidence or understanding of their rights as workers
- Lack of preparation for the workplace
- Being given more dangerous jobs
- Feeling of invincibility
- Unwillingness to ask questions
- Being distracted and having other things on their mind

Noise Stats and Facts

DID YOU KNOW?

Each year, about 22 million external U.S. workers are exposed to hazardous noise levels at work. Over 30 million external U.S. workers are exposed to chemicals, some of which are harmful to the ear (ototoxic) and hazardous to hearing. In addition to damaging workers' quality of life, occupational hearing loss carries a high economic price to society.

The Center for Disease Control (CDC) estimates that 22 million workers are exposed to potentially damaging noise at work each year. Whether you work at a sports venue, on a tarmac, or operate a jackhammer—hearing loss is preventable.

If you need to raise your voice to speak to someone 3 feet away, noise levels might be over 85 decibels. Several sound-measuring instruments are available to measure the noise levels in a workspace. These include sound level meters, noise dosimeters, and octave band analyzers.

Noise may be a problem in your workplace if you:

- Hear ringing or humming in your ears when you leave work.
- Have to shout to be heard by a coworker an arm’s length away.
- Experience temporary hearing loss when leaving work.

The National Institute for Occupational Safety and Health (NIOSH) Sound Level Meter App is one tool available to the public to download on mobile iOS devices that measures sound levels in the workplace and provides noise exposure parameters to help reduce occupational noise-induced hearing loss.

Workers in 75.0 percent of civilian jobs were exposed to moderate noise levels at work in 2016. Another 13.3 percent were exposed to loud noise levels and 0.7 percent to very loud levels. Workers in construction and extraction occupations were mostly exposed to loud work (49.6 percent of jobs) or very loud work (7.9 percent). More than 7 in 10 carpenters and operating engineers and other construction equipment operators were exposed to loud work environments in 2016.

In food preparation and serving related occupations, 16.5 percent of jobs were exposed to loud work environments, and 82.1 percent were exposed to moderate noise during a typical work day. Bartending jobs were about evenly split between workers exposed to a loud work environment (44.7 percent) or a moderate noise environment (46.7 percent) in 2016.

- About 25% of all workers have been exposed to hazardous noise, with 14% (22 million) exposed in the last year.
- 34% of noise-exposed workers report not wearing hearing protection.

Hearing Loss and Tinnitus

- Approximately 12% of all workers have hearing difficulty.
- About 8% of all workers have tinnitus.
- About 16% of noise-exposed tested workers have a material hearing impairment.4 Hearing impairment is hearing loss that impacts day-to-day activities.
- 13% of noise-exposed tested workers have hearing impairment in both ears.

Trends in Hearing Loss Among Noise-Exposed Tested Workers (1981-2010)

- The prevalence for all industries combined decreased less than 1% over 30 years (1981-2010).
- The incidence for all industries combined decreased 2% over 25 years (1986-2010).
- The adjusted risk for all industries combined decreased 46% over 25 years (1986-2010).

OCCUPATIONAL HEARING LOSS

- The National Institute for Occupational Safety and Health (NIOSH) recommends that workers are not exposed to noise at a level that amounts to more than 85 decibels (dBA) over 8 continuous hours.
    - NIOSH estimates that 30 million U.S. workers are exposed to noise levels high enough to cause irreversible hearing loss.
- According to the S. Bureau of Labor Statistics, more than 20,000 workplace hearing loss cases occur annually, many resulting in permanent hearing loss.
- An estimated 24% of hearing loss in the United States has been attributed to workplace exposure, according to the Centers for Disease Control and Prevention
    - Research also shows that stronger occupational regulation of noise leads to safer sound levels.

EMPLOYMENT AND ECONOMIC COSTS

- 48% of people who have hearing loss were employed in 2014, but about the same amount (47%) are not in the labor force.
    - Adults with hearing loss are more likely to have lower education, lower income, and be unemployment or underemployment, compared with their typical-hearing peers.
- Individuals with hearing loss also experience greater

difficulties in employment transition and career development, compared with those with typical hearing.

- Untreated hearing loss can decrease one's annual income by as much as $30,000. The yearly cost to society is estimated to be as high as $26 billion in unrealized federal taxes; and an estimated aggregate yearly income loss of $176 billion due to underemployment.
    - For those who did collect an income, individuals with hearing loss made about 25% less; their mean wage was $23,481, compared with $31,272 for typical-hearing peers.
    - Hearing aids were shown to reduce the risk of income loss by 90 to 100% for those with milder hearing loss, and from 65 to 77% for those with moderate to severe hearing loss.
- Untreated hearing loss shows a higher rate of unemployment:
    - Those with severe hearing loss had an unemployment rate (15.6%) double that of the typical-hearing population (7.8%), and nearly double that of their peers (8.3%) who use hearing aids. (BHI)

Off-the-Job Stats and Facts

The most recent statistics from the Association of Workers' Compensation Boards of Canada (AWCBC) tell us that in 2018, 1027 workplace fatalities were recorded in Canada, an increase of 76 from the previous year. Among these deaths were 27 young workers aged 15-24.

Add to these fatalities the 264,438 accepted claims (an increase from 251,508 the previous year) for lost time due to a work-related injury or disease, including 33,058 from workers aged 15-24, and the fact that these statistics only include what is

reported and accepted by the compensation boards, there is no doubt that the total number of workers impacted is even greater.

And it's not just these numbers on which we need to reflect. With each worker tragedy there are loved ones, family members, friends and co-workers who are directly affected, left behind, and deeply impacted – their lives also forever changed.

One of the challenges in workplace safety and health is the rapid growth of new occupations like the solar photovoltaic installer, which is expected to grow by nearly 105% over the next several years, and the wind turbine service technician, which is expected to grow by over 96%.

Several other rapidly growing occupations include jobs in the healthcare field:

- Home health aide, expected to grow 47.3% by 2016;
- Personal care aide, expected to grow 38.6%;
- Physician's assistant, expected to grow 37.5%;
- Nurse practitioner, expected to grow by 36.1%; *and*
- Physical therapist assistant, expected to grow by 31%.

Digital transformation, globalization, and technological innovations have accelerated the speed at which work changes, according to NIOSH. Complex, emerging workforce issues confronting both employers and workers include:

- An aging workforce;
- Concerns about gender pay and employment disparities;
- Recruiting and retaining workers in highly competitive labor markets;
- Shifting employment relationships like contingent or "gig" employment; *and*
- Uncertainty about how best to manage new technologies entering into the workplace

Statistics:

- 90% of job seekers say that it's important to work for a company that embraces transparency.

- 79% of job seekers say they are likely to use social media in their job search
- On average, each corporate job offer attracts 250 resumes. Of those candidates, 4 to 6 will get called for an interview, and only one will get the job.
- 1 in 6 candidates who applied for a job were asked for an interview.
- Recruiters take an average of 6 seconds to scan a resume.
- 87% of recruiters use LinkedIn to check candidates.
- After finding a job offer, 64% of candidates said they research a company online and 37% said they will move on to another job offer if they can't find information on the company.
- **Top 5 pieces of information job seekers want employers to provide as they research where to work:**
    - Details on compensation packages
    - Details on benefits packages
    - Basic company information
    - Details on what makes the company an attractive place to work
    - Company mission, vision and values
- 91% of employers prefer their candidates to have work experience, and 65% of them prefer their candidates to have *relevant* work experience.
- 87% of Millennials rate professional career growth and developmental opportunities as important to them in a job.
- Nearly 80% of Millennials look for people and culture fit with employers, followed by career potential.
- In 2015, 51% of those who did have jobs were searching for new ones or watching for openings.
- American Millennials are now more likely to say they will stay 5+ years with a company than to leave within 2 years.
- Average time-to-hire a new employee was 39 days in 2016, down from 43 days in 2015.
- 50% of candidates say they wouldn't work for a company with a bad reputation – even for a pay increase.
- 92% would consider leaving their current jobs if offered

another role with a company that had an excellent corporate reputation.

- 69% of job seekers are likely to apply to a job if the employer actively manages its brand.
- Average cost per hire for companies is $4,129.
- 33% of American workers are engaged at work vs. 70% of workers at the world's best organizations.
- 61% of employees say the realities of their new job differ from expectations set during the interview process.
- 80% of job seekers believe their companies foster diversity at work.
- Ethnically diverse companies are 35% more likely to have a financial performance above the industry mean.
- 41% of US employers plan to use text messages to schedule job interviews.
- By 2016, only 19% of recruiters were investing in a mobile career website.
- 78% of 2017 grads completed an internship or apprenticeship.
- 97% of 2017 grads said they will need on-the-job training to further their careers.
- Current unemployment rate in the US is 4.4% with the number of unemployed people at 7 million.
- Long-term unemployed (longer than 6 months) make up 24.3% of the unemployed at 1.7 million.
- The average length of a workweek was 38.7 hours in 2015, up from 38.1 hours in 1980.
- Average number of weeks worked per year increased from 43 in 1980 to 46.8 in 2015. (Combined, it adds up to an additional month of work per year.)
- In 2015, 51% of those who did have jobs were searching for new ones or watching for openings.
- 89% of Glassdoor users are either actively looking for jobs or would consider better opportunities.
- 87% of organizations cite culture and engagement as one of their top challenges, and 50% call the problem "very important."
- **Current job satisfaction statistics for American workers:**
    - Very Satisfied – 49%

    - Somewhat Satisfied – 30%
    - Dissatisfied – 9%
    - Very Dissatisfied – 6%

- In 2014, 51% of workers had worked for their current employer for 5+ years compared to 46% in 1996.
- Job seekers will spend an average of 11 hours a week looking for work.
- Only 12% of employees agree that their company does a good job of onboarding new employees.
- 33% of American workers are engaged at work vs. 70% of workers at the world's best organizations.
- In 2015, Millennials became the dominant demographic on the labor market.
- Millennials have the highest rates of unemployment and underemployment.
- **Do workers think their credentials and qualifications match up with the requirements of their jobs:**

    - Overqualified – 41%
    - Qualified – 50%
    - Underqualified – 9%

- 68% of employees believe they are overqualified for their current job.
- 44% of recent grads found it difficult or extremely difficult to find a job.
- 49% of recent grads accepted a lower salary or compromised on benefits.
- Jobs requiring social skills have grown 83%.
- Jobs requiring analytical skills (computer / critical thinking) grew 77%.
- Jobs requiring both social and analytical skills have grown 94% since 1980.
- **Top trends for the future of recruiting:**

    - More Diverse Candidates – 37%
    - Focus on Soft Skills Assessment – 35%
    - Investment in Innovative Interviewing Tools – 34%
    - Company Mission Used as a Differentiator – 33%

    - Big Data – 29%

- 95% of recruiters say that hiring will remain as competitive in 2017 as it was in 2015 and 2016.
- On average, each corporate job offer attracts 250 resumes. Of those candidates, 4 to 6 will get called for an interview, and only one will get the job.
- Average number of applicants per job was 52 in 2016, down from 59 in 2015.
- 63% of recruiters say talent shortage is their biggest problem.
- Average time-to-hire a new employee was 39 days in 2016, down from 43 days in 2015.

Office Safety Stats and Facts

DID YOU KNOW?

The most recent figures from the Bureau of Labor Statistics were released in December 2018 and come from the year 2017, for which the final numbers have recently been released. The U.S. Bureau of Labor Statistics (BLS) data reveals that workplace deaths jumped 7% from 2015 to 2016, and stayed roughly the same thru 2017, leading to the deaths of 5,147 workers across all industries in 2017. A surprisingly large segment of these workers were 65 years old or older.

WORKPLACE DEATHS BY EVENT

The leading cause of workplace deaths was overwhelmingly motor vehicle accidents. Roughly 40% of workplace deaths occurred in transportation incidents. Other leading causes were fall/slips and trips, deaths from being struck by objects or equipment, and exposure to harmful chemicals.

- Transportation incidents – 40%
- Falls, slips, trips – 17%
- Violence and other injuries by persons or animals – 16%
- Contact with objects and equipment – 14%
- Exposure to harmful substances or environments – 10%
- Fires and explosions – 2%

WORKPLACE DEATHS BY INDUSTRY

The industries with the highest amounts of fatal injuries were, unsurprisingly, the construction industry and the transportation industry. Construction deaths decreased slightly in 2017, but transportation deaths increased in the same period. Agricultural and forestry fatalities remained mostly consistent.

- Construction deaths: 971
- Transportation deaths: 882
- Agriculture and forestry deaths: 581
- Government workplace deaths: 473
- Waste management deaths: 460
- Retail deaths: 287

OCCUPATIONS WITH HIGHEST RATES OF WORKPLACE DEATH

According to the 2017 data, commercial fishermen may have the most dangerous job in the country. There were 99.8 fatalities for every 100,000 full-time workers. While the fatality rates decreased for logging and fishing, that may be due to increasing rates in other industries. Below are the top ten occupations with the highest rate of workplace fatalities.

- Fishers and related fishing workers – 99.8
- Logging Workers – 84.3
- Aircraft pilots and flight engineers – 48.6
- Roofers – 45.2
- Refuse and recyclable material collectors – 35
- Structural iron and steel workers – 33.4

- Driver/sales workers and truck drivers– 26.8
- Farmers, ranchers and other agricultural managers – 24
- First-line supervisors and construction trades and extraction workers – 21
- Grounds maintenance workers – 18.7

WORKPLACE DEATHS BY STATE

Texas, with its large population and booming construction and oil and gas industries, accounted for over 10.4% of all workplace deaths. Below are the states that suffered the most workplace fatalities in 2017.

- Texas – 534
- California – 376
- New York – 313
- Florida – 299
- Georgia – 194
- North Carolina – 183
- Ohio – 174
- Pennsylvania – 172
- Illinois – 163
- Michigan – 153
- Indiana – 138
- Virginia – 118

WORKPLACE DEATHS BY CITY

The United States cities that had the most number of workplace deaths are largely the most populated cities in the country. Not surprisingly, New York City led the nation with 215 fatalities, followed by Chicago, Houston, and Dallas.

- New York City – 215
- Chicago – 102
- Houston – 101
- Dallas – 95
- Los Angeles – 94
- Miami – 80

- Boston – 74
- Atlanta – 70
- Washington D.C. / Alexandria, VA – 63
- Detroit – 62
- San Bernardino – 54
- Baltimore – 45

The enormous burden of poor working conditions

The ILO estimates that some 2.3 million women and men around the world succumb to work-related accidents or diseases every year; this corresponds to over 6000 deaths every single day. Worldwide, there are around 340 million occupational accidents and 160 million victims of work-related illnesses annually. The ILO updates these estimates at intervals, and the updates indicate an increase of accidents and ill health.

The estimated fatal occupational accidents in the CIS countries is over 11,000 cases, compared to the 5,850 reported cases (information lacking from 2 countries). The gross underreporting of occupational accidents and diseases, including fatal accidents, is giving a false picture of the scope of the problem.

Some of the major findings in the ILO's latest statistical data on occupational accidents and diseases, and work-related deaths on a world-wide level include the following:

- Diseases related to work cause the most deaths among workers. Hazardous substances alone are estimated to cause 651,279 deaths a year.
- The construction industry has a disproportionately high rate of recorded accidents.
- Younger and older workers are particularly vulnerable. The ageing population in developed countries means that an increasing number of older persons are working and need special consideration.

Attached you find the ILO estimates divided by geographical areas. The estimates for the CIS countries can be found in the FSE area.

Outdoor-Animal Hazards Stats and Facts

DID YOU KNOW?

A recent summary of farm accidents data from 15 states shows that animals were a factor in about one of every eight injuries reported, ranking second to farm machinery in total number of cases. However, animal-related injuries on the average are less severe than those involving machinery with fewer than 100 resulting in death each year. Still, many animal related injuries are serious and involve considerable loss of time, money and productivity.

A closer look at animal related injuries from farm accident survey data indicate that most of the victims were males when it came to cattle and hogs, but females approached males in the number of injuries involving horses and pets.

As to age of victim, youngsters (5- 14) were most often bitten by dogs, but cow-related accidents found more victims among the 45-64 age group. Horse-related injuries were suffered most often by youngsters (5-14) and young adults (15-24) while the mature folks (25-44, 45-64) were the target of most mishaps involving hogs.

Most of the cattle and hog-related injuries were suffered in farm buildings or adjacent lots. Most with horses happened outside in barnyards, fields, lanes, woods and along public roads. Dogs more often than not bit people in home yards.

Common things cows did to hurt people were to kick or step on them, and catch people or their limbs between themselves and hard objects or surfaces. Many falls also occurred while tending cows. Hogs bit, stepped on and knocked people down. Dog bites were a common source of injury. Accidents involving horses and bulls were

more likely to result in serious in jury than mishaps with other animals.

Importantly, farm family members were by far the most frequent victims of animal-related accidents, with hired help and visitors accounting for less than 10 percent.

Who’s at Risk?

- Approximately 2,038,000 full-time workers were employed in production agriculture in the US in 2018.
- Approximately 1.4 to 2.1 million hired crop workers are employed annually on crop farms in the US.
- An estimated 893,000 youth under 20 years of age resided on farms in 2014, with about 454,000 youth performing farm work. In addition to the youth who live on farms, an estimated 266,000 youth were hired to work on US farms in 2014.

Fatalities

- In 2017, 416 farmers and farm workers died from a work-related injury, resulting in a fatality rate of 20.4 deaths per 100,000 workers. Transportation incidents, which include tractor overturns were the leading cause of death for these farmers and farm workers.
- The most effective way to prevent tractor overturn deaths is the use of a Roll-Over Protective Structure (ROPS) with a seatbelt. In 2014, 62% of tractors used on farms in the US were equipped with ROPS. If ROPS were placed on all tractors used on US farms manufactured since the mid-1960’s, the prevalence of ROPS-equipped tractors could be increased to over 80%.

Injuries

- Every day, about 100 agricultural workers suffer a lost-work-time injury.
- From 2008-2010, 50% of all hired crop worker injuries were

classified as a sprain or strain.
- In 2014, an estimated 12,000 youth were injured on farms; 4,000 of these injuries were due to farm work.

Overhead Hazards Stats and Facts

DID YOU KNOW?

According to the CDC's NIOSH, the construction industry comprises approximately 8% of the U.S. workforce, yet it accounts for 44% of job-related fatalities. Consider the statistics:

- Electrical hazards cause more than 300 deaths and 4,000 injuries each year among the U.S. workforce.
- Electrocution is sixth among causes of workplace deaths in America.
- Construction trades, and installation/maintenance/repair professionals are the top two groups suffering the most fatal electrocution work-related accidents, from 2003-2007.

Electrocution accidents involving heavy equipment

The construction industry represents 52% of all occupational electrocutions, according to the recent CDC study referenced above. Below are some statistics on the heavy equipment in the trades and related electrocution accidents:

- Heavy equipment events accounted for 50% of those overhead power contacts, with cranes comprising 56.5%, drilling rigs 7.7%, dump trucks 6.7%, bucket trucks 6.7% and backhoes 4.9%.
- Carried items comprised 20.5% of overhead line contacts,

ladders 12.9%, scaffolding 2.2%, and direct human contact another 10.2%.

- More than than 90% of power line contact accidents involved overhead distribution conductors.
- Drop-down services from power poles to houses, and high power transmission lines connecting generating stations to substations, only resulted in 7% of workplace power line accidents.
- Labor trades with considerable risk, in addition to heavy equipment operators, were roofing/siding/sheet metal contractors (9.3%), tree trim contractors (8.5%), water/sewer/pipeline personnel and communication contractors (7.9%), and painting contractors (7.3%).

Just how many people are injured or killed in electrocution accidents?

It’s estimated that 62 agricultural workers/yr. die from electrocution in the U.S., with overhead power lines being the most common source.

And each year, many children and adults are electrocuted or seriously injured in this country due to accidental contact with floating phases, downed power lines or objects such as green wood or fences in contact with downed wires.

The vast majority of these tragic events are preventable, if utility companies use the best available preventive maintenance, inspection, and repair practices that are required by law. They must also attend to hazards resulting from aging infrastructure and components, maintain proper tree trim scheduling cycles and promptly respond to storm damage and direct and indirect knowledge of floating and downed wires.

According to the Electronic Library of Construction Occupational Safety and Health (eLCOSH), exposure to electricity is still a major cause of death among construction workers. Among electricians, the most serious concern is working with or near live wires without enlisting the proper safety procedures.

Electrocutions kill an average of 143 construction workers each year. Data from 1992 through 2003 indicates electrical workers suffered the highest number of electrocutions per year (586 or 34 percent of the total deaths caused by electrocution), followed by site laborers, carpenters, supervisors of nonelectrical workers and roofers.

More than half the electrocutions of electrical workers were caused by direct or indirect contact with live electrical equipment and wiring, including lighting fixtures, circuit breakers, control panels, junction boxes and transformers. In other words, those deaths could have been prevented had proper lockout/tagout and de-energizing procedures been followed.

The Occupational Safety and Health Administration (OSHA), Washington, D.C., estimates there are approximately 350 electrical-related fatalities a year, which roughly equals one fatality per day. In addition, statistics from the National Institute for Occupational Safety and Health (NIOSH), Atlanta, show electrocution is the third- leading cause of death at work among 16 and 17-year-old workers, accounting for 12 percent of all workplace deaths.

In addition, The Bureau of Labor Statistics (BLS) data indicates 2,726 nonfatal electrical shocks involved days away from work a year, between 1992 and 2001, in private industry.

“To the best of my knowledge, there are more than 30,000 nonfatal electrical shock accidents that occur each year, with a lot of incidents going unreported,” said Chris Marquardt, safety director and field superintendent at Lemberg Electric Co. Inc., Wauwatosa, Wis. It is believed, he added, that for every 300,000 at-risk behaviors, there are about 300 recordable injuries, 30 lost-time injuries and one fatality. The cost of each major case of electrical shock can average between $1 million and $4 million.

According to OSHA, the occurrence of the most common injuries is increasing as the scope of work performed by the typical electrical contractor and the age of the work force increases.

Dangers of the job

“The most common injuries that are sustained when dealing with high voltage or when working on a construction site are caused by contact with overhead or underground electrical lines, and falls are the second most common,” said Bob Isiminger, senior electrical engineer in OSHA’s office of engineering safety. Others, he added, include being struck by vehicles, having construction materials fall on people and being present in or near caved-in trenches. According to James Cawley, P.E., senior research engineer at NIOSH’s Pittsburgh Research Laboratory, fatalities most often attributed to contact with overhead power lines were usually from the result of contact through equipment, such as ladders, tools and cranes.

“Nonfatal electrical injures in construction had contact with wiring, transformers, or other electrical components and contact with the electric current of machines, tools, appliances, or light fixtures,” Cawley wrote in a report entitled Trends in Electrical Injury, 1992–2002.

Also common when working on medium- to high-voltage installations are back injuries, according to Tom Andrzejewski, CSP, safety director for Hunt Electric Corp., St. Paul, Minn.

“The heavy cable sizes are the cause of most of those injuries. Electrical incidents, however, are rare as trained, experienced electricians understand the dangers of working in this area and take the necessary precautions.”

Other common injuries include cuts, nicks, scrapes, slips and knee injuries.

Of repetitive motion injuries or musculoskeletal disorders (MSDs), strains and sprains are usually the most common. “In spite of this, we have not seen a lot of repetitive motion injuries being reported, probably because of the diversity in electrical construction activities,” Isiminger said. However, Andrzejewski said shoulder injuries in the industry are an issue because of the repetitive overhead activities inherent in electrical

installations. “Such injuries will have a significant impact to the industry as the work force ages,” Andrzejewski said.

The danger begins

According to Isiminger, there are a number of causes of common injuries, including failure to address known hazards; or if known hazards have been addressed, failure to remind and retrain employees about them; failure to follow written safety plans on-site; and the general belief among workers that injury or death can’t happen to them. There is also the cultural attitude among some electricians that they are expected to work on energized equipment because that’s the nature of the job and that the customer needs to maintain production and avoid downtime.

“That can put pressure on electricians to not fully comply with safety codes,” Marquardt said. However, with the increased enforcement of the NFPA 70E standard, these attitudes are gradually changing.

Another cause of injury is when management and field staff are not willing to accept safety as both a corporate and personal value and to commit to the development and implementation of safety practices on the job site.

“Without a safety-minded corporate culture, safety is not considered a factor, and injuries occur,” Andrzejewski said.

Many times, according to Marquardt, injuries occur because workers believe they will be helping the company by taking short cuts in the name of efficiency, such as not wearing safety gear or misusing ladders or other pieces of equipment. “This is a fallacy, of course, because more often than not, that short cut becomes a lost-time event with injury or property damage,” he said.

The very products and tools the electricians are using to perform their jobs frequently cause common cuts and finger injuries. As products continue to become more affordable, some are losing some of their quality. “Electrical panels, lighting fixtures, etc., now come to job sites with sharp edges,” Marquardt said.

Patient Lifting Stats and Facts

DID YOU KNOW?

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accidents.

- Labor trades with considerable risk, in addition to heavy equipment operators, were roofing/siding/sheet metal contractors (9.3%), tree trim contractors (8.5%), water/sewer/pipeline personnel and communication contractors (7.9%), and painting contractors (7.3%).

Just how many people are injured or killed in electrocution accidents?

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And each year, many children and adults are electrocuted or seriously injured in this country due to accidental contact with floating phases, downed power lines or objects such as green wood or fences in contact with downed wires.

The vast majority of these tragic events are preventable, if utility companies use the best available preventive maintenance, inspection, and repair practices that are required by law. They must also attend to hazards resulting from aging infrastructure and components, maintain proper tree trim scheduling cycles and promptly respond to storm damage and direct and indirect knowledge of floating and downed wires.

According to **Occupational Safety and Health Administration** statistics, worker injuries from slips, trips, and falls are one of the agency's biggest concerns, especially in hospitals. Injury and illness rates in healthcare, at 5.2 cases for every 100 workers, continue to be above the national average, which is 3.5 cases per 100.

In 2011, U.S. hospitals recorded 253,700 work-related injuries and illnesses, or 6.8 injuries and illnesses for every 100 full-time employees. This is almost twice the rate for private industry as a whole.

Despite this, says OSHA, hospitals still are not employing enough

assistive devices to help move patients, and that's a major reason why healthcare workers have one of the highest rates of occupational musculoskeletal injuries in the U.S. A recent study found that such devices can help cut down on these injuries and improve patient care at the same time.

The National Institute for Occupational Safety and Health reports that there are 75 lifting-related injuries for every 10,000 full-time hospital workers, and 107 injuries for every 10,000 workers at nursing homes and residential facilities. Hospital rates are nearly twice the national average for all industries, and nursing home rates are nearly three times as high.

The problem has gotten so bad that OSHA was forced to create an entire website devoted to lifting injuries in hospitals and to solutions that facilities can employ, including training tips and advice. However, OSHA still does not have any published mandate or standards related to reducing patient-handling injuries, just a recommendation that hospitals take steps to reduce them.

AGING PATIENTS NEED ASSISTANCE

Now look at this issue from the patient's perspective. U.S. residents are getting older, and with that their mobility will become compromised. The number of people older than 65 in the United States is expected to grow significantly in the next 10 years. Consider the following:

- One out of every eight U.S. residents is age 65 or older. One in four will be in that age group by 2030.
- S. residents over the age of 85 are the fastest-growing segment of the population. Projected figures show them increasing from 3.3 million to 18.9 million—one in 20 people—by 2050.
- People are living longer. The average life span today is 75 years compared to 47 years in 1900 and is projected to rise to 85 years by 2050.

According to a May 2016 **study** by **Guy Fragala, PhD, PE, CSP, CSPHP,** senior advisor for ergonomics at the **Patient Safety Center**

of Inquiry in Tampa, Florida, 36.5% of U.S. adults are obese, and one out of five U.S. adults have a disability, which means they will likely wind up on a physician's exam table at some point in their lives. So will we all, but for individuals with mobility challenges, these exam tables can be major contributors to the injury statistics we've just discussed. (Fragala's study was sponsored by Midmark Corporation, an Ohio-based provider of medical, dental, and veterinary equipment and technologies, including exam tables and chairs.)

LIFT EQUIPMENT

According to some reports, hospitals are trying to do their best by utilizing new technologies and installing patient lifts. However, many nurses and caregivers still prefer to lift and move patients themselves. The problem, of course, is that if they don't lift properly, or if the patient shifts during the process, it could cause the caregiver or the patient to be injured.

There is some controversy around when lift devices should be deployed. Some research says nurses and other caregivers should not lift more than 35 pounds without an assistive device. The **American Nurses Association** has advocated for hospitals to deploy equipment and adopt protocols so that no staffer ever moves a patient without device assistance. But most caregivers balk at these recommendations, noting that they regularly move children and adults of average weight without help.

Some hospitals in healthcare systems such as **Kaiser Permanente** and the **Veterans Health Administration** have begun to install overhead lifts in their facilities that consist of a motorized hoist that can lift a patient into the air while the patient is secured in a sling. An overhead rail system allows nurses to move patients around the room or between rooms.

Some models designed for obese patients have two motors and can lift as much as 1,000 pounds. They can be pricey, though. Permanent overhead lifts cost an average of $16,000 per room to install. In contrast, mobile devices cost an average of $6,000. A few mobile devices can service an entire hospital if workers take

the time to find and use them, according to statistics from the **ECRI Institute.**

OSHA says that these devices are cost-effective and that the benefits far outweigh the costs, adding that the initial capital investment in policies and equipment can be recovered within two to five years. Consider the following benefits OSHA says can be enjoyed by facilities that use lift–assist equipment:

- Reduced injuries
- Decreases in lost time and workers' compensation claims
- Increased productivity
- Higher quality of work life and worker satisfaction
- Increased staff retention
- Better patient care and satisfaction

Some hospitals have success stories with this equipment. For instance, **St. Joseph's/Candler Health System** in Savannah, Georgia, installed ceiling lifts in 38 patient rooms in the critical care department, the 330-bed St. Joseph's Hospital and 384-bed Candler Hospital, where a troubling 78 patient-handling injuries per year occurred. St. Joseph's is the state's oldest continuously operating healthcare facility; Candler is the second oldest in the nation.

In 2011, the hospital installed the ceiling lifts along with a staff training program; within a year, with the program only partially in place, the number of annual injuries dropped to 37. That number has been maintained since.

Overhead lifts aren't the only devices that can help prevent patient and caregiver injury. Fragala says that patients can benefit from adjustable equipment such as height-adjustable examination chairs and tables. His study found that with adjustable chairs, the level of exertion required by a patient needing a minimal assist was reduced by 72%, the level of difficulty getting into the chair was reduced by 64%, and the feeling of safety improved by 42%.

"These reported results indicate that when a height-adjustable

examination chair is provided to assist a patient who requires even a little bit of help to mount the chair, the process of getting up onto the examination chair is made much easier and requires less exertion," he says.

That's good, Fragala notes, because if a patient can't get onto an exam table or chair, the physician may be unable to examine the patient properly. That can have cascading effects—the patient might be misdiagnosed because the physician can't collect sufficient information, or the patient might miss the benefit of early detection of a serious condition.

PPE Eyes Stats and Facts

DID YOU KNOW?

Every year, 800,000 eye injuries occur on the job, including 36,000 that require time off from work. But according to eye health and safety organization Prevent Blindness America, wearing proper eye protection can prevent 90 percent of all eye injuries.

Common causes of workplace eye injuries include chemical burns, cuts, lacerations and punctures. These injuries most frequently occur in production, transportation and service industries.

"Our vision is something that so many people take for granted until it's damaged," said Daniel D. Garrett, senior vice president of Prevent Blindness America. "We hope to encourage employers and employees to make sure that eye protection is on the 'to do' list every day."

Prevent Blindness America recommends the following methods and actions to reduce and prevent eye injuries in the workplace:

- Be aware of potential eye safety hazards at work and complete an eye hazard assessment.

- Appropriate safety glasses or goggles should be worn at all times whenever eye hazards are present.
- Be sure all safety eyewear is clearly marked “ANSI Z87.”
- Workers should know the location of the nearest eye wash station and should be trained in its use.
- Employers should be notified immediately if safety hazards are discovered.
- Employees should have regular eye exams to make sure their vision is adequate to work safely.
- Employees with reduced vision should ask if prescription glasses or goggles can be provided.

According to the Department of Labor, eye injuries are responsible for an estimated loss of $300 million annually in lost production time, medical expenses and workers’ compensation.

“Not only does practicing eye safety at work make good business sense, most importantly, it is integral in ensuring the health of employees, which is any company’s most valuable asset,” Garrett said.

Think of the hundreds of times you’ve completed a task at work without eye protection, injury free. Perhaps the application doesn’t seem that hazardous, or maybe the safety glasses you have are uncomfortable, scratched up, or they fog too easily. Plus, you’re good at what you do. You’ve been doing this job for so long that being careful is second nature.

Until that one time when “being careful” wasn’t enough. It wasn’t your fault. In fact, you did everything right. Unfortunately, the tool you were using randomly failed, a coworker didn’t set up the workspace properly, a machine malfunctioned…whatever it was…IT happened.

Accidents happen every day, and usually in situations you’ve become all-to-comfortable with.

300,000 workplace eye injuries send people to the emergency room each year nationwide. [1] In most cases, safety eyewear is not being worn, it doesn’t fit, or doesn’t provide the appropriate

protection for the application.

Of these 300,000 eye injuries, it's estimated that 90% of them were preventable if the workers had been wearing (appropriate) eye protection.

That's 270,000 workplace injuries that could be avoided each year.

Consider these other eye-opening injury statistics:

- Eye injuries make up nearly 45% of all head injuries that lead to missed work days. [2]
- Eye injuries account for an estimated annual $300 million in medical bills, compensation, and time off. [2]
- Men ages 25-44 comprise 80% of all workplace eye injury victims. [2]
- 40% of on-the-job eye injuries happen in the manufacturing, construction, and mining industries. [1]

Considering these staggering stats, why aren't workers wearing their safety eyewear? Here are a few common reasons we've heard from customers:

- **It's unwearable.**

Cheaply made safety eyewear becomes more of a distraction than a means of protection. Pressure, pinching and slipping points create an ergonomic nightmare for workers, and protective eyewear ends up on top of workers' heads or in their pockets instead of over their eyes.

- **It's "unnecessary."**

Despite decades of reported eye injury experiences and how to prevent them, human ignorance and resistance are still big problems. Many workers think of eye protection as unnecessary and choose to not wear their required eye protection.

- **It's fogging.**

In a recent study[3] with manufacturing, construction, service, and

retail workers, 100% of participants reported fogging as a major factor for not wearing their PPE on the job. They can't see with the fogged-up eyewear, so naturally, they take them off. In the same study, 55% said that if their safety eyewear had working anti-fogging technology, they'd comply with wearing it.

- **It's uncool.** Let's face it, sporting safety eyewear hasn't always been the most glamorous look. Everyone likes to wear things they feel good in, so it's no surprise that safety eyewear falls to the wayside for some.

Remember, the best eye protection is the protection that's worn.

At HexArmor, we believe that it's not just about protecting your eyes, it's about protecting your most critical sense – your sight. You perceive up to 80% of all impressions by means of sight. If your other senses are compromised, it's your eyes that will best protect from danger, not to mention provide a more rewarding life. Preserving and protecting this organ is critical.

When it comes to choosing the right protective eyewear for your application, one size does not fit all. Ultimately, it is personal protective equipment, right? At HexArmor, we're committed to high-comfort design and technology, permanent anti-fog coatings that do not wash off, uncompromised scratch resistance, and complete protection no matter the task. All of these wearability factors will positively affect compliance, leading to fewer injuries, so that you don't become a statistic.

PPE General Stats and Facts

DID YOU KNOW?

A new survey of safety professionals has found a high incidence of employee noncompliance with corporate and federal mandates to wear

appropriate personal protective equipment (PPE).

In fact, nearly all of the safety professionals in a survey released Aug. 12 said that workers in their organizations had at some point failed to wear the necessary safety equipment while on the job. Ninety-eight percent of respondents who attended the recent American Society of Safety Engineers (ASSE) conference in Baltimore answered “yes” when asked if they had observed workers not wearing safety equipment when they should have been, according to the survey, which was conducted by Kimberly-Clark Professional.

To make matters worse, 30 percent of these respondents said this had happened on numerous occasions. Given this, it’s not surprising that worker compliance with PPE protocols was cited as the top workplace safety issue by all survey respondents.

These findings are in keeping with results from previous surveys conducted by Kimberly-Clark Professional at the National Safety Congress in 2008, 2007 and 2006. Those surveys also found high levels of noncompliance with PPE protocols – 89 percent in 2008, 87 percent in 2007 and 85 percent in 2006.

“Increasingly high noncompliance with PPE protocols is an alarming trend and a serious threat to worker health and safety,” said Gina Tsiropoulos, manufacturing segment marketing manager for Kimberly-Clark Professional. “Whether this is a result of economic conditions, a flawed approach to safety programs, younger workers who are more inclined to take greater risks or some other reason, it’s essential that workers wear PPE when it is required. PPE protects workers against injury, but it will not work if workers fail to use it and use it properly.”

It’s no wonder then that three-quarters of respondents chose workplace accidents and injuries in response to the question: “What is most likely to keep you up at night?” Potential exposure because of noncompliance with PPE protocols was second, at 13 percent, while fear of a global pandemic and its impact on the workforce was a distant third, cited by only 8 percent of respondents.

When it comes to compliance with PPE use protocols, eye protection was found to be the "most challenging" PPE category, according to 42 percent of respondents. Nearly three out of five workers who experienced eye injuries were found not to be wearing eye protection at the time of the accident or were wearing the wrong kind of eye protection for the job, according to the Bureau of Labor Statistics. According to NIOSH, approximately 2,000 U.S. workers each day have a job-related eye injury that requires medical treatment and the Department of Labor estimates that thousands of workers are blinded each year from work-related eye injuries that could have been prevented. These statistics particularly are troubling when experts agree that nearly 100 percent of workplace eye injuries could be prevented with the use of appropriate eye protection.

The next highest category for noncompliance was hearing protection, also disturbing since occupational noise-induced hearing loss is 100 percent preventable when proper preventative measures are implemented. It was followed by gloves and head protection.

While the reasons for PPE noncompliance were varied, the biggest complaint was that it was "uncomfortable," selected by 40 percent of respondents, followed by PPE that is "too hot," "not available near the work task," "poorly fitting" and "unattractive."

When asked what they had done or intended to do to improve compliance levels, the safety professionals' said they planned to:

- Improve existing education and training programs
- Increase monitoring of employees
- Purchase more comfortable PPE
- Tie compliance to individual performance evaluations
- Purchase more stylish PPE
- Develop incentive programs to encourage greater PPE compliance.

Basic facts about personal protective equipment

PPE should be a last resort

Compliance with the Management of Health and Safety at Work Regulations 1999 requires there to be a hierarchy of prevention and control measures where personal protective equipment should be used only as a last resort. Engineering controls and safe systems of work should be used wherever possible instead.

Unfortunately, some employers encourage employees to use PPE without ever considering the introduction of prevention and control measures that could eliminate the use of PPE. This leads to a number of problems:

- PPE protects only the person wearing it, whereas measures controlling the risk at source can protect everyone at the workplace.
- Theoretical maximum levels of protection are seldom achieved with PPE in practice, and the actual level of protection is difficult to assess.
- Protection is often ineffective because the PPE is not suitable, incorrectly fitted, not properly maintained, and may be used improperly.
- PPE is often designed for men, and for women workers this may introduce serious hazards and discomfort.
- PPE is also often designed without considering the reality that both male and female workers come in all shapes and sizes, that parts of the body to be protected vary considerably, that many workers wear spectacles, some have beards and stubble, and so the PPE may fail due to not fitting correctly.
- PPE may restrict the wearer by limiting mobility or vision, or by requiring additional weight to be carried, causing musculo-skeletal problems. As well as the health and safety problems that this may cause, it can also lead to a ‘blame the worker’ culture when the PPE is discarded because of the discomfort that it can cause.

Hazards Affecting Workers

Yet even where engineering controls and safe systems of work have been applied, it is possible that some hazards might remain. These hazards may lead to injuries to the:

- lungs, for example, from breathing in contaminated air
- head and feet, for example, from falling materials
- eyes, for example, from flying particles or splashes of corrosive liquids
- ears and hearing from noise
- skin, for example, from contact with corrosive materials or biological substances, or chemical substances that can be absorbed through the skin or hands, feet or head from extremes of heat or cold.

Sometimes, PPE is needed in these cases to reduce the risk.

In the 2014 TUC safety representatives' survey, many of these hazards were identified by safety representatives in their top five workplace hazards, broadly similar to 2012. For example:

- 17 per cent mentioned high temperature, up from 14 per cent in 2012.
- Nine per cent mentioned noise.
- Nine per cent mentioned chemicals or solvents.
- 10 per cent mentioned dusts.
- 11 per cent mentioned low temperatures.

PPE – Hand, Wrist, Fingers Stats and Facts

DID YOU KNOW?

That's according to 2015 finding released by the American Society of Safety Professionals based on a survey with 400 safety professionals including safety directors, safety specialists, and safety managers.

This comes at the same time as the Bureau of Labor Statistics reported that hand injuries were the second most common injury,

after lower back injuries.

In a recent US Department of Labor study, of all injures reported, injuries to fingers and hands accounted for more than 23%, making them the highest in preventable injuries and in terms of lost work days, they ranked second only to back and neck injuries.

It was found that a vast majority of employees who suffer hand injuries were not wearing gloves at the time and that many of those injured were wearing the wrong kind of gloves.

Data from the Bureau of Labor statistics confirms the risk. As a result of non-compliance, hand injuries have increased more than 2.5 times.

Medical costs and disability claims have escalated rapidly and the cost of a single injury multiples with each work day missed.

A National Safety Council study reports that the cost of just one disabling hand or finger injury varies from $540 to $26,000 per patient. With a serious upward extremity trauma averaging $730,000 per incident.

According to a recent Occupational Safety and Health Administration (OSHA) study, 70.9% of hand and arm injuries could have been prevented with personal protective equipment (PPE), specifically safety gloves.

Each fact above illustrates clearly why education about cut protection is so important.

When it comes to choosing hand protection, the gulf between inadequate traditional materials and advanced scientific fibers is ultimately a battle between old perceptions and the right information.

Cuts and lacerations, on average, resulted in six lost working days for the injured worker.

The most common injuries in 2012, according to BLS research was sprains, strains and tears. This includes injuries to the wrist and hand ligament.

Approximately 8,000 of these injuries required job transfer or restriction in 2012. Healing time for these cases was on average 14 lost working days.

Key Hand Injury Statistics:

110,000 lost-time hand injuries annually

Hand injuries send more than one million workers to the emergency room each year

70 percent of workers who experienced hand injuries were not wearing gloves

The remaining 30 percent of injured workers did wear gloves, but the gloves were inadequate, damaged or the wrong type for the type of hazard present.

As we point on our PPE ROI Calculator, the average hand injury claim is now $6,000, with individual workers' compensation claims reaching nearly $7,500. On average a U.S. automotive worker earns $33.00 an hour and the average reported hand injury results in six days off work.

Keep facts handy: 5 simple statistics to motivate hand protection

The hand is one of the most incredible tools that humans are given right from birth – the energy that runs through you when a newborn baby wraps his whole hand around your finger is extraordinary. If something were to happen to your hands, chances are that you could learn to adapt your daily routines, but it would most certainly be a life-changing experience.

The aim of this article is to look at five simple statistics: Five statistics that on their own may seem irrelevant, but when put together will give you with a new perspective on safety.

Fact #1: The hand is the second most common body part to be injured at work

The Bureau of Labor Statistics reported over 143,000 hand-related workplace injuries in 2015, these types of injuries were second

only to back injuries (191,450). While hand injuries aren't the deadliest, they can certainly make your day-to-day work much harder. Injuries to the hand can also be more difficult to heal because of the way the hand moves, the wound can open up.

In the same year that BLS reported 143,000 hand injuries, workers lost a median of five work days. In moderate to serious cases, hand injuries mean modified work duties and, in many situations, a loss in income because of the time off work.

Fact #2: You're most at risk for cuts and lacerations

Every year, roughly 30 percent of all workplace injuries are from cuts and lacerations and 12 percent of those were strictly to the hands. These injuries are sustained by everything from nicks and scrapes to knives and heavy machinery. While some of these can be fixed with Neosporin and a Band-Aid, others require medical attention. Unless the injury is serious enough to warrant a trip to the hospital, it's brushed off as being part of the job or workers are encouraged to work through the pain.

Fact #3: The solution is simple

Your organization may already have gloves available for employees, but a quick look at OSHA's hand injury stats reveals that you probably aren't wearing them. Seventy percent of hand injuries in the United States occur when people are not wearing gloves.

The solution to this common, costly problem is simple. Get a barrier between your hands and whatever the work is that you do. The glove doesn't have to be the most expensive, technologically advanced piece of PPE, but it does need to address the hazards that you face on a daily basis.

If you're an electrician, you'll need to consider cut resistance, puncture resistance, dexterity for small parts and, potentially, protection from arc flash. If you're in construction, you might be more concerned with back-of-hand protection and vibration-dampening palm padding.

Fact #4: Injuries are costly

If you subscribe to the idea that safety gloves aren't necessary because skin grows back, perhaps the financial burden of an injury will convince you that this issue is serious.

As of the 2012-2013 fiscal year, the average total incurred cost per claim in the United States for hand, finger and wrist injuries was $22,384 according to the National Safety Council. Again, that's twenty-two thousand, three hundred and eighty dollars per claim. This includes missed days, hospital visits and shut down time for investigations by OSHA or your local workplace safety bureau.

Along with these factors and increased insurance premiums, workers' compensation and employees on disability leave, U.S. employers in 2013 paid nearly $62 billion. As you begin to create a workplace that encourages safety mindfulness, you should also begin to look at reducing the risk of injuries from common areas outlined by OSHA, like fall hazards, lockout/tagout, and machine guarding.

Fact #5: Toolbox talks work

Young workers, ages 16 to 24, are twice as likely to be hurt on the job because they are less experienced, less trained and more likely to take risks. However, by incorporating regular training, workplaces can see a 42 percent reduction in injury claims.

Regular training doesn't have to be overly complicated; it can be as simple as a daily toolbox talk, where a foreman, supervisor or environmental health and safety leader talks to the group before work starts. During these toolbox talks, you should look to address any violations that you saw the day before – without pinpointing the violator, best practices for people working on particular jobs or machinery and promoting everyone to work safely so that they will step off the worksite in the same healthy condition with which they arrived.

By including these informal, 15-minute talks at the beginning of a shift, you can keep safety at front of mind for workers at no additional cost to the organization.

Final thoughts

None of the steps listed in this article are particularly revolutionary, and in many ways that's the point. Creating a safer workplace isn't rocket science, but it requires buy in from every level of the workforce; starting at the top.

If senior management places an emphasis on safety, then that mentality trickles down to the people who are most at risk. It reminds them that their safety is important and it cultivates a more positive attitude towards safety; meaning less corners are cut to get work done faster.

PPE – Head-Face Stats and Facts

DID YOU KNOW?

The last Bureau of Labor Statistics report on Personal Protective Equipment showed that, in most cases, when a worker was injured, they were not using PPE. Of the workers who sustained head injuries, 84% of them were not wearing hard hats, and 99% of workers who suffered facial injuries were not using face protection.

The purpose of head protection in any employer's PPE program is to help control the uncontrollable – which is to mitigate and/or eliminate hazards and exposure to injury while on the job. But sometimes despite best efforts, injuries can occur – bringing with it long-term damage and even death.

With that in mind, we wanted to take a look at some significant safety helmet injury hazards and statistics, so you know what you're up against – and to help you get the head protection that you need to help keep you out of the statistics.

Common Hazards to Guard your Head Against

Being at risk for a head injury is dependent on your work environment and its associated hazards, as not all working environments require head protection. However, when it is required, a worker must wear protection even when there are no apparent signs of danger. Industries like construction, power, oil and gas, mining, forestry, and others enforce such standards as the risk of head injury to workers is continuously present.

Employers must ensure their workers wear head protection if they are at risk of these common hazards:

- Being struck by falling objects
- Bumping their heads on fixed objects
- Coming into contact with electrical hazards

These common hazards encompass most ways in which a potential injury could occur, and they can have different meanings depending on the work environment. Understanding the potential hazards at your workplace is imperative in assessing the type of PPE needed to keep injuries at bay.

Injury and Death by the Numbers

Injuries to the head are scary and life-changing. As mentioned previously, head injuries can result in long-term damage and death, with injuries often including memory loss, fractured bones, and spine damage – some of which cannot be cured.

In 2012, more than 65,000 cases involving days away from work occurred due to head injuries in the workplace (according to the 2015 edition of the National Safety Council chartbook "Injury Facts"). That same year, 1,020 workers died from head injuries sustained on the job.

Traumatic brain injuries (TBI) are the primary type of head injuries. TBI is a significant cause of death The Hard Truth about Safety Helmet Injuries and Statistics and disability in the United States, contributing to about 30% of all injury death. Despite the security given to workers from the safety helmet standard, there are still incidents of traumatic brain injury, especially in construction, where there were 2,200 fatalities between 2003 and

2010.

However, according to a survey about worksite accidents and injuries conducted by the Bureau of Labor Statistics (BLS), 84% of all workers who suffered head injuries were not wearing head protection.

And that can get pricey. A mild head injury, such as a concussion, can cost a company over $100k, whereas moderate injuries are estimated to cost $941,000 and severe injuries up to $3 million – and that's not including the cost of emotional and physical issues.

Stay Out of the Stats

We don't want you to fall into these numbers. The best way to equip yourself or your workers for the hazards on the job is to evaluate your work environment and find the PPE that is mandated or needed. Companies can also implement protocols specific to their work environment in addition to wearing the proper PPE, including the use of safety helmet area warning signs, toe boards on elevated areas, tool lanyards when working above someone, and avoiding working directly underneath others.

At the very least, remember to bring awareness to the potential hazards in your workplace and ensure PPE is applicable and wearable.

PPE – Hearing Stats and Facts

DID YOU KNOW?

Each year, 22 million workers are exposed to hazardous noise, according to the National Institute of Occupational Safety and Health (NIOSH), making hearing loss the third most common chronic physical condition among adults. To stem the epidemic of workplace

hearing loss, the International Safety Equipment Association (ISEA) is launching its “Listen Today to Hear Tomorrow” campaign.

NIOSH (part of the Centers for Disease Control and Prevention) advises workers to wear hearing protection when they are exposed to noises louder than 85 decibels (dBA) – and permissible exposure time is cut in half for every 3 dB above 85 dBA.

Everyday noises, especially in the workplace, are more dangerous than people realize. For example, a 25-year-old carpenter who does not protect his hearing has 50-year-old ears, according to NIOSH.

- Carpenters daily noise exposure: 85-107 dBA
- Farmers daily noise exposure: 85-90 dBA
- Groundskeepers: 82-102 dBA
- Music Teachers: 84-91 dBA
- Other examples:

- A forklift in a warehouse is 96 dBA
- A jackhammer is 105 dBA
- A leaf blower is 90 dBA
- A belt sander is 93 dBA

Hearing loss is a gradual process. It begins in the high frequencies (bird songs) and spreads to frequencies important for speech understanding. A worker can have measurable occupational hearing loss, but not yet be deemed “hearing impaired” for regulatory purposes. In order to be recorded in OSHA’s statistics, a person’s hearing loss must be determined to be work-related and the hearing loss must be severe enough that the worker has become hearing impaired, NIOSH explains.

That means national stats likely under-report the extent of workplace hearing problems. While the Bureau of Labor Statistics says occupational hearing loss is the most commonly recorded occupational illness in manufacturing, for example, accounting for 1 in 9 record-able illnesses, those numbers don’t include the many other workers whose hearing loss has not yet reached its worst level.

“Employers and workers really need to take this seriously,” urged

ISEA President Charles D. Johnson. “Permanent hearing loss is irreversible. It’s personally and economically devastating. Fortunately, it’s usually preventable with proper hearing protection – hence our campaign slogan: ‘Listen Today to Hear Tomorrow.’ Hearing is too important to take for granted.”

The impact of employee hearing loss on a business can be staggering.

- The risk of on-the-job injuries increases.
- Workplace noise not only leads to hearing loss (including tinnitus), but also creates stress and anxiety (which can be handled with through a Legacy drug rehab Charlotte), chronic fatigue, high blood pressure, cardiovascular and gastrointestinal problems in workers.
- Those effects hit the bottom line by sapping employee productivity, harming morale, and boosting healthcare costs.

The personal impacts on workers can be even more profound. Hearing loss can mean:

- Inability to qualify for jobs that require good hearing.
- Difficulty communicating on the job with co-workers.
- Difficulty communicating with loved ones.
- Home safety problems (e.g., inability to hear smoke or CO alarms and inability to hear a family member calling out for help).

Scope of the Problem

- In the United States, hearing loss is the **third-most common** chronic physical condition among adults after hypertension and arthritis.
- About**12%** of the U.S. working population has hearing difficulty.
- About **24%**of the hearing difficulty among U.S. workers is caused by occupational exposures.
- About**8%** of the U.S. working population has tinnitus (‘ringing in the ears’) and **4%** has both hearing difficulty and tinnitus.

What causes Occupational Hearing Loss (OHL)?

- OHL can occur when workers are exposed to loud noise or ototoxic chemicals.
- **Noise** is considered loud (hazardous) when it reaches 85 decibels or higher, or if a person has to raise his/her voice to speak with someone 3 feet away (arm's length).
- **Ototoxic chemicals** can cause OHL, make the ear more susceptible to the damaging effects of hazardous noise, or both. For example, a person taking certain ototoxic pharmaceuticals may lose hearing, become more susceptible to noise, or both. Ototoxic chemicals (and examples) include:
    - solvents (styrene, trichloroethylene, toluene)
    - metals and compounds (mercury compounds, lead, organic tin compounds)
    - asphyxiants (carbon monoxide, hydrogen cyanide)
    - nitriles (3-Butenenitrile, cis-2-pentenenitrile, acrylonitrile)
    - pharmaceuticals (certain antineoplastic agents)

How Many Workers are Exposed?

- About **22 million workers** are exposed to hazardous noise each year.
- About **10 million workers** are exposed to solvents and an **unknown number** are exposed to other ototoxicants.

PPE – Legs-Feet Stats and Facts

DID YOU KNOW?

The Bureau of Labor Statistics reports at least 60,000 foot injuries are responsible for keeping people from work every year. The average cost of one of those lost workdays is $9,600, and 80 percent of foot injuries are caused by objects that weigh 30 pounds or less.

Foot and leg injuries can result in permanent disabilities, such as partial or complete loss of walking ability. This impacts how or if the employee can do his or her job even after returning to work.

Any occupation can result in a foot injury, including a desk job. However, some employees are more at risk than others. Common risky workplaces include:

Construction

This is considered one of the most dangerous occupations in the world. Hazards are everywhere and range from falling objects to heavy or unsafe equipment. Construction workers can also sustain foot injuries from climbing ladders or scaffolding. Those who do not wear proper safety equipment or secure their tools and machines are particularly at risk.

Transportation

Truckers, bus drivers, and other members of the transportation industry are at risk for a variety of reasons. These include heavy lifting, climbing in and out of high vehicles, and driving for long periods. Sitting still too long can weaken the foot muscles, increasing risk of strains and sprains. Additionally, many transportations workers smoke, which can lead to peripheral vascular disease, Buerger’s disease, and other conditions.

Food and retail

People who work in these industries can be required to stand up to 12 hours a day. This leads to blisters, dry feet, and sometimes bruised toenails. It can also exacerbate sweat, bacteria, and foot odor.

Fitness, dancing, and similar occupations

The vigorous exercise puts these workers at risk for the above injuries and possible broken bones.

Preventing foot injury at work

Occupational health organizations such as OSHA have several recommendations for preventing foot injuries. First, wear sturdy footwear that provides plenty of arch support, especially if you work on unstable terrain. Make sure your shoes fit properly, and do not wear heels or pointed shoes.

Rest your feet when and where possible. Do not climb in unsafe areas. Do not smoke, and treat foot injuries that do occur, such as blisters, with proper first aid.

OSHA Estimates totals for foot and hand types of injuries annually at 320,000 hand and finger injuries, 70,000 eye injuries, 70,000 head and face injuries, and 110,000 foot and toe injuries in 1987. Close to 30% of the total injury base. Sharp or heavy falling objects are the primary sources of foot injuries. So how does one go about avoiding workplace hazards for feet and hands?

To help you get started we have listed out some of the common injuries and actions that lead to workplace injuries of the hand and foot. This is by no means complete as there certainly could be burns or lacerations or multiple levels of sprains/strains in either body area in addition to those noted.

Foot Injuries

One’s feet provide support and movement. Yet, the 26 bones in the human foot can be easily damaged. According to the BLS, 40 laborers suffer disabling injuries to their feet and toes every day. These injuries account for 8.5 percent of all lost-time injuries in the construction industry.

- **Compression**– when foot or toe is squeezed between two objects
- **Puncture**– when a sharp object like a nail, penetrates the shoe
- **Slipping**– loss of traction due to oil, water or chemicals
- **Chemicals/Solvents**– may penetrate ordinary safety shoes and can harm feet
- **Temperature Extremes**– insulated boots may be necessary, depending on climate

- **Wetness**– extended exposure to water may result in discomfort and possible infection
- **Electricity**– a danger when using power tools or electric equipment

Some of the most common foot and leg injuries include:

- **Fractures**– A fracture of the bones in the leg, foot, or knee may be caused by falling objects or an accidental fall from a height. Some fractures can be treated by using a lightweight cast and crutches, while more serious fractures may require surgery and extensive physical therapy.
- **Knee Tendonitis**– Knee Tendonitis is a swelling of the tendons surrounding the knee. Individuals who spend a lot of time walking, standing, or lifting objects while at work are at risk of developing this painful condition. Older individuals are, particularly at risk.
- **Knee Bursitis**– Knee Bursitis is a swelling of a fluid sac that provides cushioning for your knee joint. Like tendonitis, bursitis can cause severe pain, inflammation, and loss of mobility.
- **Loss of Limb** – The most serious workplace accidents may require amputation. These life-altering accidents can have devastating effects on an individual's quality of life and ability to work. Amputation cases are especially complicated because they involve issues of retraining, prosthetic replacement, wound care, and home modification. Leg and foot injuries can be among the most devastating for an individual to sustain as well as the most difficult to overcome. Using crutches or a wheelchair can severely limit a person's mobility, and make it difficult to complete, let alone enjoy, everyday activities at work, at home, and in the community. Leg and foot injuries can also make it very difficult, if not impossible, to return to one's pre-injury employment. Individuals who perform manual labor rely on the use of their legs and feet to perform nearly every aspect of their jobs. Furthermore, many workplaces are also not properly equipped for individuals with limited mobility.

Radiation Stats and Facts

DID YOU KNOW?

According to the World Health Organization, “Radiation can impair the functioning of tissues and/or organs and can produce acute effects such as skin redness, hair loss, radiation burns, or acute radiation syndrome. These effects are more severe at higher doses and higher dose rates”.

When workers are exposed to extended, intense, or repeated doses of radiation beyond the regulated limit, this can cause radiation poison or sickness, which can lead to permanent disability or death.

Companies must implement controls to ensure that employee exposure does not exceed the exposure limit set by their country’s regulators. These controls can include monitoring activities, training, signage, and protective equipment, but let’s focus on another key control: implementing a radiation dosimetry program. Dosimetry refers to measuring, calculating, and assessing radiation absorbed by humans, and dosimeters are devices used to measure an absorbed dose of radiation.

Many organizations implement dosimetry programs where they provide employees with dosimeter badges, and employees are mandated to attach these badges onto their uniform while they work. These badges are removed periodically and sent to a lab where they analyze the amount of radiation that an employee has been exposed to. Companies can then use this data and identify whether their controls are effective or if corrective actions are required. Organizations can also use direct-reading dosimeters that do not require laboratory analysis, which is typically the case for employees who work at nuclear power plants.

Advancements in technology have made the collection and analysis

of exposure more efficient. Cority provides out of the box functionality within our Industrial Hygiene solution to help clients track their radiation data. Industrial hygiene staff or designees can use these fields to consolidate data in one place, get quick and easy access to employees' radiation information, create reports for management, and find trends and insights to make better decisions. This ultimately helps organizations protect employees from unsafe exposure and improves their ability to be compliant with radiation regulations.

The results of this study suggest a positive association between ionizing radiation exposure and death from solid cancer, all cancer, and all cancer excluding leukemia among more than 300,000 nuclear workers.

- The rate of death from cancer increased with radiation dose.
    - We found that the risk of solid cancer increased by about 5% per 100 millisieverts (mSv) (10 rem).
    - The average dose of the group of workers in our study was 21 mSv (2.1 rem).
- We estimated that, within the group of workers we studied, about 2 in every 200 deaths from cancer (other than leukemia) were due to their workplace radiation exposure.
- Among the cohort members who received at least 5 mSv of radiation dose in the workplace, we estimated that out of every 200 deaths from cancer other than leukemia, about 5 were due to their workplace radiation exposure.

Exposure to ionizing radiation cannot be avoided completely. According to the National Council on Radiation Protection & Measurements, on average persons in the U.S. receive an effective dose of about 6.0 mSv, or 0.006 Sieverts (Sv) each year from natural and man-made radiation sources.

In addition, users can conduct risk assessments to identify radiation hazards, create surveys and monitoring plans to collect sample data on workplace radiation, input radiation dosimetry data, and report on employees' radiation risk.

Retail Stats and Facts

DID YOU KNOW?

The holiday shopping season and the extended hours that come with it are taking a toll on America’s retail workers.

Employees at shopping malls and other outlets in 2018 were more likely to get sick or injured than in the previous year, making it the only U.S. industry with a meaningful uptick. The increase means retail-store workers are now worse off than those working in the manufacturing sector. According to the Bureau of Labor Statistics, 3.5 of every 100 retail workers suffered an illness or injury last year, up from 3.3 in 2017 and compared with 3.4 in manufacturing.

The uptick in nonfatal injuries, such as sprains, tears, general soreness and overexertion, comes amid forecasts for a record holiday shopping season. It could also mean higher costs for companies if employees require time off or are successful in an injury claim.

Some of the riskiest stores to work in include those selling home furnishings, used merchandise and building materials, as well as tire dealers and supercenters. Injuries and illnesses at each of those also increased in 2018 from the previous year. The most precarious are pet supply stores, where about seven in 100 employees experience nonfatal injuries, according to the data.

The top reported issues by retail workers are sprains and strains, although those declined from 2017, while there were increases in general soreness and pain, contusions, lacerations and fractures.

Overall, other industries continue to top the list. Those in farming have the highest incidence of illness and injury (about five per 100 people), followed by transportation and warehousing, which includes logistics and delivery centers for online

retailers.

Holiday Shopping Statistics

- Almost 20% of U.S. retail sales come during the Christmas shopping season.
- The average U.S. shopper expects to spend $718 on holiday gifts.
- Miscellaneous Retail Statistics
- 2/3 of the U.S. GDP comes from retail consumption.
- 27% of customers make an impulse purchase at the register.
- Next to the register merchandise is only 1% of total retail space, but can account for 7% of revenue
- Consumers spend 12-18% more when using a credit card versus cash.
- One in four mobile shoppers in the U.S. is over the age of 55.
- 87% of global consumers factor in Corporate Social Responsibility into their purchase decisions.

Commerce Statistics

- Current sales value of eCommerce retailers is $294 billion.
- Sales value of eCommerce retailers expected to reach $414 by 2018.
- In 2015, 200 million digital shoppers will spend an average of $1,700/person.
- Two thirds of eCommerce customers are “webrooming”.
- 93% of retailers that seek a POS want inventory management capabilities built in.
- In 2014, online shoppers in the U.S. spent $1,611 versus $1,151 in Canada and $1,162 in Europe (translated from British Pounds on June 25).
- 60% of adult Americans are happy to know they won’t have to shop in a crowded mall or store.
- 71% of shoppers believe they will get a better deal online than in stores.
- Generation X spends $561 on average online, 15% more online than Generation Y who spends $489.
- Only 28% of U.S. small businesses are selling their products

online.

- S. average conversion rate is 3.06% in Q4 2013.
- China is expected to generate $562.7 billion in eCommerce revenue.
- Despite having ultra-low incomes, Generation Z spends the highest percentage (9%) of their income online.
- 40% of men and 33% of women aged 18-34 say they would ideally “buy everything online.”