Hearing Conservation Stats and Facts

DID YOU KNOW?

The goal of the Occupational Safety and Health Administration's (OSHA) hearing conservation standard (29 CFR 1910.95) is to protect the approximate 22 million workers that are exposed to hazardous levels of noise each year. Through the hearing conservation standard, employers are required to evaluate workplaces for employee exposures resulting in a personal time-weighted average (TWA) equal to or greater than 85 decibels (dBA). Results at or above this noise action level require the employer to develop a written Hearing Conservation Program, provide employees with protective devices, provide annual training, and conduct annual hearing tests to monitor hearing levels. Employees who experience a work-related hearing shift are required to be recorded on the facility's OSHA 300 log.

Who Is Required To Have A Hearing Conservation Program?

The first step in complying with the hearing conservation standard is to complete an evaluation of the facility noise levels. This assessment should be completed by taking personal time-weighted average (TWA) samples throughout the facility, even in areas that may not appear to be particularly noisy. Noise sampling should be completed every three to five years, or at any time there is a change in facility processes or equipment.

The hearing conservation standard sets two action levels: 85 dBA and 90dBA. Employees working in areas of exposure between 85-89dBA shall be provided hearing protectors, receive annual audiograms, and receive annual training. Employees exposed to TWAs of 90dBA or above shall also be required to wear hearing protectors, receive annual audiograms, and receive annual training. The main

difference between the two action levels within the hearing conservation standard is that employees working within the range of 85-89dBA may choose whether or not to wear hearing protection, while employees working within ranges of 90dBA or greater must wear hearing protection. It is important to note that while employees exposed to less than 90dBA may choose not to wear hearing protectors, any hearing loss would still qualify as a recordable injury.

Hearing Conservation Program Requirements

When employees are exposed to noise levels at an 8-hour TWA of 85dBA or more, the employer must implement an audiometric testing program. This program must be provided at no cost to the employee and must consist of a baseline audiometric test and an annual audiometric test.

The baseline audiometric test must be completed within the first six months after the employees' exposure to hazardous noise levels.

If a mobile van will be used to conduct the audiometric test, then the baseline test must be obtained within one year from the employees' exposure to hazardous noise levels.

Audiometric testing must be completed annually after the baseline test. The results of the annual test are compared to the result of the baseline test to determine if the employee has experienced a standard threshold shift (STS).

A STS is a change in the hearing threshold of an average of 10 decibels or more at 2000, 3000, and 4000 hertz in one or both ears.

If an STS is identified, the employer has 30 days to retest the employee to determine if the STS was valid. If there is a confirmed STS, the employer must notify the employee of the finding in writing within 21 days.

After experiencing an STS, an employee is required to wear hearing protectors. Training, or retraining, must also be completed.

Employees exposed to hazardous levels of noise must be provided hearing protection and replacements at no cost. The employer is required to provide multiple suitable options of hearing protectors including one type of earplug and one type of earmuff. It would be preferable to include more options for employees to ensure comfort, proper fit, and usage.

Hearing protectors are required to decrease the employee noise exposure to at least an 8-hour time-weighted average of 90dBA. The noise reduction ratio (NRR) is the unit of measure to determine the effectiveness of hearing protectors. The higher the NRR, the higher potential for noise reduction. It is important to know that the NRR does not represent a direct reduction in decibels. To determine the noise reduction capability of a specific hearing protector, you must take the NRR in decibels, subtract seven, and then divide by two.

Often referred to as the “invisible disability,” the Centers for Disease Control (CDC) shares these somber statistics about hearing loss and impairment:

- 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% of workers have both hearing difficulty and tinnitus.

Fortunately, noise-induced hearing loss can be reduced, or often eliminated, through the execution of a successful hearing conservation program (HCP) that benefits both the employer and the employee.

Horseplay Stats and Facts

DID YOU KNOW?

In a recent letter of interpretation addressing a common issue at worksites around the country, OSHA confirmed that injuries to employees sustained at the worksite as a result of “horseplay” are recordable on OSHA Logs, so long as the injuries also meet other general recording criteria (such as requiring medical treatment beyond first aid). Employers are encouraged to review their recordkeeping practices to ensure that they are complying with this interpretation of OSHA’s recordkeeping rule. A copy of OSHA’s letter is linked below.

The interpretation stems from an incident described as “horseplay gone badly.” At the end of a work day, two supervisors got into a physical confrontation while changing to go home. One supervisor pulled a knife and stuck the other in the arm, resulting in several sutures.

OSHA stated that the injury was recordable. First, because the injury resulted from an event occurring in the work environment, it was presumed to be work-related and none of the exceptions to this “geographic presumption” applied. The exceptions include, among other things, injuries such as those resulting from an employee eating, drinking, or preparing food for personal consumption, those involving signs or symptoms that surface at work but result solely from a non-work-related event, and those caused by a motor vehicle accident occurring on a company parking lot while the employee is commuting to or from work. Second, because the injury required medical treatment beyond first aid, OSHA concluded that it satisfied the other recordability criteria related to severity.

OSHA dismissed as essentially irrelevant the issue of whether the injury resulted from activities that were “not directly productive” to the employer’s work. OSHA also reiterated that there is no general exception under the recordkeeping rule for

violence that occurs at the worksite.

Situations such as this are all too common in the workplace. Aside from taking steps to address violence in the workplace generally, employers must ensure that when an incident occurs and injury results, it is properly recorded under OSHA's rules, if warranted. Jackson Lewis attorneys are available to assist employers in addressing workplace violence, reviewing their recordkeeping policies, and making individual recordability determinations.

In 2012, a construction worker in South Dakota injured himself while horseplaying with a coworker during a shift, at which time he was waiting on others to complete one phase of the job so that he could begin his task. After being denied workers' compensation due to the reason for the injury, the worker sued the company, and the case eventually went to the state Supreme Court. Ultimately he was awarded the benefits because the "act of horseplay was not a substantial deviation from his employment," meaning that he did not abandon his work to roughhouse or do so outside of the confines of his work environment.

The big takeaway for employers here is that horseplay at work can not only lead to a safety incident, but also **impact the financial bottom line**. This is not a call to ban all forms of horseplay and joking around at work, but rather that employers take steps to control it and minimize the associated risks. Some work environments are more conducive to allowing horseplay than others. For example, an office setting poses less severe safety risks for this type of behavior than a plant where heavy machinery is running or toxic chemicals are being handled. However, all organizations should be clear about what is an acceptable level of horseplay in their given environments and set clear boundaries.

When necessary, a "No horseplay – no exceptions" policy should be in place. This eliminates company liability should an incident occur, and provides a guideline for expected safety behavior among employees. In less hazardous work environments, you may consider identifying "no horseplay zones" and create office events at particular times when employees can blow off steam so that they are less likely to horseplay at other times in the day. Above all,

be explicit about behaviors that you deem improper for your work settings and provide a thorough explanation to employees in documents and training materials. Notably, in 2009 OSHA established that for recordkeeping purposes, horseplay-related injuries occurring at the worksite during a work event must be recorded/reported as would any other workplace injury. Therefore, it is in the organization's best interest to establish policy for reducing these behaviors.

This worker wasn't able to go back to his job after suffering injuries when he was tackled during horseplay. The injured worker sued the employer. Is the employer liable?

Wayne Booth was a truck driver employed as an independent-contract hauler for Southern Hens Inc. in Mississippi.

On Oct. 30, 2012, Booth went to Southern Hens to pick up a trailer. While waiting for paperwork, Southern Hens employee Jerome Caldwell grabbed Booth from behind his midsection in a "bear hug." Caldwell shoved Booth against some boxes and pushed him through a doorway onto a stack of pallets.

Booth was told that Caldwell was "just playing." However, Booth suffered serious injuries to his back that required medical treatment. He wasn't able to return to work due to the injuries. Caldwell was terminated as a result of the incident.

Booth sued Southern Hens, claiming negligence and failure to supervise and control its employees. Southern Hens filed for summary judgment. A trial court granted the company's request and threw out Booth's lawsuit. He appealed.

In reviewing Booth's case, a Mississippi appeals court noted an employer is liable for an employee's actions done in the course and scope of his employment. Conduct isn't considered in the course and scope of employment when it's not authorized, doesn't serve the purposes of the employer, or is a "wrongful deed" committed when an employee "abandons" employment.

The appeals court found the trial court correctly found that Caldwell's conduct in bear-hugging Booth and shoving him into a

stack of pallets was outside the course and scope of Caldwell's employment duties – loading and unloading shipments. Since it's not within the course and scope of Caldwell's employment, Southern Hens can't be liable for it, the court ruled.

Mississippi case law also says a premises owner must protect an invitee from "reasonably foreseeable injuries at the hands of another."

The appeals court found Caldwell's actions weren't "reasonably foreseeable." The incident occurred without warning in a matter of seconds. Caldwell didn't have a history of dangerous or violent tendencies at work.

Also important: Southern Hens' had safety rules that specifically prohibited fighting, physically threatening others, "horseplay," and practical joking. Records showed Caldwell signed a checklist stating he understood horseplay wasn't tolerated.

Therefore, the appeals court upheld the trial court's ruling to throw out Booth's lawsuit.

How can employers prevent horseplay incidents?

For starters, make it known that workers are responsible for each other's safety.

It should be clear to employees that they're to refrain from engaging in unsafe behaviors on the job, follow all workplace rules and regulations, and ensure equipment is used properly, U of I states. Supervisors and managers have a responsibility to keep their employees' work environment safe and free of harassment by monitoring for and preventing horseplay.

Hot Work Welding Stats and Facts

DID YOU KNOW?

Hot work is any work that produces fire or sparks. This includes riveting, flame cutting, soldering, and brazing, but the most common type of **hot work** is **arc welding**. According to the Bureau of Labor Statistics, more than 500,000 employees are injured in welding accidents each year. **Hot work** can pose a serious health hazard to workers, but facilities can help avoid accidents with training and safe work practices.

What are the Hazards Associated with Hot Work

Hot work produces electrical arcs or flames that can reach up to 10,000 °F. Fires and explosions are a serious and potentially deadly concern. High temperatures, sparks and slag, which can contribute to heat stress, heat stroke and burns. Hot work equipment, such as arc welding circuits, can cause serious or fatal electrocution. **Arc welding** produces intense UV light that can damage welders' retinas.

Many of the substances commonly found in welding smoke, such as arsenic, nickel, asbestos, silica, cadmium, fluorine and more, can be extremely toxic. Different components in welding smoke can affect the welder's lungs, heart, kidneys and central nervous system. Long-term exposure to welding smoke can cause chronic respiratory problems, decreased lung capacity, heart disease, skin disease, hearing loss, kidney damage, reproductive harm, and other diseases.

Welders have the highest-risk occupation in all of the construction industry, an industry already known for its hazards and high fatality rate. Welders face hazards like electrical shock, full-thickness burns, loss of vision, and brain damage. As a result, managers are responsible for ensuring their workers are

aware of workplace hazards and for maintaining minimum safety standards set by OSHA.

Industrial Safety & Hygiene News, using figures from OSHA studies, reports that 1 in 250 construction workers will die from a welding injury. With over half a million American welders working today, we can conservatively expect 2,000 welding fatalities in our lifetime. That's not even mentioning the many more permanent injuries that welders will incur.

In today's blog, we take a look at what makes welding so dangerous, as well as the uniquely hazardous jobs welders do in different industries.

Underwater Welding Accidents

Without a doubt, underwater welding is the most dangerous subcategory of welding occupations. Most underwater welding takes place with the aid of robots or temporary dry chambers these days, but that doesn't make the job any less hazardous. Divers will still do what's called "wet welding," or welding while submerged. In either case, underwater welders have to do an already-dangerous job while subjected to incredible pressures and limited access to support.

One of the worst dangers underwater welders face is called "Delta P," or "differential pressure." Any two bodies of water with different volumes will have a difference in pressure; this difference is what creates flow from one body of water to another. When underwater welders are caught in this flow, it can leave them stuck underwater without help or hope of rescue. Experienced and highly-skilled divers have been killed by differences in pressure, which can subject divers to thousands of pounds of suction force.

Common high-risk areas for Delta P accidents include dams, drains, and other 'gateways' for water.

Arc Welding Accidents

Because arc welding uses electrical current to join metal

together, it comes with unique hazards. One of the most common problems arc welders face is the risk of electric shock. That's why federal regulations require all outdoor work sites employing arc welders to waterproof workpieces.

Arc welders should be trained to check their equipment for correct installation on every job, report defects to supervisors, and make sure external connections are clean and tight. Workplaces should also have safety protocols in place to ensure no welders are within reach of each other if they're working on the same piece, that no welders wear jewelry on site, and that arc welders are checking their external connections on a daily basis.

The safety bulletin provides summaries of the hot work incidents examined by the CSB and identifies seven key lessons aimed at preventing worker deaths during hot work in and around storage tanks containing flammable materials which include:

1. **Use Alternatives–** Whenever possible, avoid hot work and consider alternative methods.
2. **Analyze the Hazards–** Prior to the initiation of hot work, perform a hazard assessment that identifies the scope of the work, potential hazards, and methods of hazard control.
3. **Monitor the Atmosphere–** Conduct effective gas monitoring in the work area using a properly calibrated combustible gas detector prior to and during hot work activities, even in areas where a flammable atmosphere is not anticipated.
4. **Test the Area–** In work areas where flammable liquids and gases are stored or handled, drain and/or purge all equipment and piping before hot work is conducted. When welding on or in the vicinity of storage tanks and other containers, properly test and if necessary continuously monitor all surrounding tanks or adjacent spaces (not just the tank or container being worked on) for the presence of flammables and eliminate potential sources of flammables.
5. **Use Written Permits–** Ensure that qualified personnel familiar with the specific site hazards review and authorize all hot work and issue permits specifically identifying the work to be conducted and the required precautions.

6. **Train Thoroughly–** Train personnel on hot work policies/procedures, proper use and calibration of combustible gas detectors, safety equipment, and job specific hazards and controls in a language understood by the workforce.
7. **Supervise Contractors–** Provide safety supervision for outside contractors conducting hot work. Inform contractors about site-specific hazards including the presence of flammable materials.

This report also includes descriptions of hot work fires previously published by NFPA, summaries from the Department of Labor's Occupational Safety and Health Administration's database of worker fatality and catastrophe investigations, and brief descriptions from hot work injuries seen at hospital emergency departments and reported to the Consumer Product Safety Commission's National Electronic Injury Surveillance System.

Report highlights

- U.S. fire departments responded to an average of 4,630 structure fires involving hot work per year in 2013-2017. These fires caused an average of 15 civilian deaths, 198 civilian injuries and $355 million in direct property damage per year.
- Forty-three percent of the fires involving hot work in 2013-2017 occurred in or on homes, including one or two-family homes and apartments or other multi-family homes, while 57 percent occurred in or on non-home properties.
- Welding torches ranked first among the type of hot work equipment involved in fires with 36 percent of the fires. The leading types of hot work equipment involved in structure fires were different in homes than in non-home properties.
- The peak areas for home fires involving hot work were wall assemblies or concealed spaces (16 percent), and bathrooms or lavatories (13 percent). Exterior roof surfaces (12 percent) and processing or manufacturing areas (11 percent) were peak areas for non-home fires.

- From 2001-2018, five firefighters were fatally injured in four unintentional fires started by torches.

Housekeeping Stats and Facts

DID YOU KNOW?

Housekeeping cleaners are most often employed by the Traveler accommodation industry. The average yearly wage for Maids & housekeeping cleaners was $20,629 in 2016. The top 3 most similar occupations to Maids & housekeeping cleaners by wage are Nonfarm animal caretakers, Food preparation and serving related workers, all other, and Food servers, nonrestaurant.

Background: Hotel employees have higher rates of occupational injury and sustain more severe injuries than most other service workers.

Method: OSHA log incidents from five unionized hotel companies for a three-year period were analyzed to estimate injury rates by job, company, and demographic characteristics. Room cleaning work, known to be physically hazardous, was of particular concern.

Results: A total of 2,865 injuries were reported during 55,327 worker-years of observation. The overall injury rate was 5.2 injuries per 100 worker-years. The rate was highest for housekeepers (7.9), Hispanic housekeepers (10.6), and about double in three companies versus two others. Acute trauma rates were highest in kitchen workers (4.0/100) and housekeepers (3.9/100); housekeepers also had the highest rate of musculoskeletal disorders (3.2/100). Age, being female or Hispanic, job title, and company were all independently associated with injury risk.

Conclusion: Sex- and ethnicity-based disparities in injury rates were only partially due to the type of job held and the company in

which the work was performed.

As of May 2018, there were over 3.24 million people working in the cleaning services industry in the United States. Janitors and cleaners (not including maids and housekeeping cleaners) made up the largest portion of employees in this industry and earned a mean annual income of 28,950 U.S. dollars. Janitors and cleaners are largely employed within the services to buildings and dwellings industry and in elementary and secondary schools. In 2019, the revenue of janitorial services in the U.S. reached 61 billion U.S. dollars.

Across North America, provision of janitorial and cleaning services predominantly occurs in-house. In a 2019 survey of facility managers, just over 24 percent of respondents stated that they outsource cleaning and maintenance, compared to 51.7 percent of respondents who stated that outsourcing is simply not an option. It is most common for organizations who require facility management to employ less than ten full-time equivalent (FTE) employees in their cleaning/ maintenance department. Overall, just under 61 percent of relevant organizations employ less than 50 FTE for cleaning and maintenance and just over 65 percent have 20 or less buildings to take care of.

Of the outsourced providers in the U.S., by far the largest company in terms of revenue is ServiceMaster. In 2018, the Memphis-based company reported an annual revenue of 1.9 billion U.S dollars and franchised around 5,000 cleaning establishments worldwide. However, their operations are diversified, meaning this figure includes revenue from other areas such as pest control. When looking only at cleaning services, the largest U.S. provider is in fact Jani-King. Founded by a university student in Oklahoma in 1969, Jani-King generated 727 million U.S. dollars in sales from around 7,600 franchise establishments across the world. Rounding out the top three providers by revenue is Coverall, who generated 457 million U.S. dollars in sales from around 8,300 franchises worldwide in 2018.

1. The Cleaning Industry Is Experiencing Above-Average Growth of 10% in the US

According to the Bureau of Labor Statistics, the average job growth across all industries is currently 7%. By contrast, the cleaning industry stats reveal a job growth of 10%. That's 3% more than the national average.

2. There Were 2.3 Billion Cleaning Services Jobs in the US in 2016

The latest edition of the BLS's Occupational Outlook Handbook reports that there were 2.3 billion janitorial and building cleaning jobs in the US in 2016.

3. An Estimated 236,500 Jobs Will Be Created by 2023 in the US

Faster-than-average growth means new jobs! By 2023, the BLS estimates that about 236,500 more janitorial jobs will be created.

4. There Are Over Twice as Many Commercial Cleaning Jobs as Residential Cleaning Jobs

According to the BLS's Occupational Employment Statistics, over 2.15 million people worked as janitors and cleaners in May 2018. By contrast, only 924,290 people worked as maids/housekeepers.

While this does not include self-employed individuals, it still shows that over twice as many people work as janitors/cleaners than maids/housekeepers.

5. Almost a Quarter of Facility Managers Outsource Cleaning Services

According to a Statista report, in 2019, 24.15% of facility managers surveyed reported that they currently outsourced cleaning services. This is a big jump from 2018 when only 15.35% reported outsourcing. Similarly, the number of facility managers that reported 'outsourcing is not an option' decreased from 2018 to 2019. This is indicative of a trend toward more outsourcing in the future. However, currently, the majority of janitorial and cleaning services are performed in-house.

6. Floor Cleaning Is One of the Largest Areas of the Commercial Cleaning Industry

Commercial Floor Cleaning is a very in-demand industry. Across the global market, we've seen an increased demand for commercial floor cleaning services for schools, hospitals, and buildings. Vacuum cleaning services are expected to grow the fastest.

7. Construction and Post-Construction Cleaning Have a Major Impact on Commercial Cleaning Services

Commercial cleaning services make up the largest revenue of the industry. According to an Allied Market Research report, commercial cleaning earned an overall revenue of $37,217 million globally in 2015. A huge contributor to this revenue was construction and post-construction commercial cleaning services.

8. North America Has the Largest Cleaning Services Market, but the Asian Market is Catching Up

Currently, North America has the largest market for cleaning services, However, from 2016-2022, the Asia-Pacific market is expected to have the fastest growth according to Allied Market Research.

9. Cleaning Services Revenues Fell during the Recession, but Have Bounced Back

The recession had a negative impact on the cleaning industry due to increased unemployment. In 2008, revenues fell 5.3%. In 2009, they fell another 6.1%. In recent years, however, the industry has seen an upswing, bouncing back with a $51 billion revenue in 2015.

10. California Is the Top Employer of Residential Cleaners (Maids/Housekeepers)

According to the BLS's latest OEW report, California is the #1 employer of maids and housekeepers in the US.

11. California Is the Top Employer of Commercial Cleaners (Janitors/Cleaners)

Similar to residential cleaners, California is also the top employer of commercial cleaners.

12. Janitorial Services Have an Estimated Annual Revenue of $47.5 billion in the US

According to a Statista report of the industry's revenue from 2011-2023, estimates of the current and anticipated revenue from janitorial services is nearly $50 billion.

13. Revenues of Janitorial Services in the US Will Increase About $2 billion by 2023

The same Statista report shows that by 2023, industry revenue from janitorial services will equal an estimated $49.5 billion. That's about a $2 billion increase in revenue.

14. Carpet and Upholstery Cleaning Earns an Estimated Annual Revenue of $4.08 billion in the US

One of the largest niches within the cleaning industry is upholstery and carpet cleaning. According to a Statista report on the carpet cleaning and upholstery industry, the estimated annual revenue is $4.08 billion.

15. About 36% of Janitors Work in Buildings and Dwellings

The top employers of janitors and building cleaners are buildings and dwellings. According to the BLS, they accounted for about 36% of commercial cleaning jobs in 2016.

16. The Second Largest Employer of Janitors and Cleaners are Elementary and Secondary Schools

After buildings and dwellings, the second most common employer of janitors and cleaners are schools. This includes state, local, and private elementary and secondary schools. They accounted for about 13% of janitorial jobs in 2016.

Other common work environments include healthcare and social assistance services, government buildings, religious organizations, and other professional environments.

17. 68.8% of Janitors and Cleaners Are Male

When looking at the demographics, there are more male janitors and cleaners than there are female. In 2017, about 68.8% of building cleaners and janitors were male versus 33.2% female.

18. About 85.6% of Maids and Housekeepers Are Female

By contrast to the titles ‘janitors and building cleaners’, there are significantly more female housekeepers and maids. According to Data USA, about 85.6% of housekeepers and maids in 2017 were female.

19. 55% of Commercial Cleaners Lose Business Due to Customer Satisfaction

According to market research, the main reason why commercial cleaning businesses lose customers is because of inadequate services. This is why business owners must hire skilled employees and offer proper on-the-job training. This will help retain a client base and improve annual revenue.

20. The Demand for Janitorial Equipment Is Expected to Rise 15% Annually by 2023

With an above-average growth rate in the industry, it makes sense that there is an increased demand for janitorial equipment. According to market research cited by the ISSA, this demand is projected to increase 15% annually through 2023. This is something we have already noticed at MRO Supply, as a proud carrier of some of the top janitorial supplies on the market.

Incident Investigations Stats and Facts

DID YOU KNOW?

As an employer, you are responsible for providing a workplace that is safe, both physically and psychologically, for all of your employees. If you don’t do your best to prevent risks to their physical and mental health, you are contributing to a potentially toxic work environment.

Not only will this make employees unhappy working for you, it could lead to a lawsuit. Workplace incident investigations that are inadequate or never performed at all may lead to reputation damage or thousands of dollars in legal fees should the affected employee take legal action.

For instance, when an Amazon warehouse worker hurt her back on the job, her employer took 9 months to replace missing safety equipment that had resulted in her injury twice. As a result of having to take unpaid leave and losing her workers compensation benefits, the employee lost her home, forcing her to file a lawsuit.

Fifty per cent of businesses that face a major negative incident fail within two years of the crisis. Thorough workplace incident investigations can also prove that you are compliant with Occupational Safety and Health Act (OSHA), discrimination laws and other regulations, which can protect your organization during a lawsuit.

The primary groups of accidents and incidents to be reported monthly by railroads are:

- Highway-rail grade crossing accidents/incidents.
- Rail equipment accidents/incidents.
- Casualties to persons (i.e., death and non-fatal injuries to all types of persons, and occupational illnesses involving railroad employees).

In addition to monthly railroad-reported accidents and incidents, railroads are required to provide FRA with immediate notification of various types of accidents. This notification is

routed through the National Response Center, which notifies FRA of such accidents on a 24-hour, 7-day-a-week basis.

See definitions and requirements for reporting and/or recordkeeping in 49 CFR Part 225 and FRA's Guide for Preparing Accident Incident Reports.

FRA Accident Investigations (general criteria)

FRA investigates accidents and incidents as determined by the Accident Analysis Branch or regional management. Generally, FRA investigates accidents and incidents meeting the following criteria:

- Any collision (main or yard track), derailment, or passenger train incident resulting in at least one fatality or serious injury to railroad passengers or crewmembers.
- Any railroad-related accident resulting in death to an on-duty railroad employee, including an employee of a contractor to a railroad, regardless of craft.
- Any highway-rail grade crossing accident resulting in any of the following:
    - Death to one or more persons being transported in a commercial vehicle or school bus.
    - Serious injury to several persons being transported in a commercial vehicle or school bus.
    - Death to three or more persons in a private highway vehicle.
    - Accidents involving grade crossing signal failure or allegations of grade crossing signal failure.
- Any non-casualty train accident resulting in derailment of a locomotive, 15 cars or more, and extensive property damage.
- Any train accident/incident resulting in a fire, explosion, evacuation, or release of regulated hazardous materials, especially if it exposed a community to these hazards or the threat of such exposure.
- Any accident/incident involving a train transporting nuclear materials.

- Any train incident involving runaway or rollaway equipment, with or without locomotives.
- Any collision involving maintenance-of-way or hi-rail equipment.
- Any accident caused by failure of a locomotive or any part of a locomotive, or a person coming in contact with an electrically energized part that resulted in serious injury or death of one or more persons.
- Accidents resulting from signal failure including Positive Train Control-related failures and malfunctions.
- Any other train accident/incident likely to generate considerable public interest.
- Most Amtrak accidents/incidents.

Investigating a worksite incident- a fatality, injury, illness, or close call- provides employers and workers the opportunity to identify hazards in their operations and shortcomings in their safety and health programs. Most importantly, it enables employers and workers to identify and implement the corrective actions necessary to prevent future incidents.

Incident investigations that focus on identifying and correcting root causes, not on finding fault or blame, also improve workplace morale and increase productivity, by demonstrating an employer’s commitment to a safe and healthful workplace.

Incident investigations are often conducted by a supervisor, but to be most effective, these investigations should include managers and employees working together, since each bring different knowledge, understanding and perspectives to the investigation.

In conducting an incident investigation, the team must look beyond the immediate causes of an incident. It is far too easy, and often misleading, to conclude that carelessness or failure to follow a procedure alone was the cause of an incident. To do so fails to discover the underlying or root causes of the incident, and therefore fails to identify the systemic changes and measures needed to prevent future incidents. When a shortcoming is identified, it is important to ask why it existed and why it was not previously addressed.

Finally, investigating workplace incidents helps you find the root cause. Not only does this help you eliminate whatever led to the incident, it can also help you avoid recurring issues. For example, if an employee was injured by a falling box, an investigation may show that boxes are stacked too high and could harm someone else if conditions aren't changed.

Indoor Air Quality Stats and Facts

DID YOU KNOW?

"Indoor air quality" refers to the quality of the air in a home, school, office, or other building environment. The potential impact of indoor air quality on human health nationally can be noteworthy for several reasons:

- Americans, on average, spend approximately 90 percent of their time indoors, where the concentrations of some pollutants are often 2 to 5 times higher than typical outdoor concentrations.
- People who are often most susceptible to the adverse effects of pollution (e.g., the very young, older adults, people with cardiovascular or respiratory disease) tend to spend even more time indoors.
- Indoor concentrations of some pollutants have increased in recent decades due to such factors as energy-efficient building construction (when it lacks sufficient mechanical ventilation to ensure adequate air exchange) and increased use of synthetic building materials, furnishings, personal care products, pesticides, and household cleaners.

Other Factors Affecting Indoor Air Quality

In addition, several other factors affect indoor air quality, including the air exchange rate, outdoor climate, weather conditions, and occupant behavior.

The air exchange rate with the outdoors is an important factor in determining indoor air pollutant concentrations. The air exchange rate is affected by the design, construction, and operating parameters of buildings and is ultimately a function of infiltration (air that flows into structures through openings, joints, and cracks in walls, floors, and ceilings and around windows and doors), natural ventilation (air that flows through opened windows and doors), and mechanical ventilation (air that is forced indoors or vented outdoors by ventilation devices, such as fans or air handling systems).

Outdoor climate and weather conditions combined with occupant behavior can also affect indoor air quality. Weather conditions influence whether building occupants keep windows open or closed and whether they operate air conditioners, humidifiers, or heaters, all of which can affect indoor air quality. Certain climatic conditions can increase the potential for indoor moisture and mold growth if not controlled by adequate ventilation or air conditioning.

According **to The Lancet**, 800,000 people die every year due to poor air quality in their workplace.

You spend about 90% of your time indoors.

At work, if you are like most people, you spend almost all of your time inside. This should be a major concern, when you consider this and the next fact together.

The quality of indoor air can be two to five times (and even up to 100 times) more polluted than the worst outside air.

Most people recognize the health concerns that outdoor air pollution poses, but few consider that exposure to poor indoor air quality has the same ill health effects.

The EPA has ranked indoor air pollution among the top five environmental dangers.

The Environmental Protection Agency has recognized that poor indoor air pollution is a very real problem and ranked it among the top of the environmental dangers facing the public.

There has been an alarming increase in the number of children with severe allergies and asthma.

The amount of children and young adults with severe allergies and asthma continues to climb every year. This has been linked to increasingly poor indoor air quality.

Allergies, asthma, lung cancer and heart problems have all been linked to poor air quality.

The American Heart Association has linked poor air quality to heart problems while the American Lung Association lists it as a leading cause of lung cancer.

Sources of indoor air pollution are all around you.

Studies conducted by the EPA have shown that indoor air pollution is a problem for all types, whether in a dense urban city or a rural town. Some of the sources include:

- Combustion sources: gas, oil, kerosene and wood stoves or fireplaces, tobacco smoke
- Building materials: insulation, carpet, cabinetry, pressed wood products
- Chemical products: cleaning products, personal care products, glues, pastes
- Outdoor sources: radon, pesticides, pollen, outdoor air pollution
- Other: pet dander, dust mites, mold, virus

DUE TO AN ABNORMALLY WARM WINTER THIS YEAR

the pollen counts are 800% higher (or 8 times greater) than normal.

You inhale approximately 15,000 or more quarts of air per day.

You likely understand the health benefits of clean water, of which you consume about two quarts per day. Yet, most people are unaware of or ignore the importance of breathing clean air, as well.

Infection Control Stats and Facts

DID YOU KNOW?

Infection prevention and control is required to prevent the transmission of communicable diseases in all health care settings. Infection prevention and control demands a basic understanding of the epidemiology of diseases; risk factors that increase patient susceptibility to infection; and the practices, procedures and treatments that may result in infections.

There are limited recent data on infectious illness impacts in the workplace; however, those sources that are available indicate that employers have become increasingly aware of the cost burden of employee absenteeism and presenteeism. Absenteeism is defined as missed work days while attending work while ill is termed presenteeism estimated that 50–60% of all workplace absenteeism was caused by respiratory disorders or gastroenteritis. Globally, annual influenza incidence rates have been estimated at 5–10% in adults. In workplaces, influenza incidence rates have been in the range of 12–23.7% depending on the timeframe being audited. Approximately 70% of employees with influenza are absent from work during their infection, which can result in an average loss of 3% of annual work hours.

According to the Centers for Disease Control and Prevention (CDC)

and Bureau of Labor Statistics (BLS), almost 26 million employees in the United States of America (USA) were infected with H1N1 during the 2009 pandemic peak 8 million took sick leave, eight million did not. As each employee with influenza who attends work is estimated to infect an additional 0.9 co-workers an estimated seven million H1N1 infections occurred due to presenteeism. Approximately 16% of influenza transmission is estimated to occur in the workplace.

Annually, approximately 500 million non-influenza viral respiratory tract infections occur in the USA, resulting in 70 million lost workdays while in the Netherlands, the incidence rate over three years was 50% and almost 30% of these took sick leave. There is considerably less literature regarding gastroenteritis as a specific cause of absence. In the Netherlands, the gastroenteritis incidence rate was 10.1% during 1998–2001 and the absence rate was 45.3%.

Infectious illnesses have considerable impacts on workplace productivity and costs. For example, in France and Germany, lost productivity related to infectious illnesses in the workplace cost an estimated $US10–15 billion per year. Associated costs due to influenza were $87.1 billion in the USA in 2003; $6.2 billion were attributed to productivity losses: Lost productivity due to acute respiratory illness (ARI) in the USA accounts for as much as 75% of the total economic burden. A 2003 study estimated that non-influenza viral respiratory illness resulted in an economic impact of $40 billion in the USA annually each influenza-like illness (ILI) episode, an average of 23.6 and 23.9 work hours were lost during the 2007/2008 and 2008/2009 influenza seasons, respectively.

Associated costs of preventable illnesses typically exceed treatment costs. In the USA in 2003, the direct healthcare costs associated with influenza were $10.4 million, while the costs due to lost earnings and employee deaths were $16.3 million. For the common cold in the USA during 1997, healthcare costs were $17 billion while economic costs were $22.5 billion.

The impact of, and costs associated with, presenteeism are also

significant. Sick employees demonstrate decreased reaction times and alertness, and increased anxiety, which decrease their efficiency at work. Ill employees assess their own efficiency at up to 45% lower than usual. The consequences of presenteeism include later serious and chronic illness, which could subsequently increase absenteeism. A study by that the work hours lost and costs due to presenteeism exceeded those due to absenteeism and every cold resulted in an average loss of 8.7 h, 5.9 of which were due to presenteeism; costs related to the common cold for employers in the USA were $25 billion annually, $16.6 billion due to presenteeism.

Health-related workplaces such as hospitals are aware of the potential consequences of infectious illnesses, both to employees and patients, follow strict guidelines to prevent infection and have robust evidence-based infection prevention and control programs. Non-health workplaces are not bound by such guidelines and are less well informed on workplace infection prevention the clear impacts of infectious illness on workplaces, this review aimed to investigate the international literature on the effectiveness and cost-benefit of the strategies non-healthcare workplaces use to prevent and control infectious illnesses in these workplaces.

A University of Washington researcher calculates that 14.4 million workers face exposure to infection once a week and 26.7 million at least once a month in the workplace, pointing to an important population needing protection as the novel coronavirus disease, COVID-19, continues to break out across the U.S.

An epidemiologic investigation in the workplace is important because it helps to better define the characteristics of workers who contracted COVID-19; it can offer insight into risk factors for transmission, prevalence, and incidence of disease within the workplace. A workplace epidemiologic investigation may include:

- **Defining the worker population at risk.**
    - Minimally, investigators should consider obtaining a list/s of all workers present at the workplace or in the work environment (e.g., construction site) during

a defined time period (i.e., contact elicitation window as defined in the outbreak case definition).

- At some workplaces, this may include workers employed by multiple companies (e.g., contractors, sub-contractors), workers who are responsible for performing a variety of tasks (e.g., production, transportation, customer service, food preparation, cleaning), and workers who may not be employed by the company but may have been physically present at the company during the defined period of interest (e.g., transportation and delivery services).
- Collecting information about key variables such as department/area of work, shift, and job tasks/titles, is helpful so that attack rates for specific groups of workers can be calculated to determine the need for additional control measures.

In all, OSHA officials are reviewing workplaces in two dozen states with a total of 96,000 employees, according to USA TODAY's analysis.

OSHA has been under fire for not doing enough to protect workers amid the pandemic. State and federal OSHA offices have fielded thousands of coronavirus-related complaints since January, according to records released last week.

In recent weeks OSHA also has uploaded data detailing inspections that were launched by federal and state officials and refer to COVID-19. They reveal which inspections are being conducted at what companies.

A total of 192 COVID-19-related inspections were launched between Feb. 19 and April 23. Many were triggered by complaints that employees were in danger, had been hospitalized or died. Five cases have since been closed; the rest were open, according to data released Tuesday.

Injury/Illness Stats and Facts

DID YOU KNOW?

In 2019, the rate of nonfatal occupational injuries and illnesses among private industry employees was 2.8 cases per 100 full-time equivalent workers. Private industry workers incurred 2.8 million injuries or illnesses in 2019, unchanged from 2018.

A total of 5,250 workers died from a work-related injury in the U.S. in 2018, up 2 percent from the 2017 total of 5,147. The fatal injury rate was unchanged in 2018 at 3.5 per 100,000 full-time equivalent workers.

More state-specific 2019 workplace injury statistics are available from the BLS: State Occupational Injuries, Illnesses, and Fatalities.

Age and Sex of Workers Who Missed Time from Work Due to Workplace Injuries and Illnesses

According to the latest BLS data available in 2019, slightly over half of workers who missed time from work due to workplace illnesses and injuries were men. The greatest disparity between men and women was in the private sector (60% men compared to 40% women), with the least disparity between state government employees (53% men compared to 47% women).

The BLS’s 2019 workplace injury statistics indicate that older workers were more likely to miss significant time from work than younger workers. Among workers ages 55 to 64, the median number of days missed due to an injury or illness was 14 days, compared to just five days for workers between the ages of 16 and 24.

Most-Common Causes of Non-Fatal Workplace

Injuries – 2019 BLS Data

The U.S. Bureau of Labor Statistics' 2019 data break down the most-common causes of non-fatal workplace injuries into five categories. The proportion of injuries falling into each of these categories has remained fairly steady over the past five years. According to the BLS's statistics, the most-common causes of workplace injuries (from most-common to least common) are:

- Overexertion and bodily reaction (approximately 33 incidents per 10,000 full-time workers)
- Falls, slips, and trips (approximately 27 incidents per 10,000 full-time workers)
- Contact with objects or equipment (approximately 24 incidents per 10,000 full-time workers)
- Violence and other injuries caused by persons or animals (approximately eight incidents per 10,000 full-time workers)
- Transportation accidents (approximately seven incidents per 10,000 full-time workers)

Most-Common Non-Fatal Workplace Injuries – 2019 BLS Data

The U.S. Bureau of Labor Statistics' 2019 data also break down the most-common workplace injuries into five categories. In order from most common to least, these five categories are:

- Sprains, strains, and tears (approximately 35 incidents per 10,000 full-time workers)
- Soreness or pain (approximately 18 incidents per 10,000 full-time workers)
- Cuts, lacerations, and punctures (approximately nine incidents per 10,000 full-time workers)
- Cruises and contusions (approximately nine incidents per 10,000 full-time workers)
- Fractures (approximately eight incidents per 10,000 full-time workers)

However, while sprains, strains, and tears are the most-common type of non-fatal workplace injury leading to missed time from

work, these injuries are roughly in the middle in terms of the number of days they cause workers to miss. From most to least, the injuries that cause employees and independent contractors to miss the most time from work are:

- Multiple injuries with fractures (median of 48 days)
- Fractures (median of 32 days)
- Amputations (median of 31 days)
- Carpal tunnel syndrome (median of 30 days)
- Tendonitis (median of 14 days)
- Sprains, strains, and tears (median of 11 days)
- Multiple traumatic injuries (median of nine days)
- Soreness or pain (median of eight days)
- Multiple injuries with sprains (median of seven days)
- Bruises and contusions (median of five days)
- Heat (thermal) burns (median of five days)
- Cuts, lacerations, and punctures (median of four days)
- Chemical burns (median of three days)

The Number of Fatal Workplace Injuries is on the Rise

The BLS's workplace injury statistics published in 2019 indicate that while the number of non-fatal workplace accidents has been falling, the number of fatal workplace accidents is on the rise. Over the past five years, the number of fatal accidents has increased each year, with just one exception. In 2018, the BLS reported the most fatal accidents of any of the previous five years. According to the BLS, the six most-common causes of fatal workplace accidents are:

- Transportation accidents (2,080 fatalities in the most-recent year)
- Violence and other injuries caused by persons or animals (828 fatalities in the most-recent year)
- Falls, slips, and trips (792 fatalities in the most-recent year)
- Contact with objects and equipment (786 fatalities in the most-recent year)

- Exposure to harmful substances or environments (621 fatalities in the most-recent year)
- Fires and explosions (115 fatalities in the most-recent year)

The occupations with the most fatal workplace accidents are very different from those with the most non-fatal injuries and illnesses (see above). According to BLS, the occupations with the highest number of fatalities based on the most-recent data available in 2019 are:

- Agriculture, forestry, fishing, and hunting (23.4 fatalities per 100,000 full-time equivalent workers)
- Transportation and warehousing (14.0 fatalities per 100,000 full-time equivalent workers)
- Construction (9.5 fatalities per 100,000 full-time equivalent workers)
- Wholesale trade (5.3 fatalities per 100,000 full-time equivalent workers)
- Professional and business services (3.3 fatalities per 100,000 full-time equivalent workers)

While California and Texas had the highest number of workplace deaths (422 and 488, respectively), these states had relatively low incident rates for job-related fatalities (2.3 and 3.8 per 100,000 full-time equivalent workers, respectively. The states with the highest incident rates for job-related fatalities were:

- Wyoming (11.5 per 100,000 full-time equivalent workers)
- Alaska (9.9 per 100,000 full-time equivalent workers)
- North Dakota (9.6 per 100,000 full-time equivalent workers)
- West Virginia (7.9 per 100,000 full-time equivalent workers)
- South Dakota (6.9 per 100,000 full-time equivalent workers)
- Mississippi (6.7 per 100,000 full-time equivalent workers)

“Fast Facts” on Workplace Injuries from the U.S. Centers for Disease Control and

Prevention (CDC)

The CDC's workplace injury statistics are largely consistent with those published by the BLS. On its Fast Facts page, the CDC highlights the following figures (based on the most-recent data available in 2019):

- 26% of all non-fatal work injuries resulting in days missed from work resulted from slips, trips, and falls.
- 24% of all workplace fatalities resulted motor vehicle accidents.
- Approximately 9% of workplace fatalities resulted from homicides.
- More than 229,000 workers were forced to miss time from their jobs due to injuries from contact with objects and equipment.
- Workers under the age of 25 had a higher rate of occupational injuries requiring emergency medical treatment than older workers (although, as noted above, older workers were more likely to miss more days from work).

2019 Fatal Workplace Accident Statistics from the U.S. Occupational Safety and Health Administration (OSHA)

OSHA's "Fatal Four" – The Most-Common Causes of Construction Site Deaths

The U.S. Occupational Safety and Health Administration is an agency within the U.S. Department of Labor (DOL), similar to the BLS. As a result, OSHA and the BLS publish many of the same workplace accident and injury statistics. However, OSHA publishes its own data as well, including its well-known "Fatal Four."

The "Fatal Four" are the four most-common causes of worker deaths on construction sites in America. According to OSHA, as of 2019, "one in five worker deaths last year were in construction." OSHA goes on to state that, "[the] "Fatal Four" were responsible for more than half (58.6%) the construction worker deaths. Eliminating

the Fatal Four would save 591 workers' lives in America every year." These are the "Fatal Four":

- Falls (accountable for 33.5% of construction worker deaths)
- Struck by object (accountable for 11.1% of construction worker deaths)
- Electrocutions (accountable for 8.5% of construction worker deaths)
- Caught in/between (accountable for 5.5% of construction worker deaths)

The Most-Common Safety Violations Cited by OSHA (Data Reported in 2019)

On its "Fatal Four" website, OSHA also lists the 10 most-frequently cited safety violations on construction sites. These safety violations are to blame for a significant number of fatal and non-fatal workplace injuries every year:

- Inadequate fall protection
- Inadequate hazard communication standards
- Unsafe scaffolding
- Inadequate respiratory protection
- Failure to control hazardous energy (lockout/tagout violations)
- Unsafe ladders
- Powered industrial truck safety violations
- Inadequate fall protection training
- Unsafe machinery and inadequate machine guarding
- Inadequate eye and face protection

JSA-Audits-Inspections Stats

and Facts

DID YOU KNOW?

Job Safety Analysis (JSA) also known as Job Hazard Analysis (JHA) is a process of looking at a work task and considering what is the safest way to complete it. The process typically involves 1) Breaking a job down into smaller tasks and observing a worker performing it, 2) Identifying the potential hazards for each task and, 3) Determining preventive measures and controls to overcome these hazards.

Audits of work sites are conducted for the purpose of health, safety, and fire hazard identification. During these surveys, assessments are made for compliance to applicable building and fire codes and the detection of unsafe hazards.

Work site audits also provide an evaluation of compliance to Occupational Safety and Health Administration (OSHA) standards relating to ergonomics, respirator use, hearing conservation, blood-borne pathogens and use of personal protective equipment. Ergonomics, the study of work and the relationships of carious stressors on the individual, can be identified through the building audits. The objective of ergonomics is to adapt the job and workplace to the worker by designing tasks, workstations, tools, and equipment to the abilities of the worker. Conducting a single annual comprehensive safety audit can actually hide the facts and hazards that you may want to discover. The single annual audit approach may tend to create a safety “ramp up” effect, by managers and supervisors, as the audit time approaches.

Dangerous jobs benefit the most from a JSA because it can reduce or eliminate hazards that cause serious injuries or fatalities. A JSA increases job knowledge, establishes teamwork, serves as a health and safety standard and teaching aid, and supports accident investigations at work. A JSA template is used when performing a JSA procedure and is used to generate a safety and recommendation report.

What Jobs are Appropriate for a JSA?

A JSA can be conducted on many jobs in your workplace but priority should go to the types of jobs that have:

1. Highest injury or illness rates;
2. Potential to cause severe or disabling injuries or illness, even if there is no history of previous accidents;
3. Simple human error which could lead to a severe accident or injury;
4. Undergone changes in processes and procedures; and
5. Complexity enough to require written instructions

Top 10 most dangerous jobs in the United States

The US Bureau of Labor Statistics' recent workplace fatality census identified the top 10 most dangerous jobs in the US. These dangerous jobs would benefit significantly from a JSA process.

- Logging Workers
- Fishers and related fishing workers
- Aircraft pilots and flight engineers
- Roofers
- Refuse and recyclable material collectors
- Structural iron and steelworkers
- Driver/sales workers and truck drivers
- Farmers, ranchers, and other agricultural managers
- First-line supervisors of construction trades and extraction workers
- Miscellaneous agricultural workers

A fact finding event is used to gather all applicable information. Auditors should make an effort not to form an opinion or make evaluative comments during this phase.

A Team Approach – If a safety audit team is used, make assignments to each person that defines their area of inspection. Ensure they have the proper program background information and documents.

Safety Audit Areas – most audits can be broken down into these areas:

Employee knowledge – OSHA standards require "effective training" – an effective program ensures that employees have the knowledge required to operate in a safe manner on a daily basis. The level of knowledge required depends on the specific activities in which the employee is involved and their specific duties and responsibilities. Generally, managers and supervisors should have a higher level of knowledge than general employees. This includes practical knowledge of program administration, management and training. They should be able to discuss all elements of each program that affects their assigned employees. Many programs divide employees into these two groups- authorized employees and affected employees. Authorized employees must have a high level of working knowledge involving hazard identification and hazard control procedures. Determining employee level of knowledge can be achieved though written quizzes, formal interviews or informal questions in the workplace.

Written Program Review – during the safety audit, a comprehensive review of the written program should be conducted. This review should compare the company program to requirements for hazard identification and control, required employee training and record keeping against the local, state and federal requirements. Additionally, if applicable, the company insurance carrier should be asked to conduct an independent written program review.

Program Administration – This part of the safety audit review checks the implementation and management of specific program requirements. This section asks these and other similar questions:

- Is there a person assigned and trained to manage the program?
- Are specific duties and responsibilities assigned?
- Are sufficient assets provided?
- Is there an effective and on-going employee training program?

Record & Document Review – Missing or incomplete documents or

records is a good indication that a program that is not working as designed. Records are the company's only means of proving that specific regulatory requirements have been met. Record review also includes a look at the results, recommendations and corrective actions from the last program audit.

Equipment and Material – This area of a safety audit inspects the material condition and applicability of the equipment for hazard control in a specific program. Examples of audit questions for this area are:

- Is the equipment in a safe condition?
- Is there adequate equipment to conduct tasks safely?
- Is personal protective equipment used and stored properly?
- Is equipment, such as exit lights, emergency lights, fire extinguishers, material storage and handling equipment designed and staged to control hazards effectively?

General Area Walk-Through – While safety audits are not designed to be comprehensive physical wall-to-wall facility inspections, a general walk-though of work areas can provide additional insight into the effectiveness of safety programs. Auditors should take written notes of unsafe conditions and unsafe acts observed during the walk-through.

Ladders Stats and Facts

DID YOU KNOW?

Among workers, approximately 20 percent of fall injuries involve ladders, and among construction workers, an estimated 81 percent of fall injuries treated in hospital emergency rooms involve a ladder.

In 2011, work-related ladder fall injuries (LFIs) resulted in 113

fatalities (0.09 per 100,000 full-time equivalent [FTE] workers), an estimated 15,460 nonfatal injuries reported by employers that involved more than 1 day away from work (DAFW) and an estimated 34,000 nonfatal injuries treated in emergency rooms. Rates for nonfatal, work-related, emergency room-treated LFIs were higher (2.6 per 10,000 FTE) than those for such injuries reported by employers (1.2 per 10,000 FTE).

“LFIs represent a substantial public health burden of preventable injuries for workers,” noted the researchers.

According to the study:

- Men and Hispanics had higher rates of fatal and nonfatal LFIs compared with women and non-Hispanic whites and workers of other races/ethnicities.
- LFI rates increased with age, except for injuries treated in emergency rooms.
- Fatality rates were substantially higher for self-employed workers (0.30 per 100,000 FTE workers) than salary/wage workers (0.06 per 100,000 FTE workers).
- Companies with the fewest employees had the highest fatality rates.
- The construction industry had the highest LFI rates compared with all other industries.

Across all industries, the highest fatal and nonfatal LFI rates were in the following two occupation groups: construction and extraction (e.g., mining) occupations, followed by installation, maintenance and repair occupations.

Head injuries were implicated in about half of fatal injuries (49 percent), whereas most nonfatal injuries involved the upper and lower extremities for employer-reported and emergency room-treated nonfatal injuries.

Ladder safety at Anniston Army Depot is the responsibility of every employee who comes into contact with them – from the supervisor or designated safety monitor, who performs a formal, documented annual inspection, to the worker who inspects the

ladder for functionality and evidence of damage before each use.

Falls are a leading cause of injury and death at home and in the workplace. Nearly half of those deadly falls have been from ladders.

In a recent study by the Centers for Disease Control and Prevention, it was determined that 43 percent of fatal falls over the last decade involved a ladder.

According to the study:

Across all industries, the highest fatal and non-fatal ladder related injuries were in construction and mining related occupations, followed by installation, maintenance and repair occupations.

- Head injuries were implicated in about half of the fatal injuries.
- Fatality rates were substantially higher for self-employed workers than salary/wage workers.

Another study by the Consumer Product Safety Commission showed some startling statistics concerning the frequency and severity of ladder-related accidents in the United States.

- More than 90,000 people receive emergency room treatment from ladder-related injuries every year.
- Elevated falls account for almost 700 occupational deaths annually.
- According to the Bureau of Labor Statistics, 50 percent of all ladder-related accidents were due to individuals carrying items as they climbed.
- The Occupational Safety and Health Administration believes 100 percent of all ladder accidents could be prevented if proper attention to equipment and climber training were provided.

Some important takeaways from these studies are that larger companies with more employees and a higher level of training have lower instances of ladder-related injuries.

Also, OSHA believes that, with proper training and equipment selection, 100 percent of ladder-related accidents can be prevented.

Leadership Stats and Facts

DID YOU KNOW?

Business Leadership Statistics

The corporate world has been tied to leadership gap statistics for quite some time now. There's simply not enough diversity in CEO roles. There are also not enough candidates with the leadership skills needed to take on managerial positions.

In this first section, we'll be discussing the situation in the corporate world and how it's shaping the workplace.

1. **77% of corporations experienced leadership gaps in 2019.**

Employees typically seek jobs at companies that have leadership development, statistics show. But employers seek candidates that already have some form of leadership skills. This is because management doesn't want to spend the time or money to train employees to develop their leadership skills.

Because of this never-ending (not to mention vicious!) cycle, the stats just keep on getting worse and worse.

2. **83% of employers state it's crucial to develop leaders at all levels.**

Employers in the US spent top dollar to develop their workers' skills through training and education. While 83% of employers agree that it's crucial to develop their employees' skills, only

5% of corporations actually implement these improvements. Perhaps this is the reason why poor leadership statistics are so much more common than statistics about good leadership.

3. **63% of Millennials believe their leadership skills are not being fully developed.**

Another study showed that 71% of Millennials will leave their job within two and three years if they feel their leadership skills are lacking and there’s no room for growth.

But who cares about what Millennials think, right?

Wrong. Considering the fact that Millennials will soon make up most of the workforce, everyone should.

4. **Only 14% of CEOs have the leadership talent they need to grow their businesses.**

Finding candidates to fill leadership roles can be difficult. In larger corporations, CEOs need candidates that have strong personalities to take on managerial roles. Unfortunately, few have the ability to handle the job.

5. **The need for digital leadership skills will increase in 2020, as only 16% of corporations are successful in digital marketing.**

The rapid growth of social media technology and marketing will result in the need for candidates who have digital skills. So, the number of social media managerial positions is growing every day.

6. **The nature of the workforce will change because millennials will make up 75% of the workforce in 2025.**

What do the leadership development statistics 2019 mean for the next few years? Leaders are preparing to manage an entirely different generation of employees in 2020. Remote working and flexible hours are increasingly becoming the order of the day.

With this much employee freedom, leaders have to find new ways to maintain their staff and ensure workflow doesn’t diminish.

Effectiveness of Leadership

Great leaders are unselfish people. They care about their employees and their wellbeing. Unfortunately, there are many CEOs who don’t know how to manage their staff.

To be an effective leader, one must engage with employees regularly to ensure there are no problems within each department. Perhaps the following leadership statistics will give you an indication of how you can be an excellent leader in your industry.

7. **80% of work accidents occur due to stress from a negative work culture.**

How do you measure good leadership?

Well, you can start by implementing positive reinforcement. Positivity is the ultimate method to motivate change in the workplace and increase workflow. Offering incentives for work performance, creating a light-hearted environment, and acknowledging employees’ efforts will encourage them to work more efficiently.

Numerous workplace wellness stats indicate that employee encouragement and acknowledgement go a long way toward increasing productivity.

8. **79% of employees quit their jobs due to lack of appreciation.**

Be kind to your staff and treat them well – and you’ll receive the same in return. According to these employee turnover statistics, 8 in 10 employees quit if they don’t receive valuable appreciation.

One of the simplest ways leaders can show employees that they care is to express their appreciation for the work they do. This can be in the form of an emailed letter of appreciation or award ceremonies.

9. **15% of candidates state they turned down job offers due to negative work culture.**

The workplace is like a second home. That’s why candidates seek positions in corporations that have a positive working environment.

So, what do employees value most about a company? 55% state that reasonable pay is important, while 54% consider fair treatment as crucial in developing a positive work culture.

10. **70% of employees in the US are unhappy in their jobs due to negative management.**

Leadership stats state that many employees are miserable in their jobs because of a lack of effective management. This could be because leaders are struggling to find ways to engage with employees. But how leaders engage employees is up to them.

Studies show that employees feel less stressed and under pressure when they can engage with their leaders regularly. Employees will work more effectively if they have proper guidance from their leaders.

11. **78% of business leaders are focused on improving their engagements with employees.**

To create a stable environment, business leaders are finding new ways to engage their staff. This can be through short staff meetings, team-building exercises, or one-on-one engagement. Many are also implementing an open-door policy so that staff can address issues easily in the workplace.

Workplace Leadership Statistics

What makes a great leader in the workplace? Well, inspiring leaders are people who are able to run their departments like clockwork without creating a stressful and unpleasant environment. But only a select few CEOs are strong enough to be successful in their leadership roles.

Workplaces should include more diversity in their leadership roles. The following workplace leadership statistics will give you an indication of what the workplace leadership roles currently look like.

12. **38% of new leaders fail within the first 18 months.**

This figure is extremely worrying. So, how can you avoid becoming part of this statistic? Well, in order for leaders to become successful in their roles, they must implement positive reinforcement, motivate their team, and lead by example.

13. **Women are more resilient leaders than men.**

According to women leadership statistics, females have shown to have more resilience (54.7 percentile) than men (49.3 percentile). Women also have excellent problem-solving skills, and they're incredibly reliable and motivated.

Fun fact: Finland now has the youngest female prime minister in history (Sanna Marin) at the age of 35.

14. **Only 10% of CEOs are natural leaders who guide staff by example.**

An excellent manager will show staff how to behave through their own actions. Leaders can't reinforce punctuality and productivity if they don't lead by example.

Employees tend to watch closely what their leaders are doing, and they will follow their actions.

Lockout Tagout Stats and Facts

DID YOU KNOW?

Each year, approximately 3,000 workers suffer lost-time injuries from being caught in dangerous parts of equipment or machinery during maintenance or cleaning, according to Bureau of Labor Statistics (BLS) data. Further, each year there are approximately 60 fatalities from similar exposures.

And, that’s just one type of exposure that workers face when it comes to maintenance and service activity and the unexpected release of hazardous energy.

In addition to caught-in exposure, workers face struck-by, crushing, electric shock, burn, and other hazards when maintenance work is done without properly controlling the release of energy, i.e., through a lockout/tagout (LOTO) program.

For example, in one case a steam valve was automatically turned on, burning workers who were repairing a downstream connection in the piping. In another case, a jammed conveyor system suddenly released, crushing a worker who was trying to clear the jam. In yet another case, internal wiring on a piece of factory equipment electrically shorted, shocking a worker who was repairing the equipment.

It was a typical October morning at the Bumblebee Tuna plant in Santa Fe Springs, California. Just before 5 a.m., maintenance employee Jose Melena was instructed to repair a chain inside one of the 54 inch by 36 foot tuna ovens. Not long after he was inside and the repair was underway, a second employee began loading the oven with 12,000 pounds of tuna. Assuming Melena was in the restroom at the time, the employee switched on the oven and the tuna began to cook.

A supervisor soon noticed Melena was missing, setting off a search throughout the facility and the parking lot, where Melena’s car was found, untouched. After searching for an hour and a half, the boiler operator suggested checking the last oven that had been loaded, which had reached 270 degrees. Employees waited an additional half an hour to let the oven cool down before they could open it. Sadly, Melena was indeed found inside near the exit, having suffered a terrible fate.

Employees across America service machines every day, which can be dangerous if the correct procedures are not followed, as was the case with the Bumblebee Tuna tragedy. Many serious injuries, even fatalities, have occurred when workers thought a machine they were servicing or its power source was turned off. Machines can

unexpectedly start up because of stored energy that was not properly released or by another employee who didn't realize it wasn't safe to turn on. These types of incidents can be avoided by lockout-tagout (LOTO), which disables the equipment and prevents the release of hazardous energy while service and maintenance is performed.

Compliance with lockout-tagout procedures prevents 50,000 injuries and 120 fatalities every year, according to the Occupational Safety and Health Administration (OSHA). Here are three critical points every company needs to remember about LOTO to keep employees safe.

1. **Employers Are Responsible For Protecting Employees with Lockout Tagout Procedures**

All employees have the right to a safe workplace. It's up to the employer to follow the OSHA requirements when they have employees servicing or maintaining equipment and machines. OSHA requires that all employers develop and enforce an energy control program, and ensure that all current and new equipment is capable of being locked out. If there are machines or equipment that cannot be locked out, it is the employer's responsibility to develop and enforce a tagout program.

Employers should inspect their equipment and their energy control procedures at least once a year to verify that all procedures are up-to-date and their equipment is working correctly.

2. **Employees Are Responsible For Knowing and Following Lockout Tagout Procedures**

Safety training that includes lock out tag out procedures should be included in new employee training and ongoing training for all employees to keep procedures fresh in their minds. All employees working with equipment and machinery should know and understand the procedures and be expected to follow hazardous energy protocol to avoid serious danger to themselves or others.

Lockout tagout training should include an overview of the employer's energy control program, the aspects of the energy

control program as they relate to different employee duties and the OSHA requirements for lockout tagout. Employees should understand that they are subject to fines, losing their job and even criminal charges for failing to comply with these standards.

3. **OSHA Is Responsible For Enforcing Lockout Tagout Procedures**

OSHA was established in part to ensure employees are guaranteed a safe working environment. OSHA provides education and training to employers and employees, and will step in to handle safety issues as they occur. Both employers and employees have the responsibility to report serious lockout tagout situations. OSHA investigates these incidents to the fullest extent to make certain the incident is not repeated.

It’s more than just Lockout

The release of uncontrolled energy causes thousands of injuries each year because there are so many factors at play. Hazardous energy control is more than lockout. It encompasses machine guarding, alternative measures (e.g., alternative guarding arrangements that prevent exposure to hazardous energy), lockout, tagout, and other methods of ensuring worker safety from contact with hazardous energy.

The other part of energy control that causes confusion is not recognizing all sources of energy. Sources of energy are not only electrical; they can also include mechanical, hydraulic, pneumatic, chemical, thermal, or other sources of energy. Employers must identify equipment and operations with these hazards and implement a comprehensive, diligently planned and executed Energy Control (Lockout/Tagout) program, which includes effective procedures, training, and annual review, among other things.

Machine Guarding Stats and Facts

DID YOU KNOW?

Machine guarding once again made OSHA's top ten list of most-frequently violated standards for fiscal year 2019. Coming in at number eight, OSHA's machine guarding standard 1910.212 was cited for violations 1,743 times in 2019, compared to 1,972 citations in 2018.

Total penalties in 2019 equaled $11,335,996. $11 million may not seem like much when you consider that in 2015 there were 2,644 amputations, according to the Bureau of Labor Statistics. Between 1992 and 1999, there was an average of more than 11,000 amputations every year. Many times, the loss of a finger, hand or arm results from machinery operations, and often the lack of proper guarding, or inadequate guarding.

Hazardous industries

Amputations, often resulting from the absence or misuse of machine guarding, are most like to occur in these industries, according to OSHA:

- Food manufacturing
- Animal slaughtering
- Meat processing
- Poultry processing
- Bakeries
- Sawmills
- Wood window and doors manufacturing
- Box manufacturing
- Printing operations
- Various machinery and equipment manufacturing

Sources of amputations

According to OSHA, the most common sources of amputations are:

- Agricultural, garden machinery, bailers
- Aerial list platforms
- Benders, rollers and shapers,
- Casting machinery
- Conveyors
- Stationary drills
- Food and beverage processing
- Grinders, abraders and meat grinders
- Material machinery
- Metal, woodworking and special material machinery
- Milling machines

In addition to potentially life-altering amputations, the lack, inadequacy or misuse of machine guards can result in lacerations, crushing injuries and abrasions. Inadequate machine guarding results in approximately 800 deaths every year.

Types of safeguards

There are five general types of machine safeguards:

Guards – these are physical barriers that prevent contact. They can be fixed, interlocked, adjustable, or self-adjusting.

Devices – these limit or prevent access to the hazardous area. These can be presence-sensing devices, pullback or restraint straps, safety trip controls, two-hand controls, or gates.

Automated Feeding and Ejection Mechanisms – These eliminate the operator's exposure to the point of operation while handling stock (materials).

Machine Location or Distance – this method removes the hazard from the operator's work area.

Miscellaneous Aids – these methods can be used to protect both operators and people in the immediate vicinity of operating

machinery. Examples include shields to contain chips, sparks, sprays or other forms of flying debris; holding tools that an operator can use to handle materials going into the point of operation; and awareness barriers to warn people about hazards in the area.

Machinery hazards

The three basic types of hazardous mechanical motions and actions are:

Hazardous Motions – including rotating machine parts, reciprocating motions (sliding parts or up/down motions), and transverse motions (materials moving in a continuous line);

Points of Operation – the areas where the machine cuts, shapes, bores, or bends the stock being fed through it;

Pinch Points and Shear Points – the area where a part of the body or clothing could be caught between a moving part and a stationary object. This would include power transmission apparatuses such as flywheels, pulleys, belts, chains, couplings, spindles, cams, gears, connecting rods and other machine components that transmit energy.

Materials Handling and Storage Stats and Facts

DID YOU KNOW?

Material handling equipment is used in warehouses for managing the storage and transportation of goods and products. It ensures improved productivity by enhancing logistics at warehouses and manufacturing plants. These products offer cost-effective, process

efficiency, and an accurate method for the swift transition of goods across the manufacturing plants and warehouses, resulting in increased demand.

Material handling is a crucial intermediary in the manufacturing sector. Although it does not directly contribute to the production of goods, it leads to efficiency in handling, managing, storing, and transporting goods. This equipment complements the production activity by ensuring a swift, smooth, and efficient circulation of goods thereby, resulting in the increased demand for the equipment over the forecast period.

Rise in industrial and infrastructural activities to fulfill the demand from the ever-growing population, is anticipated to bode well for market growth. Manufacturing and other industries incessantly attract huge amounts of foreign capital, thus augmenting the production activities. Governments across the world are increasing their infrastructural development to build new airports, rail networks, seaports, and power plants, and upgrade the prevailing ones. All these activities are simplified by using material handling equipment such as forklifts, conveyors, and Automated Guided Vehicles (AGVs).

Rising employer inclination towards employee or worker safety is also expected to fuel the growth of the material handling market. Thus, owing to the rise in industrial activities, industrialists have become more responsible for worker and workplace safety to maintain their goodwill in the market. As more companies are inclining toward automation to sustain the competition, encourage efficiency in the warehouse, and cut down costs, they are striving to build a safer working environment for employees. Thus, improving working and safety conditions is an integral part of their industrial activities, which is expected to remain a major growth avenue for this market.

In 2018, the industrial trucks market accounted for over 15% of the global material handling equipment market share and will witness high growth owing to the rising adoption of Automated Guided Vehicles (AGVs). These vehicles use carts, pallets or trays and are programmed to move between different manufacturing and

warehouse stations without a driver. The logistics market benefits from optimized workflow procedures, high productivity levels, and reduction of labor & operating costs. The emergence of technologically advanced vehicles has enabled independent usage without the need to support the movement of material handling equipment. They are also being used in warehouses and typically follow pre-planned routes. In addition, the incorporation of tracking software and cost-effective sensors has positively affected the functioning of the equipment, leading to the rise in the adoption of AGVs in several industrial sectors such as e-commerce and general merchandise.

The robotics segment in the material handling equipment market is expected to witness significant CAGR of over 8% to reach over USD 20 billion by 2024 owing to the demand for high-performance robotic systems across various industry verticals. Robots facilitate easy and fast pick & place of material thereby ensuring accuracy and eliminating human involvement.

The rising awareness about the advantages of automated systems globally will fuel the demand for robots across industries.

Extensive R&D undertaken in the field of robotics & AI is expected to fuel the material handling equipment market over the forecast period. The incorporation of machine learning capabilities in the robots to increase productivity with predictive maintenance further contributes to the industry demand.

The expanding 3PL sector globally is expected to witness a CAGR of over 6% in the material handling equipment market. The increasing complexity of supply chains is compelling businesses to turn towards 3PL service providers to ensure smooth and efficient operations.

3PL service providers are focusing on real-time systems for enhanced visibility. Furthermore, the flourishing durable manufacturing sector in countries including India and China is providing impetus to the market. The growing durable manufacturing industry adopting the latest technologies for production will surge the demand for the equipment.

The developments in the manufacturing sector are expected to propel the material handling equipment market growth. These systems are increasingly being adopted in warehouses and production facilities for automating all processes.

The growing transportation & logistics industry in the U.S. is providing growth opportunities to the industry value at over USD 25 billion in 2017. The early technology adoption in the region and the ongoing R&D in the U.S. will fuel the material handling equipment market demand. Stringent government regulations related to operator safety in Europe are compelling manufacturers to use high-quality machines that comply with the existing standards.

Mine Safety Stats and Facts

DID YOU KNOW?

There were 24 mining fatalities in the U.S. in 2019, the U.S. Department of Labor’s Mine Safety and Health Administration (MSHA) reports. This is the fewest annual fatalities ever recorded, and only the fifth year in MSHA’s 43-year history that mining fatalities were below 30. MSHA is still reviewing two cases of possible chargeable fatalities which, if added would make the total in 2019 the second lowest number of fatalities ever recorded.

There were four deaths each in Kentucky and West Virginia; two each in Pennsylvania, Tennessee and Texas; and one each in Georgia, Idaho, Illinois, Louisiana, Minnesota, Mississippi, New Mexico, Oklahoma, South Carolina, and Vermont.

The low number of mining deaths last year demonstrates that mine operators have become more proactive in eliminating safety hazards. But I believe we can do even better,” said Assistant

Secretary for Mine Safety and Health David G. Zatezalo. “A disproportionate number of mining deaths involved contractors, and we saw an uptick in electrocution accidents, with three deaths and another two close calls. In response, the Mine Safety and Health Administration launched a targeted compliance assistance effort, visiting thousands of mines to educate miners, operators and contractors on procedures that could prevent accidents like these.”

After a two-year increase in 2017 and 2018, when about half of all deaths resulted from vehicle-on-vehicle collisions, failure to use a functioning seat belt and conveyor belt accidents, MSHA responded with a multifaceted education campaign and initiated rulemaking. In 2019, the percentage of deaths caused by powered haulage accidents dropped to approximately 25% of all mining deaths.

MSHA collected 147,500 samples from coal and metal/nonmetal mines in 2019, a record high. The data revealed an all-time low for average concentrations of respirable dust and respirable quartz in underground coal mines, and the exposure to dust and quartz for miners at the highest risk of overexposure hit all-time lows as well. Metal/nonmetal mines achieved the second lowest average respirable dust and quartz concentrations since 2009. Metal/nonmetal mines also achieved the second lowest average elemental carbon concentration and average total concentration since 2009.

Mining safety in the US has improved dramatically over the last century.

The ratio of worker fatalities to the total number of miners was 0.00225, it is a figure that remains orders of magnitude greater than the 0.00008 ratio recorded in 2018, when 27 miners died from a workforce of 331,389.

Improvements in safety procedures and regulation, technological developments, and the steady decline of the US coal industry and shrinking of its workforce have all contributed to a decline in operational fatalities that culminated in 2016, when 25 US miners

died at work. However, with over 400 fatalities in the period between 2008 and 2018, and consistently high fatalities relating to particular machines, such as powered haulage devices, work remains to be done.

Long-term and short-term improvements to US mine safety

2018 saw fewer deaths in coal operations than 2017, with fatalities falling marginally from 15 to 12. The MSHA divides accidents into 19 categories based on the machinery, equipment and circumstances that lead to the deaths or injuries, and the administration reported one death each in relation to the fall of material, the fall of roof and the slipping of persons in 2017.

There were no deaths in these categories in 2018, and powered haulage, the category responsible for the most deaths in six of the last 11 years in coal mines, saw two fewer deaths in 2018 than 2017.

Developments in technology, particularly tracking devices which can monitor the relative positions of workers and hazardous equipment, are a key reason for this improvement, as workers can be automatically warned about and prevented from entering dangerous areas. Further improvements in communication, enabling workers to communicate wirelessly with surface operators while underground, have also contributed to this trend, as safety officials can be involved in monitoring workers' positions and safety, reducing the pressure on individual miners to account for their wellbeing at all times.

West Virginia and Kentucky, however, saw a much higher concentration of deaths in the coal sector, with 89 and 43 fatal accidents respectively. These states' large coal mining populations are a key contributor to this statistic. The National Mining Association (NMA) reported that in 2017, 13,222 people were employed in coal mining alone in West Virginia, and a further 6,597 in Kentucky, making them the two states with the largest number of coal miners. Miners in these two states accounted for

37% of the US coal mining population of 53,051 in 2017.

However, West Virginia and Kentucky accounted for two-thirds of all coal fatalities between 2008 and 2018, around double what could be expected considering their proportion of the US coal mining population. The NMA named them as the highest and fifth-highest producers of coal in 2018, generating 95m and 39m short tonnes respectively, and the demand to produce large quantities of coal on a consistent basis could have encouraged mines to prioritize output over complete safety compliance.

Approximately 250,000 miners work in around 12,000 metal/nonmetal mines in the U.S., while approximately 83,000 work in around 1,000 coal mines. In 2019, MSHA conducted 37,471 inspections at nearly 13,000 mines employing 330,000 miners, which resulted in 99,663 citations and orders. MSHA inspected all underground mines at least four times in 2019, and it inspected surface mines and facilities at least twice, as required by law.

Handling and Administration of Veterinary Medicines

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Meeting Kit	**PowerPoint**

WHAT'S AT STAKE?

Most hazardous drugs in veterinary medicine are used to treat animal illnesses such as cancer.

The risk of exposure for veterinary health care workers is similar to that of human health care settings. Administration of medications to animals presents additional exposure opportunities for workers not encountered with human patients.

WHAT'S THE DANGER?

In the United States, an estimated 500,000 veterinary healthcare workers are potentially exposed to hazardous drugs or drug waste at their worksites. Many are women of reproductive age. These workers include veterinarians, technicians, kennel workers, cleaning and maintenance workers, and office staff.

Veterinary workers may suffer exposure to hazardous drugs when:

- They handle drug vials;
- compound, administer, or dispose of hazardous drugs; clean up spills;
- touch surfaces that are contaminated with these drugs;
- clean bedding, cages, kennels, or waste of treated animals.

Skin absorption, inhalation, and ingestion are the most likely ways these workers may be exposed. Needlestick or sharps injuries pose a risk of exposure in veterinary health care settings.

HOW TO PROTECT YOURSELF

1. **Policies and Procedures**

   - Ensure that hazardous drugs are prepared or administered only by trained personnel in designated areas that are limited to authorized personnel.
   - Post a sign to warn employees that they are working in an environment where hazardous drugs are handled.
   - Warn employees who are pregnant, breastfeeding, or of

reproductive age of the potential health effects, especially during the first trimester when a woman may not know she is pregnant.
- Document and retain evidence that workers have been trained in and understand these procedures.

1. **Training Requirements**

- Train workers to recognize and understand the risks of working with hazardous drugs, and the risks of working in an environment where these drugs are handled.
- Train workers how to care for and use personal protective equipment.

1. **Receiving and Storage**

- Begin exposure control when hazardous drugs enter the facility.
- Ensure that all personnel are able to identify hazardous inventory upon arrival. Handle all hazardous inventory with gloves. Label clearly with a hazardous designation.
- Store hazardous drugs separately from other inventory, and separate from food/drink.
- Keep a spill kit available in case inventory arrives damaged.

1. **Drug Preparation**

- Prohibit eating, drinking, chewing gum, applying cosmetics, or storing food or drinks within the hazardous drug preparation area.
- Use PPE, including chemotherapy gloves, non-permeable gowns, respiratory protection, underpads, eye and/or splash protection, shoe covers and spill kit.
- Use a proper containment device: preferably a 100% vented biological safety cabinet or compounding aseptic containment isolator. A horizontal laminar flow hood (clean bench) only protects the drug and not the worker.
- Use a proper closed-system drug transfer device (CSTD) in low-volume facilities (e.g. 2 or less drug preparations per week) without a clean room.

- Properly clean all equipment, counters, and other surfaces. No universal cleaner exists for all chemotherapy drugs. Bleach solution can be used to disinfect and a strong detergent and water rinse may remove most drug residues. Repeating the cleaning steps should provide addition drug removal.
- Wash hands with soap and water after drug compounding.

1. **Drug Transportation**

- When drug preparation is complete, seal the final product in a plastic bag or other sealable container before taking it out of the ventilated cabinet.
- Seal and wipe all waste containers inside the ventilated cabinet before removing them from the cabinet.
- Store and transport hazardous drugs in closed containers that minimize the risk of breakage.

1. **Drug Administration**

- Use dedicated cages, kennels or stalls with dedicated drains for animals undergoing treatment with hazardous drugs.
- Use proper PPE and technique during administration.
- Attach drug administration sets to the IV bag, and prime them before adding the drug to the bag. Prime tubing in the containment device or with non-toxic solution whenever possible.
- Remove the IV bag and tubing intact, dispose of items directly in a chemotherapy waste container, and close the lid.
- Remove outer gloves and gowns, and bag them for disposal in the chemotherapy waste container at the location where drug administration was performed.
- Wash hands with soap and water after administering the drug.

1. **Waste Cleaning and Disposal**

- PPE should be worn during waste cleanup and disposal procedures, and footwear should not be worn outside the facility.
- Dispose of all hazardous drug waste according to Federal,

State, and local regulations (separately from regular waste).

- Double-bag all chemotherapy waste including partially filled vials, undispensed products, unused IVs, needles and syringes, gloves, gowns, mats, and contaminated materials from spill cleanups or animal bodily fluids/waste.
- Place materials with trace wastes (those that contain less than 3% by weight of the original quantity of hazardous drugs)—such as needles, empty vials and syringes, gloves, gowns, and tubing—in chemotherapy waste containers. Assure that such containers protect from sharps injuries. Do not use red sharps containers for drug disposal.
- Dispose of P-listed arsenic trioxide and its containers and any bulk amounts of U-listed drugs in hazardous waste containers at an EPA/Resource Conservation and Recovery ACT (RCRA)- permitted incinerator. Consider disposing of other bulk hazardous drugs (expired or unused vials, ampoules, syringes, bags, and bottles of hazardous drugs or solutions of any other items with more than trace contamination) in a manner similar to that required for RCRA-defined hazardous wastes.
- Avoid using sprayers or pressure washers to clean the cages, kennels or stalls of treated animals to minimize the aerosolization of hazardous wastes.
- Clean the cages and kennels of treated animals with disposable towels if possible and use disposable towels to clean bodily waste from treated animals.

1. **Spill Control**

- Manage hazardous drug spills according to the established, written policies and procedures for each workplace.
- Ensure that the written policies and procedures address PPE required for various spill sizes, the possible spreading of material, restricted access to hazardous drug spills, and signs to be posted.
- Ensure that cleanup of a large spill is handled by workers who are trained in handling hazardous materials.
- As required by OSHA, follow a complete respiratory

protection program, including fit-testing, if you wear respirators such as those contained in some spill kits. Use NIOSH-certified respirators. Surgical masks do not provide adequate protection.
- Dispose of all spill cleanup materials in a hazardous chemical waste container, in accordance with EPA/RCRA regulations regarding hazardous waste—not in a chemotherapy waste or biohazard container.

1. **Medical Surveillance Program**

- Conduct reproductive and general health questionnaires at the time of hire and periodically thereafter.
- Conduct physical examination at the time of hire and then as needed for any worker whose health questionnaire or blood work indicates an abnormal finding.
- Conduct followup for those workers who have shown health changes or have had a significant exposure (substantial skin contact, cleaning a large spill a broken bag, leaking IV line etc.).

FINAL WORD

Whether you work in a human health setting or in a veterinary health center, the need to have safe and effective hygienic practices and protocols followed strictly is of utmost importance.

Stress Stats and Facts

DID YOU KNOW?

Stress, depression, and anxiety are, unfortunately, part of the modern human condition. Global statistics show that an increasing

amount of people are struggling with mental health issues. Thankfully, we're now talking more openly about these problems than ever before.

Workplace stress makes up a significant part of the general mental health crisis. Changes in the economy and increased financial concerns translate into pressure at work. Workplace stress statistics reveal that heavy workloads, deadlines, and demanding bosses all contribute to the problem. Stress due to work, if left untreated, can cause serious mental health problems for employees. There's a financial burden, too; stress can lead to serious drops in productivity and end up costing a huge amount for both private companies and governments.

We've compiled these statistics concerning stress in the workplace to show you just how big a problem work-related stress is.

Workplace Stress Statistics

- 83% of US workers suffer from work-related stress.
- US businesses lose up to $300 billion yearly as a result of workplace stress.
- Stress causes around one million workers to miss work every day.
- Only 43% of US employees think their employers care about their work-life balance.
- Depression leads to $51 billion in costs due to absenteeism and $26 billion in treatment costs.
- Work-related stress causes 120,000 deaths and results in $190 billion in healthcare costs yearly.

General Stats on Stress

- **55% of Americans are stressed during the day.** (Gallup)

Americans are among the most stressed-out populations in the world. Drawing from Gallup's 2019 data on emotional states, over half of the American population experience stress during the day. This is 20% higher than the world average of 35%. According to these stress stats, the US is getting closer and closer to Greece,

whose population has been the most stressed out in the world since 2012, with 59% of Greeks experiencing stress daily.

- **On a scale from one to 10, Americans rate their stress level as 4.9.** (APA)

American Psychological Association stress statistics from 2014 show that US citizens rated their stress level as 4.9 on a scale from one to 10. This was an improvement from 2007 when the rating was a disturbing 6.2.

- **Americans aged 30-49 are the most stressed age group.** (Gallup)

Drawing from Gallup's poll on stress levels between different age groups, we can see that 65% of the 30-49 group experiences stress. Americans aged 15-29 are right behind them with 64%, while 44% of people older than 50 reported feeling stressed out.

- **Women are more stressed-out than men.** (APA)

The gender gap seems to be present when it comes to stress, too. According to the APA Stress in America 2016 survey, on a scale of one to 10, women described their stress levels as 5.1, compared to stress levels of 4.4 among men.

- **In 2018, a third of US-based respondents visited a doctor for something stress-related.** (Everyday Health)

Everyday Health's United States of Stress research reveals some concerning data. Current statistics about stress in the workplace indicate that over a third of all US respondents have visited a doctor for stress-related problems in the past year. Among those who have a diagnosed mental health condition, 54% visited a doctor.

- **52% of Generation Z in the US have been diagnosed with mental health issues.** (Everyday Health)

There is a noticeable generation gap between baby boomers and Gen Z in terms of stress. While 52% of Gen Z has been diagnosed with mental health issues, only 41% of baby boomers have been.

- **57% of stressed out respondents are paralyzed by stress.** (Everyday Health)

Data from United States of Stress research conducted by Everyday Health indicates that 57% of those who experience stress are paralyzed by it. On the other hand, the other 43% stated that stress invigorates them.

Statistics on Stress in the Workplace

- **83% of US workers suffer from work-related stress.** (Everest College)

A shocking statistic for sure, but nobody is really that surprised. Everest College's comprehensive survey shows that the overwhelming majority of US workers are stressed as a result of work. This clearly indicates the magnitude of the problem in the US and that one of the major causes for it is stress in the workplace.

- **In 2019, 94% of American workers report experiencing stress at their workplace.** (Wrike)

According to Wrike's United States stress statistics from 2019, only 6% of workers don't report feeling stressed at work. Around 23% of them described their stress levels as high, while 6% said their levels of stress were unreasonably high. This statistic indicates that working in a stressful working environment is the rule, not the exception.

- **35% of respondents said their main source of stress at work was their boss.** (Korn Ferry)

Bosses and management, in general, seem to be a major cause of stress for workers. Over a third of surveyed US workers cited their boss as the main source of their work-related stress. Also, 80% of workers covered in the survey said leadership changes affect their levels of stress.

- **During 2019, 80% of workers in the US were stressed as a result of ineffective company communication.** (Dynamic

Signal)

Stress in the workplace statistics from 2019 keeps bearing grim news. Dynamic Signal conducted a survey among more than 1,000 US workers, with 80% of them reporting being stressed out because of poor communication practices by their employers, a 30% increase from the previous year.

- **63% of US workers are ready to quit their jobs due to stress.** (Dynamic Signal)

The 2019 State of Employee Communication and Engagement study conducted by Dynamic Signal also reveals how many workers are on the edge of quitting their jobs because of stress. Nearly two-thirds of the surveyed workers – 63%, to be precise – are ready to quit their jobs as a result of workplace stress.

- **In 2017, 39% of workers said that a heavy workload was their main cause of stress.** (Statista)

Research conducted by Statista in 2017 highlights the main causes of workplace stress. The workload was the main cause for stress for 39% of workers, while the other major sources in the workplace were interpersonal issues (31%), juggling work and personal life (19%), and job security (6%).

- **Over a third of people said their job was a regular source of stress in 2018.** (Everyday Health)

Everyday Health's 2018 workplace stress stats show that over 30% of all respondents marked their job or careers as regular causes of stress. Among Millenials and Gen Z, this statistic jumps to 44%, further proving that stress is on the rise among younger generations and presents a larger global problem than it did 20 or 30 years ago.

- **54% of workers report that stress from work affects their life at home.** (Wrike)

Stress in the workplace stats published by Wrike indicates that 54% of workers say workplace stress impacts their home life in a negative way. Work-related stress not only influences our careers

and how we feel and perform on the job; it affects our whole life.

- **Work is among the top three sources of stress for Americans.** (APA)

The American Psychological Association conducted a survey in 2017 to determine stress levels and the main sources of stress for Americans. In a multi-choice survey the most common source of stress was “the future of our nation” (63%), followed by money (62%) and work (61%).

- **75% of workers believe they are more stressed-out than previous generations.** (NIOSH)

As our previous stats have indicated, younger generations seem to be struggling with stress significantly more than older ones. Research by the National Institute for Occupational Safety and Health (NIOSH) on workplace stress statistics over the years shows that 75% of workers think they are experiencing more stress than previous generations did.

- **Depression is one of the three main workplace problems for employee assistance professionals.** (Mental Health America)

Aside from stress, depression is a major concern when talking about mental health in the workplace. According to depression stats provided by Mental Health America, depression is one of the three biggest problems for employee assistance professionals, with family crisis and stress being the first two.

- **Only 43% of US employees think their employers care about their work-life balance.** (APA)

Under half of the workers covered by this APA survey from 2011 believed their employers took their work-life balance into consideration. Stats like these indicate how severe the schism between employees and employers is in the US.

Effects of Stress in the Workplace

statistics

- **During 2018, 76% of US workers said that workplace stress affected their personal relationships.** (Korn Ferry)

This is another statistic that demonstrates just how much workplace stress affects other areas of our life. According to research by Korn Ferry, the majority of stressed employees reported that workplace stress has impacted upon their personal relationships in a negative manner.

- **Stress caused sleep deprivation for 66% of American workers in 2018.** (Korn Ferry)

It goes without saying that stress impacts health. Two-thirds of respondents involved in Korn Ferry's study said they had trouble sleeping as a consequence of work-related stress. Mental health in the workplace statistics clearly show that this reduces worker productivity and leads to even more stress.

- **16% of workers have quit their jobs due to stress.** (Korn Ferry)

Increasing amounts of stress create unbearable working conditions for some. Almost every one in six workers (16%) has quit a job as a result of work-related stress.

- **60% of workers have left a job or would leave one over a bad boss.** (Randstad USA)

As we've already mentioned, bosses are the main source of stress at work. When we look at the stress statistics in the workplace provided by Randstad USA, we can see that over half of workers have already quit or would quit their job if they had a bad boss.

- **31% of surveyed US workers said that being unclear about expectations from supervisors is the most stressful element when experiencing change at work.** (Chicago Tribune)

Of 2,000 respondents who participated in the survey, 620 (31%) said that not being clear about expectations from upper management is the most stressful aspect of undergoing changes at their

workplace. Once again, stress workplace statistics confirm that management-worker relations seem to be one of the most prominent factors for workplace stress.

- **Around 46% of workers are considering joining the gig economy in 2019.** (Randstad USA)

The gig economy is on the rise. Nowadays, more and more workers prefer to work independently, be their own boss, and determine their own schedule. With this in mind, it's no surprise that a considerable number of workers want to switch over to the gig economy in order to reduce their work-related stress. Randstad USA's statistics about stress in the workplace reveal that almost half (46%) of surveyed workers are considering switching over to the gig economy during 2019.

- **Workers say that stress and anxiety affect their work productivity and coworker relations more than any other factor.** (ADAA)

One of the most comprehensive surveys concerning stress and anxiety in the workplace comes from the ADAA (Anxiety and Depression Association of America). According to workplace productivity statistics from the ADAA, workers identify workplace productivity (56%) and relationships with coworkers and peers (51%) as being affected the most by stress and anxiety.

- **51% of US workers are mentally "checked out" at work.** (Gallup)

Gallup's State of the American Workplace survey looked at how engaged US workers are in the workplace. The study found more than 50% of workers are not engaged at work as a result of stress, leading to a loss of productivity.

- **41% of stressed workers say stress leads to a loss in productivity.** (Colonial Life)

Stress negatively impacts how we perform and function both in the workplace and in our daily lives. As a recent survey conducted by Colonial Life shows, 41% of workers say stress has caused a drop

in work productivity. Furthermore, stress statistics in the workplace also reveal that a third of surveyed employees say stress leads to lower engagement levels at work, while 15% say increasing pressure at work has pushed them into looking for other jobs.

- **Over a quarter of employees are at risk of burning out in the next 12 months.** (Wrike)

Being under stress for prolonged periods of time can have serious consequences. It sometimes leads to burnout, when someone reaches a tipping point where he or she is unable to work at all. Burning out doesn't only affect people's work; it can also lead to serious mental health issues. According to Wrike's 2019 US workplace stress statistics, if current stress levels don't change, more than a third of stressed office workers feel they will burn out in the next 12 months.

- **Women are more likely to handle stress by eating more (46%) and talking with family and friends (44%), while men are more likely to have sex more frequently (19%) and use illicit drugs (12%).** (ADAA)

There are significant differences in how men and women manage stress at the workplace. Women tend to eat more (46% of women compared to 27% of men) and talk with friends and family (44% compared to 21%). On the other hand, men are more likely to have sex more frequently (19% compared to 10%), while 12% of men cope by using illicit drugs, compared to only 2% of women.

- **Both men and women handle stress by consuming more caffeine (31%), smoking (27%), and exercising more frequently (25%).** (ADAA)

With ever-increasing levels of stress, it's important to look at how we manage when things get tough. As these statistics on workplace stress by the ADAA suggest, the genders have some things in common when it comes to handling stress, although it's fair to say these aren't always the healthiest methods. The most common methods are consuming more caffeine (31%), followed by smoking (27%) and exercise (25%).

- **Only 40% of employees who suffer from stress have talked to their employer about it.** (ADAA)

Statistics for stress in the workplace tell us that most workers don't feel comfortable reporting stress-related problems at work. Less than half of surveyed employees have told their employers about the work-related stress they're experiencing.

- **34% of workers don't feel safe reporting stress because they think it would be interpreted as a lack of interest or unwillingness to do the activity.** (ADAA)

There are several reasons why workers don't talk about stress with their employers. The most prominent one is that they think it will be interpreted as a lack of interest or unwillingness to do the activity (34%), followed by fear of being "weak" (31%), then because they worry it will affect promotion opportunities (22%).

- **Only four in 10 workers who report stress to their employer are offered some kind of help.** (ADAA)

When workers do end up asking for help, the response they receive is not great. Statistics on US stress in the workplace say only 40% of employees are offered help by their employers. Usually, this help consists of being referred to a mental health professional (26%) or being offered a stress-management class (22%).

Statistics on the Cost of Workplace Stress

- **Work-related stress causes 120,000 deaths and results in $190 billion in healthcare costs yearly.** (Center for Workplace Mental Health)

Both the human and financial costs of stress are enormous. Statistics for workplace stress show that around 120,000 people die each year from work-related stress. The cost of stress in the workplace also drains the US budget, resulting in healthcare costs of around $190 billion per year. This represents between 5% and 8% of the total national healthcare spending.

- **Companies spend around 75% of a worker's annual salary to cover lost productivity or to replace workers.** (HuffPost)

As previously mentioned, stress leads to a loss of productivity and can drive workers to quit their jobs. Aside from the obvious health costs for workers, stress can seriously impact company budgets. Workplace stress and lost productivity statistics indicate that it can cost up to 75% of a worker's yearly salary to cover productivity costs or to hire new workers.

- **Workers who take sick days due to mental health issues are seven times more likely to have further absences than those with physical health problems.** (Mental Health Foundation)

Depression in the workplace statistics from 2016 research by the UK Mental Health Foundation highlight just how much stress affects the workforce. According to this data, if a worker takes a sick day due to stress or other mental health issues, they are seven times more likely to take additional sick days than a worker with physical issues.

- **Stress causes around one million workers to miss work every day.** (American Institute of Stress)

Work-related stress causes a whopping one million workers to call in sick daily. When tied in with the costs of absenteeism, we can begin to understand how heavily workplace stress affects our economy.

- **The annual cost of lost productivity due to absenteeism tied to poor health was more than $84 billion in 2013.** (Gallup)

The cost of absenteeism to the general US economy is immense. Stress-related illness statistics reveal that in 2013 alone, the cost of lost productivity due to being away from work was over $84 billion.

- **Over 20% of workers spend more than five hours of office time weekly thinking about their stressors and their worries.** (Colonial Life)

Stress not only affects productivity by worsening the quality and

rate of work performed; it also takes up a significant portion of employees' work time. More than 20% of workers involved in a 2016 Colonial Life survey said that they spend more than five hours weekly thinking about what stresses them.

- **80% of US employees spend 12-20 hours per month dealing with financial concerns at work.** (IFEBP)

United States stress statistics gathered by Benefits magazine show that stress can travel both ways in terms of work-life balance. Just as work-related stress carries over to our personal lives, so too does stress stemming from our personal life affect our work. The majority of US employees (80%) spend anywhere from 12 to 20 hours per month thinking about financial worries.

- **Depression leads to $51 billion in costs due to absenteeism and $26 billion in treatment costs.** (Mental Health America)

When left untreated, depression is as costly as AIDS or heart disease. Back in 2000, the annual cost of depression in terms of productivity and treatment was $51 billion and $26 billion respectively. This figure has surely risen since, given the increasing number of people who are experiencing mental health issues.

Struck-By Caught-Between Stats and Facts

DID YOU KNOW?

Each day, on average, two construction workers die of work-related injuries in the United States. In fact, one in five workplace fatalities are construction-related.

The top causes of construction-related fatalities are falls, struck-by an object, electrocution and caught between objects.

Generally, an employee cannot sue his or her employer for on-the-job injuries other than using the workers' compensation system. However, at times the owner of the premises, the general contractor or other contractors could be liable in cases where employees have been injured.

1. One in five worker deaths annually is in construction. [OSHA]
2. Workplace fatalities that were crane-related fell to their lowest level recorded in 2017 with 33 deaths. [BLS]
3. Construction workers accounted for 1008 (47 percent) of all fatal work injuries in 2018. [BLS]
4. The "Fatal Four" leading causes of private sector working fatalities in the construction industry are falls, being struck by an object, electrocution and being caught in something or between two objects. These accidents are responsible for 58.6 percent of construction worker deaths. [OSHA]
5. Companies with 10 or fewer employees and those who are self-employed account for nearly half of all deaths on construction sites. [CDC]
6. Of all industries, construction sees the most fatal falls, accounting for 51 percent of all falls in the United States. [CDC]
7. During a 45-year career, there is a 1 in 200 chance that a construction worker will die from a work-related incident. [Safety & Health Magazine]
8. One in every 10 construction workers is injured annually. [OSHA]
9. Construction sees non-fatal injury rates that are 71% higher than any other industry. [Accident Analysis & Prevention]
10. Around half of serious workplace injuries go unreported each year.
11. Lifting, using a tool or machine, and carrying heavy objects are the leading causes of strain injuries in construction. [CWPR]

12. Workers who are between the ages of 35 – 34 are the most likely to be injured while working in construction. [National Safety Council]
13. Construction worker illnesses and injuries are down from 10.9 incidents per 100 workers in 1972 to 2.8 per 100 workers in 2017.

Eliminating the Fatal Four would save 591 workers' lives in America every year.

- **Falls:** Approximately 36.5% of all deaths in the workplace occurred due to employees falling. These includes workers who have fallen due to unprotected sides or holes, improperly constructed walking or working surfaces, workers who have fallen off ladders, roofs, scaffolding, large skyscraper construction areas, etc., all due to failure to use proper fall protection. Incorporating the OSHA fall protection requirements would resolve these issues, which includes 1910.269(g)(2) Fall Protection.
- **Struck by an Object:** An estimated 10.1% of deaths occurred due to swinging, falling, or misplaced objects. These also include falling objects due to rigging failure, loose or shifting materials, equipment malfunctions, and vehicle or equipment strikes.
- **Electrocutions:** About 8.6% of employees died due to electrocution. Workers face a number of electrocution risks on construction sites, such as exposed wiring, wet conditions while outlets are exposed, etc. These are caused by contact with overhead power lines or energized conductors or circuit parts in electrical panels and equipment panels, poorly maintained extension cords and power tools, as well as lightning strikes. Strict adherence to OSHA 1910.331-.335, 1910.269, and NFPA 70E Standard for Electrical Safety in the Workplace would prevent these accidents.
- **Caught-in or Caught-between:** Employees caught in or between machines, devices, or tools causing death accounted for about 2.5% of deaths. These also include trench or excavation collapses, as well as workers caught between

moving or rotating equipment, or caught in collapsing structures or materials.

Training Stats and Facts

DID YOU KNOW?

The training industry in the Unites States includes both internal and external resources engaged by companies to provide training to their staff, so that their staff have the specific skills they need to perform their job. Such skills can relate to areas such as the use of internal systems, legal compliance requirements, and general company policies and processes. In this respect training is to be distinguished from workplace learning, which is the broader goal of absorbing information so as to generally improve skills and abilities. Learning is therefore more focused on more how to handle future situations whose exact details cannot be foreseen, whereas training is directed at teaching people the specific skill set needed to perform a range of predefined tasks.

In 2018, the overall size of the North American training market was estimated at 166.8 billion U.S. dollars. While growth has plateaued since 2015, the years from 2009 to 2015 saw significant growth, with the overall market size growing from 110 billion to 160 billion U.S. dollars. Spending on training in the United States is strongly skewed in favor of internal resources. In 2019, 51.7 billion was spent on internal training staff, compared to only 7.5 billion on externally provided products and services. Of the areas outsourced, the most common are content creation, learning management system hosting, and instruction and facilitation.

The two most common training methods used in the United States in 2019 were instructor-led classrooms, or a blended approach

combining instructor-led classrooms with some form of technology. However, around 30 percent of companies reported that they use online or computer based training methods only, where no instructor is involved. The area which has the highest adoption of online training is compliance training, with 29 percent of companies reporting that their compliance training is mostly or all online. Conversely, the areas with the lowest adoption are executive development, management and supervisory training and sales training. As of November 2019, only 44 percent of companies in the U.S. expected to increase their spending on online training.

1) We Need to Invest More in Training

In 2018, the U.S. Bureau of Labor statistics found that companies with fewer than 100 employees gave only 12 minutes of manager training every six months. Organizations with 100 – 500 employees provided **just 6 minutes**.

2) Employees Want More Training

A long-term research project commissioned by Middlesex University for Work Based Learning found that from a 4,300 workers sample, 74% felt that they weren't achieving their full potential at work due to lack of development opportunities.

3) Convert Beliefs into Practice!

The same research by Middlesex University's Institute for Work Based Learning showed that 56% of HR Managers considered training and development to be an essential business enabler. Here's a clear disjunctive between manager beliefs and practice . HR Managers consider it important, but they aren't doing ENOUGH to increase employee training opportunities. (read points 1 and 2 again).

4) Employees Are Disengaged at Work!

As many as 1 in 3 people leave their organization within the first year, either voluntarily or involuntarily. An incredible 22% of staff turnover happens within the first 6 weeks of employment.

Also, according to Gallup's 2017 State of the Global Workplace report, **85% of employees are not engaged or actively disengaged at work.**

What can we learn from this? We need to do something to engage workers… and especially now that many are working remotely. If this applies to your organization, it's time to do something about it. Higher retention rates and less labor turnover is crucial for business success.

5) Invest in Onboarding Early On.

On-boarding your new employees early-on is the best decision as if you don't you'll be much more likely to lose them. The Wynhurst Group research reveals the importance of onboarding to build positive first impressions.

Also, they found: "4 percent of new employees leave a job after a disastrous first day; most decide whether they feel 'at home' in the first three weeks at a new job; and **22 percent of staff turnover occurs within the first 45 days of employment."**

These are astounding figures. But what does this mean for your company's future? It means that you need to understand the value of onboarding and invest in this type of online training early on. If you don't you'll be contributing to the above figure through employee turnover.

6) Make Retaining Your Employees a Priority

Work Institute's 2018 Retention Report stated that one in four workers leave their jobs. Nearly one-third of that turnover was due to to unsupportive management and a lack of development opportunities.

The lesson here: invest in retaining your employees by making sure they feel supported by their supervisors and that they have enough learning experiences. After all, the cost of retaining present employees is much less than the cost of replacing them. Help employees expand their knowledge, offer more training options, help pay for university courses, etc.

7) Increase Learning Transfer

A 24X7 Learning survey revealed that **only 12% of learners say they apply the skills from the training they receive to their job.** This suggests that learner needs aren't being mapped effectively before developing a program.

8) Take Learner Needs into Consideration

According to a 2015 ATD research study, only 38% of managers believe that their learning programs meet their learner's needs. In other words, 62% of HR managers believe that they are not doing a good job meeting the learner's needs. Therefore, this 2016, make sure objectives line up with learners' needs. If learners don't see the course as relevant and practical to their real-life challenges, they will become frustrated.

9) Make Workplace Training More Fun

One out of every three employees say that uninspiring content is a barrier to their learning. This means we need to try to develop training programs that entertain and inform. Not only is fun training more enjoyable for the learner; it's more effective, translating into less money spent on retraining.

10) Ineffective Training Costs Money

According to **Harvard Business Review**, although organizations spend more than $350 billion globally on training, they are not spending their money effectively. Just consider these stats:

- 70% of employees report that they don't have mastery of the skills needed to do their jobs;
- Only 12% of employees apply new skills learned in L&D programs to their jobs; and
- Only 25% of respondents to a recent McKinsey survey believe that training measurably improved performance.

Given the statistics above, what is the total loss to a business from ineffective training? It's staggering: $13.5m per year, per 1,000 employees, according to Grovo.

Walking, Working Surfaces Stats and Facts

DID YOU KNOW?

The U.S. Department of Labor's Occupational Safety and Health Administration today issued a final rule updating its general industry Walking-Working Surfaces standards specific to slip, trip, and fall hazards. The rule also includes a new section under the general industry Personal Protective Equipment standards that establishes employer requirements for using personal fall protection systems.

"The final rule will increase workplace protection from those hazards, especially fall hazards, which are a leading cause of worker deaths and injuries," said Assistant Secretary of Labor for Occupational Safety and Health Dr. David Michaels. "OSHA believes advances in technology and greater flexibility will reduce worker deaths and injuries from falls." The final rule also increases consistency between general and construction industries, which will help employers and workers that work in both industries.

OSHA estimates the final standard will prevent 29 fatalities and more than 5,842 injuries annually. The rule becomes effective on Jan. 17, 2017, and will affect approximately 112 million workers at seven million worksites.

The final rule's most significant update is allowing employers to select the fall protection system that works best for them, choosing from a range of accepted options including personal fall protection systems. OSHA has permitted the use of personal fall protection systems in construction since 1994 and the final rule adopts similar requirements for general industry. Other changes include allowing employers to use rope descent systems up to 300

feet above a lower level; prohibiting the use of body belts as part of a personal fall arrest system; and requiring worker training on personal fall protection systems and fall equipment.

Each year over 200,000 employees are injured and hundreds die from falls from heights and falls to the same level. OSHA's final rule on Walking Working Surfaces and Personal Fall Protection focuses on better protecting employees from these hazards.

The final rule became effective on January 17, 2017, updating the general industry standards addressing slip, trip and fall hazards (§1910 Subpart D) and adding requirements for personal fall protection systems (§1910 Subpart I). Many of these updates better align general industry with construction standards. Even though the updated standard has been in place for more than two years, many employers have questions or even remain unaware of the changes.

An important change that may affect your workplace pertains to guardrails. Previously, guardrails had been required as the primary fall protection method for open sides or edges 4' or higher. With the new performance-based rule, employers may decide which acceptable fall protection system best fits an individual situation; providing the employer with greater compliance flexibility. For example, edge proximity restrictions may be used on low-slope roofs that are temporarily and infrequently accessed.

For window washers and other exterior building maintenance personnel, the final rule prohibits employers from using rope descent systems (RDS) at heights greater than 300 feet (certain exceptions apply). In addition, building owners must provide, and employers must obtain, proof that permanent anchorages used with RDS have been inspected, tested, certified, and maintained as capable of supporting at least 5,000 pounds per employee attached.

Specific employer requirements include:

- Train workers on how to use fall protection systems, including performance, use and maintenance.
- Train exposed workers on fall hazards.

- Inspect walking-working surfaces regularly and as needed. Correct, repair, or guard against hazardous conditions.
- Install fall protection (personal fall arrest systems, ladder safety systems, cages, wells) on existing fixed ladders (over 24 feet) that do not have any fall protection.
- Install ladder safety or personal fall arrest systems on new fixed ladders (over 24 feet) and replacement ladders.

The training requirements of the rule are performance-based, which allows employers to choose the methods of training. Employers may use classroom, audio-visual, demonstrations, field training, web-based, computer-based or other forms of training to meet the requirements of the standard. Regardless of the method, training must be performed by a qualified person.

Retraining is also performance-based and required as needed. “As needed” can be interpreted as following an incident, near miss, process change, or equipment change. There is no annual training requirement.

With the implementation of the final standard, OSHA estimates that 29 fatalities and more than 5,842 lost-workday injuries will be avoided annually. With that impact it may well be worth the 25 years of work that went into the development and implementation of this standard.

OSHA is revising and updating its general industry standards on walking-working surfaces to prevent and reduce workplace slips, trips, and falls, as well as other injuries and fatalities associated with walking-working surface hazards. The final rule includes revised and new provisions addressing, for example, fixed ladders; rope descent systems; fall protection systems and criteria, including personal fall protection systems; and training on fall hazards and fall protection systems. In addition, the final rule adds requirements on the design, performance, and use of personal fall protection systems.

The final rule increases consistency between the general industry and construction standards, which will make compliance easier for employers who conduct operations in both industry sectors.

Similarly, the final rule updates requirements to reflect advances in technology and to make them consistent with more recent OSHA standards and national consensus standards. OSHA has also reorganized the requirements and incorporated plain language in order to make the final rule easier to understand and follow. The final rule also uses performance-based language whenever possible to give employers greater compliance flexibility.

Warehouse Stats and Facts

DID YOU KNOW?

The Bureau of Labor Statistics estimates that there were 1.14M people employed in the Warehousing & storage Industry Group in 2018.

According to ACS estimates, the number of people employed in the Warehousing & storage Industry Group has been growing at a rate of 9.3%, from 756k people in 2017 to 827k people in 2018.

The following graphic shows the share of employment in Warehousing & storage by various occupations according to ACS estimates. Laborers & freight, stock, & material movers, hand represent the largest share of positions held in Warehousing & storage at 21.4%, followed by Industrial truck & tractor operators with 11.6% and Stockers and order fillers with 8.7%.

Reason for increase

Analysts offer two main reasons for the increase in warehousing in the United States. First is the general improvement in the manufacturing sector following the great recession, although this has started to decline in recent months due to increasing friction between China and the United States over trade. Second is the

continued growth of e-commerce, which has a particular need for warehousing services owing to its lack of retail space.

Warehousing in the United States

Warehousing in the United States is a large industry, employing around 6 million people in 2018 (if transportation services are included). This number is expected to decline in coming years though, with the increasing automation of many tasks formerly reserved for human staff. There are two main drivers behind the adoption of technology. First is to reduce costs, with over 90 percent of warehouse operators reporting they are actively taking cost-cutting measures. Second is the difficulty in attracting and retaining qualified hourly workers, which was reported as the leading challenge for the industry in 2019.

Warehouse automation stats show that automation is making a big impact on warehouses and distribution centers. There are many driving forces behind the automation trend, from rising labor costs to rapid growth in ecommerce sales and a growing demand for rapid order fulfillment, such as two-day and even same-day delivery. Labor availability is also a concern, as well as workplace safety.

1. **The number of private warehouses is growing.** According to data from the U.S. Bureau of Labor Statistics, there are 18,182 private warehousing establishments as of 2018, up from 15,203 in 2008.
2. **Warehouses are increasing in size, as well.** The average size of warehouses in 2000 was about 65,000 square feet, compared to about 181,370 square feet in 2017, according to a 2017 report from Westernacher Consulting. According to the report, “The increase in size helps warehouses to cope with higher volumes and a growing number of SKUs. However, rising costs and long traveling distances in large warehouses are making size expansion less effective in addressing operational challenges.”

Warehouse automation stats: A growing number of DCs have multiple buildings. Among distribution centers with three or more

buildings, 28% had six or more buildings in 2016, 22% had six or more buildings in 2017, and 27% had six or more buildings in 2018, according to Logistics Management.

3. **A growing number of DCs have multiple buildings.** Among distribution centers with three or more buildings, 28% had six or more buildings in 2016, 22% had six or more buildings in 2017, and 27% had six or more buildings in 2018, according to Logistics Management.
4. **Distribution centers are growing in size.** The average square footage of distribution centers in 2016 was 539,000, increasing to 473,400 in 2017 and 672,080 in 2018. The median square footage of distribution centers was 240,410 in 2016, 176,600 in 2017, and 305,000 in 2018.

Warehouse automation stats: Distribution centers are expanding vertically, as well. According to Logistics Management, the average clear height of distribution centers was 32.7 feet in 2018, an increase from 31.1 feet in 2016.

5. **Distribution centers are expanding vertically, as well.** According to Logistics Management, the average clear height of distribution centers was 32.7 feet in 2018, an increase from 31.1 feet in 2016.
6. **Ecommerce demand drives up U.S. domestic revenue for UPS.** According to a 2017 press release from UPS, “The Domestic segment benefited from strong demand for ecommerce deliveries and revenue was up 5% over Q1 2016. The U.S. consumer continues to transform retail consumption due, in part to the simplicity, personal convenience and reliable delivery solutions offered by UPS.”

Warehouse automation stats: The demand for warehouse space drives up prices. Westernacher Consulting explains, “As warehouses demand more space, this naturally pushes up price. In fact, between 2011 and 2015, warehouse renting rates were up by a whopping 28.7%. This trend is likely to continue as the US Industrial Space vacancy rate falls to 5.3% in Q1 2017, the lowest since 2008.”

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Westernacher Consulting explains, “As warehouses demand more space, this naturally pushes up price. In fact, between 2011 and 2015, warehouse renting rates were up by a whopping 28.7%. This trend is likely to continue as the US Industrial Space vacancy rate falls to 5.3% in Q1 2017, the lowest since 2008.”

8. **Average warehouse capacity utilization among manufacturers is about 68%.** “However, 15% reported that they were at 100% capacity, while 19% were at 81% to 99% capacity. Looking forward for the next two years, 53% expect increased utilization, while only 5% expect a decrease,” according to a 2018 survey by Logistics Management and Peerless Research Group (PRG).

Warehouse automation stats: More warehouses and distribution centers are investing in automation and robotics thanks to a positive economic outlook. “Peerless Research Group’s (PRG) annual survey, conducted in January of this year, found that 42% of respondents were proceeding with investments given the state of the economy, up from a 35% response to the same question in early 2017. Similarly, only 9% said they were ‘holding off’ on investments, well under the 16% in 2017,” the report explains.

9. **More warehouses and distribution centers are investing in automation and robotics thanks to a positive economic outlook.** “Peerless Research Group’s (PRG) annual survey, conducted in January of this year, found that 42% of respondents were proceeding with investments given the state of the economy, up from a 35% response to the same question in early 2017. Similarly, only 9% said they were ‘holding off’ on investments, well under the 16% in 2017,” the report explains.
10. **Vacancy and availability rates are on the decline.** “CBRE’s third-quarter 2018 industrial and logistics indicators were over-performing nationwide, in most markets, both primary and secondary. The overall availability rate declined 10 basis points to 7.1 percent, the lowest level since the fourth quarter of 2000. This marked the 34th consecutive quarter of positive net absorption, the longest streak since

2001. The national vacancy rate edged down to 4.3 percent, the lowest level since at least 2002. Vacancy rates in key transportation hubs and seaport cities were even lower," according to a report from JOC.com.

Warehouse automation stats: Net asking rents continue to rise, as well. According to JOC.com's report on CBRE's findings, net asking rents rose to $7.21 per square foot in Q3 2018. It's the highest level since CBRE started tracking rents in 1989. Since 2012, rents have increased by 5.6% annually.

11. **Net asking rents continue to rise, as well.** According to JOC.com's report on CBRE's findings, net asking rents rose to $7.21 per square foot in Q3 2018. It's the highest level since CBRE started tracking rents in 1989. Since 2012, rents have increased by 5.6% annually.
12. **Suppliers face pressure under rising ecommerce sales.** "As U.S. e-commerce sales continue to grow at over 15% annually, suppliers feel the pressure to satisfy e-commerce customers by delivering a variety of goods in smaller sizes at a faster pace," Westernacher Consulting explains.

Workplace Violence Stats and Facts

DID YOU KNOW?

Workplace violence statistics show an increasing danger that lurks around where people work together for eight hours a day, five times a week. However, not everyone is aware of the potential incidents, and businesses often underestimate the possibility of such occurrences.

The latest statistics show that many businesses continue to under-

report incidents that happen in the workplace. That often portrays a deceiving image of violence in companies, thus resulting in the inability to protect employees.

Statistics on Workplace Violence

- Around two million US workers experience workplace violence each year.
- Nearly 75% of all assaults happen in health care.
- 44% of school teachers reported workplace assaults.
- An alarming 30,000 workplace sexual assaults happen to women each year.
- Co-workers commit 21% of all assaults that end in homicide at work.
- Workplace assaults result in $121 billion in losses annually.
- 27% of all mass shootings have occurred in the workplace.
- Shockingly, 96% of all shooters are lone males.

Workplace violence is the act of physical violence, intimidation, or any other form of harassment that takes place in a working environment. It can range from the most common types like verbal abuse or threats to the more severe ones like sexual harassment or physical assaults, and in extreme cases, homicide.

Workplace violence remains a vital concern for many employers and their employees and needs to be addressed for proper containment.

- **Four types of violence can occur in the workplace.**

Employers have to be familiar with the types and causes of workplace violence. They need to secure the workplace better and free it from any kind of misbehavior.

Type one violence is criminal intent, which is when the perpetrator commits a crime against a business. Type two violence is related to customers or clients in cases where the perpetrator is doing business with the company and becomes violent. Type three violence is referred to as worker-on-worker violence when the perpetrator is an employee who assaults another employee. Type

four violence is related to domestic violence in cases where the perpetrator is not related to the business but is in a relationship with the victim.

- **On average, 1.5 million workplace violence cases are reported each year.**

These staggering figures are worrisome, to say the least, but do not portray the actual number of assaults that happen in the workplace.

Out of those numbers, there were 396,000 cases of aggravated assaults, 84,000 robberies, 1,000 homicides, and 51,000 rapes or other sexual assaults.

- **Since 2010, there have been over 150 reported worker-on-worker killings.**

Shootings that result in homicides are by far the deadliest acts of violence that can occur in the workplace. These workplace shooting statistics reveal a worrying trend that, unfortunately, shows no signs of stopping.

- **The FBI has identified 10 key behaviors of all shooters.**

The investigators have concluded that the most common problems active shooters face in their lives are issues with mental health and financial stability. Those two issues are by far the biggest stressors. What is even more worrying is that the majority of perpetrators have legally obtained their firearms.

- **60% of all incidents occur in private companies.**

Statistics indicate that the majority of assaults happen in private companies. Men are twice as likely to be the victims of violent crime at work compared to women. However, women are just as likely as men to be the victims of theft in the workplace.

The numbers are similar for assaults, threats, or abuse for both men and women.

Workplace violence is not an issue that has come to light within

the last couple of years. In fact, it has been an ongoing issue for quite some time now, and the general public is fully aware of its consequences.

However, awareness alone cannot decrease the number of violent acts that occur in the workplace. An employer must be able to quickly identify any misbehavior and act accordingly before anything serious happens.

The following violence in the workplace statistics emphasize the seriousness of the situation and the lack of awareness.

- **43% of all surveyed employers believe workplace violence is not an issue that needs to be addressed.**

Shocking, to say the least. Four out of ten corporate executives do not truly understand the gravity of this situation. Many do not even acknowledge the fact that violence occurs in their companies out of fear of bad reputation.

- **67% of all surveyed employers believe that workplace violence will not impact their budget.**

Workplace violence statistics report a staggering $121 billion in annual losses, yet two-thirds of all corporate executives believe their company will not suffer financially.

- **43% of all workplace violence acts occur among co-workers.**

Even though there are many acts of violence in the workplace after an employee gets fired, the numbers are twice as high for current employees. That further indicates that both managers and employees need to learn how to deal with violence and harassment in the workplace.

- **Diverse groups of people were victims of shootings in 30 separate incidents in 2017.**

The FBI reported the highest number of accounts of workplace violence in 2017, as these statistics show that diverse groups were mostly targeted during their breaks at work.

- **Non-fatal violence occurs mostly in law enforcement agencies where 48 out of 1,000 people experience victimization.**

These occupations are exposed to an increased risk of violence in the workplace. Law enforcement agents and health professionals also experience high levels of stress.

In contrast, other occupations have a greater risk of violence outside the workplace compared to police officers and medical workers.

- **There were 346 mass shootings in 2017 that occurred in the workplace.**

Workplace violence stats show an increase in the frequency and severity of violent events that happen in and around the workplace. Those violent acts have escalated to the point where mass shootings occur more often than before.

- **The number of mass shootings has increased by 2.4 times.**

Over the period between 2008 and 2017, the number of mass shootings has increased by more than two times compared to the 10-year period between 1998 and 2007. The majority of these shootings happened inside the companies' facilities.

Workplace violence has become the second biggest cause of death in the business world, right after traffic accidents. Unfortunately, the problem keeps rising with each passing year and becomes an issue businesses need to address.

The Occupational Safety and Health Administration or OSHA is an agency that is established to ensure safe and healthy conditions for all working men and women by enforcing standards and providing education, assistance, and training.

- **25% of all violent acts that happen in the workplace go unreported.**

According to these 2018 workplace violence statistics by OSHA, around three-quarters of all incidents are not followed through.

Alarmingly similar to the statistics related to sexual harassment in the workplace, a lot of individuals decide not to bring such acts to light, due to fear or shame, among other reasons.

- **In 2018, 75% of all violent acts occurred in health-care settings.**

Health professionals face a higher risk of workplace violence. The risk is present due to the fact that health-care workers are in contact with many different types of people on a daily basis.

- **Only 30% of all nurses and 26% of all physicians reported these workplace violence incidents.**

Even though the number of incidents in the health-care industry is way higher compared to other sectors, the number of reported incidents is still small. Reports indicate that some workers believe it is part of their job, while others consider it their "ethical duty" not to harm their patients.

- **374,000 employees experienced violence at work.**

The total number of reported incidents in 2018 was over 690,000, and employees submitted more than half of those. The most common acts of violence included threats and physical assault.

- **Out of all recent workplace violence incidents in 2018, 54% of them involved strangers.**

Reports indicated that strangers instigated more than half of all incidents. The remaining 46% were caused mostly by clients or persons known to the people at work.

Even though incidents happened in the workplace, especially in the service industries, it was still shocking that so many people decided to go through with such behavior.

- **59% of all reported violent acts in 2018 resulted in no physical injuries.**

Fortunately, more than half of the incidents did not involve any physical violence, while 41% of the remaining instances of workplace violence in 2018 resulted in minor bruising only.

- **32% of the offenders who carried out workplace assaults were under the influence of alcohol.**

According to the reports, three out of ten instances of violent acts at work occurred when the offenders were intoxicated. When it comes to threats only, 27% of cases included offenders who were under the influence of alcohol.

Most American workers believe their companies are safe from any kind of violent act. Additionally, most people said that they would know what to do if any violent event occurred in the workplace.

Bearing that in mind, about a quarter of American workers acknowledge that violence has happened in their workplace.

- **76% of all registered nurses have experienced violence in the workplace.**

When workplace violence statistics are taken into consideration, it is clear that health-care workers continue to be the most victimized individuals. That is supported by the fact that health professionals are in contact with patients and their families on a daily basis, so they often witness different kinds of misbehavior.

- **Nurses report 20% to 60% of all incidents.**

While nurses are exposed to an increased rate of verbal abuse, threats, or physical violence, not every incident is being reported. These numbers are somewhat shocking, as it seems that a lot of violence in the workplace goes unreported.

- **Statistics on workplace violence indicate that 86% of all employees are unaware of past incidents in the company.**

Even though the number of workers who acknowledge and recognize violent behavior in the workplace is high, about eight in ten individuals are unaware of any past violent events that occurred in their companies.

- **45% of American workers are aware of workplace violence prevention programs.**

Almost half of all employees are aware that there are prevention programs that help fight against harassment and violence in the workplace. Moreover, half of those employees also feel more secure, even in cases where violent acts did occur in their companies.

- **65% of workplace homicides happened during a robbery.**

Workplace homicide statistics show terrifying data that two-thirds of all robberies end in homicides. It is a worrying fact mostly for employees, as they are becoming victims of serious crimes.

- **12% of workers feel unsafe at work.**

One in seven employees feels pressure or tension while at work for any number of related reasons. That may seem like a small or insignificant number. Still, companies need to share information with every worker about the prevention techniques, training, and what resources are available to prevent violence.

- **Men are 23 times more likely to die in the workplace compared to women.**

When taking workplace fatalities by gender into consideration, we can see that men are at an increased risk of being fatally injured or assaulted at work. If a company is found guilty of breaching health and safety regulations, it can be fined up to $20,000 per case.

If a company is being negligent or is deliberately breaking the law, fines can be even higher, or the person in charge can face imprisonment.

Conclusion

Unfortunately, workplace violence is a horrifying trend that continues to rise. It is essential to be more familiar with the issue, considering how many incidents go unreported. Agencies like OSHA and the United States Labor Department issue workplace violence statistics regularly with the hope of raising the general public’s awareness.

By implementing strict rules and regulations for companies to follow, these agencies continue to fight against violence on a daily basis. The companies that fail to implement them can face financial or even criminal charges.

We have outlined some shocking facts about workplace violence that should not be taken for granted.

Shiftwork Stats and Facts

DID YOU KNOW?

Roughly 25 million Americans are shift workers with rotating or irregular work schedules. Many of them work in retail, but they also work in food service, personal care, and the service sector.

Rondal works shifts at a grocery store. He’s paid hourly, but his hours fluctuate – so his income, and his free time, are never certain. Week to week, he might not make enough money, or have to drop everything at moment’s notice to work more hours.

According to 2004 data from the Bureau of Labor Statistics, almost 15 million Americans work full time on evening shift, night shift, rotating shifts, or other employer arranged irregular schedules. According to U.S. National Health Interview data from 2010, almost 19% of working adults work 48 hour or more per week and over 7% worked 60 hours or more. Both shift work and long work hours have been associated with health and safety risks.

One week, for example, a shift worker like Rondal could work 30 hours – and the next week, only 4. Nationwide, weekly work hours fluctuate among shift workers up to 87%.

The term shift work refers to any work schedule that falls outside the hours of 7 am and 6 pm1. Shift work can include evening,

night, and early morning shifts, as well as fixed or rotating schedules. According to the US Bureau of Labor Statistics, approximately 16% of wage and salary employees follow shift work schedules. This includes the 6% who work evening shifts and 4% who work night shifts.

While some employees enjoy working at night and prefer a non-traditional schedule, shift work does carry certain drawbacks. People who work night, early morning, or rotational shifts are at higher risk of developing shift work disorder and other sleep problems.

So many industries utilize shiftwork schedules that nearly 15 million full-time workers in the United States work shifts outside the traditional 9-to-5 or flex-time workday, according to the Bureau of Labor Statistics. Yet those added shifts, implemented specifically to increase profitability, actually may be costing companies money through higher worker injury rates.

By rethinking how you schedule shiftwork, you can help keep workers safe and make each shift more effective.

Based on the findings of a recently published Liberty Mutual Research Institute study modeling the impact of the components of long work hours on injuries and accidents, the loss prevention group developed a program to assess worker injury risk based on such work scheduling factors as time of day, hours per shift, number of consecutive shifts and time between rest breaks.

The program addresses the following shiftwork problems:

- Work-related injuries increased 15.2 percent on afternoon shifts and 27.9 percent on the night shift relative to the morning shift.
- Injury risk increases nearly linearly after the eighth hour of a shift, with risk increasing 13 percent on a 10-hour shift and almost 30 percent on a 12-hour shift.
- As consecutive shifts increase, injury risk also increases, but at a higher rate for night shifts than for day shifts.
- Average risk for injury is 36 percent higher on the last

night of a four-consecutive-night shift. Risk increases incrementally over each night on the job: 6 percent higher on the second night, 17 percent higher on the third night culminating at 36 percent on the fourth night.

- Injury risk is 2 percent higher on the second morning/day shift, 7 percent higher on the third day and 17 percent higher on the fourth day than it is on the first shift.
- Injury risk also increases as time between breaks increases. The last 30 minutes of a 2-hour **work period has twice the risk of injury as the 30 minutes immediately after the break.**

The 23 million people in the United States who work the majority of their time outside the traditional Monday through Friday, 9-to-5 hours face challenges in maintaining their alertness and safety that daytime workers do not.

Maintaining employee health and job performance takes on particular importance to employers who operate around the clock.

Each year, *Managing 24×7*, the Cambridge, Mass.-based newsletter for managers in 24-hour operations, conducts a survey of companies that operate 24-hours a day.

This year's survey drew 522 responses from a wide range of industries, including manufacturing, utilities, hospitals, hotels and transportation companies.

The survey found that slightly less than half of the companies responding (43 percent) use 12-hour shift schedules for the majority of their employees.

Fifty eight percent of respondents use rotating schedules in which employees switch between various shifts, compared to 66 percent last year. Among those on 12-hour shifts, 86 percent use rotating schedules.

The issue of whether shiftworkers should be allowed to nap during their breaks has received increasing attention in recent years.

One-third of the companies surveyed said they permit workers to

nap on their breaks if it is done discreetly, while 15 percent openly permit and encourage breaktime napping.

Thirty-one percent of respondents forbid naps and discipline workers discovered napping at work.

Most companies pay employees some form of differential pay for working non-daytime shifts, with the average shift differential being 50 cents per hour. Of those companies, the largest group (28 percent) pay between 41 cents and 60 cents.

“Overall the shiftwork practices are getting more favorable,” said Ed Coburn, publisher of *Managing 24×7*. “The typical shiftworker in North America works overtime on a regular basis but less than 200 hours per year, earns 50 cents extra an hour, and is more likely to be able to nap during breaks. There remains some progress to be made however in such areas as overtime management and breaktime napping.”

Each year, the survey includes a question about the most significant change a company has made in the last two years to improve shiftworker health, safety, performance and morale.

Based on different companies” responses to the question, here are some tips you can use to make a difference in your operation.

- When possible, conduct mandated training on the night shift rather than requiring officers to upset their routine and train on the day shift.
- Install a weight room.
- Rotate employees and processes.
- Send health tip inserts in pay envelopes.
- Provide safer parking for evening shifts.
- Modify company nurses” hours to provide some time weekly on night and evening shifts.
- Allow shiftworkers to vote to retain or change schedule at year-end.
- Provide literature on adjusting to shiftwork.
- Offer optional annual health screening.
- Encourage employees to do more strenuous work early in 12-

hour shift.
- Implement behavior-based safety program.
- Install natural-light type bulbs in continuously occupied areas.
- Institute drug-testing program.
- Provide hot chocolate along with coffee and tea.

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.