

Seven Statistics on Workplace Safety Culture

Safety culture is the term used to describe a workplace's attitudes, beliefs, perceptions and values surrounding health and safety. Here are seven statistics relating to this important topic.

1. Four factors present in a good workplace safety culture are senior management commitment toward safety; realistic and flexible customs and practices for handling both well-defined and ill-defined hazards; continuous organizational learning through practices such as feedback systems, monitoring and analysis; and care and concern for hazards shared across the workforce. (Pidgeon and O'Leary—Man-made disasters: Why technologies and organizations sometimes fail)
2. One vital element of a solid workplace safety culture is the identification of areas in which safety improvements are necessary before a serious incident occurs.
3. There are two widely divergent answers to the question: Do your workers feel comfortable coming to you if they have a safety issue? If the answer is no, for fear of being ignored or punished, your workplace has a poor safety culture. If the answer is yes, your safety culture is likely good.
4. Five benefits of a strong workplace safety culture are: few at-risk behaviors; low incident rates; low worker turnover; low absenteeism; and high productivity. (US Department of Labor)
5. The term "safety culture" first appeared in 1987, the year after the deadly Chernobyl nuclear power plant disaster. (Organization for Co-operation and Development, Paris, France)
6. Three challenges to every workplace are: determining the level at which its safety culture currently functions; deciding where it wishes to take the safety culture; and navigating the path from here to there. (Center for Chemical

Process Safety)

7. Here are three key symptoms of a poor safety culture: widespread and routine procedural violations; failure to comply with your company or organization's safety management system; and management decisions that appear consistently to put production or cost before safety. (UK Health and Safety Executive)

Seven Statistics on Workstation Ergonomics

Sitting at a workstation for hours at a time isn't good for a worker's body, and slouching makes matters worse. Here are seven statistics relating to office workstations and musculoskeletal disorders.

1. Extended computer work without periodic breaks can lead to muscular fatigue and discomfort in these 4 parts of the body: the back, arms, shoulders and neck. (Ontario Ministry of Labour).
2. The number 1 source of muscular fatigue and discomfort is poor posture due to the layout of the workstation and the furniture provided. (Ontario Ministry of Labour)
3. When working at a computer keyboard, a worker's elbows should be bent at an angle of about 90 degrees when the fingers are in the typing position.
4. Two other problems associated with extensive computer operation are eye strain and headaches.
5. Avoid sitting at a workstation for long periods without moving. Get up and stretch and try to move your back, neck and shoulders at least every 10 minutes. (Alberta Workers' Compensation Board)
6. In adjusting the height of your desk chair, remember these 2

things: Your thighs should be horizontal and your knees should be at right angles with your feet flat on the floor.

7. The healthy body can only tolerate staying in one position for about 20 minutes. After that time, most workers will experience discomfort. (spinehealth.com)

Sitting at a workstation for hours at a time isn't good for a worker's body—and slouching is even worse. Is it any wonder that workers feel stiff, sore and fatigued at the end of a shift? Here are seven statistics relating to office workstations and musculoskeletal injuries.

Seven Safety Tips for Working in Winter

When discussing winter hazards in the workplace, driving in treacherous conditions is often the first thing mentioned. But there are several other winter workplace hazards that supervisors need to watch out for and guard against.

1. **Cold stress:** workers are at risk for hypothermia and frostbite while working outside in cold weather. They need to be given periodic warm-up breaks and be encouraged to dress in layers that can be added as required. Workers should be wearing gloves, hats and warm footwear with good tread.
2. **Carbon monoxide hazards:** When workers are chilled to the bone after working outdoors, the only thing they may think of is getting warm. But if they are operating fuel-powered heaters indoors without ventilation, they could suffer fatal carbon monoxide poisoning. Proper ventilation is also vital when any fuel-powered vehicles such as forklifts are being operated indoors. There are stories every winter about workers in buildings suffering carbon monoxide poisoning

because bay doors have been shut to keep heat in.

3. **Slips and falls:** Nearly everyone has had the jarring feeling of landing hard on his or her back as a result of slipping on ice. So it's obvious that walking surfaces such as sidewalks need to be kept shoveled and sprinkled with salt or de-icing solutions. But workers are at even greater danger when working at heights on roofs, ladders or walkways. Remind your workers to always check ladders for ice on rungs before using them. And workers need to wear appropriate footwear. Anti-slip mats should be installed at building entrances to help prevent slips on wet floors from snow tracked inside.
4. **Potential roof collapses:** If snow on a roof accumulates to more than one foot (30 centimeters), there is the potential for a roof collapse – particularly so if the snow is wet and heavy. Therefore, excessive accumulations of snow must be removed. It is safest to not be on a roof while removing snow from it. Use of an aerial lift for this task is recommended. Warning signs of an unstable roof include the appearance of cracks on interior walls or ceilings, interior doors that jam, or building noises such as creaks or groans. If these warning signs become apparent, the building should be evacuated immediately and checked by an engineer before re-entry is permitted.
5. **Icicles and snow-laden branches:** Workers walking under roof eaves or near trees on company property are at risk for being struck by falling icicles or branches that snap under a snow load. Icicles should be removed from roof edges and workers should be warned to stay clear of snow-laden trees
6. **Wind hazards:** In addition to increasing a worker's risk for developing hypothermia, wind also poses a hazard to people who are working at heights, especially if surfaces are slippery. Workers carrying heavy objects such as sheets of plywood, or working near the edge of a roof without proper fall protection, are at risk for being blown over a roof's edge.
7. **Fire hazards:** Ensure that workers keep heaters and torches well away from combustible materials, and that portable

heaters are not left on when workers leave for the day.

When discussing workplace hazards that can crop up during the winter months, driving in treacherous conditions is often the first thing people mention. We covered that topic in the November 2015 editions of Safe Supervisor and Safety Smart, but there are several other winter hazards that supervisors need to address with their workers. Here are seven things to consider.

First Aid Checklist

When a fellow worker suddenly becomes ill or is injured, you can make a difference in his survival and recovery if you know what to do.

Do you know how to administer first aid? The best way to learn how is to take a course in first aid and in CPR (cardio-pulmonary resuscitation.) These courses are often available through your workplace or community programs.

Do you know how to take care of an injured person? Even if you have not yet taken first aid or CPR, there are a few basic things you should do:

- Stay calm. This helps to reassure the victim, and it helps you to think straight so you can help.
- Move the victim only if his life is in danger where he is. Do not endanger your own life.
- Call for help. Call for someone who knows first aid and/or CPR and call for an ambulance. (Stay with the victim if you can, by sending another responsible person to get help.
- Keep the victim breathing.
- Stop serious bleeding.
- Keep the victim lying down and warm.
- Keep onlookers away from the victim but enlist their help. You can tell them to summon medical help, reroute traffic,

direct the ambulance to the accident scene, and perform other tasks. Instruct them to report back to you after they have carried out their orders.

First aid is taking care of an injured or sick person until medical help is obtained. Remembering these basic guidelines can help you save a life. Better yet, take a course in first aid and CPR so you can save a fellow worker when seconds count.

Young Worker Killed on Construction Site

Emergency crews were called to a back alley at about 8:30 a.m. Wednesday, after a large piece of concrete fell off a truck and onto the man.

He was pronounced dead at the scene.

City manager Murray Totland said the man was working on a city sound wall that had been contracted out to a private company.

He said their thoughts are with the man's friends and family.

A coroner and occupational health and safety officials are investigating the incident.

"The city health and safety division is lending support to the ongoing provincial occupational health and safety investigation," Totland said. "In addition to supporting the provincial investigation, city staff are also conducting their own review."

The man's name has not yet been released. (The Canadian Press)

Georgia Woman Dies in Walk-In Freezer

A 61-year-old kitchen worker at a restaurant in Atlanta's Westin Peachtree Plaza hotel died sometime after entering a walk-in freezer. Carolyn Robinson's body was found inside the freezer after her husband contacted the hotel to say she had not returned home from her shift there.

Surveillance video shows Robinson entering the freezer at about 8 p.m. She was not found until about 13 hours later.

Atlanta police say there is no evidence of foul play in her death. The freezer has an escape mechanism, which was repeatedly tested with an OSHA inspector present. It was found to be fully functional.

It is possible that Robinson suffered some sort of medical event that left her incapable of getting out of the freezer.

A co-worker described her as a friendly and talkative person who was loved by everyone. She had worked at the hotel for more than 35 years.

Seven Statistics on Highway Work Zones

There are warning signs everywhere, but highway work zones are still dangerous places, especially for motorists. Here are seven statistics relating to these busy road construction and maintenance areas.

Here are seven statistics relating to highway work zone fatalities in the US and Canada:

1. The three states with the most vehicle crash fatalities in highway work zones are Texas, California and Florida. (Bureau of Labor Statistics)
2. Four things that can keep drivers, passengers and highway work zone workers safe are planning ahead and allowing extra time to reach your driving destination, staying alert in highway work zones, minimizing distractions and reducing your speed in accordance with signs in highway work zones. (American Automobile Association)
3. Eight percent of all US occupational construction deaths occurring between 2003 and 2007 involved road construction/maintenance workers. (BLS)
4. Backing dump trucks account for 60 percent of worker deaths associated with workers being struck by reversing equipment or vehicles. (BLS)
5. The majority (66 percent) of highway work zone crashes occurring in Canada over a five-year period happened in clear weather conditions, mostly during daylight hours. (Transport Canada)
6. Nearly 85 percent of the people killed in highway work zone crashes are motorists and their passengers. (National Motorists' Association)
7. Most crashes in highway work zones do not result in fatalities. In 2010 across the US, 0.6 percent of highway work zone crashes were deadly, 30 percent caused injuries and 69 percent involved property damage only. (US Department of Transportation)

All the signs are there, literally, in highway work zones—signs telling drivers to slow down and be alert for workers and equipment and the “slow” and “stop” signs held by flaggers. Yet motorists, their passengers and road construction and maintenance workers continue to die or suffer injuries in these busy areas.

Seven Statistics on Indoor Air Quality

Everything from mold, to cigarette smoke, to chemicals, and even carbon monoxide from a malfunctioning heating system, can make indoor air quality unpleasant at minimum and deadly at worst. Here are seven statistics relating to indoor air quality:

1. **Three** common causes of poor indoor air quality are improperly or inadequately maintained heating and ventilation systems; contamination of air by chemicals, glues, paints, etc; and insufficient intake of fresh outdoor air.
2. **Nine** health-related symptoms related to poor air quality in a workplace include eye, nose and throat irritation; fatigue; headache; shortness of breath; allergies; coughing/sneezing; sinus congestion; dizziness; and nausea.
3. **One** sign that your workplace has an air quality issue is that you feel healthier hours after leaving work; such as on a day off—and physically worse a few hours after returning to work.
4. A recent heating system malfunction at a label-printing plant in North Royalton, OH, sent **13** people to hospital for treatment of carbon monoxide poisoning.
5. **Three** unsuitable locations for outdoor air intakes that can result in pollution being sucked into a building are loading bays, parking garages and cooling tower enclosures.
6. **Six** essential elements of a preventive maintenance program to ensure good indoor air quality include regular inspections of all critical components of the ventilation system; regular inspections for conditions such as water leaks or stagnant water pools that would promote the growth of micro-organisms; correction of any deficiencies found; repair or replacement of malfunctioning components, such as filters and belts, and cleaning of air distribution systems, ducts and dampers; adequate treatment of open-water systems associated with ventilation systems, such as cooling towers

and humidifiers; and maintenance of furnaces, space heaters and water heaters to ensure proper burning and exhausting of waste gases.

7. **Three** situations which should trigger an indoor air quality investigation are: complaints from workers; substantial increases in building occupancy; and building renovations that involve significant changes to the ventilation system.
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Seven Statistics on Injury Statistics

Insurance companies estimate that more than \$61 billion per year is spent on disability claims in America with \$15.57 billion, or 25.1 percent, resulting from falls (16.4 percent of falls to same level, 8.7 percent falls to a lower level).

1. Insurance companies estimate that more than \$61 billion per year is spent on disability claims in America with \$15.57 billion, or 25.1 percent, resulting from falls (16.4 percent of falls to same level, 8.7 percent falls to a lower level). <http://ehstoday.com/safety/workplace-falls-pose-danger-economy-well-workers>
2. Over 60% of all elevated falls are from a height of less than 10 feet and accidents involving slips, trips and falls send 9 million people to the hospital each year. Most slip and fall injuries result in relatively minor soft tissue injuries, such as sprained tendons, ligaments and muscles, minor contusions and abrasions, small gashes, and minor burns. But many result in much more serious injuries such as, head trauma, herniated disks, fractures, amputations, and deep gashes degree burns. <http://www.injuryclaimcoach.com/work-accident-claim.html#>
3. In the industrial sector, (manufacturing plants, offices and

warehouses) 70% of the fall-related lost time injuries are due to slips/trips on the same level, 30% are from height. The main causes of slips, trips and falls in the workplace are:

- Uneven floor surfaces
- Unsuitable floor coverings
- Wet floors
- Aisle and path obstructions – cables, cords, wires
- Poor lighting
- Poor housekeeping
- Damaged stairs

http://simplifiedsafety.com/blog/falls_at_work_why_do_they_happen/

4. The opposite is true in construction, where 70% of falls are from a height while 30% are due to slips/trips on the same level. Falls from height are usually much more severe than a fall on the same level. Many falls from height occur where personal protective equipment wouldn't be typically used such as falls through an unguarded opening in the floor or scaffold, a missing guardrail, and falls from ladders (30% of falls from a height). http://simplifiedsafety.com/blog/falls_at_work_why_do_they_happen/

5. In Canada over 42,000 workers get injured annually due to fall accidents. This number represents about 17% of the “time-loss injuries” that were accepted by workers’ compensation boards or commissions across Canada (based on statistics from Association of Workers’ Compensation Boards of Canada, 2011). https://www.ccohs.ca/oshanswers/safety_haz/falls.html

6. According to the U.S. Department of Labor, slips, trips and falls make up the majority of general industry accidents, which account for:

- 15 percent of all accidental deaths per year, the second-leading cause behind motor vehicles.
- About 25 percent of all reported injury claims per fiscal year.
- More than 95 million lost work days per year – about

65 percent of all work days lost.

7. Citing the U.S. Bureau of Labor Statistics, a study by The Center for Construction Research and Training (CPWR) Data Center points out that falls account for 76 percent of fatalities in the roofing industry, and workers in the roofing industry are three times more likely to experience fatal work-related injuries than other construction workers. The findings suggest that workers employed by small establishments, residential construction workers, Hispanic workers and immigrant workers may face disproportionately high risks of roof fatalities. <http://ehstoday.com/construction/falls-roofs-account-one-third-construction-fall-fatalities>
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Seven Statistics on Ladders

According to the American Academy of Orthopedic Surgeons, every year 500,000 people are treated for ladder-related injuries and approximately 300 of these incidents prove to be fatal.

1. According to the American Academy of Orthopedic Surgeons, every year 500,000 people are treated for ladder-related injuries and approximately 300 of these incidents prove to be fatal. They further estimated that ladder-related injuries effectively cost the public more than \$11 billion annually.
2. Of all occupational injuries, falls are the second leading cause of death next to highway crashes. Falls remain a leading cause of unintentional injury mortality nationwide, and 43% of fatal falls in the last decade have involved a ladder. Among workers, approximately 20% of fall injuries involve ladders. Among construction workers, an estimated 81% of fall injuries treated in U.S. emergency departments involve a ladder.
3. In 2013, 175,790 people were injured on ladders severely

enough to require a trip to the hospital. Nearly 20,000 people were injured and 133 died due to falls from a ladder or scaffolding at work, according to [Injury Facts 2016](#). Workers in the construction industry are most at risk.

4. Common sense leads us to the conclusion that a shorter ladder carries less risk of injury than a taller one, and to an extent, this is probably true. Someone can, however, sustain serious injury from even a short fall. A 2011 estimate from the Occupational Injury and Illness Classification System (OIICS) claims that 35% of fall fatalities [PDF] were from heights of 15 feet or less. <http://www.retailassociationservices.com/wp-content/uploads/2016/07/At-what-height-do-most-ladder-injuries-occur.pdf>
5. 40% of ladder falls resulted from the ladder itself moving. The large majority of these cases involve the bottom of the ladder moving. You'll recognize that this kind of movement can happen no matter how high up you are. <http://www.retailassociationservices.com/wp-content/uploads/2016/07/At-what-height-do-most-ladder-injuries-occur.pdf>
6. 24% were attributed to slips on the steps of the ladder. Inspecting the steps to make sure they are free of any slippery material and wearing appropriate footwear along with choosing ladders with anti-slip surfaces on the steps can help mitigate this risk. <http://www.retailassociationservices.com/wp-content/uploads/2016/07/At-what-height-do-most-ladder-injuries-occur.pdf>

Losing one's balance accounted for another 18% of ladder falls which should be less likely to occur if the ladder itself is stable. <http://www.retailassociationservices.com/wp-content/uploads/2016/07/At-what-height-do-most-ladder-injuries-occur.pdf>

Seven Statistics on Lighting and Safety

Low light is almost inevitable especially in winter season due to fewer daylight. This safety article is about ensuring adequate and alternative lighting to ensure safety for workers.

1. Before walking outside in darkness remember these three things: Make sure you aren't dressed in dark clothing, cross streets only at crosswalks, intersections or traffic lights, and don't bury your head in your cellphone—stay aware of what's happening around you.
2. If your job involves driving and you must stop for any reason in darkness or near-dark conditions, one important safety tip is: never leave your vehicle unless you are wearing a reflective vest.
3. Fewer hours of daylight in the winter can bring on seasonal affective disorder—a form of depression—for about two to three percent of Canadian adults, while about 15 percent of people report periodically experiencing bouts of the “winter blues” during dark and cloudy months. (Canadian Mental Health Association)
4. Three negative effects of insufficient lighting are: increased job errors as a result of an inability to see clearly; the possibility of unsafe placement of the feet, which increases one's chances of falling; and reduced ability to see and respond to hazards.
5. Shadows can make working more difficult and dangerous in these three ways: They can hide sharp edges, they can make it difficult for workers to see spills, and they can make it hard for workers to see transitions in floor surfaces, potentially leading to slips, trips and falls.
6. Workplace lighting needs maintenance. Like anything else, lighting ages and deteriorates. It is estimated that the light output of a bulb may decrease by 25 percent after only six weeks and dust settling on bulbs can also reduce illumination, so good housekeeping and periodic replacement

of light bulbs are important considerations.

7. Three health effects of poor lighting are: a burning sensation in the eyes, blurred vision and headache.

Low light in a room cannot be beaten in some situations, but the workplace is almost always an exception. As daylight hours dwindle during winter, it's important to ensure that artificial light is there to replace natural light. Here are seven statistics relating to lighting and safety:

Seven Statistics on Insect Bites and Stings

People who work in a variety of occupations are at risk for being bitten or stung by different kinds of insects and spiders.

1. In an average year, between 90 and 100 people across the US die as a result of allergic reactions to insect bites or stings (US Centers for Disease Control and Prevention (CDC)).
2. Seven tips for preventing being stung by a flying insect are: wear light-colored, smoothly textured clothing; avoid using heavily scented soaps, shampoos, antiperspirants and sprays; wear clean clothing and shower daily; wear clothing that covers as much of your body as possible; avoid flowering plants where possible; don't leave food or drink items lying around your workplace because they could attract flying insects; and don't swat at bees, wasps or hornets that come near you.
3. If you are allergic to insect bites or stings, you should do these two things: wear a medical bracelet identifying the allergy and carry an epinephrine auto-injector (EpiPen) with you at all times.
4. Ticks that attach themselves to people who are walking or working outdoors carry many different diseases. One way to

prevent this from happening is to use an insect repellent containing DEET.

5. Two venomous spiders, the Brown Recluse, found in the US, and the Black Widow, found in the US and southern Canada, can cause illness, with symptoms that include body aches, rashes, fever, and nausea and vomiting. Spider bites are rarely fatal.
6. West Nile Virus, transmitted to humans through mosquito bites, causes no symptoms in the majority of people, although about one percent of people who are bitten by an infected mosquito develop a serious and sometimes fatal neurological illness. Protect yourself by wearing an insect repellent containing DEET. (CDC)
7. In North America, yellow jackets account for about 70 percent of all stings to humans. (Canadian Centre for Occupational Health and Safety (CCOHS)).

People who work in a variety of occupations both outdoors and indoors are at risk for being bitten or stung by different kinds of insects and spiders. Workers need to take precautions, especially if they are allergic to being stung, or if they work around areas where mosquitoes and ticks are prevalent. Here are seven statistics relating to insect and spider encounters in the workplace:

Seven Statistics on Literacy and Workplace Safety

Adults who struggle with reading have difficulty grasping workplace safety procedures, thereby putting themselves and others at risk for injury or illness. Here are seven statistics relating to low literacy and its effects in the workplace.

1. According to the US Department of Education, 21 percent of

American adults read below a fifth-grade student level.

2. In Canada, 15 percent of adults have serious difficulty reading even basic material. And an additional 27 percent of Canadian adults have difficulty in learning new job skills because of limited comprehension of what they are reading. (ABC Life Literacy Canada)
3. Researchers in New Zealand found that of 466 workers studied, 65 percent overall could not fully understand written information about their employers' OHS policies and rules, hazard information and safety procedures. (Work base: The New Zealand Centre for Workforce Literacy Development)
4. A study released by the Conference Board of Canada found that while 64 percent of employers believed that their workers understood workplace health and safety practices, only 40 percent of workers interviewed agreed.
5. Three negative effects of low literacy are: increased risk for injury or death when signs and safety information cannot be fully understood; reduced productivity from skill deficits; and increased mistakes and wastage.
6. Literacy is measured on a scale of 1 to 5. Level 3, equivalent to high school graduation, is the level at which a person can cope with the demands of a knowledge-based economy and society. (International Survey of Reading Skills)
7. Five signs that your workers may be struggling are: being slow or unable to respond to changes in procedures; being reluctant to participate in team meetings; turning down promotion opportunities; making excuses such as "I forgot my glasses" or "I'll read it later"; and a tendency to call in sick when training sessions are taking place. (ABC Life Literacy Canada)

Adults with poor reading skills often have difficulty grasping workplace safety procedures, putting them at greater risk for making mistakes that can result in injuries, illnesses or even death. Here are seven statistics related to literacy and workplace safety:

Seven Statistics on Machine Guarding

One of the worst types of injury to experience or witness in a workplace is amputation of a worker's limb as a result of unintended contact with unguarded machinery. Here are seven statistics related to machine guarding.

1. Nearly 50 percent of work-related amputations occur in manufacturing plants. (Occupational Safety and Health Administration)
2. Six injuries associated with moving machine parts are bruising, lacerations, amputations, crushed or broken bones, burns, and electrical shocks.
3. Three things that can lead to worker entanglement with machinery are loose clothing, long hair and jewelry.
4. Four types of machine guards are: fixed (permanently attached to machinery); interlocked (guards which, when opened or removed, automatically stop machine operation); adjustable (to handle different material sizes) and self-adjusting (which open only enough to let material in while keeping the rest of the point of operation, such as a rotating saw blade, covered).
5. About 20 percent of worker fatalities in the United States are caused by contact with equipment or entanglement in running machinery. (Bureau of Labor Statistics)
6. Three types of dangerous moving parts requiring guarding are points of operation (the point where the machine performs work such as cutting, shaping, or drilling); power transmission components (such as flywheels, pulleys, shafts or chains); and other parts which are in motion when a machine is operating.
7. Four safety tips surrounding machinery are: never operate machinery before checking that guards are in place and

functioning correctly; encourage workers to report defective or missing guards to a supervisor or manager immediately; never make adjustments to machinery unless you are qualified to do so; and have an authorized person shut down/release all forms of hazardous energy and lock out machinery before performing repairs or maintenance.

One of the most severe types of injury occurring in the workplace is amputation, which often causes permanent disability. A lack of machine guarding or insufficient guarding is a major cause of these traumatic injuries.

Seven Statistics on Nail Gun Hazards

Nail guns are powerful, easy to operate and fast at driving nails. But in the wrong hands they can cause serious injuries, as these statistics show.

1. Nail guns are responsible for an estimated 37,000 emergency room visits across the United States every year.
2. About 66 percent of nail gun injuries occur in framing and sheathing work in residential construction.
3. A study of apprentice carpenters found that about 40 percent of them were injured on one occasion while using a nail gun during their four years of training.
4. More than half of reported nail gun injuries involve the hands or the fingers.
5. One-quarter of hand injuries involve structural damage to the tendons, joints, nerves and bones.
6. After hands, the next parts of a worker's body most likely to be injured in a nail gun-related incident are the leg, knee, thigh, foot and toes.
7. Injuries have resulted in paralysis, blindness, brain

damage, bone fractures and death.

Nail guns are powerful, easy to operate and fast at driving nails. But if used improperly, they can cause devastating or even fatal injuries. Here are seven statistics with reference to nail gun hazards and injuries, provided by the Occupational Safety and Health Administration (OSHA) and the National Institute for Occupational Safety and Health (NIOSH).

Seven Statistics on New and Young Workers

Young workers are defined as being in the 15 to 24-year-old age bracket, while new workers are defined as workers in any age group who have either been on the job for six months or less, or have been transferred to new jobs in the same workplace. Here are seven statistics relating to new and young workers.

1. Workers who are new to the job are three times more likely to be injured within their first month of work than their more experienced co-workers. (Ontario Ministry of Labour)
2. In 2012 there were 375 work-related deaths involving workers ages 24 or younger across the United States. (National Institute for Occupational Safety and Health)
3. Measures for reducing risks to young workers include these four: Intervention during the first few weeks of employment; training to ensure that safe work practices are effectively communicated and applied; site orientation; and an industry-wide basic accreditation training program. (Alberta Occupational Health and Safety Department)
4. Two major factors in young workers' injuries and fatalities are a lack of training and a lack of experience.
5. In the Canadian province of Ontario, only 40 percent of young workers receive health and safety training before

starting their jobs or within their first week of employment. (Construction Safety Association of Ontario)

6. Seven things that supervisors need to cover with young and new workers are: driving home the point that they are always to ask for help when they are unsure about anything; proper equipment operation, including mandatory use of machine guards and lockout mechanisms; emergency procedures and equipment; when and how to use personal protective equipment; your company's health and safety rules; correct lifting techniques; and good housekeeping practices. (Workplace Safety and Prevention Services)
7. While they may lack experience, new and young workers provide three important benefits to workplaces: they often ask good questions; they provide a fresh set of eyes; and they frequently offer new ideas. (WorkSafe Victoria, Australia)

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Seven Statistics on Noise-Induced Hearing Loss

Noise-induced hearing loss is a serious and preventable workplace and off-the-job hazard. Here are seven statistics relating to this problem.

1. Four million American workers who go to work each day are exposed to damaging noise levels. (NIOSH)
2. A WorkSafeBC study found that 25 percent of young people entering the workforce showed early signs of hearing loss,

with a further 4.6 percent showing abnormal hearing test results.

3. In 2007, approximately 82 percent of occupational hearing loss cases were reported among workers in the manufacturing sector. (NIOSH)
4. The two most common causes of hearing loss are noise-induced hearing loss and age-related hearing loss.
5. Noise-induced hearing loss is the number one occupational disease in North America. (Workplace Medical Corp.)
6. A comprehensive hearing conservation program consists of these seven elements: noise measurement; education and training; engineered noise control; hearing protection devices; the posting of signs warning of noise hazards and the need for hearing PPE; annual hearing tests; and an annual program review.
7. Noise above 90 decibels (dBs) can cause hearing loss, especially when the exposure lasts for an extended period of time. (Bureau of Labor Statistics)

Do you find your ears ringing after a day at work? Or, do you need to turn up your car stereo on the drive home and find it far too loud the next day when you get into your vehicle? These are two signs that you may be suffering from some degree of noise-induced hearing loss. Here are seven statistics relating to noise-induced hearing loss:

Seven Statistics on Operating Hand and Power Tools

Workers operating hand and power tools face a wide range of potential hazards throughout the course of any given day.

1. Nail guns are powerful, easy to operate, and boost productivity for nailing tasks. They are also responsible

for an estimated 37,000 emergency room visits each year – 68% of these involve workers and 32% involve consumers. Severe nail gun injuries have led to construction worker deaths. Fortunately, these injuries can be prevented, and more and more contractors are making changes to improve nail gun safety. Research shows that risk of injury is twice as high using “contact” trigger nail guns compared to “sequential” trigger nail guns.

<https://www.cdc.gov/features/nailgunsafety/>

2. Over 32,000 chainsaw injuries happen each year. A lot of these injuries occur when users fail to wear the correct protective gear. According to Anita Gambill at Stihl, one of the world’s leading chain-saw manufacturers, “Chain-saw chaps cost about as much money as one stitch in the emergency room. Unfortunately, if you have an accident with a chain saw, you’re never going to need just one stitch.” The truth is worse than you think. According to the Centers for Disease Control and Prevention, the average chain-saw injury requires 110 stitches.

<http://www.popularmechanics.com/home/tools/reviews/a3710/4286772/>

3. A recent study by the American Journal of Preventative Medicine found that between 1990 and 2005, ladders sent 2.1 million people to the hospital. Ninety-seven percent of those accidents happened in “non-occupational settings”—in other words, your backyard. These numbers translate into an average of 140,000 injuries a year, or one every 3 minutes and 45 seconds—that’s more than twice as many as a table saw. The study goes on to say that the most common injuries are likely to be fractures to the legs and feet. <http://www.popularmechanics.com/home/tools/reviews/a3710/4286772/>

4. Circular saws have faster blades than table saws, with an outer edge spinning at about 120 mph, and they can cause some serious damage if used incorrectly or recklessly. A study in Australia’s Hazard Magazine found that of all reported saw injuries, circular saws make up the largest group at 30 percent. Of the recorded injuries, 56 percent

involve DIYers, 99 percent of whom are male, with 68 percent of those blokes in the 20-to-39 age range. <http://www.popularmechanics.com/home/tools/reviews/a3710/4286772/>

5. Table saw accidents account for about 67,000 recorded injuries every year. While lacerations are the most common injury, around 4,000 accidents with table saws involve amputations because of direct contact with the rotating blade. The medical costs for treating table saw injuries have been estimated at more than \$2.1 BILLION EVERY YEAR. The National Electronic Injury Surveillance System says, of the 720,000 injuries in Canada associated with woodworking each year, 42 percent happened at the table saw. Five percent of these patients required hospitalization.

<http://www.ohiovalleypilawyers.com/table-saw/>

<http://canadianhomeworkshop.com/1481/tips-tools/stationary-power-tools/the-essential-guide-to-using-your-tablesaw-safely>

6. Every time you start your mower, you are dealing with a dangerous and potentially deadly piece of equipment. U.S. Consumer Product Safety Commission statistics are shocking: Each year, 800 children are run over by riding mowers or small tractors and more than 600 of those incidents result in amputation; 75 people are killed, and 20,000 injured; one in five deaths involves a child. For children under age 10, major limb loss is most commonly caused by lawn mowers. In Canada, 1161 patients with 1451 injuries were presented between 14 and 16 hospitals across Canada, between 1990 and 2006. Especially shocking is that a total of 48 percent of the patients were 15 years old and younger. This is a high number considering that children should not even be in the yard when it is being mowed.

<https://canadasafetycouncil.org/campaigns/dont-get-mowed-down-how-avoid-lawn-mower-injuries>

<http://www.amputee-coalition.org/lawn-mower-accidents-cause-needless-amputations/>

7. Compared to chain saws, drills seem downright friendly, yet they put 5,800 people a year in the ER. In one particularly horrible incident, a 25-year-old man fell from a ladder

while using a drill to install lights for a New Year's Day celebration. The spinning bit entered through his jaw and skull bones and tore up an artery. He died after inhaling blood.

Workers operating hand and power tools face a wide range of potential hazards throughout the course of any given day. Without the proper training and maintenance, they are at risk of injuries resulting from lacerations, flying objects, harmful dusts, electrical accidents and more.

Seven Statistics on Overhead Power Lines

Ladders, dump trucks, long-handled trim saws and boom lifts all have one thing in common: the potential to come in contact with high-voltage overhead power lines, with potentially deadly consequences for workers and homeowners alike.

1. The second-leading cause of construction worker deaths in the United States, behind falls, is electrocution. (National Institute for Occupational Safety and Health (NIOSH))
2. The US Occupational Safety and Health Administration (OSHA) requires that ladders be kept at least 10 feet away from overhead power lines of 50,000 volts or less.
3. Electrocution causes about 25 worker fatalities every year in Canada. (Newfoundland Power)
4. One major cause of electrocution is the relocating of ladders in their extended position. These ladders are easily capable of contacting overhead wires.
5. Nine percent of consumer-related electrocutions occurred when ladders touched overhead power lines. (Consumer Product Safety Commission)
6. Injuries related to electricity consist of four main types:

fatal electrocution, electric shock, burns, and falls as a result of contact with electrical energy. (US Centers for Disease Control/NIOSH)

7. Power line installation and repair workers in the United States have an occupational fatality rate of 29 per 100,000 employed workers, making their job the seventh of the top 10 most dangerous jobs. (Bureau of Labor Statistics)

What do ladders, dump trucks, long-handled trim saws and boom lifts have in common? All of these equipment types have the potential to come in contact with overhead power lines, with devastating results for workers and others in the area. Here are seven statistics relating to overhead power lines.

Seven Tips for Safe Stacking

Properly stacked and stored materials are readily accessible and less prone to becoming damaged, but the best reason for proper stacking is that it prevents injuries to workers and others. Here are seven tips for safe stacking.

Here are seven tips for safe stacking:

1. Ensure that materials are not stacked so high that they are in danger of toppling over. Heavy and unstable items should be stored as low as possible to the floor.
2. Ensure that loads are properly secured against movement on pallets, and that pallets are in good condition and of the appropriate size and type for the load.
3. Where possible, try to keep articles of the same size and weight together.
4. When stacking bags or bundles of material, alternate rows; for example, one row running lengthwise, the next running widthwise, the third lengthwise, etc.
5. Ensure there is adequate space to allow workers, forklifts

and other lifting devices to work safely and efficiently.

6. Block or chock the bottom tiers of drums so that they don't shift or roll. Pipes should be stored in secure racks.
7. Ensure that materials aren't stacked so high that they block sprinklers, could come into contact with ignition sources, or could make contact with electrical wires.

Properly stacked and stored materials in your workplace are easily accessible and less prone to becoming damaged. But the most important benefit of proper stacking measures is that they protect your workers and others from injury.

Seven Statistics on Slipping Hazards

Slipping is a major cause of injuries, both at home and at work. Here are seven statistics and facts on slipping hazards.

1. Here are **two** things to know about footwear in the workplace: People working in predominantly wet conditions should wear footwear with a pattern that is deep enough to penetrate surface water and make direct contact with a floor. However, people working in predominantly dry conditions should use footwear having flat-bottom construction to ensure maximum contact area with the floor.
2. **Ten** common slipping hazards include spills of liquid or solid materials; wet cleaning methods; rain or snow inside doorways; changes in floor surfaces, such as joins between carpeting and wood flooring; a change from a wet to a dry surface; dusty or sandy surfaces; the incline of a ramp; loose/bumpy flooring; low light; and unsuitable footwear. (SafeWorkAustralia)
3. Shoes with urethane or rubber soles have greater slip resistance than shoes with vinyl or leather soles.

4. **Five** housekeeping practices that can help reduce slipping hazards in the workplace include removal of debris, snow and ice; prompt cleanup of spills; regular cleaning of floors; providing mats in areas prone to getting wet—such as building entrances; and cleaning the casters on wheeled carts. (Ontario Ministry of Labour)
5. Slips and trips are the most common cause of major injuries at work, with **95 percent** of major slips resulting in broken bones. (Health and Safety Executive, United Kingdom)
6. It takes about **seven** minutes for a wet-mopped spill to dry, meaning that the area is going to be extremely slippery during that time. A better solution is to use a dry paper towel to soak up and dry a spill.
7. Footwear accounts for **24 percent** of all slip and fall accidents. (National Floor Safety Institute)

Whether moving too quickly on an icy walkway or hurrying out of the shower across tile in your birthday suit to catch a ringing telephone, it's surprising how quickly you can end up on the floor or ground with a throbbing head, or excruciating pain from an elbow or tailbone smacking the ground. Here are seven facts relating to slipping hazards and consequences:

Carbon Monoxide (CO) Employee Training Checklist

The risk for workplace carbon monoxide poisoning rises substantially in the winter, because the desire to have a warm place in which to work often trumps the need for good ventilation. Here is a checklist you can use to train your workers on carbon monoxide hazards and what they can do to avoid problems.

The following checklist can serve as a guide for topics that should be covered in employee training on carbon monoxide hazards.

Date Discussed	Topic
	Discuss where carbon monoxide gas is generated at your company.
	Carbon monoxide gas cannot be detected by the senses. You:
	☐ Cannot taste it ☐ Cannot smell it ☐ Cannot see it
	Signs and Symptoms of CO Poisoning
	☐ Feels like sudden onset of the flu ☐ Headache ☐ Dizziness ☐ Nausea ☐ Rapid breathing ☐ Chest pain ☐ Unconsciousness ☐ Death
	How drivers can protect themselves and others:
	☐ Do not allow lifts to idle. ☐ Keep engines well tuned to emit 1% CO or less. ☐ Do not adjust the carburetor outside of a tune-up. ☐ Maintain catalytic converters. ☐ Do not operate fuel-driven lifts in non-ventilated areas. ☐ Immediately remove lifts suspected of high CO from operation. ☐ Be wary of rental lifts. Ask the vendor what % CO they emit. ☐ Other (?).
	How employees can protect themselves and others:
	☐ Do not work in confined areas with fuel-driven lifts. ☐ Do not work in sealed fumigation rooms with fuel-driven lifts. ☐ Report non-working ventilation immediately to supervisor. ☐ Notify supervisor immediately if CO monitor alarms. ☐ Seek help immediately if you suspect CO poisoning. ☐ Watch for illness in your co-workers. ☐ Other (?)
	Pay attention to unusual situations that have caused CO poisoning in the past:
	☐ Restricted ventilation for any reason. ☐ Non-functional ventilation. ☐ Use of rented forklifts without knowledge of CO emissions. ☐ Upset conditions such as restacking collapsed storage. ☐ Re-routed forklift traffic closer to worker stations. ☐ Other (?)
	CO Monitoring in the workplace
	☐ What the CO monitors do. ☐ What the alarms mean. ☐ Action to take when an alarm sounds. ☐ Other (?)
	Emergency Response
	☐ Seek fresh air immediately if you suspect CO poisoning. ☐ Call 911 for victims who are ill or unconscious.

Chemical Safety Checklist

Use this checklist to help gauge how well your facility is meeting basic chemical safety requirements. This list should be considered a starting point and should be adjusted to your specific needs.

☐ There is an up-to-date inventory of all chemicals being used or stored in your facility.

☐ There is a safety data sheet (SDS) for each chemical in the

facility.

- ☐ The facility has a hazard communication program/WHMIS.
- ☐ Each employee has received training in the hazard communication program/WHMIS.
- ☐ Employees are trained in the safe use of the chemicals they handle.
- ☐ Employees are trained in the hazards of each chemical they use.
- ☐ Emergency procedures are in place in the event of an accident.
- ☐ Each employee is trained in his role and responsibility in an emergency.
- ☐ Employees understand the requirements for the storage of all chemicals they use.
- ☐ Containers holding flammable liquids are properly grounded and bonded.
- ☐ When working with chemicals, proper personal protective equipment is worn.
- ☐ A written program for selection, use and maintenance of PPE is in place and used.
- ☐ All chemical containers are properly labeled.
- ☐ Eating and drinking are not permitted where chemicals are used.

- ☐ Smoking is not permitted in areas where chemicals are used.
 - ☐ Emergency eyewash stations and deluge showers are readily accessible in areas where chemicals are used.
 - ☐ Use of chemicals by untrained or unauthorized personnel is not permitted.
 - ☐ Working alone with chemicals is prohibited.
 - ☐ Work areas are cleaned up after each spill and at the end of each shift.
 - ☐ Written procedures for chemical handling and waste disposal are in place.
 - ☐ Procedures are in place for regular review of chemical usage.
-

Driving Safety Checklist

Your company relies on workers to drive safely to protect themselves and your company's reputation. So you need a way to help assure yourself and your employers that drivers are following the rules. You can adapt this checklist to your specific needs.

Y	N	
		Do your employees have good driving records, with no speeding tickets and no record of repeated accidents?
		Do your drivers always wear their seatbelts?
		Do your drivers observe speed limits?
		Are your employees trained in defensive driving techniques?

		Does your company perform random drug tests to assure drivers don't drive impaired?
		Are your drivers prepared for winter driving on wet, snowy or icy roads?
		Do your drivers understand the stopping distance required for a vehicle is going 40, 50, or 60 miles per hour? What about an 18- wheeler?
		Do your drivers know the rules about intersections, such as who goes first at a four-way stop?
		Are drivers aware of safe following distances in various situations – i.e. wet weather, heavy traffic?
		Do drivers know safe procedures for passing a truck?
		Do drivers know when it is acceptable to make a right turn at a red light?
		Are your drivers aware that the left lane is not a travel lane and is only to be used for passing a slower moving vehicle?
		Do your drivers know what road rage is?
		Do they know road rage is unsafe, and can lead to accidents and violence between drivers?
		Do your drivers know what to do if confronted by an angry motorist on the highway?
		Do drivers know that one of the best ways to drive safely is to create space around their vehicle by not crowding or tailgating?
		Do your drivers always use proper signals for turning, changing lanes and slowing?
		Do your drivers know how to merge onto high-speed highways?
		Do drivers know what to do when confronted by oncoming high beam lights? (Hint: Putting on high beams in response is not the answer).
		Do your drivers take care of their vehicles? Do they bring them in for regular maintenance, change wiper blades regularly and keep tire pressure at recommended levels?

		Do your drivers know how to avoid skids, and, if they do skid, how to safely come out of the skid?
		Are your drivers courteous to others?
		Do drivers know what to do if someone wants to pass them?
		Are your drivers aware that as they age, their response time for braking slows?
		Do your drivers come to a complete stop at a stop sign?
		Do your drivers follow the rules around school buses with flashing lights? What about fire trucks and ambulances?
		Do drivers understand they should not try to run a train crossing with a train approaching?
		Do drivers of pickups know that no one should be allowed to ride in the rear of the pickup?
		Does your company have a strict policy against picking up hitchhikers?
		Are drivers aware of the hazards of driving in the breakdown lane?
		Are your drivers trained to be environmentally friendly and avoid littering?

Equipment Checklist

We all know that pilots must go through a pre-flight checklist which helps ensure the safe operation of the airplane and checks that the emergency response system is ready to be used.

The same type of check should be done before operating any machinery or equipment. A “pre-flight” check can help ensure the machinery and stand-by systems are in safe condition. It can also help prevent time-consuming and costly breakdowns.

These checks are standard operating procedure on vehicles such as trucks and forklifts, and they are also vital for heavy equipment

such as bulldozers and cranes. But a check can be equally valuable when used on any equipment, even an automobile or a power tool.

Your company may already have procedures in place for checking equipment before using it. If not, a checklist should be developed. The operator's manual may have a checklist, or may at least offer suggestions for compiling one.

One kind of pre-work check is known as the circle check for vehicles. Here are two examples of how it is accomplished.

- Walk around the equipment and check for any signs of problems. In the case of a motor vehicle for instance, check to make sure tire pressure is adequate, lights and turn signals are working correctly, there is sufficient oil, fuel, and battery fluid, and windows are clear/clean.
- Another type of circle check is useful before starting up any vehicle. Walk around the vehicle, but this time look over the surroundings. Make sure there is nothing you will strike when the vehicle begins to move, such as another vehicle, a child playing behind the vehicle, or an overhead obstruction such as a power line. This type of circle check is especially important if you must back up.

Here are examples of the kinds of things to check before using many kinds of equipment or machinery:

- Make sure it will not cause danger to another person when you start the machinery. If anyone is doing repairs or adjustments on the equipment it should be labeled with lockout-tagout information, and the power should be disconnected.
- Check over the machinery for any signs of wear or damage which could affect safe operation. In the case of office equipment, you would pay particular attention to the condition of electrical cords and connections.
- Make sure machine guards are in place and functioning correctly.
- When examining machinery prior to start up, use only a safe source of light. For example, never check a vehicle battery

while using a match for light—you could be injured in an explosion.

- Check yourself. Are you ready to work safely? Are you wearing the appropriate Personal Protective Equipment (PPE)—such as eye protection when using a power tool?

Be sure to report any problems you encounter in your check, so they can be corrected. There should be a follow-up system in place to make sure the reported problems are taken care of.

These equipment checklists will vary widely in content. The points you check before running a table saw will be very different from what you check when starting up a crane. But the principle is the same—making sure that the machinery is ready to run safely and smoothly.