# Slips Trips and Falls

Slips, trips, and falls make-up about **20% of all work-related injuries.**

16% Housekeeping Issues
25% Wet or Slippery Surfaces
54% Human Factor
1% Poor Lighting
2% Stairs
2% Ladders

https://safestart.com/news/3-big-causes-slips-trips-and-falls/

**The majority of falls are due to a "human factor,"** for example visual perception, age, fatigue, carrying objects, rushing, distractions (i.e., cell phones), etc.

**25% of falls are due to slippery or wet surfaces**. If you notice a wet orslippery spot, ensure you are using signage and notify management to eliminate the issues.

**16% of slip, trips and falls are from housekeeping issues.** Keeping your workplace organized and clean can have a big impact on safety.

**More than 500,000 falls** every year require hospital care.

**300,000 falls** every year result in a disabling injury.

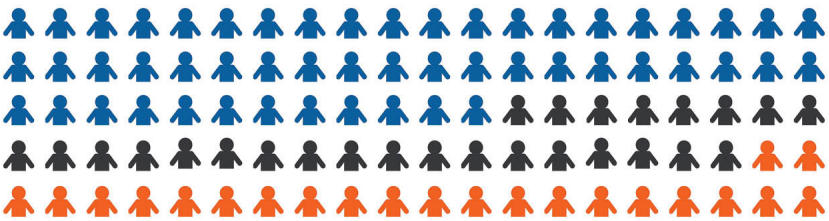
**250,00 falls** every year result in death.

## Stay Safe on Icy and Wet Surfaces

- When walking in wet or icy conditions, avoid placing your hands in your pockets as this prevents us from regaining our balance and/or catching ourselves in an event of a fall.
- In you live an area with snow, be sure to have a dedicated source(s) monitoring walkways and parking lots and apply ice melt when needed.
- Pay extra close attention to area with puddles, down spouts, low sun light, etc.
- Continuously remind employees to be on the look at for icy walkways' especially black ice as it open can be hard to see.

**78% of employees are not thinking of the risk or perceive the risk to be lower than it actually is.**

52% say employees percieve the risk to be lower than it is



26% employees often not thinking of risk

22% employees accurately assess the risk

HELPSIDE



https://ehsdailyadvisor.blr.com/infographic/infographic-understanding-how-human-factors-affect-slips-trips-and-falls/

# Ergonomics

Musculoskeletal disorders (MSD) are injuries or disorders of the muscles, nerves, tendons, joints, cartilage, and spinal discs.

*Centers for Disease Control and Prevention*

MSDs account for **33%** of all worker injury and illness cases.

*U.S. Bureau of Labor Statistics*

MSDs result in an average of **11 days away from work** for injured employees.

*U.S. Bureau of Labor Statistics*

Work-related MSDs cost companies an estimated **$45-$54 billion** each year due to work comp costs, lost wages, lost productivity, etc.

*www.ergocentric.com*

Every $1 invested in safety/ergonomics has a **$3-$6 return on investment** for employers.

*Liberty Mutual*

## Ergonomic Risk Factors for MSDs

- ✓ **Force:** Actions requiring high muscle effort.
- ✓ **Repetition:** Actions that are highly repetitive (done every 30 seconds or more).
- ✓ **Posture:** Actions requiring awkward body positioning.

*OHS Online*

Operators, fabricators, and laborers; and employees in tech, sales, and administrative support occupations account for **58%** of work-related MSD cases.

*National Research Council and the Institute of Medicine*

Employees aged 25–54 year olds, account for **79%** of MSD cases.

*National Institute for Occupational Safety and Health*

## Most Common Types of Work-Related MSDs

**39%** Back

**15%** Shoulder

**12%** Leg

**5%** Arm

**5%** Abdomen

**5%** Multiple parts

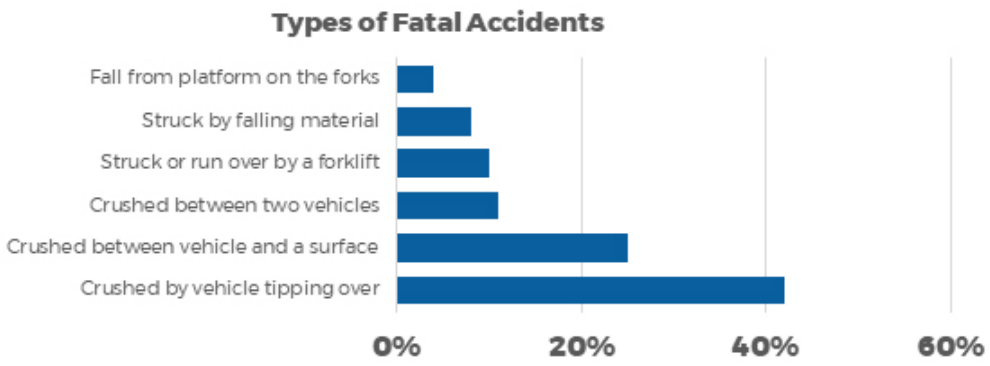
**19%** All others

*U.S. Bureau of Labor Statistics*

# Forklift and Warehouse Safety

## Quick Stats

- In the US, **1 out of every 6** workplace deaths are forklift related.
- About **110,000 major forklift** accidents occur every year.
- Over **11%** of all forklifts in the US will be involved in an accident.
- Almost **80%** of all forklift accidents involve a pedestrian.
- More than **90%** of all forklifts will be involved in an accident.




## Forklift Operation Tips

- Always wear your seat belt. Over 40% of fatalities are caused by the operator being crushed by the forklift after being ejected out of the forklift.

- Never exceed the lift's load capacity (the capacity will be on the forklift's name plate).

- Approach the load slowly/straight on and ensure the forks are adjusted to match the load.

- Ensure that the load is stable (i.e., pallet is in good condition, items are wrapped/secured, etc.).

- Lift the load high enough to clear the surface (4"), avoid traveling with the load/forks elevated.

- Remember the acronym SCC: Scanning, Cushion of safety, and Communication
  - Always scan the area all around you for pedestrian and other items, ensure that you maintain adequate distance from all pedestrian and objects, and communicate by using hand signals, horns, verbal communications, etc.

- Consider the stability triangle principle; the higher you have your forks raised, the less stable it becomes. **VIDEO**

- Become familiar with overhead hazards (i.e., gas lines, sprinkler lines, lights, etc.), intersections, common walkways, blind spots, etc.

- Remember that if your load is obstructing your view to go in reverse and/or use a spotter.

- Remember to use three points of contact when getting in and out of the forklift.

- If traveling on an incline, ensure that the load is on the upgrade. If there is no load the rear (counterweight) will become the load. This will help with the overall balance and stability of the forklift.

- If unloading a railway car/trailer, ensure that you are using a dock plate and that the trailer wheels are chocked.

- Ensure all aisles are clear. **VIDEO** Even the slightest strike with racking can be catastrophic.

- Pre-shift inspection should be completed before each shift. This ensures that the forklift is in good working condition. OSHA estimates that **1 out of 15 accidents** are directly related to improper maintenance. Failure to complete pre-shift inspections is one of the most common OSHA forklift-related citation.

- Never modify your forklift without written approval from the manufacture.

- Ensure that operators have been trained and certi ied at a minimum **every 3 years**.



HELPSIDE

# Heat Illness

## What is Heat Illness?

Heat illness refers to illnesses that occur from over exposure to the heat/humidity with increased physical activity. The body cannot cool fast enough due to dehydration and/or excessive heat.

There are 4 different levels:

**Heat Rash:** When sweat ducts are clogged and the sweat cannot reach the surface of your skin. Because it is trapped beneath the skin's surface, mild inflammation (rashes) occur.

**Heat Cramps:** Muscle spasms occur due to a loss of a large amount of salt and water from the body sweating.

**Heat Exhaustion:** Your body is overheating and cannot cool itself down fast enough. Symptoms include severe thirst, fatigue, headache, nausea, vomiting, and even diarrhea.

**Heat Stroke:** The most severe type of heat stress. If you or your co-worker is suffering from heat stroke, call 911 immediately. Heat stroke is a condition caused by your body overheating. Signs and symptoms include skin is hot to the touch, rapid breathing, headache, dizziness, confusion, irritation, unresponsiveness, racing heart rate, alternated mental state, stops sweating, etc.

## Quick Stats

- Over **1,000 deaths** occur each year from heat-related illness
- More than **90%** of these occur from June to September each year
- Employees that work **outside** or in **non-ventilated areas** (for example, in an attic) are at higher risk

## Heat Illness Prevention

Train all employees on how to recognize the signs, symptoms, and prevention of heat illnesses, and how to respond in an emergency.

Drink plenty of water and sport drinks with electrolytes (sodium and potassium).

Avoid caffeinated, alcoholic and/or sugary beverages. Energy drinks like Rockstar, Monster, Red Bull and sodas are loaded with caffeine which is a diuretic, that causes our bodies to lose water and salt. Avoid high-sugar sports drinks. Sugar prevents the body from absorbing water in the blood stream.

Take frequent breaks in cool, shaded areas.

New workers should only have a 20% exposure or less on the first day and increase exposure 20% each additional day. Exposure for those with previous experience, should start at no more than 50% on the first day, 60% on the second day, 80% on the third day, and 100% on day four.

## Treatment and First-Aid

**Heat Rash:** Take frequent breaks in cool, shaded areas, Cool the skin by taking a cool shower/ bath, use a calamine lotion or cool compresses to calm itchy, irrelated skin.

**Heat Cramps:** Sit or lie down in the shade, drink cool water or sports drinks (replace the electrolytes), stretch, seek medical attention if cramps don't improve.

**Heat Exhaustion:** Move to a cool, shaded area to rest, drink water, apply cool, wet towels or take a cool shower.

**Heat Stroke:** Call 911, find a cool place, immerse in cold water, use cooling blankets/ice. Remove outer clothing, do not force anyone to drink, monitor breathing, do not leave the victim alone.

# Ladder Safety

## Quick Stats

- There are about **150 fatal injuries** from ladders in the workplace in year.
- There are about **200,000 non-fatal injuries** from ladders in the workplace in year.
- Ladders are consistently one of OSHA's top ten citations each year.
- Serious violations cost up to $13,260 per violation. Repeat or willful violarions are up to $132,598.

## Ladder Safety Tips

Quickly inspect your ladder **before each use**

**Always** maintain 3 points of contact when going up/down a ladder

Never exceed the ladder's weight capacity. 4% of ladder accidents are from a broken ladder

Do not set-up a ladder on a slick surface (i.e., wet, ice, decks, etc.). **40% of ladder accidents** are from ladders moving while in use.

Many accidents are from workers missing the last rung when coming down the ladder. Take your time and be aware that this is a very common accident.

Keep your body core within the side rails of the ladder, **never** overextend. 18% of ladder accidents are from losing balance.

### Step Ladders

**Never** step on top two rungs as you may lose balance.

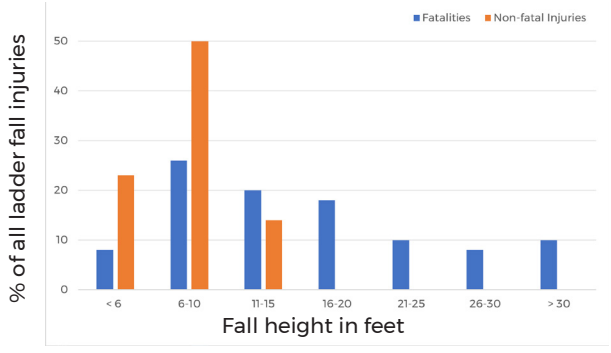
**Never** use a step ladder as an extension ladder, resting it against a wall.

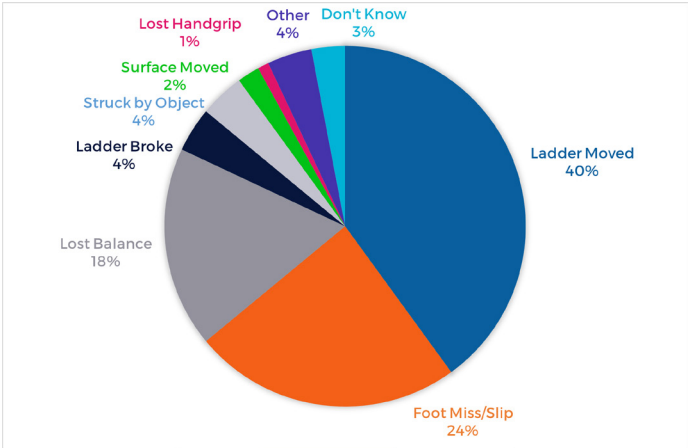
### Extension Ladders

**Never** rest ladder on a rain gutter. The gutter can collapse causing you to lose your balance and fall. (40% of ladder accidents are from the ladder moving)

The proper angle for an extension ladder is 75.5 degrees. Ladder slipping/moving accounts for 40% of ladder accidents. You can download a **free NIOSH Ladder Safety app** that will help set your ladder up at the exact angle. This tends to be safer and more accurate than the 4:1 ratio method.

The top of the ladder must extend 3' above the roof line (not 3 rungs). 3' is about 3.5 rungs above the roof line. This helps get on and off the roof safely without overextending or losing balance.



# Machine Guarding

General requirement 1910.212(a)(1) states that one or more methods of machine guarding must be used to protect operators and other employees from hazards, including those created by point of operation, in-running nip points, rotating parts, flying chips and sparks. Other motions may include: rotating, reciprocating, cutting, punching, shearing, bending, etc. A general rule is that any machine part, function, or process that may cause injury, must be safeguarded.

* There are **more than 700 fatalities** every year from contact with objects and equipment (caught in, on, or under equipment or machinery).
* There are **more than 120,000 hand injuries** and **over 6,000 non-fatal amputations** every year.
* There are **more than 200,000 lost work days** due of lack of machine guarding.
* Machine guarding is one of the **top 10 most frequently cited** workplace safety violations. OSHA standards do not cover every type of machine; however, all machine guard deficiencies are citable under the General Duty Clause.

## General Requirements

- The safeguard must prevent hands, arms or any other part of a worker's body from making contact with dangerous moving parts.
- Workers should not be able to easily remove or tamper with the safeguard.
- The safeguard should ensure that no objects can fall into moving parts.
- Any safeguard that impedes a worker from performing a job quickly and comfortably might soon be bypassed or disregarded. Proper safeguarding can actually enhance efficiency because it relieves a worker's injury apprehensions.

## Administrative Controls can further reduce the chance of serious injury or death.

* Eliminate slip, trip, and fall hazards from areas around the machines.
* Maintain good housekeeping around points of operations and around the machine.
* Place machines away from high traffic areas if possible.
* Ensure employees are trained
* Set specific policies around clothing and jewelry to prevent them from being caught in the machine.

## Types of Safeguards

**Guards:** fixed guards (permanent parts of a machine), interlocked guards (auto shut off a machine when a guard is opened or removed), adjustable guards, and self-adjusting guards.

**Devices:** Presence-sensing devices (uses sensors and controls that can interrupt a machine), pull back device, restraint devices (only allows the operator's hand to travel in a predetermined safe area).

**Safety Controls:** two hand controls (machine only functions if operator has constant pressure on two separate controls), safety trip controls (pressure-sensitive body bars).

**Gates:** moveable barriers that protect the operator at the point of operation.

**Location/Distance:** though not actual guards, location and distance can keep employees safe.

Emergency stop devices are designed to be used in reaction to an incident or hazardous situation and not considered machine guarding.

**Foot controls that are not securely fixed at a safe distance do not constitute machine safeguarding.**

## *Don't Forget Lockout/Tagout*

When performing maintenance, cleaning, or removing objects from a machine, OSHA's lockout/tagout standard must be followed.


HELPSIDE

# Pinch Points and Amputations

Pinch points are always a high risk regardless of the industry you work in and can lead to serious injuries or an amputation. Current statistics show that **1 in every 20,000** employees will fall victim of an amputation. In some industries like manufacturing, construction, and agriculture, almost **2 in every 10,000** employees will suffer from an amputation.

## What is a pinch point?

A pinch point can be any point where a worker can put any part of their body to be caught between moving or stationary parts of a machine or between material and any part of the machine/object.

Often, it is not the obvious pinch points that cause injuries. Sometimes something as simple as shutting a truck door will lead to an injury because you are in a rush or not paying attention. It is important to not get complacent and monitor where your hands are at all times, even for everyday activities.

## Common Causes of Pinch Point Injuries

- ! Work on or around a forklift
- ! Ladders
- ! Carts
- ! Industrial machines
- ! Power saws
- ! Lifting and transporting materials
- ! Hooking and unhooking trailers
- ! Assembly line work

## Questions to Consider

* What are some pinch point hazards at your workplace?

* What controls can you put in place to prevent them from happening?

## Safeguards to Avoid Pinch Points

Eliminate the hazard by ensuring that proper guarding is in place.

Pay attention to where your hands are around any moving parts or any objects

Don't place your hands where you cannot see them.

Wear the proper gloves for whatever work task you are completing to reduce the amount of damage to your hands. Some gloves are rated for high impact to reduce the seriousness of the injury. Wearing gloves around moving parts can create an additional hazard. Ensure to evaluate if gloves are the best option.

Ensure equipment/machinery are properly locked out and tagged out to prevent unexpected start up when working on around the equipment.

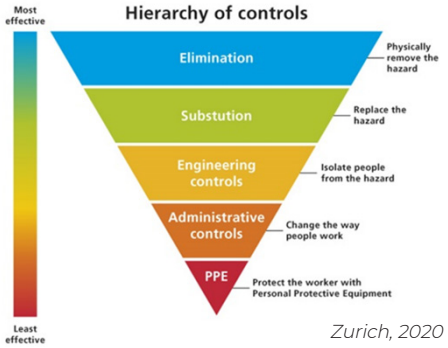
Properly block or release stored energy on any equipment or parts where stored energy could be released.

When working with others, make sure to communicate before moving objects, machines, or starting up equipment.

# Personal Protective Equipment

Personal Protective Equipment (PPE) is an important part of safety; however, it should never be the first or only option to prevent injuries. This hierarchy of controls explains where PPE should fall among other safety practices in your workplace:

1. Can the hazard be completely eliminated?
2. Are there any substitutions (i.e., different equipment, tools, etc.)?
3. Engineering controls (guards, barriers, etc.)
4. Administrative controls (policies, procedures, process, etc.)?
5. PPE should generally be the last option.




*Zurich, 2020*

## When and Where PPE is Required

- Safety Glasses, hearing protection, and gloves must be worn when working in the shop area.
- Gloves must be worn when using any type of cutting device. The company should supply gloves to employees. Employees may bring in their own gloves; however, they must be approved by management.
- Violation of the company policy for PPE use may be subject to disciplinary action, up to and including termination from the company.

## Hearing Protection

Hearing damage is permanent.

Hearing damage can start to occur after two hours of exposure to levels of 85 decibels. Examples of things that are 85-90 dBA: hair dryer, motorcycle, traffic, leaf blower.

Hearing damage can occur after 14 mins of exposure to levels of 100 dBA. Examples of things that are 100 dBA: chain saw, sporting events, most power tools.

Hearing protection generally reduces decibel level by 10-13 dBA.

OSHA's permissible exposure limit is 90 dbA for an 8-hour time weighted average. For an increase of 5 dBA the allowable duration is cut in half (4 hours).

## Cutting Safety

The company should supply cutting devices to employees. Employees may bring in their own cutting devices; however, they must be approved by management.

Use right tool for the job, a knife should not be your first choice.

Cutting tools should be in stored properly, in good condition, and used as intended. A knife is not a chisel, punch, awl, scraper, or screwdriver.

Always cut away from you and use a stable surface when cutting.

Keep blades sharp and store appropriately when not used.

Use a Kevlar or cut resistant glove on the holding hand.