Emergency Action and Fire Prevention Plans – Quick Tips

Application of Emergency Action Plans (EAPs) and Fire Prevention Plans (FPPs)

Mandatory elements of the Occupational Safety and Health Administration's (OSHA's) emergency action and fire prevention plans are found in 29 Code of Federal Regulations (CFR) 1910.38 and 1910.39, respectively. Having detailed and comprehensive emergency action and fire prevention plans that are properly communicated to all members of the organization saves lives and minimizes property damage.

OSHA defines the application of EAPs in 29 CFR 1910.38(a) and FPPs in 29 CFR 1910.39(a) as: "An employer must have an EAP or FPP whenever an OSHA standard in this part (1910) requires one."

These nine standards require organizations to have an EAP:

- 119 Process Safety Management (PSM) of Highly Hazardous Chemicals
- 120 Hazardous Waste Operations and Emergency Response (HAZWOPER)
- 157 Portable Fire Suppression Equipment
- 160 Fixed Extinguishing Systems, General
- 164 Fire Detection Systems
- 272 Grain Handling Facilities
- 1047 Ethylene Oxide (EtO)
- 1050 Methylenedianiline (MDA)
- 1051 1,3-Butadiene

Organizations covered by the EtO, MDA or 1,3-Butadiene standards must also have a FPP in place.

The plans must be in writing, kept in the workplace and available for employees for review. However, employers with 10 or fewer employees may communicate the plans orally to employees. The plans must be reviewed with each covered employee when:

- The plans are developed or the employee is assigned initially to a job;
- The employee's responsibilities under the plans change; and
- The plans are changed.

EAPs and FPPs may vary to comply with specific company operations, but must follow the guidelines set by OSHA.

Emergency Action Plan Requirements

According to 29 CFR 1910.38(c), at a minimum, EAPs must include the following:

- Procedures for reporting a fire or other emergency;
- Emergency evacuation procedures and exit route assignments;
- Procedures to be followed by employees who remain to operate critical plant operations before they evacuate;
- Procedures to account for all employees, contractors and guests after emergency evacuations have been completed;
- Rescue and medical duties for those employees who are to perform them; and
- Names or job titles of persons who may be contacted for additional information or further explanation of duties under the EAP.

All employees must be familiar with the evacuation signal, whether it's communicated verbally or by bells, whistles or sirens. The alarm system must comply with the scope, application, general requirements, installation and restoration, maintenance, testing and manual operation as stated in 29 CFR1910.165 – Employee Alarm Systems.

Fire Prevention Plan Requirements

Per 29 CFR 1910.39(c), at a minimum, FPPs must include the following:

- A list of all major fire hazards, proper handling and storage procedures for hazardous materials, potential ignition sources and their control, and the type of fire protection equipment necessary to control each major hazard;

Procedures to control accumulations of flammable and combustible waste materials;
- Procedures for regular maintenance of safeguards installed on heat-producing equipment to prevent the accidental ignition of combustible materials;
- Names or job titles of employees responsible for maintaining equipment to prevent or control sources of ignition or fires; and names or job titles of employees responsible for fuel source hazard control.

Employees must know the alarm procedure, where to find alarms and how to sound or activate them. Emergency phone numbers must be posted by phones. Employees must respond immediately when the alarm is sounded, whether it is a drill or an actual fire. Personal work areas must be secured, if time permits, by turning off machinery or equipment, securing hazardous materials or locking up confidential documents.

Establishing EAPs and FPPs and facilitating employee training helps prevent injuries and deaths in the workplace. Saving lives is the main goal for EAPs and FPPs. Just because an organization has an EAP and FPP, doesn't mean they are prepared for an emergency. The plans only work if employees know and follow the emergency procedures. For additional information on OSHA's means of egress requirements please see QuickTip #268.

Commonly Asked Questions

1. **Where can I receive help to determine if my organization requires an EAP?**

A: OSHA has an electronic resource called Evacuation Plans and Procedures eTool on osha.gov. The eTool has information regarding EAPs and also an Expert System that will walk you through a series of questions to determine if your organization is required to have an EAP.

1. **Why is it important to meet for a head count in the event of an emergency?**

A: It is crucial to have a designated place to meet after the

evacuation process. The head count helps to determine if anyone might possibly be trapped in the building. Failing to report to this designated meeting place could endanger the life of someone who re-enters the building in an attempt to find a missing person.

1. **Why is it important to keep exits clear?**

A: It is important to keep paths, escape routes and aisles clear to ensure everyone can quickly exit the building. Clutter and debris might prohibit an exit door from opening to allow for escape.

Sources

29 CFR 1910.38 Emergency Action Plans
29 CFR 1910.39 Fire Prevention Plans
29 CFR 1910.165 Emergency Alarm Systems
OSHA Evacuation Plans and Procedures eTool

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Source: Grainger Know How – https://www.grainger.com/know-how

Welding Safety – Quick Tips

Welding is the most common method of joining metals in industry today. When welded, two pieces of similar metals are fused together by the use of heat, pressure or both. Once completed, the welded joint is as strong as or stronger than the pieces from which the joint is formed.

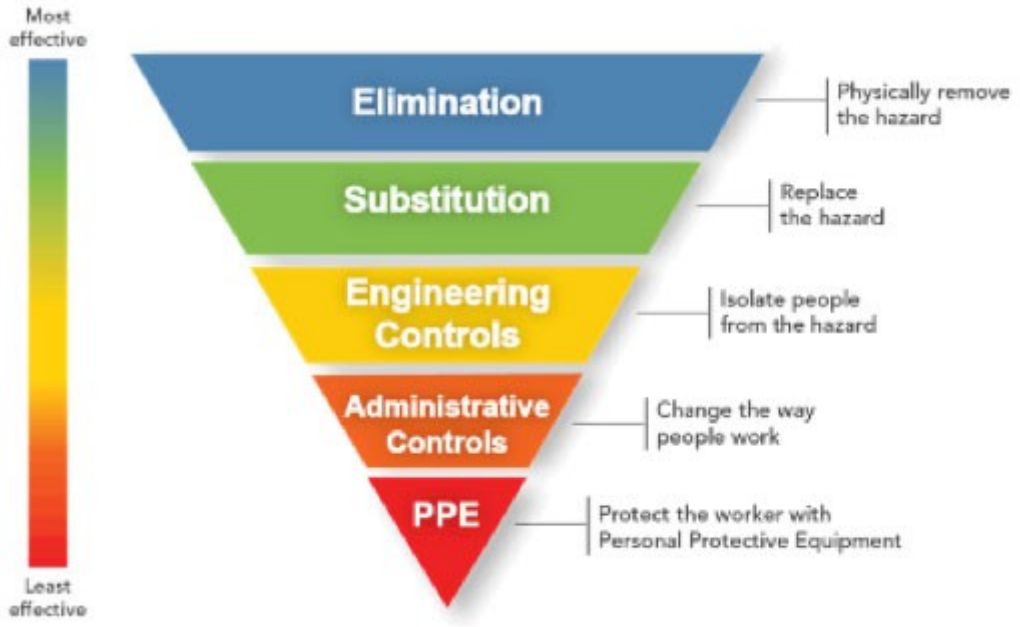
Welding Hazards and NIOSH's Hierarchy of Controls

Impact, penetration, harmful dust, smoke, fumes, heat and injurious light radiation are all potential hazards associated with welding. Welding "smoke" is a mixture of very fine particles (fumes) and gases. Depending upon what is being welded, many of the substances in the smoke can be extremely toxic. The intense heat of welding and sparks can cause burns. Eye injuries have resulted from contact with hot slag and metal chips. The intense light associated with welding can cause eye damage. Ultraviolet light from an arc can cause "welder's flash" and also skin burns. There is also a danger of electric shock. If combustible or flammable materials are nearby, the heat and sparks produced by welding can cause fires or explosions. The use of compressed gas cylinders poses some unique hazards to the welder as well.

The National Institute for Occupational Safety and Health's (NIOSH's) Hierarchy of Hazard Controls is a widely accepted method used by many to determine feasible and effective hazard control solutions. This concept is taught to managers in industry to be promoted as standard practice in the workplace. Following the hierarchy normally leads to the implementation of inherently safe systems, where the risk of illness or injury has been substantially reduced. It is depicted as a pyramid with five levels:

1. **Elimination:** Eliminating the hazard, or physically removing it, is the most effective hazard control, such as eliminating welding.

2. **Substitution:** Involves replacing something that produces a hazard (similar to elimination) with something that is less hazardous, such as replacing the base welding metal with something less toxic.
3. **Engineering Controls:** Engineering controls do not eliminate the hazard, but rather isolate people from the hazard, such as local ventilation at the source of the hazard.
4. **Administrative Controls:** Administrative controls change the way people work. Examples include procedural changes, employee training and installation of signs and warning labels.
5. **Personal Protective Equipment (PPE):**PPE is the last control and is worn to minimize exposure to a variety of hazards. PPE is considered the least effective means of controlling hazards. Examples associated with welding are respirators and flame-resistant clothing.



Welding Safety Precautions

The Occupational Safety and Health Administration (OSHA) provides basic fire prevention and protection precautions to follow in the welding, cutting and brazing standard found in 29 Code of Federal Regulations (CFR) 1910.252(a). Highlights include:

- A responsible individual must inspect the area and identify precautions to be taken preferably on a written Hot Works

permit
- Fire extinguishers must be ready for immediate use
- A fire watch lasting at least 30 minutes after the welding or cutting operations is required if more than a minor fire might develop
- All combustibles must be moved 35 feet away or properly protected or shielded

Prohibited areas for welding include
Areas unauthorized by management
Areas where sprinklers are impaired
Areas in explosive atmospheres
Areas near storage of large quantities of readily ignitable materials

Types of Welding

Gas welding: Two metals are joined by melting or fusing their adjoining surfaces. This is done by directing a gas flame over the metals until a molten puddle is formed. The energy for gas welding comes from the combustion of a fuel with oxygen or air. A few of the most popular fuels are acetylene, MAPP gas and hydrogen. Since gas welding is slower and easier to control than electric arc welding, it is often used in applications such as general maintenance work, brazing and soldering.

Arc welding: Two metals are joined by generating an electric arc between a covered metal electrode and the base metals. Heat is produced by the arc, which in turn, melts the metal and mixes the molten deposits of the coated electrode. The arc energy is provided by a power supply unit that furnishes direct or alternating current. The electrodes carry the current to form the arc, producing a gas that shields the arc from the atmosphere, and add metal to control the weld shape. When an arc is struck using a coated electrode, the intense heat melts the top of the electrode. The drops of metal from the electrode enter the arc stream and are deposited on the base metal. The equipment needed for electric arc welding is a power supply, electrode holder, ground clamp, protective shield and welder’s protective clothing.

Oxygen and arc cutting: Metal cutting in welding is the severing or removal of metal by a flame or arc. The most common cutting processes are:

Oxygen cutting: Metal is heated by gas flame, and an oxygen jet does the cutting
Arc cutting: Intense heat of electric arc melts away the metal

Personal Protective Equipment (PPE)

Eye and face protection: 29 CFR 1910.252(b)(2) states the requirements for eye protection. . Helmet, handshield, goggles and safety glasses or combination of these are acceptable protection in various applications. All filter lenses and plates must meet the test for transmission of radiant energy prescribed in ANSI/ISEA Z87.1-2015, American National Standard for Occupational and Educational Personal Eye and Face Protection Devices. According to OSHA 29 CFR 1910.252 (b)(2)(ii)(B), "Helmets and hand shields shall be arranged to protect the face, neck and ears from direct radiant heat from the arc." Welding helmets with filter plates are intended to help protect users from arc rays and from weld sparks and spatters that strike directly against the helmet. They are not intended to protect against slag chips, grinding fragments, wire wheel bristles and similar hazards that can ricochet under the helmet. Spectacles, goggles or other appropriate eye protection must also be worn to protect against these impact hazards.

When arc cutting and arc welding with an open arc, OSHA requires operators to use helmets or hand shields with filter lenses and cover plates. Nearby personnel viewing the arc must also be protected. Safety glasses with a Shade 2 lens are recommended for general-purpose protection for viewers. Protective clothing: 29 CFR 1910.252(b)(3) refers to the PPE Hazard Assessment in 29 CFR 1910.132. This requires the employer to identify the hazard and appropriate PPE needed to protect the employer from the hazards.

Consensus standard ANSI Z49.1-2012, Safety in Welding, Cutting, and Allied Processes, provides guidance in the safe setup and use of welding and cutting equipment, and the safe performance of

welding and cutting operations. Paragraph 4.3 provides more direction on clothing selection for welding tasks. “Clothing shall be selected to minimize the potential for ignition, burning, trapping hot sparks, or electric shock.” It also offers more specific selection guidelines for clothing, gloves, leggings, capes, sleeves, ear plugs, and caps.

Ventilation

Chapter 5 of ANSI Z49.1-2012 provides guidance on ventilation for welding. Ventilation refers to changes of room air as often as necessary to prevent welders and other workers from breathing high levels of airborne contaminants.. Adequate ventilation depends on the following factors:

- Volume and configuration of the space where the welding operations occur
- Number and type of operations that are generating contaminants
- Concentrations of specific toxic or flammable contaminants being generated
- Natural air flow rate where operations are taking place
- Location of the welders’ and other workers’ breathing zones in relation to contaminants or sources

Paragraph 5.4 identifies two types of ventilation: natural or mechanical. Natural ventilation is considered sufficient when necessary precautions are taken to keep the welder’s breathing zone away from the air contaminants and when sampling of the atmosphere shows that concentration of air contaminants are below allowable limits.

If operations do not fall within the natural ventilation guidelines, mechanical ventilation is required. Mechanical ventilation options generally fall into three basic categories:

- Local exhaust
- Local forced air
- General area mechanical air movement

Local Exhaust

This system consists of fixed or moveable exhaust hoods positioned as near as practicable to the work that are able to maintain a capture velocity of 100 feet per minute to keep air contaminants below the allowable limits. The hood and housing may have to be repositioned by the worker to get maximum benefit from this means of ventilation. Hoods generally remove the fumes and contaminated air through ducting and filtration before being exhausted to the outdoors or recirculated into the work area. General mechanical ventilation may be necessary in addition to local forced ventilation to make up for the air that is being lost.

Local Forced Air

This system, typically a fan, is placed so air is moved horizontally across the welder’s face. General Mechanical Ventilation

This system is generally made up of items like roof exhaust fans, wall exhaust fans, and similar large area air movers. This system is not usually a satisfactory way by itself to control contaminants in the breathing zone of a welder; however, it is often helpful when used in addition to local ventilation.

Chapter 5 also addresses concerns about recirculation, low allowable-limit materials, confined spaces, adjacent persons, brazing furnaces and contaminants containing:

- Fluorine compounds
- Zinc and copper
- Cleaning compounds
- Chlorinated hydrocarbons
- Asbestos

Fumes and gases from welding and cutting cannot be easily classified. The quantity of fumes and gases is relative to a combination of the metal being worked, consumable material being used depending on the type of welding being done, contaminants in the atmosphere, and the area the welding is taking place in. Once

these are all known personal air sampling can be done to verify the concentration levels of toxic fumes and gases.

Reference OSHA's 29 CFR 1910 Subpart Q for guidance when performing the following operations:

- 29 CFR 1910.252 General Requirements for all Welding
- 29 CFR 1910.253 Oxygen-fuel gas Welding and Cutting
- 29 CFR 1910.254 Arc Welding and Cutting
- 29 CFR 1910.255 Resistance Welding

Commonly Asked Questions

Q: What is a fume plume?

A: A fume plume is the clearly visible column of fume that rises directly from the spot of welding or cutting. Welders and cutters should take precautions to avoid breathing this area directly. Ventilation can direct the plume away from the breathing zone. (Fume removal is most effective when the air flow is directed across the face of the welder, rather than from behind.)

Q: How do I know what hazardous materials exist in the base metal including residual chemicals on the base metal or consumables like the gas or wire I may be using?

A: Check the Safety Data Sheet (SDS). The suppliers of welding materials must provide a SDS or equivalent documentation identifying the hazardous materials, if any, used in welding and cutting products.

Q: What are the storage requirements for oxygen and acetylene and other fuel gas cylinders?

A: Oxygen cylinders should be stored 20 feet or more from fuel gas cylinders or separated by a noncombustible barrier at least five feet high with a one-half-hour fire resistance rating.

Q: What is MAPP gas?

A: MAPP gas is a product that was developed as a fuel for welding, brazing, cutting, flame hardening and metallizing operations. It

has many of the physical properties of acetylene, but lacks its shock sensitivity, and therefore, can be stored and shipped in lighter containers. MAPP gas is the result of rearranging the molecular structure of acetylene and propane. It also has a very distinct odor so any leakage can readily be detected.

Sources

ANSI Z49.1-2012, American National Standards Institute: Safety in Welding, Cutting and Allied Processes

29 CFR Subpart Q – Welding, Cutting and Brazing

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Forklift Battery Changing Station Safety – Quick Tips

Powered industrial trucks are used in many industries for a variety of applications. Due to increasing technological advancements, battery-powered industrial trucks are becoming more and more prevalent. With longer run times, shorter recharging times and reduced emissions (which virtually eliminate the hazards associated with carbon monoxide), this type of truck is becoming

even more popular. Currently, there are numerous styles of battery-operated trucks that range from small motorized pallet trucks to much larger high-lift trucks.

No matter what kind of electric-powered industrial truck you have, there are similar hazards associated with their batteries and maintenance. Electric industrial trucks are powered by large lead-acid batteries, which must be routinely charged and changed. Suggested practices for charging and changing batteries are:

- Designate an area for the purpose of battery charging.
- Make sure that the industrial truck is charged before using.
- Recognize that heavy loads drain the battery more quickly.

Forklift Battery Changing and Charging Safety

Only trained personnel should change and charge batteries in electric industrial trucks. In addition to training in battery changing and charging procedures, these employees should be trained on emergency response procedures in the event of an acid spill, including using proper personal protective equipment (PPE) and how to use eyewash and shower facilities.

In order to ensure that battery changes are performed safely, certain steps should be taken. Always follow your facility's specific procedures and the recharger manufacturer's recommendations for attaching and removing cables.

OSHA regulations that must be followed for changing and charging storage batteries in powered industrial trucks are found in Title 29 Code of Federal Regulations (CFR) 1910.178(g)(1)-(g)(12).

OSHA's online powered industrial truck etool is a stand-alone interactive web-based training tool that can be used to help you understand and comply with the powered industrial truck requirements found in 29 CFR 1910.178. Under the "Types and Fundamentals" tab click on "Power Sources" and then "Electric" to review potential hazards associated with electric forklifts and suggested recommended practices.

Suggested battery charging and changing procedures include:

- Wear proper PPE as determined in PPE hazard assessment [29 CFR 1910.132(d)(1)] Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body must be provided within the work area for immediate emergency use. [29 CFR 1910.151(c)]
- Check the electrolyte level before recharging; check the specific gravity with a hydrometer; record it in the service log and check the pilot cell
- Check the water level –do not add water prior to recharging–record level in service log.
- Check the voltage and if the battery has sealed vents, do not recharge with a current greater than 25 amperes.
- Unplug and turn off the charger before connecting or disconnecting the clamp connections.
- Attach the positive clamp (+, usually colored red) to the positive terminal first and then the negative clamp (-, usually colored black) to the negative terminal, keeping the proper polarity.
- Turn off the charger if the battery becomes hot or the electrolyte fluid comes out of the vents and restart charging at a lower charging rate.
- Check the water level after charging and add distilled water or de-ionized water if water level is below level indicator–record in service log.
- Check the indicator on the hour meter to see that battery is fully charged.

Proper Personal Protective Equipment (PPE)

Whenever changing or servicing a battery proper PPE should be worn to prevent harm if an accident should occur. The first area of concern is the weight of the battery. Batteries are very heavy and pose a dropping hazard. To help protect workers against a dropped battery, proper safety footwear that meets ASTM F2413-2018 impact and compression requirements should be considered. For additional insight into this guiding footwear standard and others,

see Grainger Quick Tip 252: Protective Footwear Standards.

Lead-acid batteries contain highly corrosive sulfuric acid. Also, contact with battery cells may cause electrical short circuits which can cause burns to unprotected skin. To prevent corrosive and contact burns to the body always wear appropriate PPE as determined in the PPE hazard assessment required in 29 CFR 1910.132(d)(1). Suggested minimum PPE includes:

- Indirect vented / chemical splash goggles and a face shield
- Acid-resistant gloves—verify resistance to sulfuric acid with the supplier
- Acid-resistant apron / clothing—verify resistance to sulfuric acid with the supplier
- Acid-resistant footwear—verify resistance to sulfuric acid with the supplier

In the event of an acid exposure ensure your facility has procedures in place addressing how to treat a victim for:

- Splash to the eyes
- Splash to the skin
- Ingestion

Hydrogen Gas

Flammable hydrogen gas is always present during battery recharging. Toward the end of the battery charging process, batteries can give off highly explosive hydrogen gas. This is commonly referred to as “out gassing.” Ignition and/or explosion of accumulated hydrogen gas is possible. Take the following steps to prevent accumulation and explosion of hydrogen gas:

- Post no smoking signs.
- Use non-sparking tools.
- Prevent open flames, sparks or electrical arcs in the charging area.
- Provide adequate ventilation.
- Open the battery cover when charging so that hydrogen gas can vent.

Sulfuric Acid Spill

- Personnel responding to sulfuric acid spills must follow your established procedures. The response may include steps to contain the spill, neutralize the acid, absorb the spill and properly dispose of the absorbed material in accordance with guiding regulations. OSHA has provided some recommended guidelines: Neutralize the spill with soda ash or baking soda—use one pound of baking soda to one gallon of water.
- The acid reaction is complete when it stops fizzing—make certain that the acid is neutralized by checking the pH (neutral is between six and eight).
- Absorb neutralized material onto clay or other absorbent material, if necessary and if the spill is very large, contain the spill with earth or clay dikes.
- Brush under the battery connectors and remove all grime and rinse the residue from the battery with clean water with a hose.
- Report the incident to your supervisor.
- Determine proper disposal by contacting local environmental authorities.

Commonly Asked Questions

Q: What type of gloves should be worn when working with battery acid (sulfuric acid)?

A: Workers should wear chemical-resistant gloves – neoprene gloves are normally sufficient for battery acid. Check with the chemical supplier, glove supplier or Grainger's Technical Product Support for information to help you make the right product selection.

Q: Is wetness on the top of a battery a problem?

A: Wetness around the terminals on a battery can be a sign of three things – overfilling, excessive gassing during charging or leaky seals. Not only can this be a hazard for workers but to the equipment as well. Once wetness is detected, the problem should be corrected to prevent corrosion of the cell posts and other components. If this problem is left unattended, the top of the

battery can become electrically conductive. Stray current flowing over the top of the batter drastically reduces the battery's performance.

Sources

29 CFR 1910.178, Powered Industrial Trucks

29 CFR 1910.151, Medical Services and First Aid

Powered Industrial Trucks (Forklifts) etool

ASTM F2413-2018

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OSHA Fall Protection Defense Guide – Quick Tips

The duty to have fall protection and Ineffective or missing fall protection have been OSHA's most-cited violation for more than 10-years running.

Not only has ineffective or missing fall protection been on the Occupational Safety and Health's (OSHA's) most-cited violation for more than 10-years running, according to the Bureau of Labor Statistics falls to a lower level were the fourth leading fatal event and the fifth leading event resulting in cases with days away from work in 2019.

OSHA provides specific rules to address the hazards of falls from height, including the height at which fall protection is required – four feet for general industry, six feet for construction, 10-feet for scaffold erection, 15-feet for steel erection and whenever employees are working over dangerous equipment/machinery at any height. Floor holes, open-sided platforms, floors, and runways must be properly guarded. And before any employee is exposed to a fall hazard, the employer must provide training covering:

- Fall from height hazards in the work area and how to recognize them,
- Procedures to be followed to minimize the hazards,
- Procedures for installing, inspecting, operating, maintaining, and disassembling personal fall protection systems that are going to be used, and
- Correct use of personal fall protection systems and equipment

Fall Protection Program

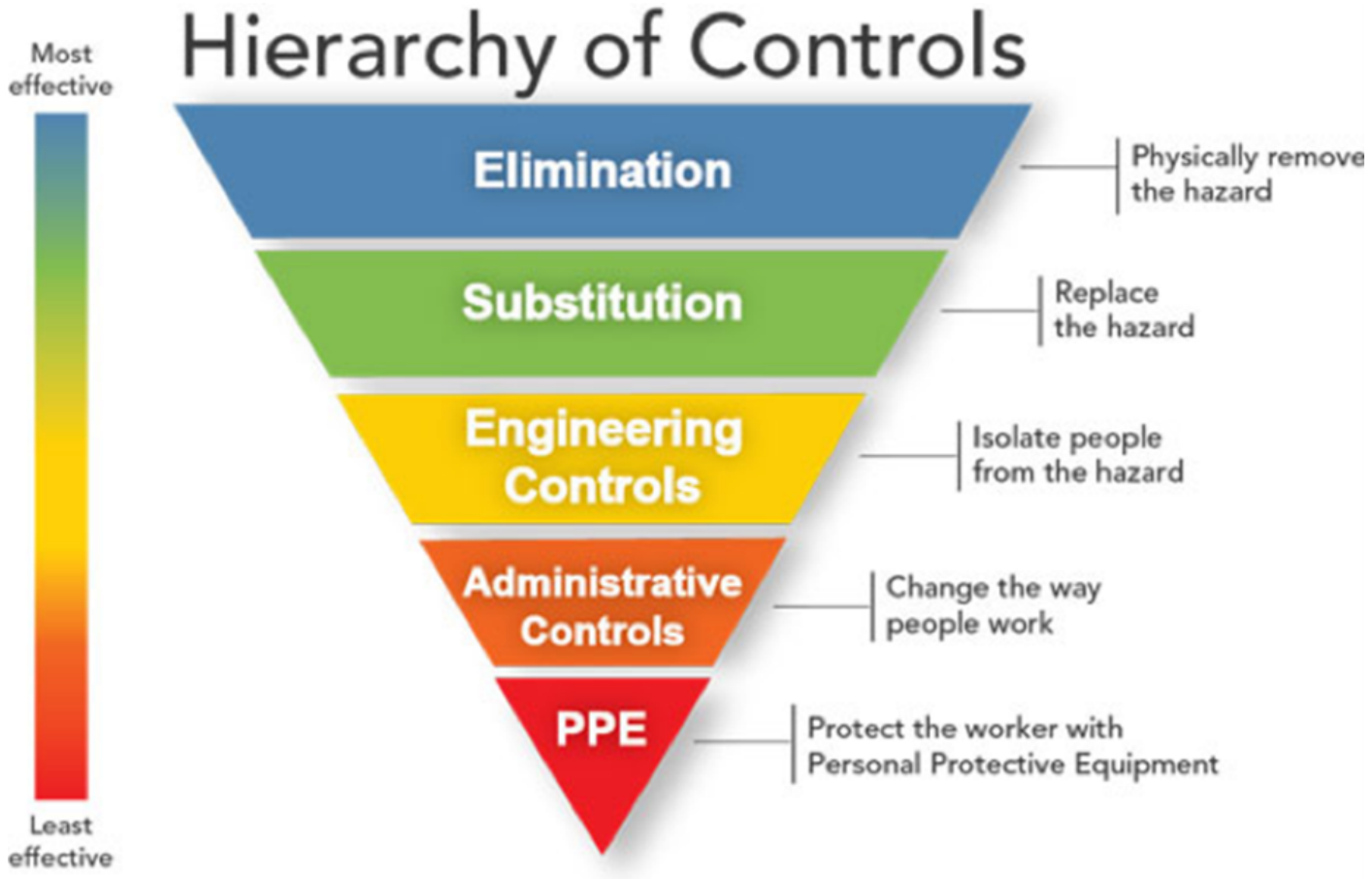
When developing a fall protection program, the first step is to identify all tasks that require employees to work at heights. Any time a worker is at a height, there is a risk of falling.

The second step is to assess the level of risk that could result from exposure to working at height. Risk is the combination of the likelihood of being exposed to the hazard and the potential severity or consequence associated with that exposure. Generally, the greater the height, the greater the risk is of sustaining a more severe injury.

Once all working at height hazards have been identified and the

risk of each job task has been assessed the next step is to prioritize the hazards and risks for mitigation. By prioritizing, an action list is created. When creating the action list, the amount of risk an organization is willing to tolerate or accept allows appropriate control measures to be utilized for each job task.

The next step is control of the working at height hazards. Once a hazard has been identified and assessed, hazard controls must be put in place to either eliminate or reduce the workers' exposure to it. Working at height hazards are controlled either by removing or reducing their ability to cause harm. Traditionally, the National Institute for Occupational Safety and Health's (NIOSH's) Hierarchy of Controls is used as a means to determine how to implement feasible and effective control solutions. One representation of this Hierarchy is shown below.



Although each control method can be effective at reducing exposures to working at height hazards, those at the top of the pyramid are considered most effective. Elimination controls can be as simple as moving the work to ground level and eliminating the

work height. Substitution can be using a mobile elevating work platform to raise properly secured workers to perform the task When hazards cannot be physically removed or replaced, engineering controls, administrative controls, and personal protective equipment (PPE) are often used in combination with one another to reduce the risk of working at heights.

A last step to take in a fall protection program is assessing residual risk after control measures have been implemented. Residual risk is the amount of risk that remains after controls are implemented. It is important to monitor both the hazard and the control to make sure that the control is working effectively and that exposure to the working at height hazard has been reduced or eliminated.

If exposure to hazards cannot be engineered completely out and safe work practices and other forms of administrative controls cannot provide sufficient additional protection, a supplementary method of control is the use of personal protective equipment.

Three Basic PPE Categories

1. Positioning: Devices that hold a worker in place while allowing hands-free work. These devices must limit free fall to less than two feet. Positioning is comprised of four basic components:
    - Anchor point: Certified (evaluated by a qualified person) two times the foreseeable force; Non-certified (selected by a competent person) tested to 3000-pound (lb.) load
    - Body wear: Full-body harness and/or belt
    - Connecting device: Rebar chain assembly
    - Fall arrest backup: Shock-absorbing lanyard or self-retracting lifeline (SRL)
2. Restraint: Devices used to limit the worker from reaching an unprotected edge or other fall hazard. This is accomplished by limiting the length of the connector. Restraint is comprised of three basic components:
    - Anchor point: Certified (evaluated by a qualified

person) two times the foreseeable force; Non-certified (selected by a competent person) tested to 1000-lb. load
    - Body wear: Full-body harness and/or belt
    - Connecting device: Fixed-length lanyard
3. Personal Fall Arrest System (PFAS): Devices used to help safely absorb the energy produced in a fall event. Applies to any free fall from an elevated position of four feet or more in general industry or six feet or more in construction. A PFAS is comprised of three basic components:
    - Anchor point: Certified (evaluated by a qualified person) two times the maximum arresting force (1800 lb.); Non-certified (selected by a competent person) tested to 5000-lb. load
    - Body wear: Full-body harness only
    - Connecting device: Shock-absorbing lanyard or SRL

Harnesses and Belts

Full-body harnesses wrap around the waist, shoulders, and legs (see Figures A, B and C). A D-ring located in the center of the back between the shoulder blades when properly adjusted is the fall arrest connection point. In the event of a fall, a full-body harness distributes the force of the impact throughout the trunk of the body, not just in the abdominal area. This allows the pelvis and shoulders to help absorb the shock, reducing the impact to the abdominal area. Full-body harnesses come with optional side, front and shoulder D-rings. Side and front D-rings are connection points used for work positioning only. Shoulder D-rings are for retrieval from confined spaces.

Three factors determine the arresting force from a fall: lanyard material type, free fall distance and the weight of the worker. The use of a shock-absorbing lanyard or a higher tie-off point can help reduce the impact force.

Body belts with a D-ring located on the rear waist are for travel restraint and hip D-rings are for positioning applications.

Connection Devices

Connection devices attach the belt or harness to the tie-off point. This can be one device, such as a shock-absorbing lanyard, positioning and restraint lanyards, self-retracting lifelines (SRLs), leading-edge SRLs or a combination of devices that include items such as work lines, rope grabs, tie-off straps, and carabiners.

Shock-absorbing lanyards can be used both to restrain workers in position and to arrest falls. When using a restraint lanyard, the length should be kept as short as possible and never used for any vertical free fall hazard application. Restraint lanyards are available in a variety of materials, including steel cables, nylon rope, nylon webbing and polyester webbing. Shock-absorbing lanyards (see Figures A and C) can be made of steel, nylon rope, nylon webbing or Dacron webbing.

All shock-absorbing lanyards incorporate a “shock pack” that will deploy to absorb the energy produced during a fall event. The “shock pack” must reduce the potential fall arrest force to less than 1800 lbs. Use of a shock-absorbing lanyard is recommended because it typically limits the arresting force from a six-foot drop to less than 900 lbs. A shock-absorbing lanyard used for a fall is limited to allow a maximum six-foot free fall. For this reason, most lanyards are a maximum of six feet long. However, if a higher tie-off point is used, the shock-absorbing lanyard can be longer as long as the free fall distance does not exceed six feet.

Lifelines add versatility to the fall arrest system. When used in conjunction with rope grabs (see Figure C), a lifeline allows the worker to move along the length of the line rather than having to disconnect and re-connect to a new tie-off point. The rope grab is engineered to help arrest a fall instantly. A rope grab and lifeline system is a passive form of protection, allowing the user to move as long as tension is slack on the lifeline. If a fall occurs, the tension on the rope grab triggers the internal mechanism to arrest the fall. An SRL (see Figure B) automatically retracts any slack line between the worker and the tie-off point.

While this type of line doesn't require a rope grab, it must be kept directly above the worker to help eliminate any potential swing hazard if the worker falls.

A cross-arm strap (see Figure A) is used at a tie-off point with a large diameter, such as an I-beam. The cross-arm strap then provides the anchor to which a shock-absorbing lanyard, restraint lanyard or SRL can directly attach. Using a cross-arm strap helps ensure the lanyards and/or lifelines do not become abraded or twisted from wrapping around the I-beam. A carabiner (see Figure D) works in the same situations. It is used for tie-off points with a diameter of one to five inches, and then the lanyard is attached to the carabiner.

Tie-Off (Anchor) Points

A tie-off point (see Figures A, B, C and D) is where the shock-absorbing lanyard or SRL is attached to a structural support. When shock-absorbing lanyards or an SRL are being used, ensuring that the anchor point is at or above the D-ring point of the harness will minimize the free fall distance. This also helps ensure that the shock-absorbing lanyard or SRL doesn't interfere with personal movement. Workers must also tie off in a manner that ensures no lower level will be struck during a fall. To calculate this when using a shock-absorbing lanyard, add the height of the worker, the shock-absorbing lanyard length, the stated elongation distance listed on the device and a safety factor of three feet. To calculate when using a SRL, add the height of the worker, the maximum free fall distance of two feet, the maximum deceleration distance of three and one-half feet, and a safety factor of three feet. The sum of these distances should not be greater than the distance measured from the work surface the worker is standing on to the next level or object below that any part of their body could strike if they fell.

Other Devices

For confined space applications, a tripod and winch system is used as both the tie-off point and connection device. It is used in

conjunction with a full-body harness to lower and raise workers into tanks or manholes. Make sure that the tripod system you choose is designed for your application. Never use a material handling device for personnel use unless it is specifically designed to do so.

Ladder lifeline systems protect workers wearing personal fall protection equipment from falls when climbing fixed ladders. The systems consist of a cable or channel, with a grabbing device attached for a connection point.

1. Tie-off point
2. Lifeline
3. Rope grab
4. Shock-absorbing lanyard
5. Cross-arm strap
6. Retractable lifeline
7. Full-body harness
8. Restraining belt
9. Restraining lanyard
10. Carabiner



Figure B

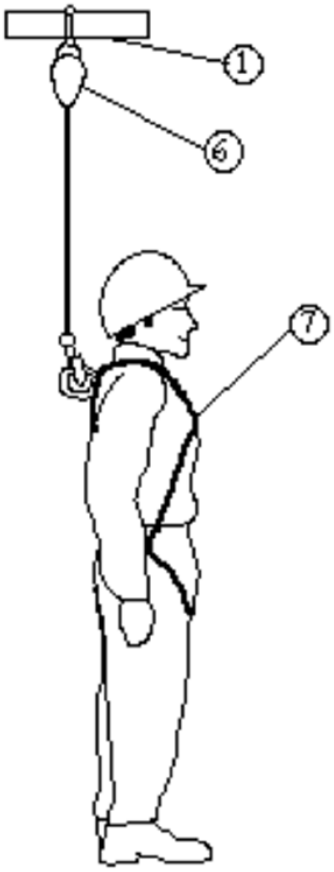


Figure C

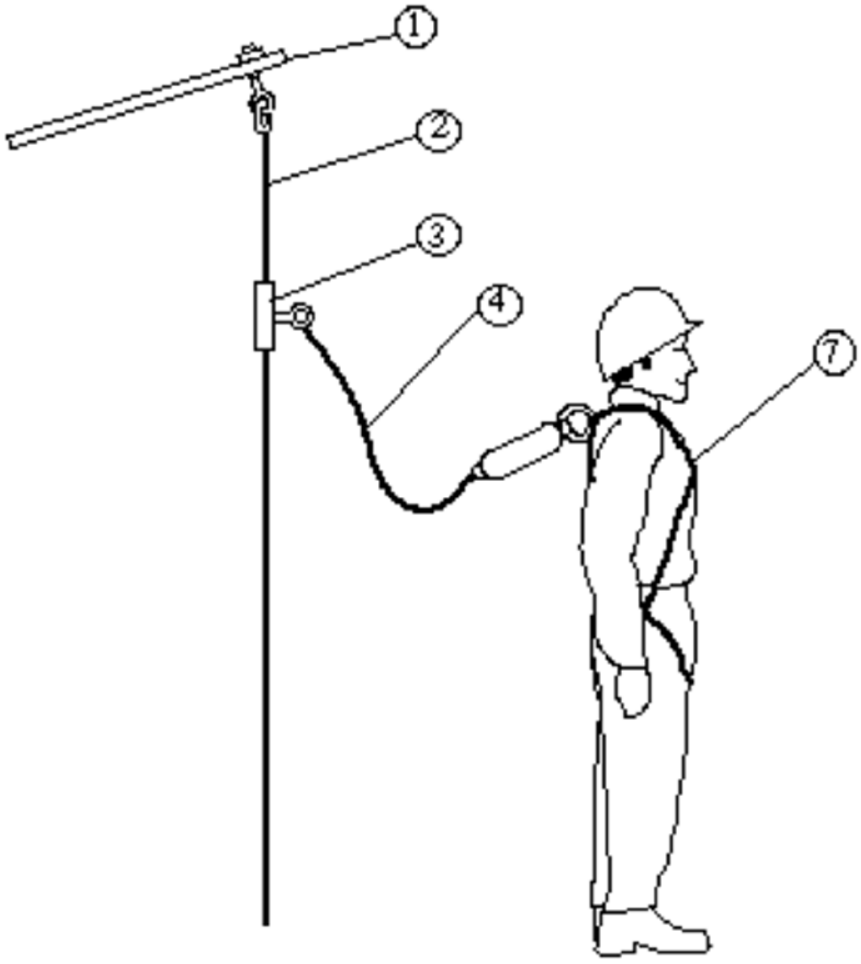
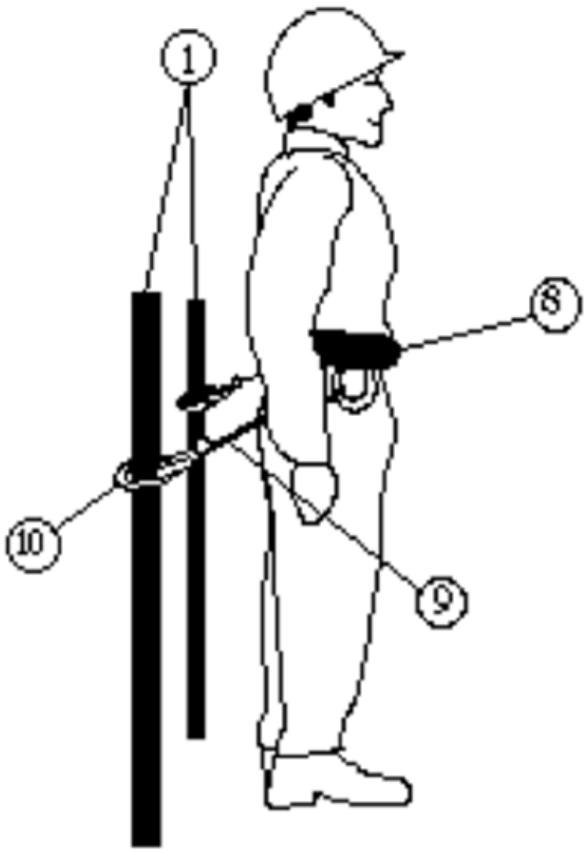


Figure D



Fall Rescue

Any fall rescue program should be as safe as possible and must take as little time as possible to bring a fallen worker to safety. When a fall occurs, any number of factors can create challenges to the effective rescue of the victim. Weather conditions, physical obstacles and the condition of the victim can consume time and create hindrances for rescue personnel.

All rescue plans should be regularly reviewed to ensure the procedures are manageable and realistic in their time estimates. Employers should act in their own best interests by implementing the safest and quickest rescue plan and by practicing procedures to maximize preparation for a real emergency.
OSHA recommends these general rescue plan guidelines:

- Rescue suspended workers as quickly as possible
- Be aware of the potentially life-threatening risks of orthostatic intolerance and suspension trauma
- Be aware of signs and symptoms of orthostatic intolerance
- Be aware that suspended workers who are unconscious or have

head injuries are particularly at risk for orthostatic intolerance
- Be aware of the factors that can increase the risk of suspension trauma
- Be aware that some authorities advise against moving the rescued workers to a horizontal position too quickly

Visit OSHA for more information on the OSHA bulletin on orthostatic intolerance and rescue.

To help alleviate the potential for orthostatic intolerance for a conscious suspended worker, the use of trauma straps can provide comfort and relieve pressure, which improves blood circulation until rescuers arrive. Straps are designed to work with most brands of harnesses; adding a second device provides better support and balance for the fallen worker.

Inspection and Maintenance

OSHA regulations require that all personal fall protection systems be inspected before initial use during each work shift for mildew, wear, damage, other deterioration, and defective components. To properly maintain the devices, periodic cleaning is necessary. All surfaces should be cleaned with a mild detergent soap, and air dried away from excess heat. ANSI/ASSP Z359.11-2021 suggests at a minimum to comply with all manufacturer instructions regarding the inspection, maintenance, and storage of the fall protection equipment.

IMPORTANT NOTE: ANY EQUIPMENT EXPOSED TO A FALL MUST BE TAKEN OUT OF SERVICE AND NOT USED.

Sources

29 CFR 1910 Subpart D, Walking-Working Surfaces
29 CFR 1910 Subpart F, Powered Platforms, Manlifts, and Vehicle-Mounted Platforms
29 CFR 1926 Subpart E, Personal Protective and Life Saving Equipment
29 CFR 1926 Subpart L, Scaffolds

29 CFR 1926 Subpart M, Fall Protection
29 CFR 1926 Subpart R, Steel Erection
29 CFR 1926 Subpart X, Stairways and Ladders
ANSI/ASSP A10 Construction and Demolition Standards
ANSP/ASSP Z359 Fall Protection Code
ANSI/ASSP Z359.11-2021 Safety Requirements for Full-Body Harnesses
Bureau of Labor Statistics Census of Fatal Occupational Injuries, Fatal Occupational Injuries by Event, 2019
Bureau of Labor Statistics Employer-Reported Workplace Injury and Illnesses, 2019
Quick Tips #192: Hazard Assessment Form

Frequently Asked Questions

Q: Fall protection is required whenever employees are working over dangerous equipment/machinery at any height. Does OSHA define "dangerous equipment"?

A: Yes, OSHA defines "dangerous equipment" as "equipment, such as vats, tanks, electrical equipment, machinery, equipment or machinery with protruding parts, or other similar units, that, because of their function or form, may harm an employee who falls into or onto the equipment."

Q: Must fall protection harnesses be taken out of service after a specified amount of time – five years?

A: No – general guidelines from OSHA, ANSI/ASSP and most manufacturers state fall protection equipment does not have a specified shelf-life or life expectancy. The reference to five years comes from an older ANSI/ASSP A10 standard. ANSI/ASSP A10 addresses construction and demolition and one of the requirement listed in an older A10 standard was that unless the manufacturer specifies otherwise, harnesses should be removed from service after five years. ANSI/ASSP Z359 Fall Protection Code which applies to both general industry and construction does not include that language.

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Source: Grainger Know How – https://www.grainger.com/know-how

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Construction Fall Protection Subpart M – Quick Tips

Here are the relevant guidelines and requirements for construction fall protection:

The following list of questions and associated regulations provide guidance on common safety issues related to 29 CFR 1926.501 to 1926.503. While it by no means covers every area of fall protection in construction, it does highlight some of the more common safety issues and provides a basic understanding of these requirements.

Question: Do walking and working surfaces have the strength and structural integrity to support people safely?

Regulation: 29 CFR 1926.501(a)(2)

Question: Are employees prohibited from working or walking on surfaces that are not designed to support them safely?

Regulation: 29 CFR 1926.501(a)(2)

Question: Do guardrail systems, safety net systems or personal fall arrest systems protect employees when they work on

unprotected sides and edges of walking and working surfaces that are six feet or more above a lower level?

Note: Exceptions are permitted if these systems are infeasible or create a greater hazard. However, a fall protection plan must still be developed and implemented.

Regulation: 29 CFR 1926.501(b)(1)

Question: Do guardrail systems, safety net systems or personal fall arrest systems protect employees during construction of leading edges six feet or more above lower levels?

Regulation: 29 CFR 1926.501(b)(2)(i)

Question: Do guardrail systems or personal fall arrest systems protect workers in a hoist area from falling six feet or more to lower levels?

Regulation: 29 CFR 1926.501(b)(3)

Question: Does a personal fall arrest system protect employees if guardrail systems are removed for hoisting operations, requiring employees to lean through the access opening or out over the edge of the access opening (e.g., to receive or guide equipment and materials)?

Regulation: 29 CFR 1926.501(b)(3)

Question: Do personal fall arrest systems, covers, or guardrail systems erected around holes protect employees on walking and working surfaces more than six feet above lower levels from falling through holes (including skylights)?

Regulation: 29 CFR 1926.501(b)(4)(i)

Question: Do covers protect employees on a walking and working surface from tripping in or stepping into holes (including skylights)?

Regulation: 29 CFR 1926.501(b)(4)(ii)

Question: Do covers protect employees on a walking and working

surface from objects falling through holes (including skylights)?

Regulation: 29 CFR 1926.501(b)(4)(iii)

Question: Do guardrail systems, safety net systems or positioning device systems protect employees on the face of framework or reinforcing steel more than six feet above lower levels from falling?

Regulation: 29 CFR 1926.501(b)(5)

Question: Do guardrail systems, fences or barricades protect employees at the edge of an excavation six feet or more in depth from falling when the excavations are not readily seen because of plant growth or other visual barrier?

Regulation: 29 CFR 1926.501(b)(7)(i)

Question: Do guardrail systems, fences, barricades or covers protect employees at the edge of a well, pit, shaft or similar excavation six feet or more in depth from falling?

Regulation: 29 CFR 1926.501(b)(7)(ii)

Question: Do guardrail systems or equipment guards protect employees from falling from less than six feet onto dangerous equipment?

Regulation: 29 CFR 1926.501(b)(8)(i)

Question: Do guardrail systems, personal fall arrest systems or safety net systems protect employees six feet or more above dangerous equipment from fall hazards?

Regulation: 29 CFR 1926.501(b)(8)(ii)

Question: Do guardrail systems, safety net systems, personal fall arrest systems or controlled access zones protect employees performing overhand bricklaying and related work six feet or more above lower levels from falling?

Regulation: 29 CFR 1926.501(b)(9)

Question: Does a guardrail system, safety net system or personal fall arrest system protect employees performing overhand bricklaying and related work when reaching more than 10 inches below the level of the walking/working surface from falling?

Note: Bricklaying operations performed on scaffolds are regulated by Subpart L – Scaffolds

Regulation: 29 CFR 1926.501(b)(9)(i)

Question: Are employees engaged in roofing activities on low-slope roofs with unprotected sides and edges six feet or more above lower levels protected from falling by guardrail systems, safety net systems, personal fall arrest systems, or a combination of a warning line system and guardrail system, warning line system and safety net system or warning line system and personal fall arrest system, or warning line system and safety monitoring system?

On roofs 50 feet or less in width, the use of a safety monitoring system alone is permitted.

Regulation: 29 CFR 1926.501(b)(10)

Question: Do guardrail systems with toe boards, safety net systems or personal fall arrest systems protect employees on steep roofs with unprotected sides and edges six feet or more above lower levels from falling?

Regulation: 29 CFR 1926.501(b)(11)

Question: Are employees engaged in the erection of precast concrete members and related operations six feet or more above lower levels protected from falling by guardrail systems, safety net systems or personal fall arrest systems?

Note: Exceptions are permitted if these systems are infeasible or create a greater hazard. However, a fall protection plan must still be developed and implemented.

Regulation: 29 CFR 1926.501(b)(12)

Question: Are employees engaged in residential construction

activities six feet or more above lower levels protected from falling by guardrail systems, safety net systems or personal fall arrest systems?

Note: Exceptions are permitted if these systems are infeasible or create a greater hazard. However, a fall protection plan must still be developed and implemented.

Regulation: CFR 1926.501(b)(13)

Question: Are employees protected from falling by a guardrail system, a safety net system or a personal fall arrest system if they are working on, at, above or near wall openings (including those with chutes attached) where (a) the outside bottom edge of the wall opening is six feet or more above lower levels and (b) the inside bottom edge of the wall opening is less than 39 inches above the walking and working surface?

Regulation: 29 CFR 1926.501(b)(14)

Question: Are employees on a walking/working surface not otherwise addressed six feet or more above lower levels protected from falling by a guardrail system, safety net system or personal fall arrest system?

Regulation: 29 CFR 1926.501(b)(15)

Question: When an employee is exposed to falling objects, are they required to wear a hard hat?

Regulation: 29 CFR 1926.501(c)

Question: When an employee is exposed to falling objects, is one of the following measures implemented?

Erect toe boards, screens or guardrail systems to prevent objects from falling from higher levels.

Erect a canopy structure and keep potential fall objects far enough away from the edge of the higher level so that those objects would not go over the edge if they were displaced.

Barricade the area to which objects could fall, prohibit employees and students from entering the barricaded area, and keep objects that may fall far enough away from the edge of a higher level so that those objects would not go over the edge if they were displaced

Regulation: 29 CFR 1926.501(c)

Question: Has a training program been provided to everyone who might be exposed to fall hazards?

Note: The training program must enable each employee to recognize the hazards of falling and know the procedures for minimizing these hazards

Regulation: 29 CFR 1926.503(a)(1)

Question: Is the training program conducted by a competent person?

Regulation: 29 CFR 1926.503(a)(2)

Question: Have individual certification records been prepared that contain the name or other identity of the person trained, the date(s) of the training and the signature of the employer or person who conducted the training?

Regulation: 29 CFR 1926.503(b)(1)

Question: Is the latest training certification for all persons trained available for inspection?

Regulation: 29 CFR 1926.503(b)(2)

Question: Is retraining conducted if a person can no longer recognize the hazards of falling or follow the proper procedures?

Regulation: 29 CFR 1926.503(c)

Question: Is retraining conducted when changes in the workplace render previous training obsolete?

Regulation: 29 CFR 1926.503(c)(1)

Question: Is retraining conducted when changes in the types of fall protection systems or equipment render previous training obsolete?

Regulation: 29 CFR 1926.503(c)(2)

Question: Is retraining conducted if a person cannot use fall protection systems or equipment or has not retained the requisite understanding or skill?

Regulation: 29 CFR 1926.503(c)(3)

FALL RESCUE

All fall rescue programs should be as safe as possible and take as little time as possible to bring a fallen worker to safety. When a fall occurs, any number of factors can create challenges to the effective rescue of the victim. Weather conditions, physical obstacles and the condition of the victim can consume time and create hindrances for rescue personnel.

All rescue plans should be regularly reviewed to ensure that the procedures are manageable and realistic in their time estimates. Employers act in their own best interests by implementing the safest and quickest rescue plan and by practicing procedures to maximize preparation for a real emergency.

OSHA RECOMMENDS THESE GENERAL GUIDELINES:

- Rescue suspended workers as quickly as possible
- Be aware of the potentially life threatening risks of orthostatic intolerance and suspension trauma
- Be aware of signs and symptoms of orthostatic intolerance
- Be aware that suspended workers who are unconscious or have head injuries are particularly at risk for orthostatic intolerance
- Be aware of the factors that can increase the risk of suspension trauma
- Be aware that some authorities advise against moving the rescued workers to a horizontal position too quickly

For more information on the suspension trauma and orthostatic intolerance, see After the Fall Event – Preventing Suspension Trauma.

OTHER CONSTRUCTION STANDARDS RELATED TO FALL PROTECTION

29 CFR 1926.104 SAFETY BELTS, LIFELINES AND LANYARDS

(a) Lifelines, lanyard and safety harnesses must only be used for employee safeguarding. Any of these products that are subject to in-service loading must be immediately removed from service and not be reused again.

(b) Lifelines must be secured above the point of operation to an anchorage capable of supporting a minimum dead weight of 5400 pounds.

(c) Lifelines used on rock-scaling operations, or in areas where the lifeline may be subjected to cutting or abrasion, must be a minimum of 7/8-inch wire core manila rope. For all other lifeline applications, a minimum of 3/4-inch manila or equivalent, with a minimum breaking strength of 5400 pounds, must be used.

(d) Safety belt lanyards must be a minimum 1/2-inch nylon rope or equivalent with a maximum length to allow the user to fall not more than six feet and have a nominal breaking strength of 5400 pounds.

29 CFR 1926.105 SAFETY NETS

(a) Safety nets must be provided when workplaces are higher than 25 feet above ground or water surfaces or other surfaces where the use of ladders, scaffolds, catch platforms, temporary floors, safety lines or safety belts is impractical.

(c)(1) Nets must extend eight feet beyond the edge of the work surface where employees are exposed and must be installed as close under the work surface as practical but in no case more than 25 feet below the work surface. Nets must be hung with sufficient

clearance to prevent user's contact with the surfaces or structures below. Such clearances must be determined by impact load testing.

(d) The mesh size of nets shall not exceed six inches by six inches. All new nets must meet accepted performance standards of 17,500 foot-pounds minimum impact resistance as determined and certified by the manufacturers, and must bear a label of proof test. Edge ropes must provide a minimum breaking strength of 5000 pounds.

DEFINITIONS PERTAINING TO THIS SECTION:

Lanyard means a rope, suitable for supporting one person. One end is fastened to a safety belt or harness and the other end is secured to a substantial object or a safety line.

Lifeline means a rope, suitable for supporting one person, to which a lanyard or safety belt (or harness) is attached.

Safety belt means a device, usually worn around the waist which, by reason of its attachment to a lanyard and lifeline or a structure, will help prevent a worker from falling. Body belts are to be used for restraint and positioning only, not as part of a personal fall arrest system. A worker who uses a body belt as part of a personal fall arrest system is exposed to potentially falling out of the belt, serious internal injuries and asphyxiation through prolonged suspension.

COMMONLY ASKED QUESTION

Q: What is a "competent person"?

A: The term "competent person" is used in many OSHA standards and documents. According to the 1926 construction standard, an OSHA "competent person" is defined as "one who is capable of identifying existing and predictable hazards in the surroundings or working conditions which are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them" [29 CFR 1926.32(f)]. By way of training and/or experience, a competent person is knowledgeable

of applicable standards, is capable of identifying workplace hazards relating to the specific operation, and has the authority to correct them.

SOURCE

29 CFR 1926.501 Subpart M

RELATED ARTICLES

After the Fall Event – Preventing Suspension Trauma
Fall Protection for Aerial Work Platforms
Fall Protection Equipment
OSHA Scaffolding Requirements

(Rev. 9/2015)

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Source: Grainger Know How – https://www.grainger.com/know-how

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Portable Fire Extinguishers – Quick Tips

Almost all fires are small in their incipient stage and can be put out quickly if the proper firefighting equipment is available and the person discovering the fire has been properly trained. Most

employers turn to portable fire extinguishers for fighting incipient stage fires.

The requirements for portable fire extinguishers in general industry are governed by OSHA and are located in 29 Code of Federal Regulations (CFR) 1910.157. The intent is to minimize employee exposure to hazardous situations involving fire and to provide for fire protection equipment and services for the safe evacuation or rescue of employees. Additionally, the National Fire Protection Association (NFPA) Standard for Portable Fire Extinguishers, NFPA 10, offers supplementary guidance.

To be effective, according to OSHA, portable fire extinguishers must be:

- Approved by a recognized testing laboratory – extinguishers manufactured in the U.S. are generally approved by FM Global and listed by Underwriters' Laboratories, Inc. (UL).
- The proper type for the class of fire expected. (Portable fire extinguisher types are described in UL guidelines and NFPA 10.)
- Located where they are readily accessible for immediate use and in sufficient quantity and size to deal with the expected class of fire
- Kept in good operating condition and inspected and maintained on a regular basis
- Operated by trained personnel

Scope and Application

This standard addresses the placement, use, maintenance and testing of portable fire extinguishers provided for employee use. Where extinguishers are provided but are not intended for employee use, and the employer has an emergency action plan (29 CFR 1910.38) and a fire prevention plan (29 CFR 1910.39), then only the inspection, maintenance and testing requirements are applicable.

Employers having an emergency action plan which designates certain employees to be the only employees authorized to use the available

portable fire extinguishers, and which requires all other employees in the fire area to immediately evacuate the affected work area upon the sounding of the fire alarm, are exempt from the distribution requirements of the standard. When extinguishers are not available, employers who have established and implemented a written fire safety policy which requires the immediate and total evacuation of employees from the workplace upon the sounding of a fire alarm signal are exempt from all requirements.

Understanding Different Kinds of Fire and How Fire Extinguishers Put Them Out

The fire triangle is a simple model for understanding the necessary ingredients for most fires – heat, fuel and an oxidizing agent. A fire can be prevented or extinguished by removing any one of the fire triangle elements.

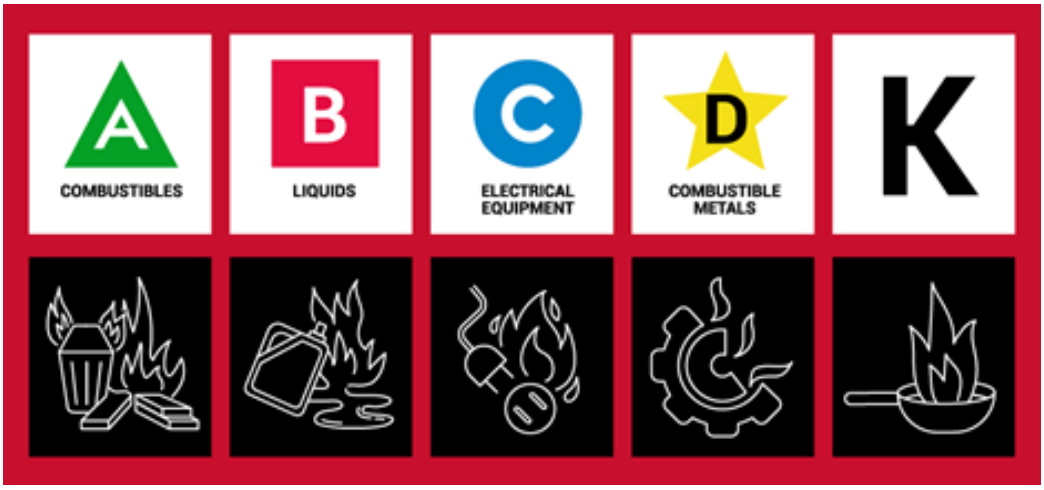


What Are the Types of Portable Fire Extinguisher?

Different types of fire extinguishers are designed to fight different types of fire. The three most common types of fire extinguishers are air-pressurized water, carbon dioxide (CO_2), and dry chemical.

- Water is one of the most commonly used extinguishing agents for ordinary combustibles. Air-pressurized water extinguishers are filled approximately two-thirds with water, then pressurized with air. In some cases, detergents are added to produce a foam. Air-pressurized water extinguishers extinguish fire by cooling the surface of the fuel to remove the "heat" element of the fire triangle. Never use water to extinguish flammable liquid or electrical fires.
- CO_2 extinguishers are filled with CO_2, a non-flammable gas under pressure. These extinguishers put out fires by displacing the oxygen, and, because of the high pressure, they also have a cooling effect on fires. CO_2 extinguishers are designed for flammable liquid and electrical fires only.
- Dry chemical extinguishers put out fires by coating the fuel with a thin layer of fire retardant powder, separating the fuel from the oxygen.

UL and NFPA 10 classify fire extinguishers by the type of fire that they will extinguish.



Class A fire extinguishers are used for ordinary combustibles such as wood, paper, some plastics and textiles. This fire class requires the heat-absorbing effects of water or the coating effects of certain dry chemicals. According to NFPA, extinguishers suitable for Class A fires should be identified by a triangle containing the letter "A." If in color, the triangle should be green.

Class B fire extinguishers are used for flammable liquid and gas fires such as oil, gasoline, etc. These fire extinguishers deprive the fire of oxygen and interrupt the fire chain by inhibiting the release of combustible vapors. According to NFPA, extinguishers suitable for Class B fires should be identified by a square containing the letter “B.” If in color, the square should be red.

Class C fire extinguishers are used on fires that involve live electrical equipment that require the use of electrically nonconductive extinguishing agents. Once the electrical equipment is de-energized, extinguishers for Class A or B fires may be used. According to NFPA, extinguishers suitable for Class C fires should be identified by a circle containing the letter “C.” If in color, the circle should be blue.

Class D fire extinguishers are used on combustible metals such as magnesium, titanium, sodium, etc., which require an extinguishing medium that does not react with the burning metal. According to NFPA, extinguishers suitable for Class D fires should be identified by a five-point painted star containing the letter “D.” If in color, the star should be yellow.

Class K fire extinguishers are used on fires involving cooking media (fats, grease and oils) in commercial kitchens. Due to the higher heating rates of vegetable oils in commercial cooking appliances, the NFPA Standard for Portable Fire Extinguishers (NFPA 10) includes a Class K extinguisher. These fire extinguishers work on the principle of saponification, which takes place when alkaline mixtures such as potassium acetate, potassium citrate or potassium carbonate are applied to burning cooking oil or fat. The alkaline mixture combined with the fatty acid creates a soapy foam on the surface that holds in the vapors and steam and extinguishes the fire. These extinguishers are identified by the letter “K.”

Portable Fire Extinguisher Marking

NFPA 10 provides recommended markings for portable fire extinguishers so users can quickly identify the classes of fire on which the extinguisher will be effective. The marking system

combines pictographs of both recommended and unacceptable extinguisher types on a single identification label. Extinguisher markings from Annex B of NFPA 10 are shown below.

A Trash•Wood•Paper



B Liquids



C Electrical Equip.



For Class A Types

A Trash•Wood•Paper



B Liquids



C Electrical Equip.



For Class A, B Types

A Trash•Wood•Paper



C Electrical Equip.



For Class A, C Types

B Liquids



C Electrical Equip.



For Class B, C Types

A Trash•Wood•Paper



B Liquids



C Electrical Equip.



For Class A, B, C Types

K Cooking Media



For Class K Types

A Trash•Wood•Paper



K Cooking Media



For Class A, K Types

D Metals



For Class D Types

Fire Extinguisher Ratings

Located on the fire extinguisher label is the UL rating, which is broken down into Class A and Class B:C numerical ratings. These numerical ratings allow users to compare the relative extinguishing effectiveness of various fire extinguishers. For example, an extinguisher that is rated 4A:20B:C indicates the following:

- The A rating is a water equivalency rating. Each A is equivalent to 1.25 gallons of water; 4A = 5 gallons of water.
- The B:C rating is equivalent to the amount of square footage the extinguisher can cover, related to the degree of training and experience of the operator; 20 B:C = 20 square feet of coverage.
- C indicates it is suitable for use on electrically energized equipment.

Note that there is not a numerical rating for Class C or Class D fires. Class C fires are essentially either a Class A or Class B fire involving energized electrical equipment where the fire extinguishing media must be nonconductive. The fire extinguisher for a Class C fire should be based on the amount of the Class A or Class B component. For extinguisher use on a Class D fire, the relative effectiveness is detailed on the extinguisher nameplate for the specific combustible metal fire for which it is suggested.

Where Should a Fire Extinguisher Be Located?

OSHA requires employers to select and distribute fire extinguishers based on the classes of anticipated workplace fires and also on the size and degree of the hazard, which would affect their use. The following chart contains the OSHA-specified maximum travel distances to an extinguisher by fire class.

Fire Class	Travel Distance
Class A	75 feet
Class B	50 feet
Class C	Based on appropriate A or B Hazard
Class D	75 feet

According to NFPA 10, the travel distance to a Class K fire extinguisher must not exceed 30 feet.

What Kind of Fire Extinguisher Training Is Required?

One of the most commonly asked questions is whether or not "hands on" training is required for fire extinguishers. The answer is that it depends.

For employers who write into their emergency action plan and fire prevention plan (covered in 29 CFR 1910.38 and 29 CFR 1910.39, respectively) that all employees will immediately evacuate the building in case of a fire and that no one will use an extinguisher, neither education nor training is required in portable fire extinguisher use.

Unless employers have communicated differently, the assumption is that any employee can pick up an extinguisher in their area to put out a fire. 29 CFR 1910.157(g)(1) states, "Where the employer has provided portable fire extinguishers for employee use in the workplace, the employer shall also provide an educational program to familiarize employees with the general principles of fire extinguisher use and the hazards involved with incipient stage fire-fighting." The standard goes on to explain in paragraph (g)(2) that the "education" required in paragraph (g)(1) "must be provided to employees upon initial employment and at least annually thereafter." "Education" is defined by Subpart L

1910.155(c)(14) as “the process of imparting knowledge or skill through systematic instruction. It does not require formal classroom instruction.”

If some or all employees are designated to use portable fire extinguishers, then it’s a different story: 29 CFR 1910.157(g)(3) states that “the employer shall provide employees who have been designated to use fire-fighting equipment as part of an emergency action plan with training in the use of the appropriate equipment.” In 29 CFR Subpart L at 1910.155(c)(41), “training” means “the process of making proficient through instruction and hands-on practice in the operation of equipment.” Paragraph (g)(4) states that this training must be provided upon initial assignment and at least annually thereafter.

Maintenance, Inspection and Testing

Employers must inspect, maintain and test all portable fire extinguishers in accordance with 29 CFR 1910.157(e) and (f).

How Do You Inspect a Fire Extinguisher? OSHA Regulations for Visual Inspection

Portable fire extinguishers must be visually inspected monthly per 29 CFR 1910.157(e)(2). This helps ensure that:

- The extinguishers are in their assigned location
- No damage has occurred
- No obstructions are blocking the extinguishers from view or easy access
- Extinguishers are fully charged and operational
- Pressure gauges show adequate pressure
- Pin and seals are in place
- Nozzles are free of blockage

Fire Extinguisher Maintenance Requirements

The maintenance requirements depend on the type of portable fire extinguisher:

- Stored pressure or dry chemical type extinguishers do not require an internal examination
- Water or steam type fire extinguishers should be discharged, disassembled and inspected annually (NFPA 10, 4-4.1.1)
- Dry chemical extinguishers that require a 12-year hydrostatic test are required to be emptied and subjected to applicable maintenance procedures every six years.
- Non-refillable, disposable dry chemical extinguishers are exempt from this requirement (29 CFR 1910.157(e)(4))

For additional fire extinguisher maintenance, follow the manufacturers' suggested maintenance procedure.

Hydrostatic Fire Extinguisher Testing

Hydrostatic testing of portable fire extinguishers is done to help protect against unexpected in-service failure. This can be caused by internal corrosion, external corrosion and damage from abuse, etc. Hydrostatic testing must be performed by trained personnel with proper test equipment and facilities. OSHA requires hydrostatic testing according to the following schedule:

Type of Extinguisher	Test Interval (Years)
Soda acid (stainless steel shell)	5
Cartridge operated water and/or antifreeze	5
Stored pressure water and/or antifreeze	5
Wetting agent	5
Foam (stainless steel shell)	5
Aqueous Film Forming Foam (AFFF)	5
Loaded stream	5
Dry chemical with stainless steel	5
Carbon dioxide	5
Dry chemical, stored pressure, with mild steel, brazed brass or aluminum shells	12
Dry chemical, cartridge or cylinder operated, with mild steel shells	12
Dry powder, cartridge or cylinder operated with mild steel shells	12

For each extinguisher that is hydrostatically tested, the employer must keep a record that includes:

- The name of the person or agency who performed the last hydrostatic test, and the test date
- The signature of the person who performed the test
- The serial number or other identifier of the fire

extinguisher that was tested

This information should also be securely affixed to the tested extinguisher. These records must be kept until the extinguisher is hydrostatically re-tested or until the extinguisher is taken out of service, whichever comes first.

Commonly Asked Questions

Q: What is Halotron?

A: Halotron is a “clean agent” hydrochlorofluorocarbon (HCFC) discharged as a rapidly evaporating liquid that leaves no residue. It is intended for use in areas formerly protected by Halon portable extinguishers. Typical applications are in computer rooms, telecommunications facilities, cleanrooms, data storage areas and offices to help protect sensitive electronic equipment.

Q: What is a “recharge”?

A: A recharge is when a fire extinguisher needs to be refilled because it has been used or has lost pressure. You can tell if the unit needs to be recharged by the gauge on the fire extinguisher. On a fully charged fire extinguisher, the arrow should be pointing to 12 o’clock. If the gauge is in the red and says “recharge,” it can and needs to be recharged. If the gauge is in the red and reads “dispose of after use,” the fire extinguisher cannot be recharged and needs to be disposed of and a new fire extinguisher needs to be purchased. Carbon dioxide (CO2) extinguishers must be weighed to determine if leakage has occurred.

Sources

29 CFR 1910.157, Portable Fire Extinguishers

29 CFR 1910.38, Emergency Action Plans

29 CFR 1910.39, Fire Prevention Plans

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The information contained in this article is intended for general information purposes only and is based on information available as of the initial date of publication. No representation is made that the information or references are complete or remain current. This article is not a substitute for review of current applicable government regulations, industry standards, or other standards specific to your business and/or activities and should not be construed as legal advice or opinion. Readers with specific questions should refer to the applicable standards or consult with an attorney.

Source: Grainger Know How – https://www.grainger.com/know-how

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Diet Fatality Report – Spanish

La mujer que sólo bebió refrescos durante 16 años

Como es bien sabido, los refrescos ricos en azúcar pueden infligir un daño horrible al cuerpo humano. Al fin y al cabo, una sola lata de 12 onzas de Coca-Cola contiene el equivalente aproximado de dos vasos de refresco llenos de azúcar puro y granulado. Por eso es sorprendente que una mujer de 31 años de Mónaco afirme haber consumido sólo refrescos durante 16 años seguidos. Ni agua, ni zumo, ni té, sólo refrescos con alto contenido en fructosa y jarabe de maíz. Los médicos lo descubrieron cuando se desmayó debido a unos niveles de potasio peligrosamente bajos. Según los expertos en salud, un exceso de refresco de cola puede provocar la

entrada de un exceso de agua en los intestinos, lo que significa que estaba condenada a padecer una diarrea persistente. Sus niveles de potasio -así como su ritmo cardíaco irregular- se estabilizaron un poco después de abstenerse de tomar refrescos durante una semana y obligarse a beber sólo agua.

Diet – Picture This – Spanish



¿Qué hay de malo en esta foto? Hay un oficinista comiendo pizza mientras trabaja en su ordenador, esto no es un alimento saludable y no debería comer mientras trabaja. Para muchos de nosotros la oficina se ha convertido en nuestro comedor, y al menos un tercio de nuestras calorías diarias se consumen mientras trabajamos. El problema es que la mayor parte no es lo que los nutricionistas describirían como una comida sana y equilibrada.

Según un estudio, si uno tiende a guardar las guardias de los alimentos poco saludables en el lugar de trabajo, puede tener un mayor riesgo de padecer diabetes y enfermedades cardiovasculares, en comparación con los que comen alimentos saludables.

Los empleados que compraban los alimentos menos saludables en la cafetería tenían más probabilidades de llevar una dieta poco saludable fuera del trabajo, tener sobrepeso y/o ser obesos, en

comparación con los empleados que hacían elecciones más saludables.

El profesor Carl Cederström, coautor del libro de 2014 El síndrome del bienestar, sostiene que los programas de bienestar y alimentación saludable en el lugar de trabajo pueden difuminar la línea que separa la vida y el trabajo.

Diet Fatality Report

The woman who drank only soda for 16 years.

As is generally well understood, sugar-rich soda can inflict horrible harm on the human body. After all, a single 12 oz. can of Coca-Cola contains the rough equivalent of two shot glasses full of pure, granulated sugar. Which is why it’s mind boggling that a 31-year-old woman from Monaco claims to have consumed only soda for 16 years straight. No water, juice, or tea—just high-fructose corn-syrup fizz. Doctors found this out when she fainted due to dangerously low potassium levels. According to health experts, too much cola can cause excess water to enter the bowels, meaning she was essentially cursed with persistent diarrhea. Her potassium levels—as well as an irregular heartbeat—stabilized a bit after she abstained from soda for a week and was forced to drink only water.

Diet – Picture This



What’s wrong in this picture? There is an office worker eating pizza while working on his computer, this is not a healthy food and he should not eat while he works. For many of us the office has become our dining room, with at least one-third of our daily calories consumed while at work. The problem is that most of it is not what nutritionists would describe as a healthy, balanced meal.

If you tend to keep guards on unhealthy foods down at workplace, you may be at an increased risk of diabetes and cardiovascular diseases, compared with those who eat healthy food, says a study.

Employees who purchased the least healthy food in the cafeteria were more likely to have an unhealthy diet outside of work, be overweight and/or obese compared with employees who made healthier choices.

Professor Carl Cederström, co-author of 2014 book The Wellness Syndrome, argues that workplace wellness and healthy eating programs can blur the line between life and work.

Diet Meeting Kit – Spanish

QUÉ ESTÁ EN RIESGO

SALUD

Cómo te sientas en el trabajo tendrá un efecto importante en tu capacidad para trabajar con seguridad. Es importante asegurarse de que las cosas que elige para comer y beber le ayudan a mejorar su salud y no la perjudican.

Lo que elijas para comer tendrá un gran impacto en cómo te sientes y en tu salud en general. Recuerde que es cierto el dicho “somos lo que comemos”.

CUÁL ES EL PELIGRO

ENFERMEDAD Y DIETA

Estas dos palabras están en “sintonía”

Muchos de nosotros trabajamos en una oficina, lo que significa estar sentados frente a un ordenador de 9 a 5. La falta de movimiento durante el día ya es terrible, pero si se combina con una dieta poco saludable, las cosas pueden torcerse.

El intenso ritmo de trabajo y las largas jornadas laborales afectan negativamente a la dieta. Los hábitos alimentarios irregulares y poco saludables pueden provocar enfermedades como la obesidad, la diabetes, el colesterol alto, la hipertensión, los problemas musculoesqueléticos, las hernias discales y la osteoporosis.

Pero el mayor problema de salud en Estados Unidos son las enfermedades del corazón, la primera causa de muerte, y están estrechamente relacionadas con la dieta.

COMO PROTEGERSE

EL LUGAR DE TRABAJO Y LA DIETA

La mayoría de la gente es consciente de que lo que comemos afecta

a nuestro peso y a nuestra salud. Una dieta equilibrada y nutritiva aumenta la energía, combate la fatiga, reduce la ansiedad y el estrés, mejora el estado de ánimo y la autoestima.

SEGURIDAD Y DIETA

La dieta desempeña un papel importante en la seguridad en el trabajo. Si no te sientes bien, no trabajas al máximo de tu capacidad.

Limita los riesgos que tienes aplicando estrategias para mejorar tu dieta. Un paso fundamental es tener un plan y seguirlo religiosamente.

Estos son algunos consejos que puedes seguir religiosamente cuando se trata de tu dieta.

1. Tenga una dieta equilibrada.

Equilibrar tu dieta consiste en tener un poco de todo en la cantidad justa, o mejor en cantidades iguales. Puedes seleccionar los contenidos de tu dieta.

2. El desayuno es imprescindible

Nunca hay que saltarse el desayuno. El desayuno, es esa comida que te proporciona la mayor cantidad de energía y nutrientes para sobrevivir al día.

3. Toma un almuerzo ligero.

Tomar un almuerzo ligero es una buena manera de mantener la grasa almacenada en el cuerpo por más tiempo y en mayores cantidades, ya que básicamente estás sentado todo el día en la oficina.

4. Ya que almorzaste ligero, también debes cenar ligero.

Puedes optar por carne magra esta vez – puede ser pescado, pollo y carne de res, siempre y cuando no comas demasiado por la noche. Sólo asegúrate de llenar el espacio en tu estómago para que dure toda la noche mientras duermes.

5. Manténgase activo.

Sigue siendo vital que trates de involucrarte en actividades físicas- no importa cuán cortas, o cuán pequeñas.

CONCLUSIÓN

Aunque lo más importante para un empresario es proporcionar un lugar de trabajo seguro y saludable, también es importante fomentar estilos de vida saludables entre sus empleados. Los programas de alimentación saludable pueden ser un paso importante. Estos programas pueden reunir a mucha gente para aprender a mejorar su salud tanto en el trabajo como en casa.

Diet Stats and Facts – Spanish

HECHOS

1. Los empresarios reconocen ahora que fomentar activamente la buena salud entre sus empleados y crear un entorno de trabajo saludable tiene mucho sentido desde el punto de vista empresarial. No sólo mejora la moral y la motivación del personal, sino que también conduce a una plantilla más sana y feliz, con menos ausencias por enfermedad.
2. Estados Unidos tiene la tasa de obesidad más alta del mundo. En 2016, diez estados norteamericanos informaron de que aproximadamente el 70% de su población tenía sobrepeso u obesidad, lo que apunta a una importante crisis de salud pública.
3. Aunque existe un debate continuo sobre la causa exacta de la obesidad, el 48 por ciento de los estadounidenses cree que la causa principal de la obesidad es la mala alimentación y el ejercicio, en lugar de los factores genéticos, ambientales y sociales.
4. A pesar de que la mayoría de los estadounidenses tienen

sobrepeso u obesidad, la obesidad suele considerarse poco atractiva o un signo de pereza o mal carácter, lo que impulsa gran parte de la motivación para perder peso.

5. Los adultos que trabajan a tiempo completo pasan la mayor parte de sus horas de vigilia en su lugar de trabajo y consumen al menos un tercio de sus calorías diarias durante su jornada laboral. Por lo tanto, el lugar de trabajo desempeña un papel fundamental a la hora de apoyar y animar a los adultos a tomar decisiones alimentarias más saludables. El público cautivo del lugar de trabajo lo convierte en un entorno ideal para promover una alimentación saludable.

ESTADÍSTICAS

Probabilidades de morir de obesidad (con al menos 9 kilos de sobrepeso) debido a un estilo de vida sedentario: 1 de cada 10.767 (Consejo Americano de Ciencia y Salud)

- Según un estudio del Centro Médico de la Universidad de Duke, los trabajadores obesos presentan el doble de reclamaciones de indemnización que los no obesos.
- Los hombres obesos de entre 18 y 34 años tienen cuatro veces más probabilidades de faltar al trabajo que sus compañeros sin sobrepeso.
- Sólo el nueve por ciento de los canadienses de entre cinco y 19 años cumple las pautas de actividad física recomendadas.
- Uno de cada cinco estadounidenses (el 20% de la población) se considera obeso.
- Para gozar de una salud óptima, se recomienda realizar al menos 30 minutos de actividad física moderadamente intensa al menos cinco días a la semana.
- Más de la mitad de los canadienses se consideran inactivos.

Getting Your Management To A “Yes” For Online Safety Training

Online safety training has grown rapidly in the post-COVID world because it is a streamlined and efficient way for your organization to manage, train, and track compliance. In the US and Canada, the Occupational Safety and Health Administration (OSHA), state specific OSHA, and provincial authorities have mandatory training requirements for employers. eLearning is accepted in many cases, and it provides a simple way for companies to meet OHS regulations, in addition to also being a prevention measure against COVID-19, where group training in a classroom may expose employees.

In general, online learning is accepted as a replacement for classroom courses, while practical training must be provided in-person. Because the Internet has become necessary for doing business, and the use of video conferencing software is on the rise, which makes online safety training a viable option for almost all organizations.

From determining which training you need, to figuring out timelines, resource allocations, and a change in processes – several obstacles from a change management perspective make it difficult to transition to online safety training for most safety professionals. It isn’t that the technology doesn’t afford instant access; it’s more a matter of internal politics and management priorities that are the main hurdle for most safety professionals adopting online safety training. Getting a ‘YES’ from your executives is the final step of the process, and that means negotiations and “SELLING” the real value of change.

Short answer, it’s important consider the ways safety eLearning lowers accident & incident rates while also boosting safety confidence and culture, but it can and does also reduce liability risks, costs, and improves overall organizational efficiencies

from the top-down.

In case you didn’t already know, workplace hazard and incident statistics are on the rise across industries, insurance premiums are also trending upwards – exposure and inflation can be key “selling” features when asking for an investment in safety training, but there is more you can do to frame your argument for online safety training specifically.

Here are some of the best reasons you should be transitioning from in-person to online safety training, and how you can get to a “YES” from your executive team.

COVID-19: Vaccine Passports in Your Workplace

OHS Policies At Work

Like many employers, you might have been undecided about whether to mandate that your employees get the COVID-19 vaccine. However, now that the U.S. Food and Drug Administration (FDA) has fully approved a coronavirus vaccine, namely, the Pfizer BioNTech, you are on much stronger legal ground in requiring that employees get vaccinated. In fact, if you’re a federally regulated entity or contractor that does business with the federal government, you might be required to impose a vaccine mandate on your employees.

One way or another, you’re going to want to be able to verify the vaccination status of your employees. If you’re among the majority of companies that’s not vaccinating their own employees, you need proof that staff members have been vaccinated by somebody else. One strategy is to take a page out of what many state and local governments are requiring for participating in certain kinds of non-essential public activity like going to sporting events or large indoor gatherings, and implement a vaccine passport policy

requiring personnel to present proof of their vaccination status to gain entry to the workplace.

Do You Have What It Takes to Be a Leader?

Some people want to lead because they want more status and more money. Little do they know that they may also get more abuse. A good leader takes a little more of the blame, a little less of the credit and does a lot more of the work. It can be a lonely and frustrating position to be in.

Before taking on a leadership role, ask yourself these questions:

Do other people's failures annoy me or challenge me?

Every company has employees who need help succeeding. Do you look for ways to help employees succeed? Do you encourage them to improve? If you are not a source of encouragement to others, being a leader is not for you.

Do I use people in my interactions, or do I offer constructive direction?

Simply, do you manipulate people, or do you respect them as potential professionals? If you are a manipulator, people will sense it and you will lose their loyalty. If you are a manipulator, being a leader is not for you.

Do I criticize or do I encourage?

Our first instinct is to criticize. As a leader, though, you are constructing people not destructing them. If you lean towards

criticism, being a leader is not for you.

Do I focus on the mechanics or the objectives?

Are you wrapped up in telling people what to do or do you encourage your staff to learn from every task? Are you mor4e concerned with how things get done or are you focused on the ultimate objective? If you are more concerned with the mechanics, being a leader is not for you.

Do I shun controversy, or do I face my battles?

Some managers avoid conflict at all costs. Some managers look for any opportunity to argue. A successful leader picks battles carefully and fights them to win. You need to be prepared for controversy, but not seek it. If you shy away from controversy, being a leader is not for you.

Good leaders are invaluable. If you choose to become a leader, you must have a listening ear, an ability to discipline, and be able to undergo scrutiny, all without taking it personally.

HazCom Audit

Use this hazard communication audit in your organization to ensure standards are being met in the areas of a written program, labels, safety data sheets, and training.

Dealing with Stress from Home Meeting Kit – Spanish

QUÉ ESTÁ EN RIESGO

LIDIAR CON EL ESTRÉS DESDE CASA

En las buenas y en las malas, nuestra vida laboral se solapa con nuestra vida doméstica. Si no somos diligentes, nuestro trabajo puede verse afectado cuando los factores de estrés en casa empiezan a acumularse. Aunque el estrés que los trabajadores vuelven a experimentar es muy impactante, la mayor parte del estrés puede tratarse de manera que no provoque una situación peligrosa.

CUÁL ES EL PELIGRO

CUÁLES SON ESOS FACTORES ESTRESANTES COMUNES DEL TRABAJO DESDE CASA

En cualquier momento, hay un número miembro y un grado variado de estresores en nuestras líneas en un momento dado. Debemos reconocer los estresores comunes y cómo pueden afectar a nuestro trabajo.

Ejemplos

Relaciones: Las discusiones, las peleas constantes crean una atmósfera que conduce al estrés.

Finanzas: Las facturas, la falta de dinero en efectivo, siempre están en el fondo de la mente.

Inseguridad laboral: También tenemos miedo de que, sin tener la culpa, nuestro trabajo pueda ser despedido en estos momentos tan determinados y estresantes.

Salud: Las situaciones graves de salud pueden ser las más

desafiantes con las que tenemos que lidiar en la vida. Lidiar con esos problemas se extiende también a los de nivel.

EL ESTRÉS AFECTA AL TRABAJO

Hay efectos negativos cuando el estrés se lleva del trabajo a casa.

Falta de estructura

Sentir una falta de límites sobre cuándo hay que empezar a trabajar (¡y parar!), cuándo hay que levantarse e irse a dormir, cuándo hay que desconectarse de las redes sociales, y más, puede sentirse como una verdadera liberación.

Pero esto puede transformarse en una sensación de descontrol.

Demasiadas distracciones

Mucha gente se olvida de que los que trabajan en casa todavía tienen que trabajar. La gente puede llamar a cualquier hora del día y puede no entenderlo. “Lo siento, tengo que trabajar ahora mismo” es tan válido como “Lo siento, te llamaré cuando salga del trabajo”.

El problema es que puede haber interrupciones todo el día, y las horas de trabajo tienen que ser horas y no una sucesión de racimos interrumpidos de unos pocos minutos cada vez

COMO PROTEGERSE

CONSEJOS PARA LIDIAR CON EL ESTRÉS

Reduzca su agenda: tener una lista de tareas domésticas desbordante conduce casi siempre al estrés. No asuma demasiados proyectos o compromisos a la vez. Aprenda a priorizar y a decir “no”.

Seleccione una actividad para controlar el estrés – Encuentre una actividad que le induzca a la relajación e incorpórela a su rutina diaria. Por ejemplo, meditar, hacer yoga, tejer, escuchar música o trabajar en el jardín;

Acepte lo que no puede controlar: si aprende a distinguir entre los casos en los que puede influir y los que no, podrá sentirse más productivo y menos abrumado;

Rodéate de gente que te apoye – Las personas que consideres tu "círculo íntimo" deben ser fuentes de consuelo, no de estrés.

Dedique tiempo a la diversión – Considere estos sencillos pero divertidos pasatiempos: leer a su hijo, jugar con una mascota, hacer una comida con la familia o los amigos.

CONCLUSIÓN

Afrontar los factores de estrés mientras se trabaja desde casa no es una tarea fácil, pero sí manejable. El primer paso es reconocer cómo te afectan los factores de estrés.

Dealing with Stress from Home Stats and Facts – Spanish

HECHOS

1. El estrés a largo plazo suele ser un factor que contribuye a muchas de las principales causas de muerte en Estados Unidos, como las enfermedades cardíacas, el cáncer, las enfermedades pulmonares, los accidentes, la cirrosis hepática y el suicidio.
2. Los altos niveles de estrés también pueden conducir a menudo al consumo de sustancias. Cuando el estrés es elevado y una persona está desesperada por relajarse, puede recurrir al alcohol y a otras drogas. Paradójicamente, las drogas y el alcohol suelen aumentar el estrés a largo plazo, especialmente si el individuo desarrolla adicción o

dependencia.

3. El pronóstico del estrés se basa en factores como la fuente, la intensidad y la duración del estrés. También puede verse afectado por las habilidades de afrontamiento disponibles del individuo y los sistemas de apoyo social. Cuando el estrés es alto y las habilidades de afrontamiento disponibles son bajas, los efectos del estrés son más probables, lo que puede acortar la vida de alguien.
4. El tratamiento del estrés puede añadir una gran cantidad de habilidades de afrontamiento y apoyos a una persona en un entorno estresante. El mejor éxito se producirá cuando el tratamiento se dirija directamente a la fuente de estrés, en lugar de a los efectos secundarios del mismo.

ESTADÍSTICAS

Según el Instituto Americano del Estrés:

- Alrededor del 33 por ciento de las personas dicen sentir un estrés extremo
- El 77 por ciento de las personas experimenta un estrés que afecta a su salud física
- El 73 por ciento de las personas tiene estrés que afecta a su salud mental
- El 48 por ciento de las personas tiene problemas para dormir a causa del estrés
- Por desgracia, para cerca de la mitad de los estadounidenses, los niveles de estrés están empeorando en lugar de mejorar.
- Hasta el 80 por ciento de los accidentes laborales provienen del estrés o de problemas relacionados con él, como estar demasiado distraído o cansado.

Síntomas comunes del estrés

Los síntomas más comunes del estrés y el porcentaje de personas que los han experimentado incluyen:

- Irritabilidad y enfado: 45 por ciento de las personas
- Cansancio o baja energía: 41 por ciento

- Falta de motivación o interés por las cosas: 38 por ciento
- Ansiedad, nerviosismo o preocupación: 36 por ciento
- Dolores de cabeza: 36 por ciento
- Sentirse triste o deprimido: 34 por ciento
- Indigestión, reflujo ácido o malestar estomacal: 26 por ciento
- Tensión muscular: 23 por ciento
- Cambios en el apetito: 21 por ciento

Dealing with Stress from Home Fatality Report – Spanish

Un ingeniero de software de Uber que ganaba seis cifras se suicidó en 2016, y su familia lo achacó al estrés laboral. Un becario de 21 años de Merrill Lynch se desplomó y murió en Londres tras trabajar 72 horas seguidas. Cuando ArcelorMittal cerró una planta siderúrgica que había adquirido, un empleado de 56 años murió de un ataque al corazón tres semanas después. Su familia dijo que fue por el shock. Y la Agencia para la Seguridad y la Salud en el Trabajo ha informado de que más de la mitad de los 550 millones de días de trabajo perdidos anualmente por absentismo "están relacionados con el estrés".

En 2015, un análisis de casi 300 estudios concluyó que las prácticas nocivas en el lugar de trabajo eran tan perjudiciales para la mortalidad, y tenían la misma probabilidad de provocar una enfermedad diagnosticada por un médico, que el humo de segunda mano, un carcinógeno conocido -y regulado-.

Las prácticas nocivas en el lugar de trabajo incluyen cosas como largas jornadas de trabajo, conflictos entre el trabajo y la familia, y la inseguridad económica derivada de la pérdida de empleo y de no tener un horario de trabajo regular o predecible, una ausencia de control del trabajo y, en Estados Unidos, no tener

seguro médico.

El Foro Económico Mundial calcula que unas tres cuartas partes del gasto sanitario mundial se destinan a enfermedades crónicas y que las enfermedades no transmisibles representan el 63% de todas las muertes. Las enfermedades crónicas provienen del estrés y de los comportamientos poco saludables como fumar, beber, tomar drogas y comer en exceso que el estrés induce. Numerosas encuestas demuestran que el lugar de trabajo es una de las principales causas de estrés, por lo que es una causa importante de la crisis sanitaria.

Dealing with Stress from Home – Picture This – Spanish



¿Qué hay de malo en esta foto? ¡Hay una mujer trabajando en su ordenador, usando su teléfono móvil y cuidando de sus hijos al mismo tiempo!

Cuando trabajas desde casa para poder cuidar de tus hijos durante el día o por las tardes, puede ser aún más difícil, ya que puedes sentirte arrastrada entre lealtades contrapuestas y abrumada por las responsabilidades de tus distintas funciones.

Mientras que muchas personas consideran el trabajo desde casa como un objetivo para el equilibrio general entre la vida laboral y la personal, aquellos que se encuentran haciendo su trabajo desde casa reportan mayores niveles de estrés, según un estudio de 2017 realizado por las Naciones Unidas.

El 41% de los empleados con “alta movilidad” (los que trabajan más a menudo desde casa) se consideraban también muy estresados, en comparación con solo el 25% de los que trabajaban solo in situ.

Afortunadamente, hay muchas herramientas a tu disposición y no eres el único que experimenta estrés por trabajar en casa. Mientras que las personas que trabajan juntas pueden reunirse y hablar de los retos que supone trabajar en su entorno de oficina, los que trabajan desde casa pueden necesitar ser más proactivos a la hora de encontrar un lugar para dar y recibir apoyo, y para hablar de los retos a los que se enfrentan. Puede ser más difícil darse cuenta de que no se está solo en lo que se está tratando.

Diet Meeting Kit

HEALTH

How you feel at work will have a major effect on being able to work safely. It is important to make sure the things you choose to eat and drink are helping improve your health and not hurt it.

What you choose to eat will have a major impact on how you feel and on your over-all health. Remember there is some truth in the saying “you are what you eat”.

DISEASE AND DIET

These two words are in “lock step”

Many of us work in an office, which means sitting in front of a computer from 9-to-5. A lack of movement during the day is terrible enough but when combined with an unhealthy diet, things might go sideways.

An intense business tempo and working long hours negatively affects people’s diet. Irregular and unhealthy eating habits can cause illnesses, such as obesity, diabetes, high cholesterol, hypertension, musculoskeletal problems, herniated discs, and osteoporosis.

But the biggest health issue in the U.S. is heart disease – the No.1 cause of death and it is closely linked to diet.

WORKPLACE AND DIET

Most people are aware that what we ear affects our weight and health. A balanced nutritious diet boosts energy, combats fatigue, reduces anxiety and stress, improves mood and self – esteem.

SAFETY AND DIET

Your diet plays a big role in the safety at work. If you are of feeling good, you do not work to your best ability.

Limit the risks you have by implementing strategies to upgrade your diet. A fundamental step is to have a plan and follow it religiously.

Here Are A Few Tips You Can Religiously Follow When It Comes to Your Diet

1. **Have A Balanced Diet.**

Balancing your diet is all about having a little bit of everything in just the right amount, or better in equal amounts. You may select your own diet contents.

2. **Breakfast Is A Must!**

One should never skip a breakfast. Breakfast, is that one meal that supplies you the most energy and nutrients to survive the day.

3. **Grab A Light Lunch.**

Taking light lunch is a good way to keep the fat being stored in the body longer and in bigger amounts since you are basically just sitting the entire day at the office.

4. **Since You Had Light Lunch, You Must Also Take Light Dinner.**

You can opt to go for lean meat this time- can be fish, chicken and beef, as long as you don’t eat way too much at night. Just make sure to fill in the space in your stomach to last through the night while you’re asleep.

5. **Stay Active.**

It is still vital that you try to involve yourself in physical activities- no matter how short, or how small.

FINAL WORD

While it’s most important for an employer to provide a safe and healthy workplace, it’s also important to encourage healthy lifestyles among their employees. Healthy eating programs can be an important step. These programs can bring lots of people together to learn how to improve their health both at work and at home.

Diet Stats and Facts

FACTS

1. Employers are now recognizing that by actively encouraging good health amongst their employees and creating a healthy working environment makes sound business sense. It not only improves staff morale and motivation but it also leads to a healthier, happier workforce with less sickness absences.
2. The United States has the highest obesity rate in the world. In 2016, ten U.S. states reported that approximately 70 percent of their population was either overweight or obese, pointing to a significant public health crisis.
3. Although there is a continued debate about the exact cause of obesity, 48 percent of Americans believe that the primary cause of obesity is poor diet and exercise, rather than genetic, environmental, and social factors.
4. Despite the fact that most Americans are overweight or obese, obesity is often seen as unattractive or a sign of laziness or poor character, which drives much of the motivation to lose weight.
5. Adults working full time spend a majority of their waking hours in their place of work and consume at least a third of their daily calorie allowance during their working day. Therefore the workplace setting clearly has a key role to play in supporting and encouraging adults to make healthier food choices. The captive audience within the workplace makes it an ideal setting to promote healthy eating.

STATS

Odds of dying from obesity (being at least 30 pounds overweight) because of a sedentary lifestyle: 1 in 10,767 (American Council on Science and Health)

- Obese workers file twice the number of workers’ compensation claims as non-obese workers, according to a Duke University Medical Center study.

- Obese men between the ages of 18 and 34 are four times more likely to miss work than their co-workers who are not overweight.
- Only nine percent of Canadians ages five through 19 meet recommended physical activity guidelines.
- One in five Americans (20 percent of the population) is considered obese.
- For optimal health, people are encouraged to engage in at least 30 minutes of moderately intense physical activity on at least five days of each week.
- More than half of all Canadians are considered inactive.

Dealing with Stress from Home Meeting Kit

DEALING WITH STRESS FROM HOME

In good ways and bad ways our work life overlaps with our home life. If we are not diligent, our work can be affected when stressors at home start to mount up. While stress that workers re-experiencing is so impactful, most stress can be dealt with in a manner that it does not cause a perilous situation.

WHAT ARE THOSE COMMON STRESSORS OF WORK FROM HOME

At any given time, there are a number of stressors in our lives at any given moment. We must recognize the common stressors and how they may be impacting our work.

Examples

Relationships: Arguing, fighting constant bickering creates an atmosphere that leads to stress.

Finance: Bills, lack of cash, is always in the back of one's mind.

Job Insecurity: We are also fearful that through no fault of our own, our jobs can be terminated in these uncertain and stressful times.

Health: Serious health situations can be the most challenging situations we have to deal with in life. Dealing with these issues extends to loved ones as well.

STRESS AFFECTS WORK

There are negative effects when stress is carried from work at home.

Lack of Structure

Feeling a lack of boundaries on when you need to start working (and stop!), when you need to get up and go to sleep, when to log off of social media, and more can feel like true liberation.

But this can morph into a feeling of being out of control.

Too Many Distractions

Many people forget that those who work at home still need to work. People can call at all hours of the day and may not understand that. "I'm sorry, I need to work right now," is as valid as, "Sorry, I'll call you when I'm off work.

The problem is that there can be interruptions all day, and work hours need to be hours and not a succession of interrupted clusters of a few minutes at a time

TIPS TO DEAL WITH STRESS

Slim down your schedule – Having an overflowing home to-do list almost invariably leads to stress. Don't take on too many projects or commitments at once. Learn to prioritize and say "no;"

Select a stress-management activity – Find a relaxation-inducing activity and weave it into your daily routine. Examples include meditating, doing yoga, knitting, listening to music or gardening;

Accept what you can't control – By learning to distinguish between those instances in which you can have an impact and those in which you cannot, you may feel both more productive and less overwhelmed;

Surround yourself with supportive people – The people you consider to be your "inner circle" should be sources of solace, not stress.

Make time for fun – Consider these simple but fun pastimes – reading to your child, playing with a pet, making a meal with family or friends;

FINAL WORD

Dealing the stressors while working from home is not an easy task; But manageable. First step is recognition and how you are being affected by the Stressors.

Dealing with Stress from Home Stats and Facts

FACTS

1. Long-term stress is often a contributing factor in many of the leading causes of death in the United States, including heart disease, cancer, lung disease, accidents, cirrhosis of the liver and suicide.
2. High stress levels can often also lead to substance use. When stress is high and a person is desperate to relax, they

may turn to alcohol and other drugs. Paradoxically, drugs and alcohol often increase stress in the long run, especially if an individual develops addiction or dependence.

3. The stress prognosis is based on factors like the source, intensity and duration of stress. It may also be affected by an individual's available coping skills and social support systems. When stress is high and available coping skills are low, the effects of stress are more likely, which can shorten someone's lifespan.
4. Stress treatment can add a tremendous amount of coping skills and supports to a person in a stressful environment. The best success will occur when treatment targets the source of stress directly, rather than the side effects of stress.

STATISTICS

According to the American Institute of Stress:

- About 33 percent of people report feeling extreme stress
- 77 percent of people experience stress that affects their physical health
- 73 percent of people have stress that impacts their mental health
- 48 percent of people have trouble sleeping because of stress
- Unfortunately, for about half of all Americans, levels of stress are getting worse instead of better.
- Up to 80 percent of workplace accidents come from stress or stress-related problems, like being too distracted or tired.

Common Symptoms of Stress

The most common symptoms of stress and the percentage of people who experienced them include:

- Irritability and anger: 45 percent of people
- Fatigue or low energy: 41 percent
- Lack of motivation or interest in things: 38 percent
- Anxiety, nervousness or worry: 36 percent

- Headaches: 36 percent
- Feeling sad or depressed: 34 percent
- Indigestion, acid reflux or upset stomach: 26 percent
- Muscle tension: 23 percent

Dealing with Stress from Home Fatality Report

An Uber software engineer making a six-figure income killed himself in 2016, with his family blaming workplace stress. A 21-year-old Merrill Lynch intern collapsed and died in London after working 72 hours straight. When ArcelorMittal closed a steel plant that it had taken over, a 56-year old employee died of a heart attack three weeks later. His family said it was the shock. And the Agency for Safety and Health at Work has reported that over half of the 550 million working days lost annually from absenteeism “are stress related”.

In 2015, an analysis of almost 300 studies found that harmful workplace practices were as bad for mortality, and as likely to lead to a physician-diagnosed illness, as second-hand smoke, a known – and regulated – carcinogen.

Harmful workplace practices include things like long working hours, work-family conflict, and economic insecurity arising from job losses and not having regular or predictable work hours, an absence of job control and, in the US, not having health insurance.

The World Economic Forum estimates that some three-quarters of health-care spending worldwide is for chronic disease and non-communicable diseases account for 63 percent of all deaths. Chronic disease comes from stress and the unhealthy behaviours such as smoking, drinking, taking drugs and overeating that stress induces. Numerous surveys show that the workplace is a leading

cause of stress, and it is thus one important cause of the health care crisis.