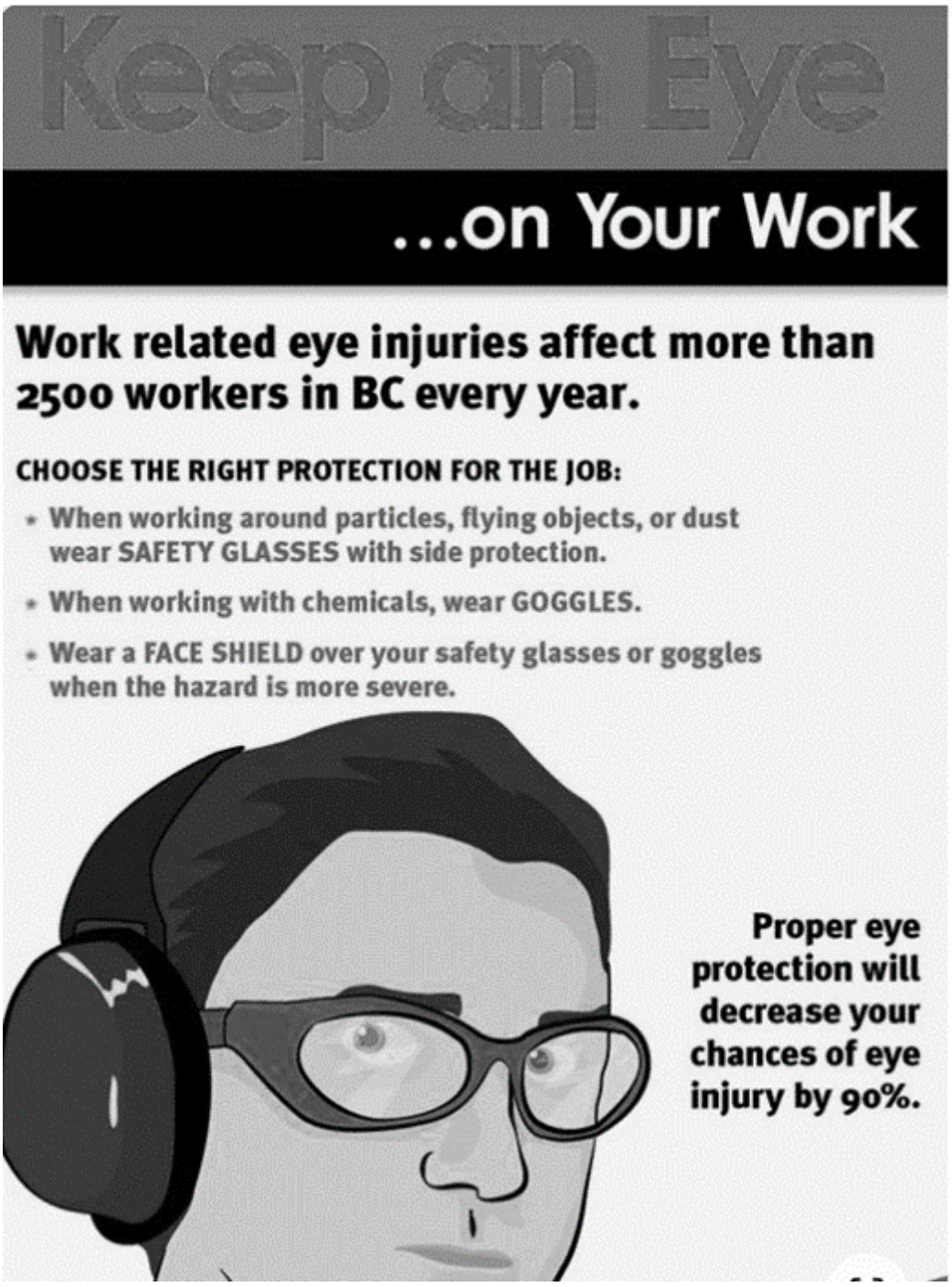
Eye Protection – Seeing is Believing Infographic



Source: https://ehs.utk.edu

Workplace Violence Stats and Facts

FACTS

1. Workplace violence is the act of physical violence, intimidation, or any other form of harassment that takes place in a working environment. It can range from the most common types like verbal abuse or threats to the more severe ones like sexual harassment or physical assaults, and in extreme cases, homicide.
2. Shootings that result in homicides are by far the deadliest acts of violence that can occur in the workplace. The investigators have concluded that the most common problems active shooters face in their lives are issues with mental health and financial stability. Those two issues are by far the biggest stressors.
3. The majority of assaults happen in private companies. Men are twice as likely to be the victims of violent crime at work compared to women.
4. Workplace violence has become the second biggest cause of death in the business world, after traffic accidents.
5. Over the period between 2008 and 2017, the number of mass shootings has increased by more than two times compared to the 10-year period between 1998 and 2007.
6. When workplace violence statistics are taken into consideration, it is clear that health-care workers continue to be the most victimized individuals.
7. Workplace violence stats show an increase in the frequency and severity of violent events that happen in and around the workplace. Those violent acts have escalated to the point where mass shootings occur more often.

STATS

- Nearly 75% of all assaults happen in health care.
- 44% of school teachers reported workplace assaults.
- An alarming 30,000 workplace sexual assaults happen to women each year.
- Co-workers commit 21% of all assaults that end in homicide at work.
- 27% of all mass shootings have occurred in the workplace.
- 96% of all shooters are lone males.
- Nearly 2 million Americans are victims of violence in their workplace each year, according to the US Bureau of Labor Statistics
- 16% of all workplace fatalities are due to workplace violence
- It is estimated that 25 percent of workplace violence goes unreported
- Workplace violence indicate that 86% of all employees are unaware of past incidents in the company.
- 45% of American workers are aware of workplace violence prevention programs.
- 65% of workplace homicides happened during a robbery.
- Workplace homicide statistics show terrifying data that two-thirds of all robberies end in homicides
- 12% of workers feel unsafe at work.
- Men are 23 times more likely to die in the workplace compared to women.

Workplace Violence Fatality File – Spanish

Un “empleado descontento” mata a 2 compañeros de trabajo y hiere a un agente dentro de un Walmart de Misisipi

Un “empleado descontento” mató a dos compañeros de Walmart e hirió a un agente de policía que respondió el martes en el extremo noroeste de Misisipi, según las autoridades.

El incidente mortal comenzó alrededor de las 6:32 a.m. en el supermercado antes de que otro oficial que respondió finalmente hiriera al tirador, que luego fue puesto bajo custodia, dijo un despachador de la policía de Southaven.

Dos empleados fueron “asesinados sin sentido esta mañana en nuestra ciudad”, dijo a la prensa el jefe de policía de Southaven, Macon Moore. Southaven es un suburbio de Memphis, Tennessee, que está a unos 16 kilómetros de distancia.

Las primeras llamadas al 911 se produjeron a las 6:33 de la mañana y los agentes llegaron a las 6:36, dijo la policía. Dos agentes intercambiaron disparos con el sospechoso, al que encontraron en el aparcamiento de la tienda, dijo Moore.

El tirador está detenido y fue identificado por la policía como Martez Tarrell Abram, de 39 años. Abram hirió a un agente antes de que el otro lo abatiera, dijo la policía.

Las autoridades dijeron que Abrams fue suspendido de Walmart a la espera del resultado de una investigación.

“Uno de nuestros oficiales recibió un disparo en este momento. Se salvó gracias a su chaleco”, dijo Moore. “En ese momento, el sospechoso fue abordado por otro oficial. Fue alcanzado dos veces por los disparos de nuestro agente. Fue detenido”.

El sospechoso fue trasladado a un hospital local para ser operado de una herida de bala, dijeron las autoridades. Horas después del ataque, un equipo de artificieros seguía en el lugar examinando un

paquete sospechoso.

El alcalde de Southaven, Darren Musselwhite, dijo que el tirador era un “empleado descontento” con “un agravio personal con su empleador”.

Las autoridades dijeron que había 60 empleados dentro de la tienda cuando comenzaron los disparos.

Hace apenas dos semanas, la policía y los bomberos de Southaven realizaron un simulacro de tirador activo, según Moore y Musselwhite.

“El entrenamiento que hicimos dio sus frutos hoy”, dijo Musselwhite.

El cliente Phil Cox, de 70 años, acababa de salir de ese Walmart cuando oyó un disparo cerca de él en el aparcamiento, se giró y vio a un hombre, a no más de 12 metros de él, entrando corriendo en la tienda. Ese hombre fue identificado más tarde como el pistolero, según el testigo.

“Estuvimos a milisegundos de estar muy cerca de él, de acercarnos a él y quizás de estar en la línea de fuego”. Cox, residente en Forrest City (Arkansas), que había pasado la noche en el cercano Baptist Memorial Hospital-DeSoto participando en un programa de investigación del sueño, declaró a NBC News.

“Ahora que hemos tenido tiempo para pensar en ello, es alarmante que estuviéramos tan cerca”, dijo.

Workplace Violence Picture This



Source: https://www.shrm.org

Workplace Violence Picture This – Spanish



Fuente: http://prevencionar.com.mx

Lockout Tagout Employer's Guide

OSHA states that "**Compliance with the lockout tagout standard prevents an estimated 120 fatalities and 50,000 injuries each year.**", which is why every relevant industry needs to be able to develop and implement necessary lockout tagout (LOTO) programs.

It goes without saying that industrial equipment can be dangerous when it's being used. That's why machines are designed with safety

equipment and operators wear personal protective equipment when using them.

But machinery can also present hazards when it’s not in operation. As long as energy sources such as electricity, natural gas, steam, pressurized water, and compressed air are attached to the machine, a hazard exists. Workers who maintain or repair the equipment, or who will be working in close proximity to it, need to be made aware of these hazards and recognize that steps have been taken to protect them.

That’s why **OSHA requires a formal lockout tagout program**. While it may seem that having a formal program with multiple steps may be overkill, it actually makes good sense. After all, most companies use a variety of equipment that has very different safety practices. In addition, any number of workers may be asked to deal with the equipment, and some will be more familiar with it than others.

Just as airline pilots with thousands of hours in the cockpit still go through step-by-step checklists before even the shortest flight – even though they could probably perform the actions in their sleep – **having a detailed lockout tagout program is one of the best ways to ensure that nobody gets injured and no machinery gets damaged**.

***

To help you ensure your compliance, and greatly reduce the risk of an accident/incident related to lockout tagout, Safety *OnDemand* has built this 9-step Employer’s Guide to walk you through a complete path to LOTO compliance. **Click on the buttons below to get started.** Keep in mind that you are not forced to go to each step sequentially, the Guide was built so you can jump in and out at any stage.

Lockout Tagout Employer’s Guide Step 1: Definitions You Need To Know To Get Started

What You NEED To Do

Before you start evaluating, creating, or changing your LOTO procedures, you need to make sure that you and everyone else involved in the process is using a common language concerning the risks and hazards. You don't need to have a degree in electrical engineering, but you do need to know the difference between kinetic and potential energy, and why de-energization is so important.

There are often hidden sources of energy still present even after the main energy source has been disconnected from the equipment. These hidden energy sources are commonly known as kinetic energy and potential energy. De-energization means removing the energy from machinery or equipment, and lockout refers to using lock(s) to isolate an energy source or to ensure machinery or equipment is inoperable. In order to properly de-energize equipment, it's essential that employers implement controls to eliminate or reduce the risk of these energy sources.

BACK TO START | **NEXT STEP OF 9**

Before you start building or auditing your LOTO procedures, you need to have a common lexicon, or shared definition of the following key terms as per regulations.

What is de-energization and lockout?

De-energization means removing the energy from machinery or equipment. Lockout refers to using lock(s) to isolate an energy source or to ensure machinery or equipment is inoperable.

De-energization and lockout must be done in combination to effectively prevent the release of energy that could potentially cause injuries.

There are often hidden sources of energy still present even after the main energy source has been disconnected from the equipment. These hidden energy sources are commonly known as kinetic energy and potential energy. To properly de-energize equipment, it's essential that employers implement controls to eliminate or reduce the risk of these energy sources.

When is de-energization and lockout required?

Machinery or equipment must be de-energized and locked out when maintenance work is being done, or any time safeguarding is removed, bypassed, or circumvented.

Maintenance is any work performed to keep machinery or equipment in a safe operating condition. This includes installing, repairing, cleaning, and lubricating the equipment, as well as clearing any obstructions in the machinery.

Which Employees are at Risk of Injury?

Employees risk of injury from equipment and machines varies depending on what they are doing. There are two categories of employee:

- **Authorized Employees or Persons** – A qualified person who locks out or tags out specific machines or equipment in order to perform cleaning, repairing, servicing, setting-up, and adjusting operations on that machine or equipment. An Affected Employee becomes an Authorized Employee when that employee's duties including performing cleaning, repairing, servicing, setting-up, and adjusting operations covered under this section.
- **Affected Employees** – An employee whose job requires them to operate or use a machine or equipment on which cleaning, repairing, servicing, setting-up or adjusting operations are being performed under lockout or tagout, or whose job requires the employee to work in an area in which such activities are being performed under lockout or tagout.

What are normal Production Operations? Using machines or equipment to perform their intended production functions.

What is a Prime Mover? The source of mechanical power for a machine.

Cord and Plug Connected Equipment: Equipment where the only energy source is electrical power provided by a plug in connection.

Energized: Connected to an energy source or containing residual or stored energy.

Energy Isolating Device: A mechanical device that physically prevents the transmission or release of energy. This includes: Valves, Breakers, Switches; Blank Flanges for piping systems; Restraining Devices to prevent movement of parts; etc.

Hydraulic Energy: The energy derived from the motion and pressure of a liquid, such as water or oil.

Mechanical Energy: The energy of moving parts of a machine.

Pneumatic Energy: The energy derived from the motion and pressure of a gas, such as air.

Potential Energy: The stored energy that can be drawn upon to do work (e.g., suspended loads and compressed springs).

Qualified Person, Attendant or Operator: A person designated by the employer who by reason of his training and experience has demonstrated his ability to safely perform his duties and, where required, is properly licensed in accordance with federal, state or local laws and regulations.

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Lockout Tagout Employer's Guide Step 2: Make Sure You Are Compliant

What You NEED To Do

You can have a LOTO program in place that works, but if it isn't compliant with OSHA legislation, you are still at risk of fines and civil litigation even if there is never an accident or incident. This employer guide will walk you through setting up a compliant program, but familiarizing yourself with the regulations is always a good practice.

In fact, the OSHA standard outlines the minimum requirements for controlling hazardous energy (pressure, gas, electricity, etc.). It requires employers to have a program in place to make sure employees lock out machines before servicing or maintaining them. Employers mush establish the procedures for removing the energy source from machines and putting the appropriate devices on them to prevent unexpected startup or reenergization. It must also address any stored energy the machine may have.

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What are the OSHA lockout tagout requirements?

The OSHA standard outlines the minimum requirements for controlling hazardous energy (pressure, gas, electricity, etc.). It requires employers to have a program in place to make sure employees lock out machines before servicing or maintaining them.

Employers mush establish the procedures for removing the energy source from machines and putting the appropriate devices on them to prevent unexpected startup or reenergization. It must also address any stored energy the machine may have.

They must also train the employees on the program they establish and inspect the procedures regularly. This means at the very least once a year.

If tags are going to be used instead of lock there must be additional levels of employee protection to prevent the accidental injury or death of employee.

How do I know if OSHA CFR 1910.147 applies to me?

If your company has employees who service or maintain machines

that could potentially cause an injury then most likely the regulations surrounding lockout tagout apply to you.

Any time someone must construct, install, set up, adjust, inspect, modify, maintain, or service a machine or piece of equipment you must have a procedure in place to do it safely.

Even tasks like lubricating, cleaning, unjamming, or changing the attachments must follow the proper lockout procedure.

Essentially, if your people work in or on machines that could smash, cut, shock, trap, burn, or injure in any other way an employee you are better off having a lockout tagout program in place.

There are a few cases that it does not apply to, such as routine servicing that is required in normal production use of the machinery.

CFR 1910.147 does not apply to agriculture, construction, and maritime industries or oil and gas well drilling and service. However, other standards do apply.

What activities and operations are not covered?

- Servicing and maintenance of equipment performed during normal production operations if: the safeguarding provisions of Subpart O, and other applicable general industry standards are effective in preventing worker exposure to hazards created by the unexpected energization or startup of machines or equipment, or the release of energy.
- Minor tool changes and adjustments, and other minor servicing activities that take place during normal production operations which are routine, repetitive, and integral to the use of that production equipment, as long as workers are effectively protected by alternative measures which provide effective machine safeguarding protection (See Subpart O).
- Construction, agriculture, and maritime workers.

- Installations under the exclusive control of electric utilities for power generation, transmission, and distribution.
- Exposure to electrical hazards from work on, near, or with conductors or equipment in electric utilization installations.
- Oil and gas well drilling and servicing.
- Work on cord and plug connected electrical equipment, if: the equipment is unplugged from the energy source and the authorized employee has exclusive control of the plug.
- Hot tap operations that involve transmission and distribution systems for gas, steam, water, or petroleum products on pressurized pipelines, if: continuity of service is essential, shutdown of the system is impractical, documented procedures are followed, and employees are effectively protected by special equipment.

California Standards

2940.13. Hazardous Energy Control Procedures.

OSHA Standards

Control of hazardous energy is addressed in specific OSHA standards for general industry, maritime, and construction. This section highlights OSHA standards and documents related to control of hazardous energy (lockout tagout).
OSHA Standards

General Industry (29 CFR 1910)		
General Industry (29 CFR 1910)		**Related Information**
1910 Subpart J – General Environmental Controls	1910.147, The control of hazardous energy (lockout tagout).	Related Information
1910 Subpart R – Special Industries	1910.261, Pulp, paper, and paperboard mills.	Related Information
	1910.269, Electric Power Generation, Transmission, and Distribution.	Related Information
1910 Subpart S – Electrical	1910.306, Specific purpose equipment and installations.	Related Information
	1910.333, Selection and use of work practices.	Related Information
Maritime (29 CFR 1915, 1917, 1918)		
Maritime (29 CFR 1915, 1917, 1918)		**Related Information**
1917 Subpart C – Cargo Handling Gear and Equipment	1917.48, Conveyors.	Related Information
1918 Subpart G	1918.64, Powered conveyors.	Related Information

Construction (29 CFR 1926)		
Construction (29 CFR 1926)		**Related Information**
1926 Subpart D – Occupational Health and Environmental Controls	1926.64, Process safety management of highly hazardous chemicals. For requirements as they pertain to construction work, follow the requirements in 29 CFR 1910.119.	Related Information
1926 Subpart K – Electrical	1926.417, Lockout and tagging of circuits.	Related Information
1926 Subpart Q	1926.702, Requirements for equipment and tools.	Related Information

Other Standards

State Standards

There are 28 OSHA-approved State Plans, operating state-wide occupational safety and health programs. State Plans are required to have standards and enforcement programs that are at least as effective as OSHA's and may have different or more stringent requirements.

Other State Standards and Guidance

- Lockout/Tagout (LOTO) (Control of Hazardous Energy). Washington State Department of Labor & Industries. Landing page for LOTO resources.
- Lockout/Tagout – Oregon OSHA's guide to controlling hazardous energy. Oregon OSHA Publication 440-3326 (May 2015). This guide is based on the requirements in Oregon OSHA's standard for hazardous energy control – Subdivision 2/J, 1910.147. Lockout and tagout are the primary methods of controlling hazardous energy.
- Sample Written Program for Control of Hazardous Energy (Lockout/Tagout). Texas Department of Insurance. Sample lockout/tagout program provided as a guide to assist employers and employees in complying with the requirements of 29 CFR 1910.147, as well as to provide other helpful information. It is not intended to supersede the requirements of the standard.
- Control of Hazardous Energy (Lockout/Tagout) – 29 CFR 1910.147 – Sample Program. Maine Department of Labor. Sample hazardous energy control program provided by SafetyWorks! as a guide to help employers implement OSHA's Control of Hazardous Energy (Lockout/Tagout) standard (29 CFR 1910.147) in their workplace.

Additional Directives

Note: The directives in this list provide additional information that is not necessarily connected to a specific OSHA standard highlighted on this Safety and Health Topics page.

- Electrical Safety-Related Work Practices – Inspection Procedures and Interpretation Guidelines. STD 01-16-007, (July 01, 1991).

National Consensus Standards and Recommendations from other Professional Organizations

American National Standards Institute (ANSI)

- Z244.1, Control of Hazardous Energy – Lockout/Tagout and Alternative Methods, (November 10, 2004). Note: Compliance with the requirements of this consensus standard does not

ensure compliance with the OSHA Lockout/Tagout Standard. For additional information, see Recognition of ANSI/ASSE Z244.1 “Control of Hazardous Energy – Lockout/Tagout and Alternative Methods” consensus standard.

- Z244 Committee Information. American Society of Safety Engineers (ASSE).

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Lockout Tagout Employer’s Guide Step 3: Recognize Types and Sources of Hazardous Energy

What You NEED To Do
Each year, approximately 3,000 workers suffer lost-time injuries from being caught in dangerous parts of equipment or machinery during maintenance or cleaning, according to Bureau of Labor Statistics (BLS) data. Further, each year there are approximately 60 fatalities from similar exposures. In addition to caught-in exposure, workers face struck-by, crushing, electric shock, burn, and other hazards when maintenance work is done without properly controlling the release of energy, i.e., through a lockout tagout (LOTO) program. Energy sources including electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other sources in machines and equipment can be hazardous to workers. During the servicing and maintenance of machines and equipment, the unexpected startup or release of stored energy can result in serious injury or death to workers. **BACK TO START | NEXT STEP OF 9**

When machines or equipment are being prepared for service or

maintenance, they often contain some form of "**hazardous energy**" that can cause harm to people in the area.

When we talk about hazardous energy, we mean any type of energy that can be released and might harm a person. This could include energy of the following types:

- Chemical
- Electrical
- Hydraulic
- Mechanical
- Pneumatic
- Thermal
- Other sources of energy

Without the use of proper LOTO safety procedures, the serviced equipment can unexpectedly start up or otherwise release these forms of energy. This can lead to injuries and even death to the people working on the machine and even to others working in the area or living in the community.

Energy sources including electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other sources in machines and equipment can be hazardous to workers. During the servicing and maintenance of machines and equipment, the unexpected startup or release of stored energy can result in serious injury or death to workers.

Guide to Types of Hazardous Energy

Consider just a few examples:

- A worker is servicing a press, another worker comes by and starts the press, and the service worker is caught up in the press, causing an amputation
- Workers are repairing a connection in piping, and somewhere up that same line another worker opens a valve, sending fluids down the pipe that ultimately spill on and burn the maintenance workers
- A conveyor jams, a worker reaches in to try to clear the

jam, the conveyor jam is suddenly and unexpectedly freed, and the worker is crushed as a result

- A worker is servicing a machine, and at the same time internal wiring in the machine shorts, causing the maintenance worker to be shocked

All of these are examples of hazardous energy causing harm. And that's what LOTO safety is all about—making these these types of hazardous energy are controlled so they're never released and never cause harm.

Read More

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Lockout Tagout Employer's Guide Step 4: When is Lockout Tagout Required?

What You NEED To Do
Do you know when your employees need to observe lockout tagout and when they don't? Do they? The law says that lockout tagout is required when the unexpected energization or start up (or release of stored energy) of machines, equipment or prime movers could injure workers during cleaning, repairing, servicing, setting-up, adjusting and un-jamming. BACK TO START | NEXT STEP OF 9

When is Lockout Tagout Required?

Lockout tagout is required when the unexpected energization or start up (or release of stored energy) of machines, equipment or prime movers could injure workers during cleaning, repairing, servicing, setting-up, adjusting and un-jamming.

1. During Cleaning, Servicing, Adjusting Operations:

- Machinery or equipment capable of movement must be stopped and power source(s) de-energized or disengaged.
- Accident prevention signs or tags or both must be placed on the controls of the power source of the machinery or equipment.
- If necessary, the moveable parts must be mechanically blocked or locked out to prevent inadvertent movement, or release of stored energy.

2. Exception

- If machinery or equipment must move during these operations you must minimize the hazard by providing and requiring the worker to use *extension tools* (eg., extended swabs, brushes, scrapers) *or other methods, or means to protect workers from injury*. Workers must receive thorough training on the safe use and maintenance of these tools, methods or means.

3. During Repair Work and Setting-Up Operations, Machines, Equipment /Prime Movers:

- Must be locked out or positively sealed in the “off” position if they have lockable controls (or are readily adaptable to lockable controls).
- Must be de-energized or disconnected from their power source (or other actions taken to effectively prevent inadvertent movement or release of stored energy) if they do not have lockable controls
- Accident prevention signs and tags (or both) must be placed on the controls.

4. Outside Servicing Personnel

- Whenever outside servicing personnel are to be engaged in activities covered by the lockout/tagout regulation, the employer’s on-site lockout or tagout procedures must be followed.

Other Requirements

Other Requirements

Under certain specific conditions or when working on certain types of machines and equipment, lockout/tagout is not required. Instead, other requirements apply.

During Cleaning, Servicing, Adjusting, Repair Work and Setting-Up Operations If You Are:

- Making Minor Tool Changes and Adjustments, and Other Minor Servicing Activities: that take place during normal production operations and, are routine, repetitive and integral to the use of equipment or machinery for production and, using **alternative measures to provide effective protection**
- Using Cord and Plug Connected Electrical Equipment: which can be unplugged from the energy source and the plug is **under the exclusive control** of the employee performing the work

When Working With Repetitive Process Machines

On repetitive process machines, such as numerical control machines, which require power or current continuance to maintain indexing and where repair, adjustment, testing, or setting-up operations cannot be accomplished with the prime mover or hazardous energy source disconnected, such operations may be performed under the following conditions:

- The operating station where the machine may be activated must at all times be under the control of a qualified operator or craftsman.
- All participants must be in clear view of the operator or in positive communication with each other.
- All participants must be beyond the reach of machine elements which may move rapidly and present a hazard to

them.

- Where machine configuration or size requires that the operator leave his control station to install tools, and where machine elements exist which may move rapidly if activated, such elements must be separately locked out by positive means.
- During repair procedures where mechanical components are being adjusted or replaced, the machine shall be de-energized or disconnected from its power source.

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Lockout Tagout Employer's Guide Step 5: What are the Basic Steps of Locking and Tagging Out a System?

What You NEED To Do
Steps of a Lockout Tagout program include: Prepare for Shutdown, Notify All Affected Employees, Equipment Shutdown, Isolation of System From Hazardous Energy, Dissipation (Removal) of Residual or Stored Energy, Lockout Tagout, Verify Isolation, Perform Maintenance or Service Activity, Remove Lockout Tagout Devices. Download a model LOTO procedure that you can quickly edit and make your own.

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Lockout and tag out processes involve more than putting a lock on a switch. They are comprehensive step-by-step processes that involve communication, coordination, and training.

Affected person – persons who are not directly involved in the work requiring the hazardous energy control, but who are (or may be) located in the work area.

Authorized person – a person who is qualified to engage in hazardous energy control because of knowledge, training, and experience and has been assigned to engage in such control.

Steps of a lockout tagout program include:

1. Prepare for Shutdown

1. Prepare for shutdown

The authorized person will identify which sources of energy are present and must be controlled; and more importantly, identify what method of control will be used. This step involves completing sets of specific work instructions that outline what controls and practices are needed to lock and tag out a system before performing any activity.

2. Notify All Affected Employees

2. Notify all affected employees

The authorized person will communicate the following information to notify affected persons:

- What is going to be included for lockout tagout.
- Why it is going to be included for lockout tagout.
- For approximately how long will the system be unavailable.
- Who is responsible for lockout tagout.
- Who to contact for more information.

3. Equipment Shutdown

3. Equipment Shutdown

If the system is operating it should be shutdown in its normal manner. Use manufacturer instructions or in-house work instructions. Equipment shutdown involves ensuring controls are in the off position, and verifying that all moving parts such as flywheels, gears, and spindles have come to a complete stop.

4. Isolation of system from hazardous energy

4. Isolation of system from hazardous energy

The exact written instructions will be specific to that system in the workplace. In general, the following procedures are used:

- Electrical energy – Switch electrical disconnects to the off position. Visually verify that the breaker connections are in the off position. Lock the disconnects into the off position.

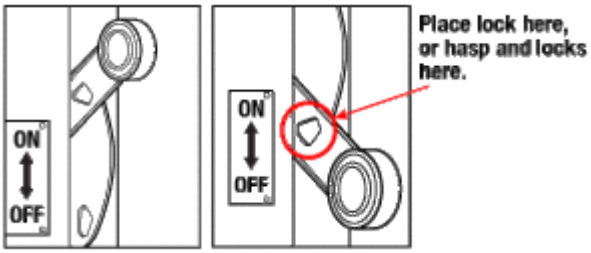

Figure 1: Electrical lockout

- Hydraulic and Pneumatic potential energy – Set the valves in the closed position and lock them into place. Bleed off the energy by opening the pressure relief valves, then closing the airlines.

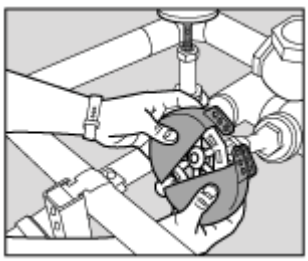

Figure 2: Hydraulic and Pneumatic lockout

- Mechanical potential energy – carefully release energy from springs that may still be compressed. If this is not feasible, block the parts that may move if there is a possibility that the spring can transfer energy to it.
- Gravitational potential energy – Use a safety block or pin to prevent the part of the system that may fall or move.
- Chemical energy – locate chemical supply lines to the system and close and lockout the valves. Where possible, bleed lines and/or cap ends to remove chemicals from the system.

5. Dissipation (removal) of residual or stored energy

5. Dissipation (removal) of residual or stored energy

In general, examples include:

- Electrical energy – To find a specific method to discharge a capacitor for the system in question, contact the manufacturer for guidance. Many systems with electrical components, motors, or switch gears contain capacitors. Capacitors store electrical energy. In some cases, capacitors hold a charge and may release energy very rapidly (e.g., similar to the flash of a camera). In other cases, capacitors are used to remove spikes and surges in order to protect other electrical components. Capacitors must be discharged in the lockout process in order to protect workers from electrical shock.
- Hydraulic and Pneumatic potential energy – Setting the valves in the closed position and locking them into place only isolates the lines from more energy entering the system. In most cases, there will still be residual energy left in the lines as pressurized fluid. This residual energy can be removed by bleeding the lines through pressure relief valves. Verify depressurization or use flange-breaking techniques. Contact the manufacturer for more specific details, or if no pressure relief valves are available, what other methods are available.
- Mechanical potential energy – Carefully release energy from springs that may still be compressed. If this is not

possible, use blocks to hold the parts that may move if the energy is released.
- Gravitational potential energy – If feasible, lower the part to a height where falling is impossible. If this is not possible, contact the manufacturer for guidance.
- Chemical energy – If available, bleed lines and/or cap ends to remove chemicals from the system.

6. Lockout Tagout

6. Lockout Tagout

When the system's energy sources are locked out, there are specific guidelines that must be followed to make sure that the lock cannot be removed, and the system cannot be inadvertently operated. These guidelines include:

- Each lock should only have one key (no master keys are allowed).
- There should be as many locks on the system as there are people working on it. For example, if a maintenance job requires 3 workers, then 3 locks should be present – each of the individuals should place their OWN lock on the system. Locks can only be removed by those who installed them, and should only be removed using a specific process – see step 9 below.

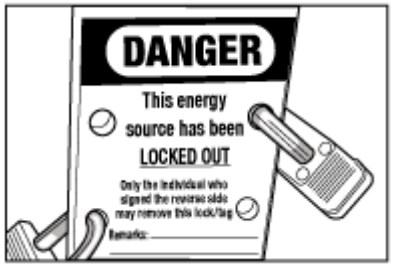

Figure 3: Example of multiple locks on a lockout tag

7. Verify Isolation

7. Verify Isolation

Verify that the system is properly locked out before beginning any

work. Verification can take place in several ways:

- The machine, equipment, or process controls (push buttons, switches, etc.) are engaged or activated and the result is observed. No response means isolation is verified. Return controls to the safe position (off).
- Visual inspection of:
    - Electrical connections to make sure they are open.
    - Suspended parts are lowered to a resting position or blocked to prevent movement.
    - Other devices that restrain machine or process movement.
    - Valve positioning for double block and bleed (for pipes or ducts) – closing two valves of a section of a line, and then bleeding (or venting) the section of the line between the two closed valves.
    - Presence of solid plate used to absolutely close a line – called line blanking (for pipes or ducts).
    - Any other acceptable method of energy isolation.
- Testing of the equipment:
    - Test circuitry (should be done by a certified electrician) – note: equipment with capacitors needs to be cycled until all energy is drained.
    - Check pressure gauges to make sure hydraulic and pneumatic potential energy has been removed.
    - Check temperature gauges to make sure thermal energy has been discharged.

Choose the method that will best make sure that the energy to the system has been isolated without creating other hazards during the verification.

8. Perform Maintenance or Service Activity

8. Perform Maintenance or Service Activity

Complete the activity that required the lockout process to be started.

9. Remove Lockout Tagout devices

9. Remove Lockout Tagout Devices

To remove locks and tags from a system that is now ready to be put back into service, the following general procedure can be used:

- Inspect the work area to make sure all tools and items have been removed.
- Confirm that all employees and persons are safely located away from hazardous areas.
- Verify that controls are in a neutral position.
- Remove devices and re-energize machine.
- Notify affected employees that servicing is completed.

*Note – it is good practice to make sure any individual who placed a lock on the system should also be present when the system is re-started. This practice helps make sure those employees working on the system are not in a hazardous area when the machine is restarted.

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Lockout Tagout Employer's Guide Step 6: Hazardous Energy Control Procedures

What You NEED To Do

HECPs must be developed and documented in writing, and used for cleaning, repairing, servicing, setting-up or adjusting prime movers, machinery, and equipment. Each machine, piece of equipment or prime mover must have separate procedural steps for their safe lockout tagout. Download a model HECP that you can quickly edit and make your own.

BACK TO START | NEXT STEP OF 9

Who is responsible for the lockout program?

Each party in the workplace has a responsibility in the lockout program. In general:

Management is responsible for:

- Drafting, periodically reviewing, and updating the written program.
- Identifying the employees, machines, equipment, and processes included in the program.
- Providing the necessary protective equipment, hardware and appliances.
- Monitoring and measuring conformance with the program.

Supervisors are responsible for:

- Distributing protective equipment, hardware, and any appliance; and ensuring its proper use by employees.
- Making sure that equipment-specific procedures are established for the machines, equipment and processes in their area.
- Making sure that only properly trained employees perform service or maintenance that require lockout.
- Making sure that employees under their supervision follow the established lockout procedures where required.

Authorized individuals are responsible for:

- Following the procedures that have been developed.
- Reporting any problems associated with those procedures, the equipment, or the process of locking and tagging out.

Hazardous Energy Control Procedures (HECPS)

Hazardous Energy Control Procedures (HECPS)

HECPS must be developed and documented in writing, and used for cleaning, repairing, servicing, setting-up or adjusting prime movers, machinery, and equipment.

Each machine, piece of equipment or prime mover must have separate procedural steps for their safe lockout tagout.

Exception

The same procedural steps may be used for the safe lockout tagout of groups or types of prime movers, machines or equipment, under the following conditions:

- Operational controls are configured in a similar manner, **and**
- Locations of disconnect points (energy isolating devices) are identified, **and**
- The sequence of steps to safely lockout or tagout the machinery or equipment are similar.

OR

- Machinery or equipment has a single energy supply that is readily identified and isolated and has no stored or residual hazardous energy.

The HECPS must clearly and specifically outline at least the following:

- The machines, equipment, operations, and processes where they apply (i.e., scope)
- What the procedures are used for (i.e., purpose and intended use)
- The name of the people who will carry out the procedures (i.e., authorization)
- Rules for carrying out the procedures
- The means to enforce compliance with the procedures
- Techniques used for the control of hazardous energy
- The steps (meaning the procedures and requirements) for:

- Shutting down, isolating, blocking, and securing machines or equipment to control hazardous energy;
- The placement, removal, and transfer of lockout tagout devices and who is responsible (i.e., responsibilities) and,
- Testing to determine and verify the effectiveness of lockout and tagout devices and other hazardous energy control devices.

Best Practices - How to Develop Your HECPs

Best Practices – How to Develop Your HECPs

Listed below are the general steps for writing your HECPs. This is followed by more information on each step to help you develop and put into place your HECPs.

- Step 1 – State the purpose and use of your HECPs
- Step 2 – Name the Authorized Employee(s) responsible for carrying out the HECPs and restoring equipment, machines, and prime movers back to service
- Step 3 – Develop specific procedures for the transfer of responsibilities
- Step 4 – State the rules that apply to your HECPs and how you will enforce compliance
- Step 5 – List all the equipment, machinery, prime movers, and ALL their source(s) of hazardous energy that your HECPs apply to
- Step 6 – For each piece of equipment, machinery or prime mover describe the specific techniques and steps to follow in order to control all hazardous energy sources, and how to safely restore the machinery and equipment to service
    - Consider work activities
    - Specify hazardous energy control steps
    - Secure hazardous energy control points
    - Test for effectiveness
    - Restore equipment, machines, and prime movers back to service

Remember that the specific procedures that you need to develop to protect workers depends on:

- Your machines, equipment and prime movers, and
- Their sources of hazardous energy, and
- The work activities being performed

More on the Steps

Employee participation in developing your HECPs is extremely valuable because they can provide valuable information and help identify deficiencies. Also employee participation promotes their acceptance and compliance with the procedures.

Posting your HECPs on or close to the equipment/machine serves as a reminder and improves compliance.

Step 1 – State the purpose and use of your HECPs

Step 2 – Name the Authorized Employee(s) Responsible for Carrying Out the HECPs and Restoring Equipment, Machines, and Prime Movers Back to Service

- Remember, your HECPs can only be carried out by Authorized Employees
- Develop a way to notify all Affected Employees that a lockout is required and the reasons for it

Step 3 – Develop Specific Procedures for the Transfer of Responsibilities

- Procedures must be designed to ensure the orderly transfer of lockout or tagout device protection between off-going and incoming employees, to minimize exposure to hazards from the unexpected energization or start-up of the machines, equipment or prime movers.
- Develop procedures in advance for the transfer of responsibility when the Authorized Employee(s) who applied the lockout or tagout device(s) is not available to remove them (such as during shift or personnel changes). Steps

should include:

- Informing all Affected Employees
- Confirming that the Authorized Employee who applied the device(s) is not at the facility
- Making all reasonable efforts to contact the Authorized Employee who applied the device(s) and inform them that the device(s) have been removed
- Naming in advance the new Authorized Person(s) responsible for the removal of the device(s)
- Specifying the specific steps necessary for the new Authorized Person (s) to remove the lockout or tagout devices that were originally placed (e.g., transfer of keys for locks, or transfer of tags or signs or placement of new locks or tags and signs, etc.)

Step 4 – State the rules that apply to your HECPs and how you will enforce compliance.

Step 5 – List All the Equipment, Machinery, Prime Movers, and ALL their Source(s) of Hazardous Energy that your HECPs apply to.

For each of your machines, equipment, or prime movers make sure to identify all their sources of hazardous energy, and the magnitude of each energy source. Remember that each machine, piece of equipment, or prime mover may have multiple sources of hazardous energy feeding into them. Examples of types of hazardous energy sources include: electrical, mechanical, hydraulic, pneumatic, chemical, thermal, potential, stored, and others.

Once identified, label all hazardous energy source(s) for all machines and equipment to prevent employees from mistaking the machines or equipment it feeds.

Step 6 – For each piece of equipment, machinery, or prime mover describe the specific techniques and steps to follow in order to control all hazardous energy sources and how to safely restore the machinery and equipment to service

a. Consider Work Activities

First consider the work activities of each Authorized or Affected

Employee on the specific machine or piece of equipment, and the potential for injury from hazardous energy sources. Your HECPs must contain procedures to notify all Authorized and Affected Employees each time before any work activities involving lockout tagout start.

b. Specify Hazardous Energy Control Steps

Then specify the steps to control all hazardous energy sources for each machine, piece of equipment or prime mover that you identified. In your procedures, remember to identify and control all hazardous energy sources including main and secondary power supplies, potential, and stored energy (e.g., capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam or water pressure.)

There are three basic ways to control hazardous energy sources which are isolation, blockage, or dissipation at points of control. Include steps and procedures for:

- Shutting down operating equipment by the normal procedure (e.g., depressing a button, opening a toggle switch)
- Hazardous energy control such as:
    - Closing switches, valves
    - Bleeding or draining valves
    - Inserting blank flanges
    - Dissipating, disconnecting, relieving, or restraining potential and stored energy by grounding, repositioning, blocking or bleeding. If there is a possibility of re-accumulation of stored energy to hazardous levels, verification of isolation shall continue until the work is completed.

c. Secure Hazardous Energy Control Points

You must now develop procedures to ensure that the control measures can not be overridden or by-passed. Hazardous energy sources are considered adequately secured for each machine, piece of equipment, or prime mover when an unplanned event would not reactivate the flow of energy or cause inadvertent movement.

Your procedures must specify how lockout and tagout devices will be placed and removed, and if necessary transferred between employees at the point of control. They must also specify who is responsible for each of these functions. There are two basic ways to secure hazardous energy points of control. These are:

- **Lockout** – using personal padlocks (where only the authorized person has the key) or seals that can be readily secured to the point of control
- **Tagout** – posting accident prevention signs and tags which can be readily secured to the point of control. Tagout device attachment means must be of a non-reusable type, attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds.

d. Test for Effectiveness

Once your hazardous energy control procedures have been developed you must also develop procedures to test their effectiveness. These procedures should specify that testing be done each time you de-energize your machines, equipment, and prime movers regardless of the time interval between de-energizing and start-up. Your procedures should also specify that where there is a possibility of re-accumulation of energy to hazardous levels, testing should be continued until work activities are completed. Procedures for testing should include:

- Removal of employees from the area of the machine, equipment, or prime mover
- Having Authorized Employee push the start button to activate the machine, equipment, or prime mover to make sure it does not start. This means all energy sources have been positively locked out
- Returning controls to the “off” position following testing which means the machine, equipment, or prime mover is now locked out.

If sensing devices are used for testing they must be used according to established procedures and be regularly inspected and/or calibrated.

e. Restore Equipment, Machines, and Prime Movers Back to Service

You must develop procedural steps for the removal of lockout and tagout devices. The same Authorized Employee(s) responsible for carrying out the Hazardous Energy Control Procedures should be responsible for restoring machines, equipment, and prime movers back to their normal operation. Steps include:

- Installing guards and verifying that the equipment is fully assembled and ready to resume safe operation.
- Removing unnecessary tools, spare parts, etc.
- Notifying all employees who would be affected by the startup of the equipment to be safely positioned before the lockout device(s) are removed.
- Removing materials and hardware (i.e., locks, tags etc.)
- Re-energizing machines, equipment, and prime movers

Remember, you must also develop in advance a procedure for the transfer of responsibility when the Authorized Employee(s) who applied the lockout or tagout device(s) is not available to remove them (see Step 2, above).

BACK TO START | NEXT STEP

Lockout Tagout Employer's Guide Step 7: Lockout Tagout Solutions

What You NEED To Do

Having the right tools for the job is important no matter what industry you work in, but when it comes to lockout safety, it is critical that you have the most versatile and sure-fit devices available for your employees. Four types of lockout devices are available to help you meet OSHA requirements in your facility and establish responsibility and accountability among your employees.

BACK TO START | NEXT STEP OF 9

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1. Padlocks

1. Padlocks

Like all lockout devices, safety lockout padlocks must be provided by the employer and standardized. They must be distinguishable from other locks, used only for lockout purposes and always be identifiable with the name of the person who applied the lock.

Optimally, lockout padlocks should be key-retaining to ensure the padlock is secured and locked before the key can be removed. A best practice for choosing a safety padlock is to select a lightweight, non-conductive model that can easily be customized for your facility.

2. Tags

2. Tags

2. Tags play a critical role in lockout tagout. They provide a warning against hazardous conditions that may occur if a machine or piece of equipment is energized. Tags communicate important information about the lockout condition and can provide photo identification of the employee performing the

maintenance.

Lockout tags commonly are used in two ways: With locks to identify the lock owner; or on an exception basis, tags can be used without a lock. If the tag is used without a lock, OSHA stipulates the tag must:

- Withstand the environment to which it is exposed
- Be standardized and distinguishable from other tags
- Include clear warnings and instructions
- Be attached with a non-reusable, self-locking device that can withstand 50 pounds of pull force

3. Devices

3. Devices

Many different types of lockout devices are available to effectively and safely secure energy isolation points. Three types of lockout devices will help ensure the energy isolation and lockout that are needed in every facility.

Electrical lockout devices: These provide ways to secure the electrical power of machinery equipment in an “off” position. Examples include circuit breaker lockout devices and an electrical plug lockout device.

Multi-purpose cable lockout devices: These devices are used when a padlock or other fixed device does not provide the flexibility required for proper lockout. Often, a single cable lockout device is used to lock out several energy isolation points.

Valve lockout devices: A wide variety of valves supply compressed gases, liquids, steam and more in a facility. A valve lockout device will conceal or physically prevent the valve’s operation. The four main types are gate valves, ball valves, plug valves and butterfly valves.

4. Safety Hasps

4. Safety hasps

Safety hasps permit multiple workers to apply padlocks to a single energy isolation point. The two types of safety hasps are labeled lockout hasps, which feature write-on labels, and durable steel lockout hasps that are made of high-tensile steel.

Here is a link to various devices available for LOTO on Grainger.

BACK TO START | **NEXT STEP**

Lockout Tagout Employer's Guide Step 8: Training

What You NEED To Do
Your LOTO program is only valuable if all your employees are trained on LOTO fundamentals and your organizations process. ICW Group has instructor-led and online safety training for you to use, but it is also critical that you communicate your specific LOTO procedure and policy as well.

BACK TO START | **NEXT STEP OF 9**

Lockout Tagout Training.

Lockout Tagout Interactive Training Program. OSHA eTool.

Small Business Handbook. OSHA Publication 2209, (2005).

Lockout Tagout. National Ag Safety Database (NASD) Research Publications-11.

BACK TO START | **NEXT STEP**

Lockout Tagout Employer's Guide Step 9: Audit

What You NEED To Do
Lockout Tagout (LOTO) procedures are used to make sure that a machine or equipment is isolated from the energy source and rendered inoperative. The OSHA LOTO standard has ranked among the top five most cited violations for each of the last five consecutive years. Download a model LOTO procedure that you can quickly edit and make your own. **BACK TO START**

OSHA's Lockout Tagout Standard

Lockout Tagout (or isolation) aims to protect workers from the unexpected release of stored energy during the servicing and maintenance of machines and equipment. There are many sources of hazardous energy, including electrical, mechanical, hydraulic, pneumatic, chemical, thermal, etc. The unexpected startup or release of stored energy can result in serious injury or fatality.

According to OSHA, **failure to control hazardous energy accounts for almost 10% of serious accidents in many industries**. Craft workers, electricians, machine operators, and laborers are among the 3 million workers in the U.S. who service equipment routinely and face the greatest risk of injury.

Lockout Tagout (LOTO) procedures are used to make sure that a machine or equipment is isolated from the energy source and rendered inoperative. The OSHA LOTO standard has ranked among the top five most cited violations for each of the last five consecutive years.

Audits and Inspections Are Different

OSHA's LOTO standard requires periodic inspections:

1910.147(c)(6)(i): *The employer shall conduct a periodic inspection of the energy control procedure at least annually to ensure that the procedure and the requirements of this standard are being followed.*

1910.147(c)(6)(ii): *The employer shall certify that the periodic inspections have been performed. The certification shall identify the machine or equipment on which the energy control procedure was being utilized, the date of the inspection, the employees included in the inspection, and the person performing the inspection.*

Be careful not to confuse inspections required by OSHA, and audits that verify whether inspections are being performed. In addition to inspections, conduct an annual audit to ensure compliance and to verify the effectiveness of your energy control or LOTO program.

Here are the main items to verify during the audit:

- **Energy control procedures**: Are procedures developed, documented and used for the control of potentially hazardous energy for each applicable machine or equipment? A generic procedure for all machines and equipment will not work. Also, check out section 1910.147(c)(4)(i) of the standard for a list of exceptions regarding the documentation of procedures.
- **Protective materials and hardware**: Are locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners, or other hardware provided for isolating, securing or blocking machines or equipment from energy sources? Are they durable and easily identifiable?
- **Periodic Inspections**: Are periodic inspections of energy control procedures conducted at least annually to correct deviations or inadequacies? Are there certifications identifying the machine or equipment associated to the procedure, the date of the inspection, employees included in

the inspection and the person performing the inspection?

- **Training**: Is training provided to ensure that the purpose of the energy control program is understood, and that knowledge and skills required for the safe application, usage and removal of energy controls are acquired? Is there retraining when there is a change in job assignments, a change in machines, equipment or processes that present a new hazard, or a change in the energy control procedures?

BACK TO START

Ergonomics Fatality File

Work-Induced Carpal Tunnel Syndrome

Carpal tunnel syndrome (CTS) is common in people working in a variety of professions. CTS is caused by frequent, repetitive movements of the upper limb, frequent bending and strain of the elbow, and hand-arm vibrations. Dentists, dental hygienists and dental assistants, soldiers, laboratory workers, and secretaries are some of those at risk due to their occupation. Presently described is a case with the diagnosis of work-related carpal tunnel syndrome.

The patient was 46 years old and female. She was referred to the occupational diseases polyclinic for a suspicious lesion on the lungs. She had a complaint of numbness in her hands. She was exposed to repeated hand-wrist movements and hand wrist force.

Testing led to a diagnosis of carpal tunnel syndrome. Musculoskeletal system diseases are common in occupational diseases. Employees are often exposed to various risks in the work environment and frequently systemically affected. This case is a clear reminder of the value and importance of a detailed anamnesis

and work history.

Carpal tunnel syndrome (CTS) is one of the most common musculoskeletal disorders in the working population. CTS is a disease caused by excessive pressure on the median nerve passing through the wrist carpal tunnel. If CTS is not treated, the patient may develop pain, numbness, loss of strength. CTS can be treated with surgical decompression in the later period. Dentists, dental hygienists and dental assistants, soldiers, laboratory workers and secretaries are at risk due to occupationally. For this reason, we found it appropriate to present a case with carpal tunnel syndrome.

Ergonomics Fatality File – Spanish

Síndrome del túnel carpiano inducido por el trabajo

El síndrome del túnel carpiano (STC) es frecuente en personas que trabajan en diversas profesiones. El STC está causado por los movimientos frecuentes y repetitivos de la extremidad superior, la flexión y tensión frecuentes del codo y las vibraciones mano-brazo. Los dentistas, los higienistas y los asistentes dentales, los soldados, los trabajadores de laboratorio y las secretarias son algunas de las personas que corren riesgo debido a su ocupación. Actualmente se describe un caso con el diagnóstico de síndrome del túnel carpiano relacionado con el trabajo.

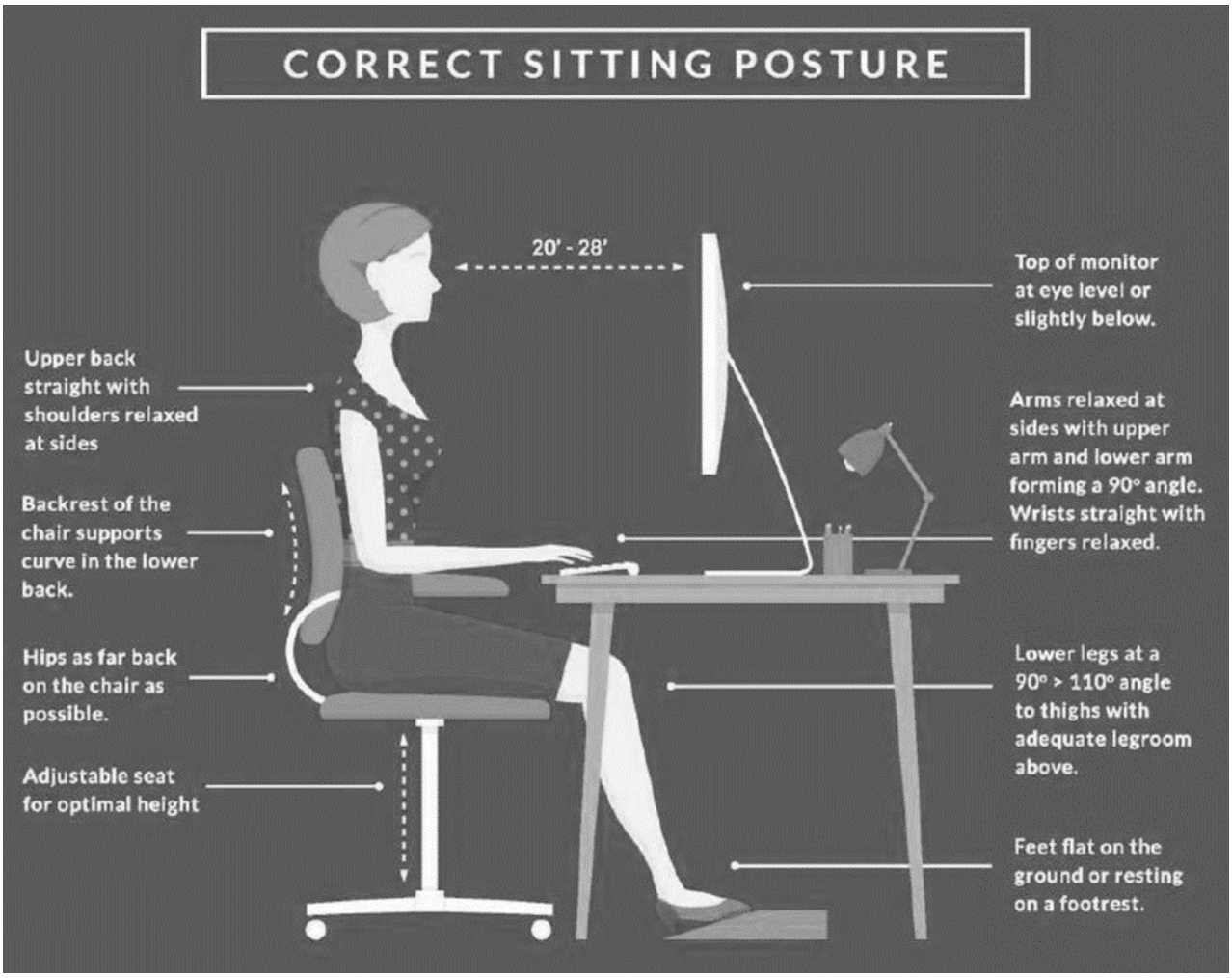
La paciente tenía 46 años y era mujer. Fue remitida a la policlínica de enfermedades profesionales por una lesión sospechosa en los pulmones. Se quejaba de adormecimiento de las

manos. Estaba expuesta a repetidos movimientos de la mano-muñeca y a la fuerza de la mano-muñeca.

Las pruebas condujeron a un diagnóstico de síndrome del túnel carpiano. Las enfermedades del sistema musculoesquelético son habituales en las enfermedades profesionales. Los empleados suelen estar expuestos a diversos riesgos en el entorno laboral y con frecuencia se ven afectados sistémicamente. Este caso es un claro recordatorio del valor y la importancia de una anamnesis e historial laboral detallados.

El síndrome del túnel carpiano (STC) es uno de los trastornos musculoesqueléticos más comunes en la población trabajadora. El STC es una enfermedad causada por una presión excesiva sobre el nervio mediano que pasa por el túnel carpiano de la muñeca. Si el STC no se trata, el paciente puede desarrollar dolor, entumecimiento y pérdida de fuerza. El STC puede tratarse con una descompresión quirúrgica en el período posterior. Los dentistas, los higienistas y los asistentes dentales, los soldados, los trabajadores de laboratorio y las secretarias están en riesgo debido a la ocupación. Por este motivo, nos ha parecido oportuno presentar un caso de síndrome del túnel carpiano.

Ergonomics Infographic



Source: https://www.purdue.edu/

Ergonomics Infographic – Spanish



Fuente: https://aizpuruaasesoresblog.files

Establishing A Hazard Communication Program Meeting Kit

What’s At Stake

OSHA’s hazard communication standard (HazCom or HCS) requires employers with hazardous chemicals in the workplace to implement a formal hazard communication program that includes processes for managing and maintaining safety data sheets (SDSs), container labels, chemical inventory lists, a written HCS plan, and employee training on OSHA’s HCS standard specific to the employer’s work environment.

What’s the Danger

AVOID THESE MISTAKES IN THE WORKPLACE

Mistake 1: Relying Too Heavily on the SDS Information

Mistake 2: Not Reviewing the SDS before Using the Chemical

Mistake 3: Not Having the Proper PPE for the Chemicals Used in the Workplace

Mistake 4: Failing to Label Containers of Chemicals

Mistake 5: Not Making HazCom Training Site-Specific

Mistake 6: Inadequate Precautions about Smoking & Chemicals

HOW TO PROTECT YOURSELF

SIX KEY STEPS TO IMPLEMENT A HCS PROGRAM

Step ONE: Know the Standard and Identify Who Will Manage It. Learning OSHA’s hazard communication standard and understanding how it affects you and your workforce is the first step for employers that produce, use or store hazardous chemicals.

Designating the appropriate personnel to manage it. It’s best to identify a specific employee or group of qualified individuals to implement and oversee associated activities, such as training.

Step TWO: Prepare and Implement a Written Plan. All workplaces

where employees are exposed to hazardous chemicals must have a written HCS plan describing, in detail, how that facility will implement the standard.

A written HCS plan must include an inventory of all hazardous chemicals present in the workplace. OSHA recommends preparing this list using the product identifier (e.g., product name, common name, or chemical name) to more easily track the status of SDSs and labels for a particular chemical. It's equally important that the product identifier be the same name that appears on the label and SDS for that chemical.

Step THREE: Ensure Chemical Containers Are Labeled. OSHA requires that all hazardous chemical containers in the workplace be sufficiently labeled. When it comes to workplace or secondary container label compliance, you have the option to replicate the corresponding HCS-compliant shipped label, or choose an alternative labeling system that uses a combination of the UN's Globally Harmonized System (GHS) elements that, in conjunction with training and other information, provide employees with immediate access to information on chemical hazards.

Step FOUR: Maintain Your Safety Data Sheets (SDSs). SDSs are required for all hazardous chemicals in the workplace, and must be made accessible to employees during work shifts. Traditionally, this has been accomplished by managing physical copies of SDSs in three-ring binders. However, a more modern and cost-efficient method is to use an online software system that electronically manages these documents. A good chemical management software solution stores SDSs in a secure, cloud-based library – making them readily-accessible to your employees. The best solutions offer an online database of indexed, manufacturer-original documents to help you track down and obtain newly updated or missing SDSs, and are mobile-enabled so employees can access them no matter where they are – even from remote, offline locations.

Step FIVE: Inform and Train Employees. Workers must receive training in accessing and using the information on labels and SDSs. They must also be aware of the protective measures available in the workplace, how to use or implement these measures, who to

contact if issues arise, and all other aspects of your HCS program.

A key provision of OSHA’s HCS training requirement is that it occurs in a language and manner that employees understand, and reoccur whenever necessary to ensure retention.

One area often overlooked by employers is the need to retrain employees regularly. This should occur whenever new employees come on-board, new hazardous chemicals are introduced to the workplace, or when employee retention of previous content has been lost.

Step SIX: Evaluate and Reassess Your Program. Your hazard communication program must remain current and relevant for you and your employees. This is best achieved by periodically reviewing your program to make sure it’s effective in protecting employees from chemical hazards and revise your Written Plan as appropriate to address any workplace changes, such as the introduction of new chemicals, new hazards, or changes to processes, policies and personnel, etc.

FINAL WORD

A HazCom program describes how your organization will meet the provisions for labeling, safety data sheets and employee training. The program should also include a list of all hazardous chemicals in the workplace, how the employer will inform employees of the hazards of non-routine tasks and the hazards associated with chemicals contained in unlabeled pipes in their work areas.

Establishing A Hazard

Communication Program Meeting Kit – Spanish

QUÉ ESTÁ EN RIESGO

La norma de comunicación de riesgos de la OSHA (HazCom o HCS) exige a los empleadores con productos químicos peligrosos en el lugar de trabajo que apliquen un programa formal de comunicación de riesgos que incluya procesos para gestionar y mantener las hojas de datos de seguridad (SDS), las etiquetas de los contenedores, las listas de inventario de productos químicos, un plan HCS por escrito y la capacitación de los empleados sobre la norma HCS de la OSHA específica para el entorno de trabajo del empleador.

CUÁL ES EL PELIGRO

EVITE ESTOS ERRORES EN EL LUGAR DE TRABAJO

Error 1: Confiar demasiado en la información de la FDS
Error 2: No revisar la FDS antes de utilizar el producto químico
Error 3: No tener el EPP adecuado para los productos químicos utilizados en el lugar de trabajo
Error 4: No etiquetar los contenedores de sustancias químicas
Error 5: No hacer la capacitación sobre HazCom específica para el lugar de trabajo
Error 6: Precauciones inadecuadas sobre el tabaquismo y las sustancias químicas

COMO PROTEGERSE

SEIS PASOS CLAVE PARA IMPLEMENTAR UN PROGRAMA DE HCS

Paso UNO: Conozca la norma e identifique quién la gestionará. Conocer la norma de comunicación de riesgos de la OSHA y comprender cómo le afecta a usted y a su personal es el primer

paso para los empleadores que producen, utilizan o almacenan sustancias químicas peligrosas.
Designar al personal adecuado para gestionarla. Lo mejor es identificar a un empleado específico o a un grupo de personas cualificadas para implementar y supervisar las actividades asociadas, como la capacitación.
Segundo paso: Preparar y aplicar un plan escrito. Todos los lugares de trabajo en los que los empleados están expuestos a sustancias químicas peligrosas deben contar con un plan HCS por escrito que describa, de forma detallada, cómo esa instalación aplicará la norma.
Un plan HCS escrito debe incluir un inventario de todas las sustancias químicas peligrosas presentes en el lugar de trabajo. La OSHA recomienda preparar esta lista utilizando el identificador del producto (por ejemplo, el nombre del producto, el nombre común o el nombre químico) para rastrear más fácilmente el estado de las FDS y las etiquetas de una sustancia química concreta. Es igualmente importante que el identificador del producto sea el mismo nombre que aparece en la etiqueta y en la FDS de esa sustancia química.
Paso TRES: Asegúrese de que los contenedores de productos químicos estén etiquetados. La OSHA exige que todos los contenedores de sustancias químicas peligrosas en el lugar de trabajo estén suficientemente etiquetados. Cuando se trata del cumplimiento de la etiqueta del lugar de trabajo o del contenedor secundario, tiene la opción de replicar la etiqueta correspondiente que cumple con la HCS, o elegir un sistema de etiquetado alternativo que utiliza una combinación de los elementos del Sistema Globalmente Armonizado (SGA) de la ONU que, junto con la capacitación y otra información, proporciona a los empleados un acceso inmediato a la información sobre los peligros químicos.
Paso CUARTO: Mantenga sus hojas de datos de seguridad (SDS). Las FDS son obligatorias para todas las sustancias químicas peligrosas en el lugar de trabajo, y deben estar accesibles para los empleados durante los turnos de trabajo. Tradicionalmente, esto se ha logrado mediante la gestión de copias físicas de las FDS en carpetas de tres anillos. Sin embargo, un método más moderno y rentable es utilizar un sistema de software en línea que gestione

electrónicamente estos documentos. Una buena solución de software de gestión de sustancias químicas almacena las FDS en una biblioteca segura basada en la nube, lo que las hace fácilmente accesibles para sus empleados. Las mejores soluciones ofrecen una base de datos en línea de documentos indexados y originales del fabricante para ayudarle a localizar y obtener las FDS recién actualizadas o que faltan, y están habilitadas para dispositivos móviles, de modo que los empleados puedan acceder a ellas sin importar dónde se encuentren, incluso desde ubicaciones remotas y sin conexión.

Paso CINCO: Informar y capacitar a los empleados. Los trabajadores deben recibir capacitación para acceder y utilizar la información de las etiquetas y las FDS. También deben conocer las medidas de protección disponibles en el lugar de trabajo, cómo utilizar o aplicar estas medidas, a quién dirigirse si surgen problemas y todos los demás aspectos de su programa HCS.

Una disposición clave del requisito de capacitación en HCS de la OSHA es que se produzca en un idioma y de una manera que los empleados entiendan, y que se repita siempre que sea necesario para garantizar la retención.

Un aspecto que los empleadores suelen pasar por alto es la necesidad de volver a capacitar a los empleados con regularidad. Esto debe ocurrir siempre que se incorporen nuevos empleados, se introduzcan nuevas sustancias químicas peligrosas en el lugar de trabajo o cuando se pierda la retención del contenido anterior por parte de los empleados.

Paso SEIS: Evaluar y reevaluar su programa. Su programa de comunicación de riesgos debe permanecer actualizado y relevante para usted y sus empleados. La mejor manera de lograrlo es revisar periódicamente su programa para asegurarse de que es eficaz para proteger a los empleados de los peligros químicos y revisar su Plan Escrito según corresponda para abordar cualquier cambio en el lugar de trabajo, como la introducción de nuevas sustancias químicas, nuevos peligros o cambios en los procesos, políticas y personal, etc.

CONCLUSIÓN

Un programa HazCom describe el modo en que su organización cumplirá las disposiciones sobre etiquetado, hojas de datos de seguridad y capacitación de los empleados. El programa también debe incluir una lista de todas las sustancias químicas peligrosas en el lugar de trabajo, la forma en que el empleador informará a los empleados de los peligros de las tareas no rutinarias y los peligros asociados a las sustancias químicas contenidas en las tuberías no etiquetadas en sus áreas de trabajo.

Workplace Violence Meeting Kit

Workplace violence is any threat, disruptive behaviors, intimidation, physical aggression, or act of violence in the workplace including homicide.

Workplace violence is one of the major causes of death in the corporate world, second only to transportation. This growing issue can have very damaging effects on morale, reputation and revenue; making it something business have to address now.

Different factors contribute to whether someone may experience violence at work. People who work where money is exchanged are at a higher risk factor for workplace violence. Other career fields such as EMS, police officers, healthcare workers, customer service representatives, and delivery drivers are more likely to experience violence while on the job. Factors such as time of day worked, geographical area of work, working alone or in small groups, also has impact on whether someone is more likely to experience workplace violence.

THOSE AT RISK OF WORKPLACE VIOLENCE

The health care industry is one of the most susceptible to workplace violence. Nearly half of emergency physicians say they have experienced a physical assault at work. Some of the other vulnerable industries include education, transportation and retail.

Women in particular are vulnerable to domestic violence in the workplace.

They have more than double the rate of on-the-job homicides than men (19% to 8%), with 32% of the homicides committed by a domestic partner.

Taxi drivers, healthcare workers, and other social work occupations have some of the highest rates of workplace violence.

The occupations with the highest risk of workplace violence include any that interact with the public, are open after dark, and serve alcohol.

Many workplace risk factors can increase the likelihood of violence at work. Employees may be at higher risk of violence if they:

- Exchange money with the public – for example, as sales associates or bank tellers.
- Work with volatile, unstable people.
- Work alone, in a small group or an isolated area.
- Provide services or care.
- Work in an establishment that serves alcohol.
- Work late at night or in an area with a high crime rate.
- Work as delivery or taxi drivers, health care professionals, customer service reps, public service workers or law enforcement officers.

MEASURES TO PREVENT WORKPLACE

VIOLENCE

Research shows that preventing workplace violence is possible even with a small amount of effort.

1. Analyze your workplace: A thorough analysis of your workplace is necessary to understand where the bulk of your workplace violence prevention training should focus. Ask yourself these questions.

- Has there been violence in your workplace before?
- When, what kind, and who was involved?
- How was it handled?
- What systems were put in place afterwards, and were they effective?
- If there have been no violent incidents in your company's history, what are you doing well?
- Are there gaps in your workplace violence policies? Where?
- How safe is the physical environment? Which doors stay locked? How are employees protected if they leave late at night?

2. Create a supportive environment: Every training program starts with developing a relationship with employees. It is important that you and your HR department make employees feel heard and supported at work.

3. Offer communication and empathy training: Workplace violence training is often about how to handle a violent episode as it is occurring, but offering workers training in effective, empathic communication can prevent it before it starts.

4. Establish a clear workplace violence policy: How will you handle workplace violence? What supports or disciplinary actions are in place for verbal and nonverbal threats and actions?

5. Commit to a non-violent workplace: Commitment to a non-violent workplace means regularly allocating resources – money and time – to training workers and preventing workplace violence.

6. Train employees to recognize warning signs: Training employees

to be alert to warning signs of potential workplace violence can stop an incident before it starts. Warning signs of potential violence include some or all of the following:

- Excessive use of alcohol or drugs
- Behavioral changes that include poor job performance
- Depression or withdrawal
- Complaints about unfair treatment
- Violation of company policies
- Mood swings and overreaction to criticism or evaluations
- Paranoia

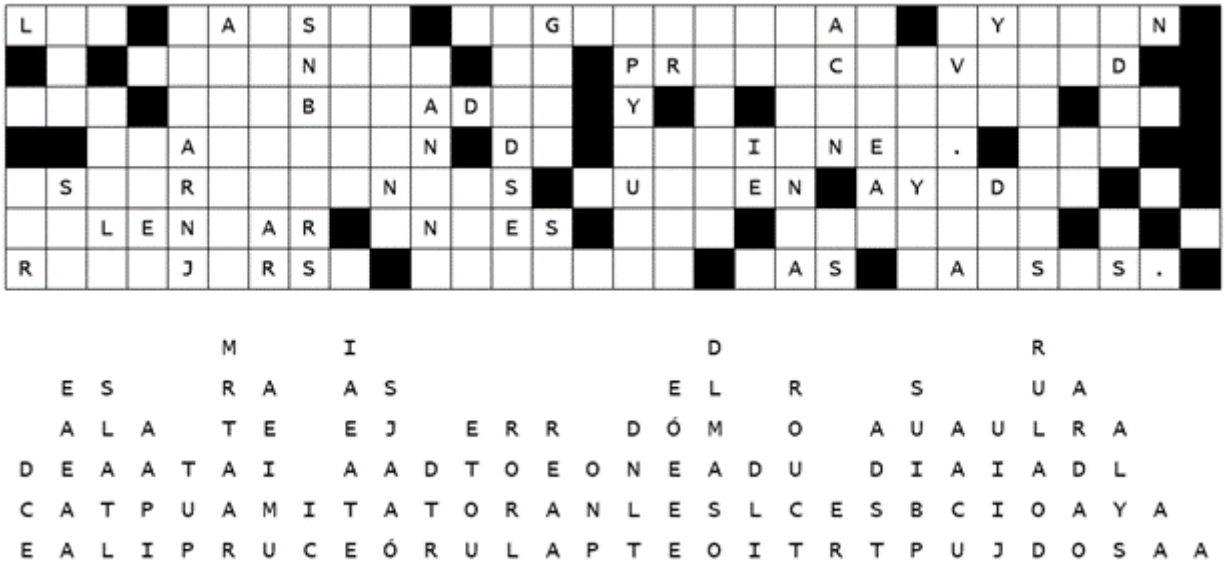
7. Create an action plan, share it with employees, and practice: The 1950s had nuclear attack drills; these have been replaced in the 21st century by active shooter simulations and lockdown drills. No one wants to think about the worst-case scenario, much less practice it regularly, but having a plan in place could save lives.

FINAL WORD

Report any suspicious activities whether it be the public or another employee when dealing with situations that can lead to violence on the job. When faced with workplace violence dealing with another coworker, do not become confrontational with them. Leave the area when you can do so safely and report the situation immediately to a supervisor. If your immediate supervisor does not take the report seriously, go to a higher level of supervision to correct the issue.

Ergonomic Breaks, Rest Periods,

and Stretches Fallen Phrases – Spanish



Respuesta:

Las pausas ergonómicas ayudan a aumentar la productividad del trabajador y a reducir la aparición de lesiones. Los estiramientos pueden ayudar a calentar antes del trabajo y a relajarse durante las pausas.

Ergonomics Meeting Kit – Spanish

QUÉ ESTÁ EN RIESGO

EL OBJETIVO

La ergonomía (es decir, el estudio científico de las personas en el trabajo) consiste en prevenir las lesiones de los tejidos blandos y los trastornos musculoesqueléticos (TME) causados por la

exposición repentina o sostenida a la fuerza, las vibraciones, los movimientos repetitivos y las posturas incómodas. Para crear un entorno de trabajo ergonómico, los ergónomos e higienistas industriales recomiendan diseñar las tareas, los espacios de trabajo, los controles, las pantallas, las herramientas, la iluminación y los equipos de forma que se adapten a las capacidades y limitaciones físicas de los empleados.

CUÁL ES EL PELIGRO

SÍNTOMAS COMUNES DE LAS LESIONES ERGONÓMICAS

Los problemas ergonómicos surgen con mayor frecuencia en el cuello, los hombros, la espalda o las extremidades de una persona. Dependiendo de la condición, los síntomas comunes pueden incluir

- Hormigueo o adormecimiento
- Dolor sordo y punzante, agudo y punzante, o ardor
- Debilidad muscular, disminución de la fuerza de agarre o calambres
- Pérdida de coordinación
- Disminución de la amplitud de movimiento o incomodidad
- Frialdad o decoloración de la zona afectada
- Hinchazón de la inflamación
- Rigidez articular
- Fatiga visual
- Visión borrosa
- Ardor o lagrimeo en los ojos

COMO PROTEGERSE

PREVENCIÓN MEDIANTE LA ERGONOMÍA: EL ANÁLISIS DE RIESGOS

Evaluar los peligros relacionados con el trabajo y minimizar el riesgo de lesiones es una parte fundamental para controlar el coste de las lesiones relacionadas con el trabajo, mantener a los empleados sanos y devolver a los empleados lesionados al trabajo más rápidamente. Los elementos importantes de un proceso ergonómico son

Proporcionar apoyo a la dirección – Un fuerte compromiso por parte de la dirección es fundamental para el éxito general de un proceso ergonómico. La dirección debe definir metas y objetivos claros para el proceso ergonómico, discutirlos con sus trabajadores, asignar responsabilidades a los miembros del personal designados y comunicarse claramente con la plantilla.

Involucrar a los trabajadores – Un enfoque ergonómico participativo, en el que los trabajadores se involucren directamente en las evaluaciones del lugar de trabajo, el desarrollo de soluciones y la implementación es la esencia de un proceso ergonómico exitoso. Los trabajadores pueden: Identificar y proporcionar información importante sobre los peligros en sus lugares de trabajo.

Identificar los problemas – Un paso importante en el proceso ergonómico es identificar y evaluar los problemas ergonómicos en el lugar de trabajo antes de que den lugar a los TCE.

Fomentar la notificación temprana de los síntomas de TCE – La notificación temprana puede acelerar el proceso de evaluación y mejora del puesto de trabajo, ayudando a prevenir o reducir la progresión de los síntomas, el desarrollo de lesiones graves y las subsiguientes reclamaciones por tiempo perdido.

Evaluar el progreso – Es necesario establecer procedimientos de evaluación y acción correctiva para evaluar periódicamente la eficacia del proceso ergonómico y garantizar su mejora continua y su éxito a largo plazo. Cuando un proceso ergonómico se está desarrollando por primera vez, las evaluaciones deben incluir la determinación de si los objetivos establecidos para el proceso ergonómico se han cumplido y la determinación del éxito de las soluciones ergonómicas implementadas.

QUÉ HACER Y QUÉ NO HACER EN LOS PUESTOS DE TRABAJO PARA EVITAR EL DOLOR

Muévase. Ponga una alarma para que se lo recuerde si lo necesita. Estar sentado durante mucho tiempo causa estragos en la columna vertebral y en la circulación. Levántese, estírese, ¡Muévase!

Intente mantener su cuerpo en una postura neutra, que crea la menor tensión en su cuerpo.
Mantenga su escritorio despejado para no forzar su cuerpo a trabajar de forma incómoda entre el desorden.
Utilice auriculares si pasa una buena parte del día al teléfono.
Invierta en elementos esenciales para el puesto de trabajo que sean ergonómicos y asegúrese de que se ajustan a sus necesidades.
NO mantenga el monitor demasiado cerca o demasiado lejos, ni se encorve sobre el portátil. Esto puede provocar fatiga visual y dolores de cabeza, además de dolor de cuello y espalda.
NO utilice un escritorio o una silla que no tenga la altura adecuada para tu tamaño. Cada persona es diferente; encuentre lo que le funciona.
NO coloque el teléfono entre el hombro y la oreja.

MEJORES PRÁCTICAS ERGONÓMICAS PARA TRABAJAR SIN DOLOR

Adapte sus hábitos de trabajo y su área de trabajo para poder trabajar cómodamente sin estrés ni tensión.

La tensión en la espalda – es una lesión común causada por estar sentado o de pie en una posición incorrecta durante largos períodos de tiempo. Puedes prevenir las lesiones de espalda utilizando un reposapiés o un puesto de trabajo multiposición en el que puedas estar sentado o de pie. Cambiando de posición con frecuencia, puedes aliviar la tensión de los músculos de la espalda y las piernas.

Tensión en el cuello: puede estar causada por mantener los brazos en una posición incorrecta. La tensión adicional en los brazos y las manos afectará también a los músculos del cuello. Para los usuarios de ordenadores, la parte superior de la pantalla debe estar a la altura de los ojos.

Síndrome del Túnel Carpiano – es otra lesión por esfuerzo repetitivo que puede inutilizar permanentemente las manos y las muñecas. El factor principal de una lesión por STC es la posición de la mano y la muñeca. Una altura incorrecta o una posición incómoda de las muñecas dobladas aumentará el riesgo de forma drástica. ¿Está su mesa de trabajo a una altura cómoda? ¿Y su

silla o taburete? ¿Mantiene los brazos en una posición “neutra” o nivelada? Ejemplos de ocupaciones que tienen un alto índice de STC son los carpinteros, los cajeros y los agentes de reservas de las aerolíneas.

Tensión en los hombros: es común cuando los suministros se colocan a una altura incómoda. Doblar, estirar o levantar en exceso puede suponer una presión añadida sobre la articulación del hombro. ¿Puede reorganizar su área de trabajo para eliminar esta tensión?

Tensión muscular: puede estar causada por muchas cosas, como trabajar demasiado tiempo en la misma posición, e incluso por el estrés. ¿Incorpora algunas pausas breves y ejercicios de estiramiento en su jornada laboral para evitar las lesiones por tensión y la fatiga? Unos simples ejercicios de estiramiento, flexión y fortalecimiento pueden reducir las posibilidades de sufrir lesiones. También es importante calentar con algunos ejercicios antes de empezar a trabajar.

CONCLUSIÓN

Además de reducir el riesgo de lesiones, una buena ergonomía y un entorno de trabajo saludable pueden aumentar la productividad, mejorar la calidad, reducir las repeticiones de trabajo, disminuir las tasas de rotación de los empleados, reducir los costes de formación y mejorar la moral en el lugar de trabajo.

Ergonomics Stats and Facts

FACTS

Prolonged exposure to ergonomic risk factors can cause MSDs. Conditions that cause MSD problems include:

1. Exerting excessive force.
2. Excessive repetition of movements that can irritate tendons and increase pressure on nerves.
3. Awkward postures, or unsupported positions that stretch physical limits, can compress nerves and irritate tendons.
4. Static postures, or positions that a worker must hold for long periods of time, can restrict blood flow and damage muscles.
5. Motion, such as increased speed or acceleration when bending and twisting, can increase the amount of force exerted on the body.
6. Compression, from grasping sharp edges like tool handles, can concentrate force on small areas of the body, reduce blood flow, nerve transmission and damage tendon sheaths.
7. Inadequate recovery time due to overtime, lack of breaks and failure to vary tasks, leave inadequate time for tissue healing
8. MSDs can affect nearly all tissue in the body: nerves, tendons, tendon sheaths and muscles. The most frequently affected areas of the body are arms and the back.

STATS

- Ergonomics-related injuries accounted for over 380,000 days-away-from-work cases. That means 1 in every 3 cases are because of an ergonomics issue. (Bureau of Labor Statistics)
- Carpel tunnel syndrome may affect as many as 1.9 million people in the United States. Doctors perform up to 500,000 surgeries each year to correct this issue. (Centers for Disease Control and Prevention [CDC])
- There were almost 27,000 CTS cases which involved days away from work, averaging 25 days away compared to just 6 days for all non-fatal illnesses and injuries. (Bureau of Labor Statistics)
- Back symptoms are among the top ten reasons for medical visits. For 5% to 10% of patients, the back pain becomes chronic.
- The Bureau of Labor Statistics reported 372,683 back injury

cases involving days away from work. Most cases involved workers who were aged 25–54 (79%), male (64%), and white, non-Hispanic (70%)

- Two occupational groups accounted for more than 54% of back injury cases: operators, fabricators, and laborers (38%); and precision production, craft, and repair (17%).
- The healthy body can only tolerate staying in one position for about 20 minutes. After that time, most workers will experience discomfort.