

Identifying and Addressing Ergonomic Hazards Workbook

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Midwest Worker Center Ergonomic Training Project

Table of Contents

Participant Agenda	2
How do workers get hurt at work?	3
What is ergonomics	4
What are Musculoskeletal Disorders r MSDs?	4
Symptoms of MSDs.....	7
Ergonomic Risk Factors.....	8
Some ways to reduce ergonomic risks.....	9
Analyzing your work station & identifying solutions	13
Taking Action	15
What are the advantages of ergonomics.....	16
Solutions to common barriers.....	16
Workers Rights under the OSH Act	17
What is OSHA?	17
What is OSHA’s mission?.....	17
What workers are covered under the OSH Act.....	18
Your Five Basic Rights under OSHA	19
Employer Responsibilities under the OSH Act.....	27

Produced by the Midwest Worker Center Ergonomic Training Project (MWCETP) The MWCETP is a partnership made up of three worker centers in the upper Midwest: Voces de la Frontera (Milwaukee, WI), ARISE Chicago and The Workers’ Rights Center (Madison, WI).

Participant Agenda

Identifying and Addressing Ergonomic Hazards

General Industry

1. Pre Test & Introductions **10 minutes**
2. How do workers get hurt at work? **10 minutes**
3. What is ergonomics? **5 minutes**
4. What are Musculoskeletal Disorders or MSDs? **5 minutes**
5. Ergonomic Risk Factors-repetition, awkward posture, forceful motion, stationary position, direct pressure, vibration, extreme temperature, noise, and work stress **5 minutes**
6. Some ways to reduce risk **10 minutes**
7. Analyzing your work station & identifying solutions-Small groups **20 minutes**
10 minutes break
8. Report back **5 minutes**
9. Taking Action **15 minutes**
10. Workers Rights under the OSH Act **15 minutes**
11. Employer Responsibilities under the OSH Act **5 minutes**
10. Post Test & Evaluation **5 minutes**

How Do People Get Hurt at Work?

Take a few minutes to write down all the different ways that people can get hurt at work.

What is Ergonomics?

Ergonomics is the science of fitting jobs to workers instead of trying to get the worker to fit the job. It focuses on designing workstations, tools & work tasks for safety, efficiency and comfort. Ergonomics seeks to decrease fatigue and injuries, along with increasing comfort, productivity, job satisfaction and safety, because work injuries are not inevitable and a well-designed job should not hurt you.

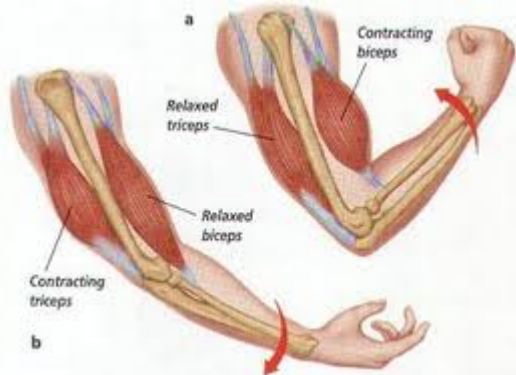
Ergonomics is important because when you're doing a job and your body is stressed by an awkward posture, extreme temperature, or repeated movement your musculoskeletal system is affected. Your body may begin to have symptoms such as fatigue, discomfort, and pain, which can be the first signs of a musculoskeletal disorder.

What are Musculoskeletal Disorders or MSDs?

Musculoskeletal disorders or MSDs are cumulative and chronic injuries of the soft tissue-muscles, tendons, ligaments, nerves, joints, and blood vessels. The body has limits and can fail or wear out when abused or misused. MSDs are defined as injuries to muscles, tendons, ligaments, joints, nerves and discs that are caused or aggravated by our actions and/or environment that does not follow safe and healthy work practices.

A well-known MSD is carpal tunnel syndrome which occurs when the nerve, which runs from the forearm into the palm of the hand, becomes pressed or squeezed at the wrist. The carpal tunnel - a narrow, rigid passageway of ligament and bones at the base of the hand - houses the

median nerve and tendons. Sometimes, thickening from irritated tendons or other swelling narrows the tunnel and causes the median nerve to be compressed resulting in pain, weakness, loss of grip or numbness in the hand and wrist, radiating up the arm.



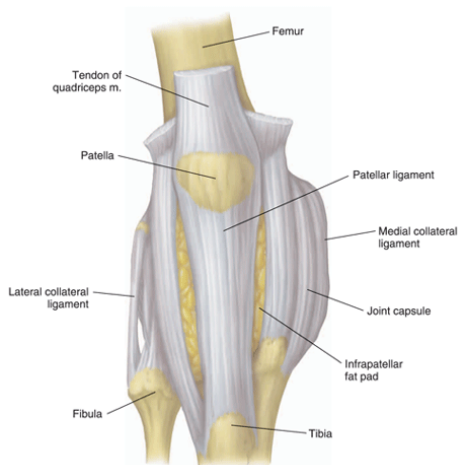
Muscles provide power for you to move your body parts.

Source: <http://www.natureshiddendesign.com/how-your-muscles-work/>

Tendons are ‘pulleys’ that attach muscle to bone, helping move body parts.

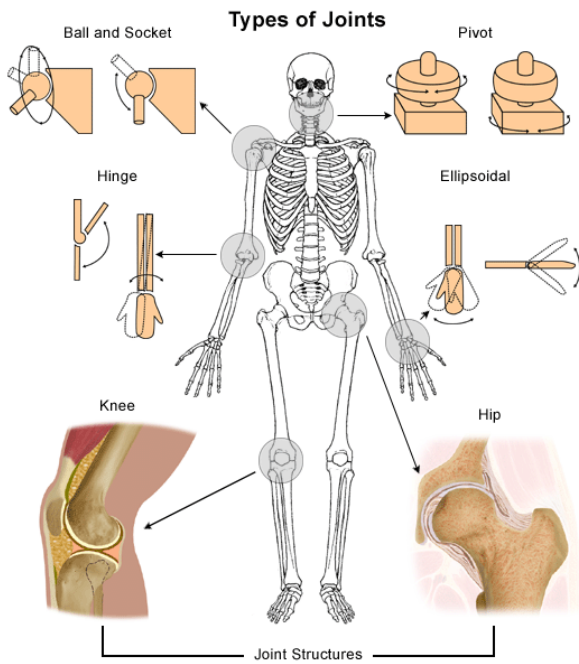


Source: <http://www.newyorkinjurycasesblog.com/uploads/image/Achilles-rupture1.jpg>



Ligaments connect bone to bone-stabilizing the joints.

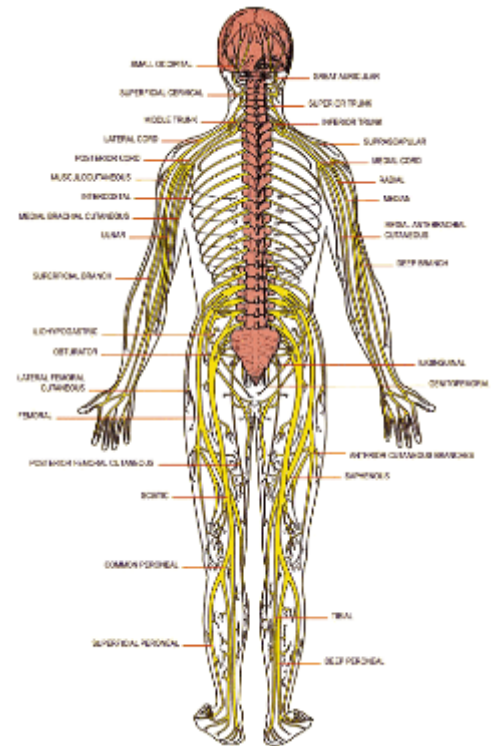
Source: http://www.jamesdisabilitylaw.com/images/Knee_Ligaments_2.gif



Joints are the connections between bones.

Source: http://www.lpch.org/media/images/conditions/ei_0389.gif

Nerves carry messages between the brain and other parts of the body.



Source: http://drugline.org/img/term/spinal-nerve-13934_2.gif



Discs act as shock absorbers and cushions for the spine.

Source: http://www.thewellingtonneurosurgeryunit.com/images/spine8_.jpg

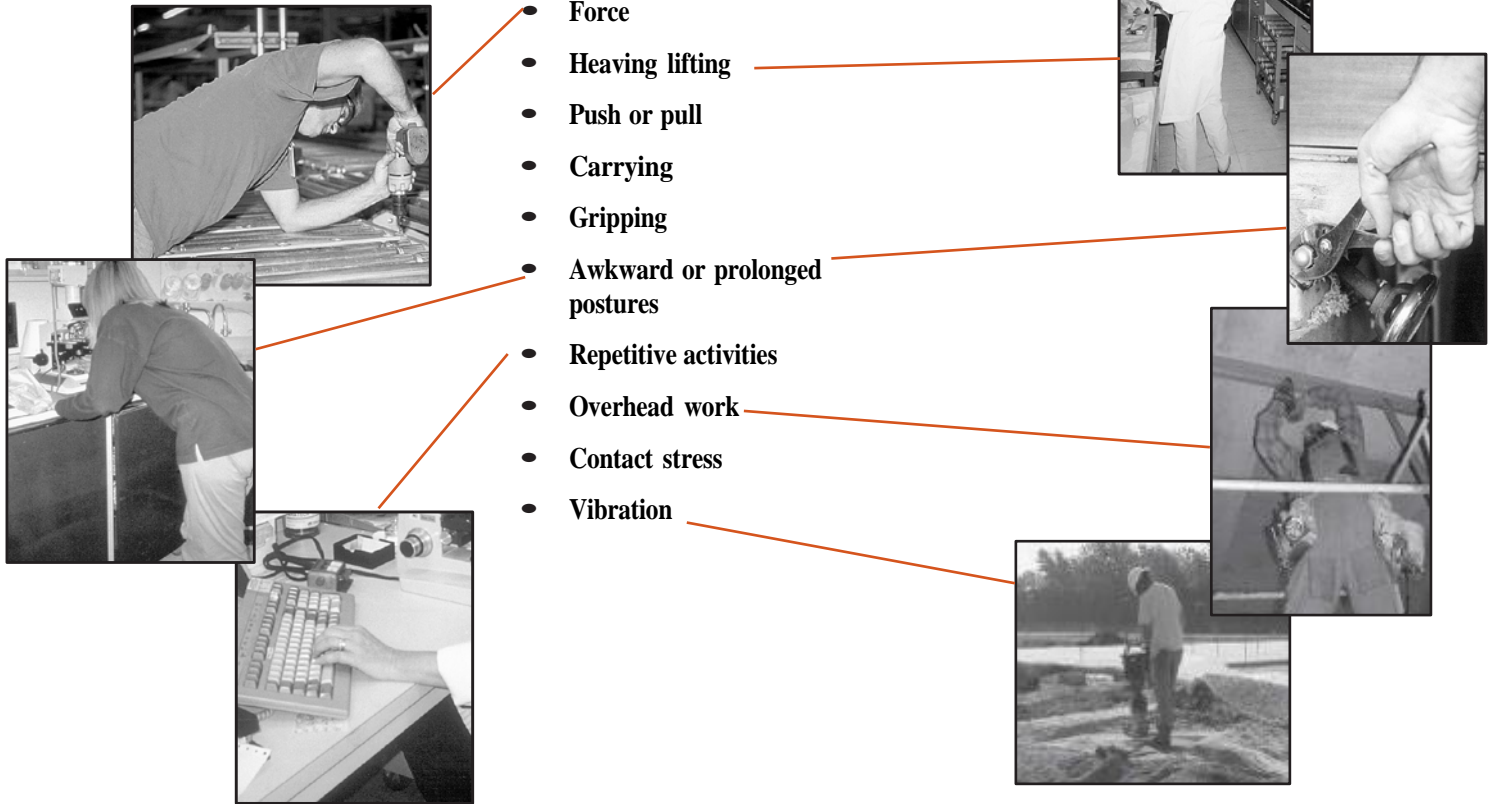
Symptoms of MSDs

- Pain
- Weakness
- Stiffness
- Sensitivity
- Swelling
- Burning sensation
- Tingling
- Drowsiness
- Difficulty moving
- Clumsiness



Ergonomic Risk Factors

The following are factors for developing an MSD.



Ergonomic risk factors are workplace situations that cause wear and tear on the body and can cause injury. These include repetition, awkward posture, forceful motion, stationary position, direct pressure, vibration, extreme temperature, noise, and work stress.

Multiple factors increases the risk of developing MSD (muscular skeleton disorder)

Source: Ergo Advantages, Oregon OSHA, <http://www.orosha.org>.

Some Ways to Reduce Ergonomic Risks

Engineering Improvements. Engineering improvements include rearranging, modifying, redesigning, or replacing tools, equipment, workstations, packaging, parts, or products. These improvements can be very effective because they may reduce or eliminate contributing factors. (For example, if your job requires sitting for long periods of time, having an adjustable seat or foot stool so that your knees are higher than your hips helps protect your lower back.)

Administrative Improvements. Administrative improvements include changing work practices or the way work is organized.

- Providing variety in jobs
- Adjusting work schedules and work pace
- Providing recovery time (i.e., muscle relaxation time)
- Modifying work practices
- Ensuring regular housekeeping and maintenance of work spaces, tools, and equipment
- Encouraging exercise

Personal Protective Equipment. Safety gear, or personal protective equipment (PPE), includes gloves, knee and elbow pads, footwear, and other items that employees wear.

In the whole group, small groups or pairs identify and write in specific examples of the listed ergonomic risks and possible solutions for each risk.

Risk: Repetition
Definition: Same motion over and over.
What are some workplace examples of this?
Possible Solutions?

Source: *Ergonomic Training for General Industry*, Asian Immigrant Women Advocates, 2009

Risk: Awkward posture
Definition: Prolonged bending, reaching, kneeling, squatting or twisting
What are some workplace examples of this?
Possible Solutions?

Risk: Forceful motion
Definition: Excessive effort needed to do tasks such as pulling, pounding, pushing, and lifting
What are some workplace examples of this?
Possible Solutions?

Risk: Stationary position
Definition: Staying in one position too long, causing fatigue in muscles and joints
What are some workplace examples of this?
Possible Solutions?

Risk: Direct pressure

Definition: Prolonged contact of the body with a hard surface or edge.

What are some workplace examples of this?

Possible Solutions?

Risk: Vibration

Definition: Using vibrating tools or equipment.

What are some workplace examples of this?

Possible Solutions?

Risk: Extreme temperature

Definition: Working where it is too hot or too cold. Cold reduces feeling, blood flow and strength. Heat increases fatigue.

What are some workplace examples of this?

Possible Solutions?

Risk: Work stress
Definition: Includes machine-paced work, inadequate breaks, monotonous tasks, multiple breaks, poor work organization or poor supervision.
What are some workplace examples of this?
Possible Solutions?

What makes these risk factors become a hazard for the worker(s)? Just because there is a risk factor occurring in the workers’ task does not mean that it is a hazard that will produce a MSD for the worker(s). Why? Individual capabilities and combination of risk factors increase the potential for injury. Look at the same tasks (different shift, different line, different statures, men versus women, etc.) performed by many workers. Are many of the workers experiencing similar MSD from performing the same tasks? Have they missed work, had surgery or taken personal leave days. That will help identify the potential hazard(s) which can be identified to the union, to the safety committee, or to management in order to identify solutions.

The workers can provide management help in identifying the root cause of the hazard(s) that is resulting in the effects (MSDs) the workers are experiencing.

A common barrier is not accurately identifying the cause of the ergonomics hazard with management spending time and money without seeing reduction or elimination in the effects (the MSD injuries). Several workers providing insight on the potential cause focuses on the source of the problem and holds credibility. Management will be more apt to listen to the workers when they provide the “best” solution.

If you have been working in pairs or small groups, reconvene with the whole group and share what you have come up with.

Analyzing your work station & identifying solutions

Think about your current or a previous job. While you are working do you stay in one area or move around? Do you focus on one task or do multiple tasks? How do you spend your time at work? What are the different tasks you do throughout the day? Now think about the ergonomic risk factors that we have been talking about. Can you identify one or two possible ergonomic hazards at your job? Use the box below to list a few potential ergonomic hazards at your workplace.

Possible Work station Ergonomic Hazards
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Now we are going to break up in to groups of 4-5 people. Each person should briefly describe their work station and mention one or two possible ergonomic hazards. The group should zero in on one hazard and come up with a list of ways to address it. Designate a note taker and report back person.

Ergonomic Hazard	Possible Solutions
Ergonomic Hazard	Possible Solutions
Ergonomic Hazard	Possible Solutions

Source: Ergonomics for Nursing Home Workers: Workers Manual, University of Massachusetts at Lowell 2011

Ergonomic Solutions

STRESSED →

BETTER

Bent awkward posture



Relaxed posture with less pressure on the back



Bent posture



Extension handle allows the Body to remain erect



The chair is very small and provides minimal support



Higher backrest support the back's lumbar area



Manual screwdriver bends the wrist



Electric screwdriver allows the Body to be erect



No support on the neck or under the body



Creeper raises the worker off of the floor and provides support to the neck and shoulders



Leaning posture with an extended reach



A tilt table brings the work close



Source: *ErgoAdvantages*, Oregon OSHA

Taking Action

You have identified some ergonomic hazards in your workplace that could harm you or your coworkers. But you are hesitant to bring it up with your supervisor or manager because you are worried about how they will react. Will you get in trouble? You are not even sure if your coworkers will go along with making changes to how things are set up and the work is organized. How can you convince your supervisor and your coworkers about the need for a change?

1. **First, do your homework.** Does your workplace have a health and safety program in place? Is there a safety committee where you work? Have others noticed the hazard? Has it been brought to management's attention in the past?
2. **Safety in numbers.** Speak to coworkers who are also affected by the hazard. Get them to work with you on fixing the problem.
3. **Think it through.** What are all the possible solutions to the problem? Can you eliminate the hazard? Is there an engineering or technical fix? Are there administrative changes that will address the hazard? Would personal protective equipment do the trick? Be ready to justify your suggestions and address possible counter arguments. Be ready to address common barriers to change.
4. **Put it in Writing.** When you are ready to bring your concern to management, put down your concerns in writing. That way you can be clear and you also have a record of bringing up your concerns.
5. **Contact OSHA.** If you have brought the hazard to management's attention and they fail to take action, consider contacting your local Occupational Safety and Health Administration (OSHA) office. OSHA has a free consultation program in which they will come in to provide recommendations to an employer about making the workplace safer. OSHA will also do an inspection if a complaint is filed about a workplace hazard. We will talk more about OSHA in a minute.

What are the advantages of ergonomics?

1. Increased savings

- Fewer injuries
- More productive and sustainable employees
- Fewer workers' compensation claims

2. Fewer employees experiencing pain

- Implementing ergonomic improvements can reduce the risk factors that lead to discomfort.

3. Increased productivity

- Ergonomic improvements can reduce the primary risk factors for MSDs, so workers are more efficient, productive and have greater job satisfaction.

4. Increased morale

- Attention to ergonomics can make employees feel valued because they know their employer is making the workplace safer.

5. Reduced absenteeism

- Ergonomics leads to healthy and pain-free workers who are more likely to be engaged and productive.

Solutions to common barriers

Barrier	Solution
It costs money.	<p>Ergonomics doesn't have to be costly and can even save you money.</p> <ul style="list-style-type: none"> Low cost measures can go a long way Risk reduction techniques reduce injuries-not doing something is more expensive Comprehensive ergonomics program
Staff isn't interested in learning a better way to do things.	<p>There are several ways to get staff buy-in.</p> <ul style="list-style-type: none"> Personalize ergonomics to their workstation, health, and satisfaction with the job. Show them how it will make their work easier. For healthcare workers, remind them that their patients will be more comfortable.
Management isn't interested in staff comfort or safety.	<ul style="list-style-type: none"> Focus on the business case for ergonomics. Show how it will save time and money in the long run. If necessary seek help and guidance from worker center or government agency (i.e. Occupational Safety and Health Administration)

Source: ErgoAdvantage, Oregon OSHA www.orosha.org.

Workers Rights under the OSH Act

What is OSHA?

- OSHA is a federal agency of the United States government, part of the Department of Labor.
- It was created in 1970 by the Occupational Safety and Health Act (also known as the —OSH Act||) with the purpose of assuring safe and healthy working conditions for all workers.
- This agency is responsible for workplace health and safety in the United States.
- Before this law existed, there were no national laws on workplace health and safety.

What is OSHA's Mission?

OSHA's mission is to prevent accidents and protect the health of workers. Its functions include—

- Developing rules on workplace health and safety and enforcing these rules through workplace inspections.
- Tracking workplace accidents.
- Giving trainings on workplace health and safety.
- Some states have their own health and safety programs—these need to be approved by OSHA.

Source:

http://www.osha.gov/dte/outreach/construction_generalindustry/materials/intro_to_osh/intro_to_osh_guide.pdf 41

What Workers Are Covered by the OSH Act?

All workers in the private sector (meaning, people who do not work for the federal, state, or local government), with the following exceptions:

- People who are self-employed and not incorporated. (If there is just one person who is self-employed but they are incorporated, they are still covered by OSHA. If they are a sole proprietor and have no employees, they are not covered.)
- Immediate family members of farmers or ranchers who only employ their families.
- Miners, truck drivers and people who work in transportation such as rail and aviation workers, and people who work with atomic energy – these are covered by other laws.
- People who work for the government, although some states have laws that protect those workers.

Source:

http://www.osha.gov/dte/outreach/construction_generalindustry/materials/intro_to_osh/intro_to_osh_guide.pdf

Your Five Basic Rights under OSHA

1. Right to a healthy and safe workplace.
2. Right to receive information.
3. Right to receive training.
4. Right to request that a dangerous situation be changed, to file complaints, and to participate in the process.
5. Right to be protected against retaliation.

**** All Employees Have the Same Rights under OSHA Regardless of Immigration Status****

1. Right to a healthy and safe workplace.

Under OSHA Section 5(a) (1), employers must provide their employees with a workplace that is free of known hazards that can cause death or serious physical harm to their employees.

A healthy and safe workplace means one in which there are no hazards and where workers are trained. If a risk cannot be eliminated completely, the employer should provide protection such as gloves or masks.

Section 5(a) (1) is known as the general duty clause. If OSHA does not have a specific rule for a particular workplace hazard, the employer is still required to provide a healthy and safe workplace under the general duty clause.

2. Right to receive information

You have the right to receive information from your employer about

→Your rights as a worker

→Injuries and illnesses in your workplace

→Medical records and hazardous exposure records

→Dangerous chemicals

2-A. Right to receive information about your rights as a worker:

Employers are required to have a copy of the OSHA poster that explains your rights as a worker.

Have you seen this OSHA poster in your workplace?

Job Safety and Health

It's the law!

EMPLOYEES:

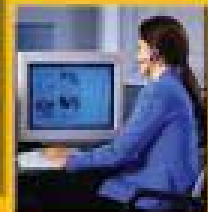
- You have the right to notify your employer or OSHA about workplace hazards. You may ask OSHA to keep your name confidential.
- You have the right to request an OSHA inspection if you believe that there are unsafe and unhealthful conditions in your workplace. You or your representative may participate in that inspection.
- You can file a complaint with OSHA within 30 days of retaliation or discrimination by your employer for making safety and health complaints or for exercising your rights under the OSH Act.
- You have the right to see OSHA citations issued to your employer. Your employer must post the citations at or near the place of the alleged violations.
- Your employer must correct workplace hazards by the date indicated on the citation and must certify that these hazards have been reduced or eliminated.
- You have the right to copies of your medical records and records of your exposures to toxic and harmful substances or conditions.
- Your employer must post this notice in your workplace.
- You must comply with all occupational safety and health standards issued under the OSH Act that apply to your own actions and conduct on the job.

EMPLOYERS:

- You must furnish your employees a place of employment free from recognized hazards.
- You must comply with the occupational safety and health standards issued under the OSH Act.

This free poster available from OSHA –
The Best Resource for Safety and Health

OSHA
Occupational Safety
and Health Administration
U.S. Department of Labor



Free assistance in identifying and correcting hazards or complying with standards is available to employers, without citation or penalty, through OSHA-supported consultation programs in each state.

1-800-321-OSHA
www.osha.gov

OSHA 3095 12-08

2-B. Right to receive information about injuries and illnesses in your workplace:

OSHA requires employers with more than 10 employees to keep a log of injuries and illnesses in their workplace. This log is called OSHA 300. This log has to contain every injury and illness that resulted in lost workdays, restricted work, transfer to another job, and any other incident that required more than just basic medical care. You have the right to review this log and all logs kept by your employer for the last 5 years.

2-C. Right to receive information from medical records and toxic exposure records:

You have the right to examine and copy medical records and toxic exposure records. OSHA requires that your employer measure the level of exposure to harmful substances. Workers have the right to observe this and examine the results. Examples of harmful or toxic substances include:

- Metals, like lead and cadmium
- Biological hazards, like viruses and bacteria
- Physical hazards, like heat, cold, or vibrations



2-D. Right to receive information about toxic chemicals.

Employers are required to provide information about dangerous chemicals in writing. This includes:

- Labeling containers
- Safety Data Sheets (formerly known as Material Safety Data Sheets)
- Training workers about chemical hazards, how workers can protect themselves, and the procedures that the employer has for protecting workers.

3. Training.

You have the right to receive training from your employer on OSHA rules, **in a language you can understand**. These trainings can be about different topics, such as fall prevention, how to use personal protective equipment, etc.

4. Right to ask that the dangerous situation be changed and to file complaints.

You have these rights:

- Right to ask that your employer fix the dangerous conditions or their violations of the law.
- Right to file a complaint with OSHA.
- Right to be involved in the investigation of your workplace by OSHA.
- Right to ask for the results of that investigation and to ask for a review if OSHA does not cite your employer.



4-A. Right to ask that your employer fix the dangerous conditions or their violations of the law.

If you complain to your employer about your workplace conditions, OSHA says that your employer CANNOT

- Transfer you to another position
- Deny you a raise
- Reduce your hours
- Fire you
- Penalize you in some other way

...as long as your complaint was made in —good faith.|| This means that you really believed there was a violation and did not complain only to bother or harass your employer.

4-B. Right to file a complaint with OSHA.

You can file a complaint with OSHA if you believe that there has been a violation of an OSHA regulation or if you believe you are in imminent danger at your workplace. If you file a claim, you have the right to know what actions OSHA decided to take on your claim. You can ask for a review if OSHA does not do an inspection.

Filing an OSHA Complaint

Ways to File

You can download the form from OSHA's website (www.osha.gov), fill it out, sign it, and mail or fax it in. These types of complaint are the ones that are most likely to result in an OSHA inspection of your workplace.

You can file a complaint online. However, most online complaints are resolved informally over the phone.

You can call or visit your local OSHA office. They can give you a complaint form if you wish to fill it out then or file it at a later time.

You can call or visit your local worker centers. The worker center can be authorized to act as your representative in the complaint process.

Information to Include in Your OSHA Complaint

Make sure to be specific and include details. The complaint form may be the only information the inspector has about your situation.

Name, address, and type of business. The inspector's research on your employer's company and the hazards in your industry will be based on this information.

Description and location of hazards. This is the most important part. You should describe the hazards clearly and their location so the inspector knows where to look. If the complaint is about chemicals, you should identify them if you can and include a copy of the MSDS if possible.

You should state whether you have tried to get the employer to fix the problem before or contacted another agency, like the fire department, about the problem. OSHA may want to talk to that agency about the issue.

You can request for OSHA not to reveal your name.

4-C. Right to participate in an OSHA inspection.

If OSHA inspects your workplace, you have these rights:

- Right to have a representative accompany the inspector during the inspection.
- Right to talk to the inspector privately. You can show the inspector hazards, injuries, or ask any questions you may have about health and safety.

4-D. Right to ask for the results of the investigation and to ask for review if OSHA does not cite your employer.

- Right to know the results of the inspection and what OSHA told your employer to do to correct the problem. OSHA requires the employer to post the results of the inspection and penalties. If the citation is not posted by the employer, the employee should contact OSHA.
- Right to have your worker representative be involved in any meetings or hearings related to the inspection.

- Right to object to the date that OSHA gave your employer to fix the problem, and to be notified if your employer appeals OSHA’s decision.

5. Right to be Free from Retaliation for Asserting Your Rights.

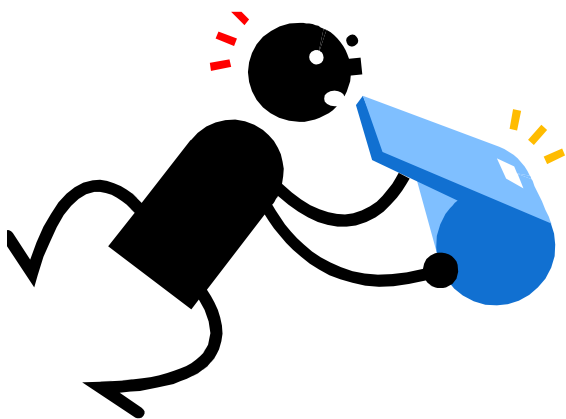
Under Section 11(c) of the OSH Act, an employer cannot penalize or discriminate against workers for asserting their rights to

- Complain to the employer, OSHA, your union, or any other government agency about workplace health and safety.
- Participate in OSHA inspections, conferences, hearings, and other OSHA activities.
- Workers have a right to refuse to do a job if they —in good faith believe that they are going to be exposed to imminent danger.

—In good faith means that the worker has sufficient reason to think that there is a risk. This is a very strict standard, so refusal should be a last resort. If there is time, the dangerous condition should be reported to OSHA or another government agency.

These rights against retaliation are known as ‘whistleblower’ protections.

IF YOU THINK YOU HAVE BEEN PENALIZED FOR ASSERTING YOUR RIGHTS, YOU NEED TO CONTACT OSHA WITHIN 30 DAYS!!



Employer Responsibilities under the OSH Act

WHAT ARE YOUR EMPLOYER'S RESPONSIBILITIES UNDER OSHA?

1. Provide a workplace that is free of known hazards and comply with OSHA regulations.
2. Provide training as required by OSHA.
3. Keep records of injuries and illnesses.

Employers with 11 or more employees are required to keep records of workplace injuries and illnesses. They are required to:

- Report every workplace death (**within 8 hours**)
- **Report any incident that causes an inpatient hospitalization, amputations and loss of an eye (within 24 hours)**
- Keep records of injuries and illnesses
- Explain to workers how to report an injury or illness to the employer
- Make this data available to workers
- Post an annual summary of workplace injuries and illnesses.

4. Provide medical exams when required by OSHA regulations and provide workers Access to medical and exposure records.
5. Not discriminate against workers who assert their rights under the OSH act.
6. Post OSHA citations and inform workers what they have done to fix the problem.
7. Provide and pay for personal protective equipment (PPE.)