HEALTH AND SAFETY IN THE WORKPLACE

Poultry and Meatpacking Industry Curriculum

Instructional Guide

Interfaith Worker Justice

Western North Carolina Workers’ Center

Voces de La Frontera

North West Arkansas Workers’ Justice Center

OSHA Susan Harwood Grant Recipient 2010-2011

Grant No. SH20850SH0
TABLE OF CONTENTS

INTRODUCTION

CHAPTER 1: Health and Safety in the Workplace
   Section 1-1 Job Fear
   Section 1-2 Introduction to Workplace Hazards

CHAPTER 2: Recognizing Workplace Hazards

CHAPTER 3: Controlling Workplace Hazards

CHAPTER 4: Introduction to OSHA and Employee Rights Under OSHA

CHAPTER 5: Chemical Hazard Communications

CHAPTER 6: Improving Workplace Conditions

CHAPTER 7: OSHA Inspections

CHAPTER 8: Introduction to Ergonomics
Acknowledgements

This curriculum was developed by Interfaith Worker Justice in partnership with the Western North Carolina Workers’ Center, North West Arkansas Worker Justice Alliance and Voces de la Frontera, funded in whole or in part with federal funds the Occupational Safety and Health Administration, U.S. Department of Labor, under grant number SH20850SH0. These materials do not necessarily reflect the views or policies of the U.S. Department of Labor, nor does mention of trade names, commercial products, or organizations imply endorsement by the U.S. Government.

We would also like to thank the United Food and Commercial Workers Union for their materials which served as the foundation for several sections in this training curriculum.
INTRODUCTION

How to use this curriculum:

The purpose of this curriculum is to provide instructors with basic tools and information for conducting health and safety trainings for workers with limited literacy and English proficiency in the poultry and meat processing industry.

Before beginning the training, the instructor should make sure that the instructional space is adequate for the implementation of activities. This curriculum works best when participants can work in small groups of 4-5 workers either around a table or using floor space.

Each chapter contains an introductory overview with the objectives of that chapter. Instructors should share these objectives with the class before beginning the lesson, either by writing it on the chalkboard or flipchart at the front of the room or by verbally conveying the information to the class.

This curriculum is designed to be used in locations with minimal access to technology. All of the pages that do not contain directions for the instructors can be used as handouts or overhead slides. [Directions for the activities or lessons for instructors appear throughout the curriculum in a blue or shaded box.]

Materials needed for this training are: 20-30 chairs, 5-6 tables or floor space large enough for groups to work, chalkboard or flipchart with tape, 2-3 markers per group, name tags, and copies of handouts for each student that correspond to the sections that will be covered.

This curriculum can be used in its entirety or in parts, depending on the needs of the student population. The activities and group presentations may be lengthened or shortened depending on time constraints.

In some instances instructors may want to prepare handouts in a way that participants can organize them into a notebook that can be taken home and used as a reference and as material for workers to educate their co-workers and families about workplace hazards and methods to identify, reduce and report hazards.
**How adults learn best:**

Adults learn best through active participation in the learning process, and not by passively listening to information. These modules are designed to encourage classroom discussion and participation.

This curriculum includes instructions for activities that facilitate learning the material. Instructors are encouraged to use the activities in this book, but are not limited from creating their own educational activities to suit the needs of their student population.

![Photo Source: International Labour Organization Health & Safety Curriculum]

**Small Group Activity Method:**

Many of the activities in this book are based on the Small Group Activity Method (SGAM.) The structure consists of having students work on the activities in their small groups, report their findings back to the larger group, and having the instructor summarize the reports and highlight key points to the class.

The SGAM method is based on the idea that learning is not a one-way street from the instructor to the student. SGAM is structured so that students can learn from each other, the instructor can learn from the students, and the students can learn from the instructor.

Students learn from each other by working together in small groups. Instructors understand that students can have a great deal of collective knowledge and life experience that may exceed their own, and that they have much to learn from them. Finally, by summarizing and highlighting important information, instructors are able to clarify points and make sure students come away with the correct information.

Source: New Labor/OTECC, Manual de Trabajo de la Salud y Seguridad de los Jornaleros
A note on Icebreakers, Energizers, Timing and Group Facilitation:

We recommend that before beginning training sessions that instructors lead participants in an ice-breaker to familiarize people with each other and make people feel comfortable participating in the group setting. Some ideas for icebreakers can be found in Appendix A.

Additionally, if sessions will be longer than one hour we recommend that there are small breaks planned into the session with energizers to keep participants learning and engaged.

We also recommend taking into account group size when determining the time that should be allocated to each activity and that proper allowances in time be made so that participants are reassured that their participation is important and valued by instructors. At the same time, instructors should remain conscientious of the time and feel empowered to move on to the next topic when necessary in order to cover all the information as planned. Instructors may find it helpful to maintain a list of talking points to come back to if there is time at the end of a session so that participants’ ideas and questions can be acknowledged without impeding the progress of the lesson.

Many times groups are dominated by one or two people. It is important that the instructor can recognize who the dominant characters are in the group to try and give as many people the opportunity to talk about their ideas despite the fact that some people will be more hesitant to do so.
CHAPTER 1

INTRODUCTION TO HEALTH AND SAFETY IN THE WORKPLACE
SECTION 1-1

JOB FEAR

SECTION 1-1 Instructor Overview:

The purpose of this section is to provide students with introductory information on the importance of health and safety in the workplace and to encourage students to think of ways in which health and safety issues affect their communities. The chapter also contains an activity highlighting the issue of job fear.

For Activity 1-1, the instructor should present the facts to the class, either verbally or through overheads or handouts, depending on the needs of the class. The students can then work in their small groups to answer the questions concerning Victoria’s situation and present their findings to the class. Alternatively, the class can work together to answer the questions as a group.

The students should work with their small groups and use information presented in this chapter and their personal experiences to answer the questions in the review section at the end of the chapter. The groups can then take turns reporting their answers to the rest of the class.
ACTIVITY 1-1

Victoria’s Accident

Victoria came to the United States to find a better life. She found work in a poultry plant. She was happy to have a steady job and a paycheck every week.

After some time, her hands began to swell and her arms hurt up to her shoulders. The pain was too much and she could not control it. Victoria did not tell anyone about this and would push herself to continue working at the poultry plant.

Victoria continued experiencing pain and was worried because she did not want to tell her boss. At her home, her hands were in so much pain that it was difficult for her to prepare dinner or to carry her baby. She still remained silent.
Questions for discussion:

Why do you think Victoria doesn’t want to say anything to her employer?

Do you think that the pain in her hands is related to the work she does?

What might happen if Victoria doesn’t get proper medical care for her injury?

What would you advise Victoria?

Does it make a difference if Victoria has “papers”?

What would you do in this situation?
**ACTIVITY 1-1 – JOB FEAR**

**POSSIBLE ANSWERS**

Victoria is afraid of losing her job. She may not speak English, needs the income, and may have immigration issues. Answers may vary, but Victoria should be encouraged to discuss the issue with her employer and possibly leave if the situation does not improve. She may suffer more serious injuries with the passage of time. She should also seek medical attention.

The instructor should highlight that Victoria is protected by health and safety laws (discussed later in the training) regardless of her immigration status.
SECTION 1-2
INTRODUCTION TO WORKPLACE HAZARDS

Health and Safety in the Workplace: Work in the Poultry and Meatpacking Plant can be Dangerous!

**Section 1-2 Instructor Overview:**

The purpose of this section is to provide students with the tools to recognize different kinds of hazards in their workplaces and understand why poultry and meatpacking workers suffer higher injury rates than many other industries. Students will learn to identify safety and health hazards and will be able to map where those hazards are located in their workplaces.
**Health and Safety in the Workplace:**

*Work in the Poultry and Meatpacking Plant can be Dangerous!*

### Introduction to Poultry and Meatpacking Worker Hazards

According to OSHA, about 100 poultry workers have been killed on the job in the past decade and over 300,000 have been injured. This is a rate higher than that of manufacturing as a whole, and OSHA officials admit that 2-3 times as many injuries have probably gone unreported.

A Duke University study found that of 300 workers interviewed, 43% reported symptoms of musculoskeletal disorder (MSD). Similarly, in a Wake Forest University study, 46% of poultry workers surveyed reported problems with their arm, wrist or hands.

Other injuries include:
- Lacerations and amputations
- Strains, sprains, contusions (primarily from slipping and falling)
- Chemical exposure
- Exposure to cold, damp conditions

Additional Workplace Violations:

**Wage theft:**

- In an investigation done by the Wage and Hour Division of the US Department of Labor in 2000, they found that 100% of all poultry plants were guilty of stealing wages from workers. This includes not paying for all hours worked, such as time spent putting on and taking off protective gear, and not paying overtime when workers work over 40 hours in a week.

- Workers' wages and high injury rates equal 100% worker turnover rates throughout the industry.


**Line speed:**

Workers are constantly pressured to work faster and faster each day. Because of this pressure from management, workers are forced to work to cut corners and work carelessly, causing injuries. Over the years, management has sped up line speeds and reduced the number of on line workers. In poultry plants, worker productivity is at an all-time high-- workers process an average of 190 birds an hour, up from 143 a decade ago.

**Bathroom breaks:**

Poultry and meatpacking plants are notorious for not allowing workers to use the restroom as often as needed, even though this is a violation of OSHA’s sanitation standard. When a worker needs to use the restroom, he/she is required to find somebody to take his/her place on the line. Workers have reported cases where management will absolutely not allow them a restroom break and workers have urinated themselves in the work area. Not only is this an OSHA violation, but it is humiliating for the workers who have to “hold it in” until the next rest period.

**Sexual harassment**

Sexual harassment is also common in the poultry and meatpacking industry. The workers mostly affected by this are undocumented women who are harassed by co-workers or their supervisors. Many are afraid to speak out because of their legal status. The Northwest Arkansas Workers’ Justice Center knows of at least one case of rape at a poultry plant.

Source: Northwest Arkansas Workers’ Justice Center, *Issues Affecting Poultry Workers in NWA*
ACTIVITY 1-2
Introductory Conversation about Workplace Hazards

The instructor should engage the group in identifying workplace hazards and consequences. Answers to the first question below can be recorded on Chart or butcher paper and used to compare hazards recognized before the training and after receiving the training.

In reviewing the industry-specific hazards highlighted in the next chapter, the instructor may wish to come prepared with chart paper with a symbol of each hazard. The instructor can then list out the impacts to worker health below that symbol as they are discussed. This can be reviewed later when identifying hazards and talking about hazard controls in following chapters.

Exploratory Discussion Questions:

• What types of hazards or injuries have you observed at work?

• What consequences can these hazards or injuries and illnesses have for workers and their families?

Possible Answers:

For workers some of the **direct costs** of an injury or illness are:

• the pain and suffering of the injury or illness;

• the loss of income;

• the possible loss of a job – ability to perform work in the future;

• long-term inability to provide for one’s family;

• health care costs.
CHAPTER 2
RECOGNIZING WORKPLACE HAZARDS
INDUSTRY-SPECIFIC HAZARDS

Materials in this section adapted from UFCW, “Meatpacking, Poultry, and Food Processing: A Safety Committee Guide for the Workplace.”

NOISE

Group Discussion Recognizing Noise as a Hazard and Its Effects

1. Have you ever experienced any of the following? (Raise your hand.)
   - Shouting to your coworkers that are standing nearby so that they can hear you.
   - Ringing or humming in your ears after leaving a noisy work area.
   - Turning up the volume on the radio or TV louder than normal.
   - People telling you that you are having trouble hearing them.

If so, this may mean that you are being exposed to dangerous noise levels! We will discuss the impact of this in a moment.

2. What do you think are the effects of exposure to noise?
   - Exposure to noise over a long period causes permanent hearing loss. It is easy to ignore hearing loss because it can’t be seen, doesn’t hurt, and can take years to develop.
   - Noise exposure is also linked to increased blood pressure, headaches, and disruption of sleep.
What should your employer do about noise in your workplace?

- It is the employer’s responsibility to test each noisy area to see if noise levels are too high, and to try to quiet the area if sound levels are dangerous. Some examples of steps the employer can take include:
  - Substituting noisy machines with ones that are less noisy.
  - Enclosing the machine or equipment to reduce noise.
  - Installing a muffler where possible.
  - Installing vibration mounts to absorb noise from vibrating equipment.
  - Having walls between machines and workers.
  - Having noise-absorbent materials on the walls.

- If it is impossible to dampen the sound, a hearing conservation program, including free annual hearing tests, must be started. The employer should follow up with employees whose hearing test show that they are suffering from hearing loss.

- Your employer should provide free hearing protection to employees in the form of ear muffs or ear plugs.

- Your employer should also provide training and education on noise and health effects.
TEMPERATURE

Packing houses, poultry plants, and food processing plants are often hot and humid. Working in these environments can have health effects, especially if a worker is not used to working in these temperatures.

What are some sources of heat and humidity in poultry, food processing, and meatpacking plants?

- Ovens
- Cookers
- Scalders and use of flames to remove hair from skin of animals or feathers from birds
- Steam vacuums
- Water

In addition, workers are exposed to heat where there is limited air movement, hard physical work, lack of breaks and lack of access to drinking water.
Heat-related Illnesses

- **Fainting.**

- **Heat rashes** can result from excessive sweating.

- **Heat cramps.** These are muscle spasms that are caused when workers sweat without replacing the salt they have lost through sweating.

- **Heat exhaustion.** This results from prolonged sweating. Victims experience extreme weakness or fatigue, clammy or moist skin, dizziness, and sometimes fainting.

- **Heat stroke.** This is the most serious health problem. Mental confusion and delirium can occur, and if not treated properly, the worker can go into a coma and die.

*Have any of these happened to you or someone you know at your workplace?*

*What can your employer do to reduce or control exposure to heat and its effects?*

- Install air conditioning and/or fans to reduce air temperature and increase air movement and humidity. Dehumidifiers also reduce humidity

- Insulate equipment to reduce amount of heat that is radiating

- Allow workers time to get used to working in the heat. For new workers or workers who have been away from the job for over a week, it can take about a week for them to get used to working in a hot environment.

- Provide frequent rest breaks in cool areas

- Provide plenty of water and sports drinks which replace salts lost through sweating.

- Provide training for workers.

- Provide gloves for workers working in hot areas and rain gear for workers working in hot steam.
COLD

Many parts of poultry, meatpacking, and food processing plants are kept at near-freezing temperatures so that bacteria does not grow. Areas such as chillers and freezers may require temperatures as low as -40°F.

What are some of the health effects from the cold?

- Exposure to the cold without proper personal protective equipment can lead to numbness, sickness and loss of dexterity.
- Frostbite can occur when tissue freezes as a result to exposure to extreme cold.
- Immersion foot or trench foot results from long, continuous exposure to the cold while moving very little.
- Hypothermia results from more prolonged exposure to the cold. Exhaustion sets in and a coma and death can occur rapidly.

How should you and your employer reduce or control exposure to cold in your workplace?

- Place coolers as far away from workers as possible.
- Install wind deflectors and barriers to protect workers from wind chill.
- Clean equipment more frequently so that the temperature does not need to be as cold to keep equipment from malfunctioning.
- Workers should have proper personal protective equipment and clothing. Dress should be lightweight, waterproof and layered. It should allow moisture to evaporate from the inside while preventing moisture from
penetrating the outside. If workers are required to work in chillers or freezers, the employer should provide them with “freezer suits” along with insulated safety-toed foot wear.

- Workers in cold environments need to be able take rest breaks in warm areas.

- Job rotation. Employers should use a rotation schedule to address tasks considered to be high risk and to minimize exposure to cold.

Chemicals can enter the body through breathing, swallowing, through the skin, or through cuts and openings in the skin. Some chemicals have immediate harmful effects, while some cause harm through exposure over time. Some of the chemicals that you may encounter in the poultry and meatpacking plant include:

- Ammonia
- Chlorine
- Carbon Dioxide
- Cleaning Chemicals
- Poultry dust

We will learn more about chemical hazards in Chapter 5.
Use of knives, scissors, and other hand tools result in the most common injuries in the meatpacking, poultry, and food processing industries.

The injuries include cuts, lacerations, stab wounds, and amputations.
**ACTIVITY 2-1**  
Hand Tool Injuries and their Impact on Workers

**Discussion:**  
Using the illustrations on the previous page, ask students to mark which of the hand tools they use at work. The instructor can then go through the list and ask that participants stand when the instructor is pointing to one of the hand tools that they use at work. If the tool that participants use is not illustrated then the instructor can ask that they add an additional illustration to show the tool that they use.

**Activity:**  
The instructor may also ask participants to act out the motion they make while using those tools and arrange people around the workers to reflect the amount of space between workers on the assembly line. As the participants are going through the motions of their work, the rest of the group can analyze the hazards to the worker and his/her coworkers on the line. Workers may also want to discuss injuries they have seen at work from using these hand tools and their impact on workers who have been hurt.
Points of discussion:

A. What are some of the hazards related to hand tools?

- Fast pace of work.
- PPE that doesn’t fit properly or is in bad shape, such as gloves that are too large or have holes in them.
- Crowded work stations with sharp tools.
- Slippery and poorly designed handles.
- Dull edges on tools that require greater force.

B. How can you and your employer reduce or control these hazards in your workplace?

- Your employer should redesign work stations so that workers are spaced at safe distances.
- Your employer should maintain reasonable work speeds. This could include having more workers.
- Sharpen knives and other tools.
- Wear metal mesh gloves, sleeves, aprons, belly guards, wrist and arm guards. This equipment should fit and be free of defects, and your employer should train you on how to use it properly.
MACHINE GUARDING

Don't Get Caught in Moving Parts!

One of the biggest hazards for workers in this industry is unguarded machines and equipment. Workers' body parts can become entangled in the machines and can cause amputation or even death. Workers' clothing and protective equipment can also get caught in the equipment and pull the worker into the machine.

Discussion:

1. What machines do you work with?
2. What dangers can you identify when working with these machines?
3. When a machine malfunctions who fixes it?
4. Are workers trained to do the tasks that they are asked to perform working with the machines?
5. What are some safeguards you have seen to protect workers from dangerous machinery? – Is it enough?

Machine Guarding. OSHA requires your employer to provide shields and guards for all machines that workers can come in contact with. This is to protect you from being caught in moving parts. Before operating the machines, make sure that the guards are in place and undamaged.
**Lockout/tagout.** Workers can get killed while cleaning, fixing, or maintaining equipment that they believed had been turned off but was not locked or tagged out. Lockout/tagout means that the machine is *completely* turned off and disconnected from the power or energy source. A lock is used to lock out the switch that could turn it back on.

OSHA requires your employer to develop lockout/tagout procedures and training. These procedures usually include:

- Preparing for shutting down
- Shutting down the machine or equipment
- Applying the lockout/tagout device
- Verifying that the machine or equipment no longer has an energy source.
ACTIVITY 2-2
Hazard Mapping

Students will divide into groups according to the department in which they work (ie., live hang, debone, wings and thighs, or however the work is organized.)

Each small group will create maps of their work space within the department. To begin, participants should draw a floor plan of a workplace in the department where they work. The plan should show rooms, work areas, lines and equipment, windows and doors. The maps can be very basic.

When they are finished, each group will decide where the hazards are located in their workplaces. Using the fact sheets as a reference, students should mark those places on the floor plan with their markers. If a student is not sure whether something is a hazard, they should mark it as a hazard and discuss it with the group.

Students can also decide if there are hazards elsewhere in the workplace such as storage areas and bathrooms.

Students should take 15 minutes to prepare the maps, and then present them to the group.

Alternatively, the instructor can come with a prepared map of a known workplace.

While implementing this activity, the instructor should try to tease out any details about the workplace regarding where boxes are scattered, how close together workers stand, the odd tasks workers may be asked to perform etc. so as to get a full picture of the workplace hazards.

The final map can look like the map on the following page.
HAZARD MAP (Example)

Students will draw maps in color:

- **Red** = Safety Hazards
- **Blue** = Chemical and Biological Hazards
- **Green** = Other Health Hazards

**SAFETY (RED)**
- Hot grill
- Hot grease
- Sharp knives
- Slippery floors

**CHEMICAL/BIOLOGICAL (BLUE)**
- Chemicals (cleaning supplies, etc.)
  - Fests
  - Viruses
  - Bacteria

**OTHER HEALTH (GREEN)**
- Customers/stress
- Robbery
- Standing
- Lifting

Source: MassCosh.org
**FACT SHEET #1**

**SAFETY HAZARDS**

Think about the previous section on industry-specific hazards, as well as the hazards in these fact sheets as you map your workplace.

<table>
<thead>
<tr>
<th>TYPES OF HAZARDS</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Slip/Trip or Fall Hazards</strong></td>
<td>Ladders, wet or greasy floors, scaffolds, open stairways, random objects/clutter placed in path etc.</td>
</tr>
<tr>
<td><strong>Falling Objects</strong></td>
<td>Working underneath cranes or scaffolds, object placed on a shelf that is too high.</td>
</tr>
<tr>
<td><strong>Electricity</strong></td>
<td>Electric equipment, electrical wires, lightning, batteries.</td>
</tr>
<tr>
<td><strong>Sharp Objects</strong></td>
<td>Knife, saw, meat cutter, box cutter.</td>
</tr>
<tr>
<td><strong>Moving Objects</strong></td>
<td>Tractors, trucks.</td>
</tr>
<tr>
<td><strong>Repetitive Motions</strong></td>
<td>Assembly lines, poultry and meat cutting, computer keyboards.</td>
</tr>
<tr>
<td><strong>Heavy Lifting</strong></td>
<td>Boxes, people.</td>
</tr>
</tbody>
</table>
FACT SHEET #2

CHEMICAL AND BIOLOGICAL HAZARDS

Chemicals can enter the body in the following ways:
- Inhalation (breathing)
- Ingestion (swallowing)
- Absorption (through the skin)
- Through cuts or openings in the skin

Biological hazards are those that can exist when humans come into contact with other living things.

<table>
<thead>
<tr>
<th>TYPES OF HAZARDS</th>
<th>EXAMPLES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dusts- Dusts are small particles of solids. You can be exposed to materials that are already in dust form, or through work processes that create these dusts.</td>
<td>Cement bags, fiberglass, asbestos.</td>
</tr>
<tr>
<td>Liquids- These are chemicals that are found in liquid form at room temperature.</td>
<td>Pesticides, paints, cleaning products.</td>
</tr>
<tr>
<td>Animals- Many injuries and illnesses can be caused by contact with animals or their waste.</td>
<td>Allergies, manure.</td>
</tr>
</tbody>
</table>

Fact sheets adapted from: Work Safe, Work Smart, Minnesota Department of Health Curriculum.
CHAPTER 3

CONTROLLING WORKPLACE HAZARDS
Chapter 3 Instructor Overview:

The purpose of this chapter is to build on the previous activity of mapping workplace hazards and to encourage students to think about ways in which these hazards can be controlled.

For this chapter the instructor should provide the graphic that demonstrates the continuum of hazard controls to participants. The instructor can then ask if any of the participants wants to explain what they see in the graphic before explaining it in further detail for the group.

The students should work with their small groups and use this information and their personal experiences to guide their responses to the activity and review questions. Each group can then take turns sharing their answers with the rest of the class.
CONTROLLING WORKPLACE HAZARDS

Employers should maintain conditions and adopt practices that protect workers.

HAZARD CONTROL MEASURES

HIERARCHY OF CONTROLS

<table>
<thead>
<tr>
<th>Most effective (best)</th>
<th>Least effective (worst)</th>
</tr>
</thead>
<tbody>
<tr>
<td>▲</td>
<td>▼</td>
</tr>
<tr>
<td>▲</td>
<td>▼</td>
</tr>
<tr>
<td>▲</td>
<td>▼</td>
</tr>
<tr>
<td>▲</td>
<td>▼</td>
</tr>
<tr>
<td>▲</td>
<td>▼</td>
</tr>
<tr>
<td>▲</td>
<td>▼</td>
</tr>
<tr>
<td>▲</td>
<td>▼</td>
</tr>
<tr>
<td>▲</td>
<td>▼</td>
</tr>
<tr>
<td>▲</td>
<td>▼</td>
</tr>
<tr>
<td>▲</td>
<td>▼</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>*****</th>
<th>Elimination of hazard</th>
</tr>
</thead>
<tbody>
<tr>
<td>****</td>
<td>Substitution</td>
</tr>
<tr>
<td>***</td>
<td>Engineering</td>
</tr>
<tr>
<td>**</td>
<td>Labor Practices/ Administrative Controls</td>
</tr>
<tr>
<td></td>
<td>(Training and Procedures)</td>
</tr>
<tr>
<td>*</td>
<td>Personal Protective Equipment</td>
</tr>
</tbody>
</table>

Source: UFCW, A Safety Committee Guide for the Workplace; National Labor College Health and Safety Curriculum
EXPLANATION OF GRAPHIC

Elimination

- The best way to control a hazard is to eliminate it entirely. It is best to do this as early as possible. An example of elimination would be to use an electric forklift truck rather than a gas operated forklift truck to eliminate carbon monoxide in a warehouse. Another example would be to use a chain from the floor to open an elevated valve rather than using a ladder to climb up and open the valve.

Substitution

- When a hazard cannot be eliminated completely, the second best alternative is substituting the dangerous condition. The idea is to substitute chemicals, equipment, or hazardous materials with ones that are less hazardous. An example of this would be using paint that does not contain lead-based pigments. A potential problem is when the product being used as a substitute is as dangerous as the original. For this reason, it is important to find out if the product is truly less hazardous than the original.

Engineering controls

- Engineering controls are another way that technology can be used to change the work environment, a machine, or some equipment in order to reduce the hazard. For example, machine guards, backup alarms, guardrails, covers, slip resistant surfaces, and using machines to move heavy objects instead of carrying them.

Administrative controls

- Administrative Controls or Changing Labor Practices means changing the way and the structure of how work is done. Example: Instead of one employee exposed to a particular hazard for eight hours a day, the employer could assign four workers to work for two hours each. This could be used for repetitive tasks or for any exposure to a chemical hazard.

Personal Protective Equipment

- Personal protective equipment (PPE) can include respirators, and protective wear for the eyes, ears, and face, gloves, and protective rope. PPE is the least efficient way to protect workers because it does not get rid of the hazardous situation. If equipment fails, workers are still exposed to the risk.
ACTIVITY 3-1

Applying Workplace Hazard Controls

Ask the students to use the hazard maps that they developed in the previous exercise and to work with their same groups to choose one hazard from their maps that they believe is important.

The students should then take 5-10 minutes to prepare a short skit where they as workers approach their employer to discuss ways that the employer can control the workplace hazard. Students should incorporate at least one of the hazard control methods listed in this chapter.

Depending on the needs and size of the classroom, some students can act as employers and others as employees, or the instructors and facilitators can act as employers. If possible, each student should have a speaking role.
REVIEW AND DISCUSSION

1. What is the best way to control a workplace hazard? What is the next best? What is the least reliable means of hazard control?

2. What PPE do you use in the workplace?

3. What is the danger of only using PPE as a way to control a workplace hazard?

4. What types of hazard controls exist in your workplace?

5. What other ideas do you have for hazard controls in the workplace?
REVIEW AND DISCUSSION– POSSIBLE ANSWERS

1. Elimination. Substitution. PPE.

2. Answers can include gloves, helmets, boots, safety glasses, earplugs etc.

3. The danger of using PPE is that it does not get rid of the hazardous situation.

4. Answers will vary depending on the participants, but an example could include machine guarding (engineering control) and job rotation (administrative control).

5. Answers will vary. **Note to instructor:** Keep a record of these answers for participants to use to design an “action plan.”
CHAPTER 4

INTRODUCTION TO OSHA AND EMPLOYEE RIGHTS UNDER OSHA
Chapter 4 Instructor Overview:

The purpose of this chapter is to provide students with a basic understanding of OSHA, its mission, and its functions and employee rights in the workplace under OSHA. These rights are broken up into five major categories listed on the following page.

Because of the volume of information presented in this chapter, the instructor should assign 1-2 categories or subcategories of rights to each small group. Each group should take 5-10 minutes to read the section it was assigned to the rest of the class.

Alternatively, the instructor can present the information (through handouts, overheads, or verbally, depending on class needs) and have students use this information to answer the review questions at the end of the chapter.

The information contained in this chapter has been adapted from the Introduction to OSHA Guide:
What is OSHA?

OSHA’ is a federal agency of the United States government whose mission is to prevent accidents and protect the health of workers.

- OSHA, 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.
- Some states have their own health and safety programs—these need to be approved by OSHA.

Food for Thought:

OSHA has over 1000 federal inspectors and 1400 state inspectors.

But...

There are over 8 MILLION workplaces in the United States!

What does this mean for workers?
YOUR RIGHTS UNDER OSHA CAN BE CATEGORIZED AS

5 BASIC RIGHTS

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 the OSHA poster in your workplace*
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

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 3185 12-89B
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
- Material Safety Data Sheets
- Training workers about chemical hazards, how workers can protect themselves, and the procedures that the employer has for protecting workers.

*We will learn more about toxic chemicals in Chapter 7.*
3. **Training.**

You have the right to receive training from your employer on OSHA rules. 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.

*Later we will talk about filing a claim with OSHA.*
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 as 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.

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

1. What is the name of the agency that is charged with protecting worker health and safety?

2. Maria works at the poultry plant. Recently she complained to her supervisor that her knife was not sharp enough to make the cuts on the chicken that she needed to do her job well.

After that, Maria’s supervisor moved Maria to a less desirable task.

*What options does the OSHA law give Maria?*

*Does it matter if Maria doesn’t have papers?*
REVIEW AND DISCUSSION – POSSIBLE ANSWERS

1. OSHA.

2. Maria can file an 11(c) complaint for retaliation. Maria can also organize with other workers to improve conditions (see Chapter 8.)
CHAPTER 5

CHEMICAL HAZARD COMMUNICATIONS
**Chapter 5 Instructor Overview**

The purpose of this chapter is to provide students with a basic understanding on OSHA’s Hazards Communications standard. Students will learn how to read a Material Safety Data Sheet by working in small groups to review and answer questions about an MSDS for a chemical used in commonly their industry.

**For further introductory information on chemicals and their effects, please refer to the training module produced by the Northwest Arkansas Workers’ Justice Center and Arkansas Coalition for Occupational Safety and Health, *La Salud y Seguridad en el Trabajo*.**
CHEMICAL HAZARDS COMMUNICATIONS

As we learned earlier, OSHA requires your employer to provide you with written information about hazardous chemicals in your workplace. This is called OSHA’s hazard communication standard. Under the standard, your employer is required to do these things:

**MSDS.** Your employer is required to keep Material Safety Data Sheets (MSDS) related to each of the chemicals used in your workplace. The MSDS gives information about the hazards associated with the chemicals and ways for you to protect yourself from harm while using them. You have the right to request to read the MSDS of the chemical you must handle. *(Note: Material Safety Data Sheets are not required to be in languages other than English.)*

**Labeling.** Your employer must label containers of hazardous substances with the chemical name of the material and hazard warnings. *(Note: Labels are not required to be in languages other than English.)*

**Hazard Communications Program.** Employers must have a written hazard communication program, which must include a list of all hazardous materials at the worksite and an explanation of how the employer will comply with OSHA’s standard.

**Training.** Workers who are exposed to dangerous chemicals are required to be trained in a language they understand. This training should include the names and locations of hazardous chemicals at the worksite, the procedures that the employer has developed to protect workers from the chemicals, ways to measure hazardous chemicals at the worksite, as well as information about MSDS and where they are located, container labeling, OSHA’s standards, and the employer’s hazard communications program.
ACTIVITY 5-1

Understanding Material Safety Data Sheets

Appendix B to this curriculum contains a Material Safety Data Sheet for ammonia hydroxide, chemical used in the poultry and meatpacking industry. The instructor should provide each small group with a copy of the MSDS as well as the questionnaire on the following page. The students should use their MSDS to answer the questions in the handout. Choose 2-3 questions for the groups to present their answers to the rest of the class.
**MSDS QUESTIONS**

1. What is the purpose of a MSDS?

2. What chemical is this MSDS for?

3. What are the ingredients that make up this chemical?

4. What “warning words” would you find on the chemical’s label?

5. Is this chemical . . . Flammable? Corrosive? Reactive when mixed with other chemicals?

6. What protective equipment should you wear when using this chemical?

7. What would happen to you if you ingested this chemical?

8. What would happen if this chemical came into contact with your skin or eyes?

9. What would happen to you if you were exposed to this chemical over a long period of time (chronic exposure)?

10. What first aid measures you should take if the chemical is inhaled?

**Source:** Work Safe, Work Smart, Minnesota Department of Health Curriculum.
Chapter 6 Instructor Overview

The purpose of this chapter is to provide students with information on the tools available to them to improve workplace conditions. The activities in this chapter are designed to teach some of the skills needed to engage in collective actions and to file an OSHA complaint.

The instructor should provide the students with the information contained in the following pages, either verbally or through overheads or handouts, depending on the needs of the class. The students should work with their small groups and use this information and their personal experiences to perform the activities in the chapter. The groups can then take turns sharing their findings with the class.
What is a worker center?

Worker centers are community-based and community-led organizations that engage in a combination of service, advocacy, and organizing to provide support to low-wage workers.


Questions for discussion:

Is there a worker center in your area?

What type of services or training does your local worker center provide?

How has your local worker helped you or other workers?
ACTIVITY 6-1

Organizing for Workplace Improvements

Recall Victoria, the worker from Chapter 1. She has been experiencing severe pain and swelling in her hands and arms, and she had been afraid to talk to her employer about the situation.

Yesterday, Victoria went to her local worker center because her employer has not paid her for one week of work. Victoria is not sure if she wants to return to work.

At the worker center, she learned that there were other workers who had worked for the same employer who were also owed wages and had similar injuries.

In the small groups, have students take about 15 minutes to put together a skit where the group of workers hold a meeting at the worker center to discuss their situation and decide their next steps. Students should think about their needs and what they would like their employer to do. Students are encouraged to think creatively about their approaches to this situation.

*** Students may also want to review the steps to forming a workplace health and safety committee and the checklist in Appendix C to reflect on next steps.***
ROLE OF OSHA

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.

*This is true in OSHA Region V; the question has not been specifically addressed in other OSHA regions.
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.

- Signature and address. If you want OSHA to conduct an inspection, it is important to sign the form. Your address will allow OSHA to send you copies of inspection information.
ACTIVITY 6-2

Filing an OSHA Complaint

Appendix D contains a blank OSHA complaint form. Pass out copies of the blank OSHA complaint form to the groups. Using the facts and instructions on the following page, have the students work in groups to write a complaint for Victoria. The groups can then take turns presenting a short summary of the information that they included in their complaints.
ACTIVITY INSTRUCTIONS

FILING AN OSHA COMPLAINT

Yesterday, Victoria, the worker in the poultry plant from the previous chapters, saw one of her co-workers accidentally slip and cut the arm of the person standing next to them.

The employer gave the injured worker some bandages and reassigned them to a lighter duty so that they did not have to report an injury causing lost work time to OSHA.

Victoria believes that her co-worker’s accident happened because the work stations on the line are too close together and because grease is not promptly cleaned off the floors.

Victoria has also mentioned the pain that she has been experiencing in her arms to her supervisor. She believes this pain is from doing the same motion over and over for hours. She to be rotated to a different task and for sharper cutting tools, but was denied both requests.

Victoria doesn’t know much about OSHA but she has heard that this organization can help workers who want to report safety and health violations. She also has a business card from the employer, which shows her workplace to be Pollo Poultry Processors, 555 Poultry Way, Iowa City, Iowa. Her supervisor’s name is Roger Smith.

Take 15 minutes to review these facts and the information you have learned about employee rights under OSHA.

You have been appointed Victoria’s representative. She has asked for help filing an OSHA complaint. With your small group, make a list of the information you would include in the complaint. If there is time, practice filling out the complaint form.
CHAPTER 7

OSHA INSPECTIONS
Chapter 7 Instructor Overview

The purpose of this chapter is to provide students with a basic understanding of what happens during an OSHA inspection.

The instructor should provide the students with the information contained in the following pages, either verbally or through overheads or handouts, depending on the needs of the class. The students should work with their small groups and use this information and their personal experiences to perform the activity at the end of the chapter.
OSHA INSPECTIONS

A. Inspection priorities

OSHA usually conducts inspections without advance notice to the employer. Because there are more workplaces than OSHA inspectors, OSHA has to prioritize which places it will inspect. It uses the following system:

<table>
<thead>
<tr>
<th>PRIORITY</th>
<th>CATEGORY OF INSPECTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1&lt;sup&gt;st&lt;/sup&gt;</td>
<td>Imminent Danger</td>
</tr>
<tr>
<td>2&lt;sup&gt;nd&lt;/sup&gt;</td>
<td>Fatality/Catastrophe</td>
</tr>
<tr>
<td>3&lt;sup&gt;rd&lt;/sup&gt;</td>
<td>Complaints/Referrals</td>
</tr>
<tr>
<td>4&lt;sup&gt;th&lt;/sup&gt;</td>
<td>Programmed Inspections</td>
</tr>
</tbody>
</table>

1. **Imminent Danger** is the top priority. This is where there is a danger that is expected to cause death or serious physical harm immediately. An example of this would be people working on scaffolding that is so unstable that it can collapse at any minute.

2. **Fatalities and Catastrophes** are next in priority. Employers are required to report to OSHA all workplace deaths and any incident where 3 or more workers are hospitalized. OSHA begins these investigations as soon as possible after getting the report.

3. **Complaints and Referrals** are OSHA’s third priority. Complaints can be filed by a worker or a worker’s representative about health and safety hazards in the workplace. Generally the complaint should be written and signed, but OSHA will contact the employer by telephone where the complaint is made over the phone. Referrals from other government agencies are processed in the same way.

4. **Programmed inspections** are the lowest priority. This is where OSHA has decided to target certain employers or industries with high injury and illness rates.
B. **What happens during an OSHA inspection?**

There are four major stages:

1. **Presenting Credentials.** The OSHA inspector presents his or her credentials to the employer.

2. **Opening Conference.** This part is generally brief. The inspector finds out if workers are represented and if so, makes sure that the representative participates in the inspection. The inspector will also explain why OSHA chose that worksite for an inspection, explains the purpose of the visit, and gets information about the company.

3. **Walkaround.** The inspector will then walk around the workplace to inspect for hazardous working conditions. The inspector may also interview workers, take photographs or videos, or take measurements of harmful substances. All worker interviews are done in private, although workers can request that their representative be there.

4. **Closing Conference.** After the walkaround, the inspector will have a closing conference with the employer and worker representatives. This can be done together or separately. If it is done separately, then the OSHA inspector will talk to the worker before talking to the employer, so it can use the worker’s feedback in the discussion with the employer. At this time, the employer is informed of his or her rights and responsibilities, and there is a discussion of the violations that the inspector has found.
C. Citations and penalties

- OSHA does not give out citations at the closing conference. The citation is sent in the mail at a later time (within 6 months of the inspection.)

- Citations contain information about the regulations and standards that the employer has violated. They also state the length of time that the employer has to fix the problem and the proposed penalties.

- The employer is required to post the citation at or near the place where the violation occurred for 3 days or until the problem is fixed.

- The amount of the penalty increases depending on the seriousness of the violation. It can also be decreased depending on the employer’s history of previous violations, willingness to comply with OSHA, and size of the company.

D. Appeals process

- Employers and workers have the right to disagree with and appeal parts of an OSHA citation. However, the employer has more rights than workers in this process.

- Workers can request a meeting with OSHA to talk about the inspection, citations, penalties, the amount time that OSHA has given the employer to fix the problem, and other issues such as whether the employer is contesting OSHA’s citation or penalty. Workers can contest the amount of time OSHA has given the employer to fix the problem, but they cannot contest citations or penalties.

- The employer can request a meeting with OSHA and can reach a settlement that adjusts citations and penalties.
**ACTIVITY 7-1**

**OSHA INSPECTIONS**

**Discussion:**

**Ask the students:**

Tell us about any time that you filed an OSHA complaint and what happened.

Tell us about any time that you saw or participated in an OSHA inspection and what happened.

**Activity Instructions:**

After receiving Victoria’s complaint about the injured worker and overcrowding (see Chapter 6 activity), OSHA has decided to inspect the poultry plant where she works.

Take 5-10 minutes to prepare a skit in which OSHA visits Victoria’s workplace. The students should play the role of OSHA inspector, employer, Maria’s representative, Maria, and other workers.

Victoria wants to make sure that OSHA cites the employer. Meanwhile, the employer is surprised and angry about OSHA’s visit. Skits should be no longer than 5-10 minutes.
CHAPTER 8

INTRODUCTION TO ERGONOMICS
Chapter 8 Instructor Overview

The purpose of this chapter is to provide an introduction to ergonomics.

The instructor should distribute the following pages as handouts to the class or use the sheets as overhead slides. The students should work with their small groups and use this information and their personal experiences to perform the activities at the end of the chapter.
INTRODUCTION TO ERGONOMICS

What is Ergonomics?

Ergonomics is the science of designing the job to fit the needs of the worker, instead of having the worker fit the needs of the job.

For many workers, ergonomics may not be high on their list of priorities, but injuries caused by badly designed work conditions can lead to serious injuries over time. These injuries can occur in the hands, wrists, joints, the back, or other parts of the body. These injuries are called musculoskeletal disorders.

For employers, setting up a well-designed workplace can be expensive in the beginning because they may need to spend money on equipment or training. However, injuries from poor working conditions can end up costing the employer more money in the end. Employers lose money when workers miss days of work due to pain or injury, and it is expensive for employers to have to hire and train new workers when other workers leave due to injury or illness. Remember that the employers’ workers’ compensation policy should compensate workers for disabling injuries.

Ergonomics Chapter materials adapted from International Labor Organization’s Ergonomics Curriculum:  [http://actrav.itcilo.org/actrav-english/telearn/osh/ergo/ergoa.htm](http://actrav.itcilo.org/actrav-english/telearn/osh/ergo/ergoa.htm)
**Introductory Activity**

Have one or two participants demonstrate the position that they work in, how they hold their tools, and how it makes their body feel after a day of work.

Some examples of work conditions that can lead to injury are:

- tools and tasks that require you to twist your hand or joints, such as the work many mechanics perform
- applying too much pressure on parts of the hand, back, wrists or joints
- working with the arms outstretched or over the head
- working with a bent back
- lifting or pushing heavy loads.

Source: [http://actrav.itcilo.org/actrav-english/telearn/osh/ergo/ergoa.htm](http://actrav.itcilo.org/actrav-english/telearn/osh/ergo/ergoa.htm)
Here are a few examples of the ways in which ergonomics can be used to improve working conditions:

**BEST AND PREFERRED WORK ZONES**

Work is safest when lifting and reaching is performed in these zones. Working outside these work zones may increase the risk of injury. It is particularly important to perform heavy lifting tasks within the best work zone.
Workers and equipment should be positioned so that workers can perform their jobs with their upper arms at their sides and with their wrists straight.

Hand tools that cause discomfort or injury should be modified or replaced. For example, pliers can be either straight or bent, depending on the need.
• Standing work should be minimized, since it is often less tiring to do a job sitting than standing.

• Where possible, machines or technology should be used to improve working conditions.
A task should not require workers to stay in awkward positions, such as reaching, bending, or hunching over for long periods of time.

Workers need to be trained in proper lifting techniques. A well designed job should minimize how far and how often workers have to lift.

Job assignments should be rotated to minimize the amount of time a worker spends doing a highly repetitive task, since repetitive work requires using the same muscles again and again and is usually very boring.

Source: http://actrav.itcilo.org/actrav-english/telearn/osh/ergo/ergonomi.htm
ACTIVITY 8-1
Body Mapping

• Hand out a sheet with a diagram of a human body, from the front and from the back (such as the diagram on the previous page) to each student. Have a large version of the same diagram on the chalkboard or flipchart at the front of the classroom.

• Ask the students to mark with an “X” the parts of the body that they believe are being affected by their work. After they are done, have them come up to the front to mark the diagram at the front of the classroom. The final diagram can look something like the picture below.

• Explain to the students that they can speak with you individually if they do not want to share their injury or illness with the group.

• Ask students to explain why they put their marks on the body.

• Point out the injuries and illnesses that are common among workers in certain industries.

• Have the class participate in a discussion about this, with questions such as why they think these injuries occur, what can they do to reduce the chance of injury, etc.

Example of Body Map.
ACTIVITY 8-2

Using the Body Map

Pick one or two illnesses or injuries from the body map.

You have been chosen as representatives for your group of workers. They have asked you to speak with the supervisor about workplace conditions. Take 5 minutes to think about some ways that your employer could make changes that would reduce ergonomics problems in your workplace. Present to the class.

ACTIVITY 8-3

Hand Exercises

Have a nurse or physical therapist visit the class and recommend warm-up hand exercises to avoid repetitive stress injuries.