

THE SUPERVISOR'S ROLE IN HAZARD CONTROL

Introduction

This booklet is about how supervisors can prevent accidents - disruptions that not only threaten the well being of your workers but also the efficiency and profitability of your company.

Every supervisor knows that accidents are every bit as disruptive as operational problems. That's why an effective safety program is so important.

Through an effective safety program:

?? *Accidents are minimized*

?? *Workers are protected*

?? *Production interruptions are avoided*

?? *New or replacement workers don't have to be hired or trained*

?? *Equipment, machinery, and products are not damaged*

?? *Supervisors spend less time filling out accident reports.*

A few definitions

Accidents are unexpected, unwanted events that cause, or have the potential to cause harm or damage to people, property, or the environment.

Hazards are the characteristics of things and the actions or inactions of people that create the potential for harm or damage to people, property, and the environment.

Hazard control is the identification and control of these characteristics and actions that could cause harm or damage.

Safety is the control of recognized hazards to attain an acceptable level of risk.

An *accident* can occur when a *hazard* is not controlled. If there is no hazard, an accident cannot happen.

Accident Causes

Studies have shown that nearly all accidents are preventable. They can be prevented by identifying hazards, and doing something to control them.

Accidents and job-related illnesses can be caused by:

- ?? *Physical hazards*
- ?? *Personal hazards*
- ?? *Work place environment hazards*
- ?? *Combinations of these.*

We know that accident causes are more complex than some simple combination of unsafe acts and unsafe conditions. We've come to understand those unsafe acts and conditions are only the surface evidence of deeper, more complex causes.

When trying to uncover these underlying causes, you must consider the role and involvement of existing management practices, the worker, the machine, the method, and the work environment.

Physical, personal and work environment hazards are frequently created, at least in part, by management. That's why focusing on management practices is important in your hazard control efforts.

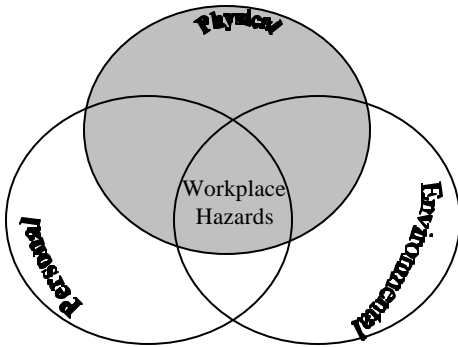
For example, if an unguarded machine contributes to an accident, you need to look beyond a simple recommendation to reinstall the guard. You need to ask the question, "why was the machine left unguarded?"

The causes of accidents are the same as the causes of other production problems such as low quality and poor productivity. The same methods and approaches you use to solve production or service problems should be applied to your hazard control programs.

Let's begin by talking about the different kinds of hazards:

- ?? *Physical hazards*
- ?? *Personal hazards*
- ?? *Workplace environment hazards*

Workplace Hazards



Physical Hazards

Hazards in the workplace come from three places: machines and equipment, the worker, and the working environment. All three sources must be addressed to effectively control hazards.

Physical hazards are usually defined as unsafe conditions. But they include more than burned-out exit lights, unguarded machines, and bad housekeeping. Poorly designed work areas that create dangerous exposures to employees are also classified as physical hazards. Here are some examples:

- ?? Unguarded machinery
- ?? Slippery floors
- ?? Poorly lit stairs
- ?? Defective or broken tools
- ?? Blocked exits
- ?? Damaged ladders
- ?? Poorly designed workstations

Often, accidents arising from these hazards are said to be caused by "carelessness" or "unsafe acts." This is the easy way out. It's also wrong because it does nothing to prevent similar accidents from happening again.

A better approach is to step back and look at the big picture. Decide if something can be changed in the tools, equipment, or facilities your workers use or the way the work is done.

It is usually easy to control physical hazards once you identify them. You can *"fix-it, clean it, or move it."* You can throw out that broken ladder or make sure guards are on all the machines. You can write a work order to fix that burned-out light or do something about the slippery floor.

Also, don't forget to look for possible shortcomings in your company's management practices - practices that allowed the physical hazard to exist in the first place!

Ergonomics

Sometimes finding solutions isn't so easy and you need some help. For example, modifying a workstation might require the assistance of an ergonomic specialist.

Ergonomics is the study, of people at work and how they interact with the physical work environment. Ergonomic evaluations are usually done by specially, trained and experienced safety professionals.

Poorly designed workstations have caused workers to develop cumulative trauma disorders. Some examples are back injuries and wrist problems such as Carpal Tunnel Syndrome. Cumulative trauma disorders are caused by repeated bending, twisting, gripping, or stretching of parts of the body.

A good ergonomic evaluation will point out problems in the workstation or tooling and give ideas how to change them. Usually, when these changes are made there is also an increase in productivity.

Your employees, the people who actually do the jobs, will always have some good ideas about physical hazards and how to eliminate them. The smart supervisor will seek out ways to involve them in the process of identification and control of physical hazards.

An effective supervisor has an understanding of the *control* of physical hazards in their area. Instead of blaming an accident on "carelessness" or "human error," ask yourself the question, "Can I change anything to stop this from happening again?"

Safety professionals, through years of research, now believe that many accidents thought to have been caused by unsafe acts can be prevented by controlling physical hazards. By changing a work procedure or eliminating a hazardous condition, you will be taking positive steps to reduce the possibility of an accident happening.

Personal Hazards



Personal hazards are harder to control than physical hazards. Of the three kinds of hazards, those involving the human element are the hardest to change.

Here are some examples of personal hazards:

- ?? *Lack of experience*
- ?? *Lack of training*
- ?? *Poor attitude*
- ?? *Physical and mental problems*
- ?? *Rushing to get the job done*
- ?? *Ignoring safety rules*

You must use all of your skills to change the way a person acts. While we cannot discuss in detail all the ways of managing people, some ways of controlling personal hazards include:

- ?? *Lead by example* - Your employees won't wear their personal protective equipment if you don't wear yours. When you fail to follow safety rules, you are in essence telling your employees that the rules aren't important.
- ?? *Use positive reinforcement* - Compliment your workers when they do a good job. A pat on the back will do more to change a person's performance than shouting and threatening.
- ?? *Use disciplinary action when necessary* - Be firm, fair, and consistent. Document your decision and be sure to discuss it with the worker.
- ?? *Emphasize job skills training* - Use your company's written training programs when you instruct new employees. Use written job procedures in the same way to make sure all new employees understand how to do the job and what you expect of them. Be sure to make a record of any training you have given a worker.
- ?? *Follow standard procedures* - Make sure your workers understand that you will not tolerate taking shortcuts or chances that may cause an accident. Saving a few minutes by ignoring a safe procedure is nearly always a bad investment. Working safely is the best way to maintain productivity.

Workplace Environment Hazards

Workplace Hazards



Some workplaces and situations contain a variety of environmental hazards. These are hazards that can affect employee health and well being.

Here are some examples of workplace environment hazards include:

- ?? Degreasing compounds
- ?? Welding fumes
- ?? Certain solvents
- ?? Asbestos containing materials
- ?? Very hot or cold work areas
- ?? Certain industrial gases
- ?? Confined spaces
- ?? Noisy machinery

The Occupational Safety and Health Administration (OSHA) has established limits on how much of a hazardous substance or other environmental hazards workers may be safely exposed. These are called Permissible Exposure Units (PELs). PELs are based on broad scientific research and are subject to change from time to time as new technical data becomes available.

PELs are usually expressed as a Time Weighted Average (TWA) based on exposures of eight hours a day for a five-day week (40 hours/week).

Some substances also have a Short Term Exposure Limit (STEL) that represents a maximum peak exposure for periods of less than 15 minutes.

Finally, a few substances have Ceiling Exposure Limits that must never be exceeded, regardless of exposure time.

Hazard Communication Programs

The purpose of a Hazard Communication Program is to instruct workers to recognize hazardous chemical exposures and give them the knowledge to adequately protect themselves.

OSHA, and good business practice, requires companies to tell workers about each environmental hazard they are, or may be, exposed. Employers are required to assemble an inventory of chemicals used in the workplace, obtain Material Safety Data Sheets, institute a labeling program and train employees.

In most companies, supervisors are responsible to identify and understand potential health hazards. You also have a responsibility to control health and environmental hazards and to train workers about them.

- ?? A Materials Safety Data Sheet is required for every hazardous chemical or material. The MSDSs are completed by the manufacturer or importer of the chemical and must be given to the buyer.
- ?? MSDS's contain important information about PEL's, use procedures, incompatibilities, required personal protective equipment, fire fighting, spill control, and waste disposal. Every MSDS has a telephone number if additional information is needed for an emergency involving the chemical.
- ?? The contents of the MSDS must be reviewed with each employee exposed to that substance.
- ?? Sometimes a less hazardous material can be used. For example, .a different solvent may do just as good a job and yet be far less hazardous to your workers than the one currently used
- ?? Make sure your workers are using the proper personal protective equipment. Examples are safety glasses, hearing protectors, skin creams, respirators, and gloves.
- ?? Make sure that mechanical ventilation exhaust systems are in place and working properly.

OSHA requires specific programs for noise control, cancer causing materials, and respirator use. Be certain you understand your responsibilities under these programs if they apply at your company.

Sometimes you may need the help of others from within or outside your company to monitor chemical exposures or review your control programs for adequacy. Industrial hygienists can measure and evaluate chemical, noise, or radiation exposure levels. Professional safety consultants can review the adequacy of existing or proposed control procedures and programs and make recommendations for improvement.

As a supervisor, it is your job to make certain that environmental hazards are controlled in your work areas. You are also responsible for assuring that your employees follow safe work practices.

What You Can Do

So far we've talked about the nature of accidents and what causes them. Now; let's move on to some things that you can do to reduce or eliminate accidents in your work area.

Job Placement

Pay careful attention to newly hired workers. For example, try to see if the new worker is willing to learn, follows safe practices, wears protective equipment, and is aware of hazards in the work environment.

If the worker is doing something wrong, correct the problem immediately. Continue observing new workers until you are confident of their ability to do the job correctly, efficiently, and safely.

Training

What is training? It might be easier to define training by examining what it isn't.

- ?? *Training isn't the same as telling* - Telling someone how to do a job is the least effective method of assuring adequate performance.
- ?? *Training isn't something you do only once* – People learn best through repetition – the information has to be repeated in order for it to be absorbed.
- ?? *Training isn't a one-way street* - People want to discuss the job they will be doing and have their questions answered. Don't do all the talking.
- ?? *Training isn't unplanned*- An effective supervisor doesn't approach training with a cavalier, "I gotta do this" attitude. Rather, the supervisor identifies training goals and the best training methods, decides the behavior objectives, and determines the existing knowledge of the trainee. This requires time, planning, and attention to detail.

Because of your experience and position, training new-hires or transferees is an important part of your responsibilities. When you first introduce a worker to a new job, you should:

- ?? Discuss the job, its requirements, and the performance you expect.
- ?? Talk about each specific hazard involved in the job.
- ?? Review pertinent Material Safety Data Sheets with the worker.
- ?? Describe the methods and procedures that must be used to do the job properly and safely.
- ?? Explain the use of personal protective equipment and make sure that the worker knows how to use it.
- ?? Answer the employee questions about the job.

When you train new workers, be sure to give them copies of applicable safe practices, job procedures, or instruction manuals. Try to use the safety literature, films, and resources you have available.

Effective job training involves four steps:

- ?? **Explain** the job to the worker. Put the worker at ease. Discuss each element of the job, emphasizing all safety procedures.
- ?? **Demonstrate** the proper way of doing the job. Explain each step as you do it. Go slow and repeat as necessary to assure the worker understands.
- ?? **Observe** the worker doing the job. Stop the worker if a step is missed or done incorrectly. Explain again how each step is to be done. Make sure the worker can do it right before you move on to the next step.
- ?? **Follow-up** with observations and corrections until the worker can do the job properly. New workers will require more supervision than experienced workers. Follow-up and observation is a critical part of job training.

You are not done training a worker until he shows a thorough knowledge of the job, its hazards, and the proper precautions to avoid an accident.

Job Hazard Analysis

As we've discussed, you need to find and control hazards before accidents happen. The Job Hazard Analysis (JHA) system is a way of accomplishing this goal. It is a review of each step in doing a job. You may want to ask your safety department or a safety consultant to work with you when doing a Job Safety Analysis.

In a Job Hazard Analysis, each step of the job is identified and recorded on a simple, three-column chart.

Job Hazard Analysis		
Job Steps	Hazard Potential for Each Step	Recommended Safe Job Procedure
Describe each job step (use action words, such as push, start, press, turn, pick-up, etc.)	Describe the hazards for each step (such as sharp saw blade, exposed electrical connection, hazardous chemicals, etc.)	Describe procedures or controls needed to do each step safely (such as use safety guard, wear eye protection, keep hands clear, etc.)

Start by listing the steps that make up the job you're analyzing. Break the job down into the smallest steps or elements possible.

After you've listed all the job elements, go back and fill in the second column. When listing hazards, it's best to use a brainstorming technique. List as many as you can think of – just get them down on paper. Don't worry about prioritizing them now. You can evaluate them when you complete the third column.

Finally, in the third column, select a control or safety practice that eliminates or minimizes each identified hazard. This is the section to analyze "how and why" the job is done a certain way. This is the hardest part of a JHA. It requires you to think not only about the job in its current form, but also what can be done to improve it or make it safer.

Once developed, the JHA is a very valuable tool for:

- ?? Establishing work procedures
- ?? Training new workers
- ?? Establishing safe practices
- ?? Evaluating job performance

Inspections

While every organization attempts to maintain a safe and orderly work environment, the rigors of day-to-day activities will take their toll on your facilities, equipment and vehicles. Guards are removed, lighting systems fail, work areas become cluttered, floors get slippery, and equipment is damaged or simply wears out.

Safety inspections are a good means of detecting and eliminating these hazards before injuries or property damage incidents occur.

Even though you should correct or eliminate as soon as discovered, a formal hazard control inspection may discover overlooked hazards.

Inspection checklists can be big time savers. A checklist will guide you through the inspection and remind you of conditions and practices that need your attention.

The inspection checklist should cover both physical conditions and work practices. Look for "things" and "actions of people."

A partial list of hazards that might be included on a checklist:

- ?? Machines and machine guards
- ?? Walking and working surfaces
- ?? Fire protection systems and fire extinguishers
- ?? Fire doors and exits
- ?? Electrical equipment
- ?? Chemical use, storage, and disposal
- ?? Ventilation systems
- ?? Flammable liquid use and storage
- ?? Welding procedures and protection
- ?? Use of personal protective equipment- safety glasses, hearing protectors, gloves, respirators, etc.
- ?? First aid supplies
- ?? Eyewash stations
- ?? Observation of workers- lifting, moving materials, driving, etc.

Once the inspection is complete, you need to prioritize your recommendations so that the most severe hazards can be corrected first. Is it something you can do or does the maintenance department need to be called? Does your boss need to be involved?

It's important to follow up to make sure that corrective actions have been implemented.

Accident Investigation

Remember that accidents are events that resulted, *or could have resulted*, in injury to people or damage to property or the environment. Don't forget to investigate the close calls too!

Keep this in mind when you investigate an accident - the purpose of accident investigation is fact-finding, not faultfinding. If those involved believe the finger of guilt will eventually point at someone and result in punitive action, they'll be more concerned with covering up and defending, not providing objective information.

You need factual, objective information to find the causes and implement appropriate solutions. People will be more inclined to cooperate with your investigation if they don't fear retribution.

Prompt investigations are important. You can record reactions and statements of witnesses before they forget important details. Memories fade or become distorted as time passes. Equipment and other valuable evidence may no longer be available if you delay your investigation.

Here's how to investigate an accident:

- ?? First make sure the injured worker has received proper medical attention.
- ?? If possible, interview the injured worker for a first-hand report.
- ?? Question other workers or witnesses to the accident.
- ?? See if the job was done according to standard procedures.
- ?? Look at the accident scene and find out if the equipment or machinery was properly maintained or guarded.
- ?? Check for physical, personal, and environmental hazards that contributed to the accident.

Investigations should be recorded in writing. Most companies have some type of standard investigation report for this purpose. It's a good idea to take notes as you interview people and develop your information.

An investigation that doesn't contain one or more suggestions to prevent similar accidents is incomplete. It's not enough to simply say "Told employee to be more careful." You'll need to think about changes to training, work procedures, equipment factors, and management practices if you're serious about preventing future accidents.

Motivation

Your workers look to you for guidance and direction. You are the first link in the management chain and an important person in controlling workplace hazards. You control the work area, make job assignments, give instruction, and measure performance. You know what needs to be done and how to do it right. Motivating workers to work safely will reflect your commitment to these important responsibilities.

Here are some ideas for motivating your employees to work safely:

- ?? Let workers know you are interested in them as people and that you want to understand their needs, problems, and hopes.
- ?? Use positive reinforcement and praise whenever possible.
- ?? Be consistent in enforcing safe practices. Don't play favorites.
- ?? Ask for their ideas. If even one idea in twenty has merit, you'll be miles ahead for having listened.
- ?? Correct or eliminate hazards as soon as possible. When you ignore hazards you are, in the eyes of your workers, approving of them.
- ?? Set a good example by following safe practices yourself.
- ?? Let your workers know that the job safety requirements are your requirements. They should feel that you are responsible for your area.

Conclusion

We've talked about accidents and what causes them. We reviewed the three types of hazards - *physical, personal, and work environment*. We offered some suggestions on what you, as a supervisor, could do to make your work areas and employees safer, control costs, and improve productivity.

While there are no quick fixes, simple programs and magic formulas that will solve all your safety problems, we believe the concepts and suggestions in this booklet can be easily and efficiently implemented.

Many supervisors have successfully included these ideas in their everyday management practices and are now enjoying the benefits of improved safety records and increased productivity. We are confident they will work equally well for you.