

CONTROLLING HAZARDS



Once hazards are identified, there are various methods that can be used to protect employees. These are called hazard controls. Not all controls are equally effective. There is a “hierarchy” of possible solutions. The most effective solutions, at the top of the pyramid, are those that actually remove the hazard. Below are those solutions that only reduce or limit the employee’s exposure. Often a combination of methods is needed to get the best protection.



Remove the Hazard

The best way to protect employees from hazards is to remove the hazards from the work environment altogether, or at least keep them away from employees. These methods are often called **engineering controls**. They directly address the hazard and do not depend on employees’ actions to be effective. Employees don’t have to wear special protective gear or take special precautions, because the hazard is gone.

Engineering controls include these methods:

- **Redesign the process.** For example:
 - Replace gasoline motors with electric motors to eliminate exhaust fumes
 - Store supplies near where they are needed, and use hand trucks to reduce lifting and carrying
 - Use wet methods when grinding, sanding or using other tools to reduce dust levels
- **Substitute safer products for hazardous ones.** For example, use chemicals that are less toxic or dangerous



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- **Keep the hazard away from employees.** For example:
 - Move noisy equipment away from employees
 - Use glove boxes when handling toxic chemicals
 - Install guards on machines
 - Use floor mats in wet or slippery areas
- **Use good ventilation.** This removes dust, fumes, etc., from the air that workers breathe.
- **Redesign equipment.** For example:
 - Use smaller and lighter carts that are easier to move for transporting boxes, supplies and other items
 - Use adjustable computer workstations that fit workers' bodies comfortably
 - Replace old equipment with newer equipment that has better safety features.

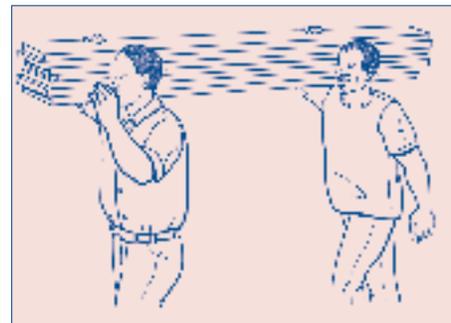


Improve Work Policies and Procedures

When the hazard cannot be eliminated altogether, another option is to set rules that will limit employees' exposure to the danger. These measures are often called **administrative controls**.

Administrative controls include:

- **Rotate employees** between a hazardous task and a non-hazardous task so that the length of exposure is reduced
- **Increase the number of breaks** to reduce the time of exposure to hazards like working in the hot sun
- **Keep work areas free of clutter and debris**
- **Require good housekeeping** to reduce the chance of trips and falls, etc.
- **Improve personal hygiene facilities and practices.** Provide a way for employees to wash their hands and face before eating and drinking. Prohibit eating in work areas. Set up facilities for showering after the shift, and leaving contaminated clothes at the workplace.





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- **Provide worker training programs.** Increase employees' ability to recognize and evaluate hazards, and to take action to protect themselves.
- **Assign enough people to do the job safely.**

Provide Personal Protective Equipment

A third method of reducing hazards is to use **personal protective equipment (PPE)**. PPE is worn on the body and protects employees from exposure to a hazard. It includes respirators, gloves, eye protection, earplugs, hard hats, coveralls, and safety shoes. Wear PPE when other methods of hazard control aren't possible or don't give enough protection. Try to remove the hazard or change work procedures first.

PPE is usually considered less protective than the other methods because:

- It doesn't get rid of the hazard itself. It simply reduces the amount of exposure by placing a barrier between the hazard and the worker.
- Workers may not want to wear it because it can be uncomfortable and hot and may make it hard to communicate.
- It has to fit properly to work properly.
- It has to be the right type for the particular hazard, such as the right glove for the chemical being used.
- Workers must be shown how to use it properly.



Use a Combination of Methods

Sometimes you may need a combination of methods to control a hazard. While engineering controls may be the most effective method, you also need to have training programs and good workplace policies to supplement them. There may also be situations where PPE is essential.