

Job-related injuries and fatalities occur every day in the workplace. These injuries often occur because employees are not trained in the proper job procedure or the necessary hazard controls are not in place.

One way to prevent workplace injuries is to establish proper job procedures and train all employees in safer and more efficient work methods. Establishing proper job procedures is one of the benefits of conducting a job hazard analysis. A job hazard analysis (JHA) is a risk assessment tool used to identify workplace hazards and establish hazard controls.

A JHA is accomplished by carefully studying and recording each step of a job, identifying existing or potential job hazards (both safety and health), and determining the best way to perform the job or to reduce or eliminate these hazards. Improved job methods can reduce costs resulting from employee absenteeism and workers' compensation, and can often lead to increased productivity.

How is a JHA conducted? JHAs should be completed in the following order:

1. Break the job into steps.

Do not make the steps too general or too detailed. Most jobs can be described in 6-8 steps. If a job requires many steps, divide into two or more segments, each with their own JHA. Keep the steps in order, since listing out of order may cause an oversight. Describe what is being done instead of how it is done.

2. Identify potential safety and health hazards for each step.

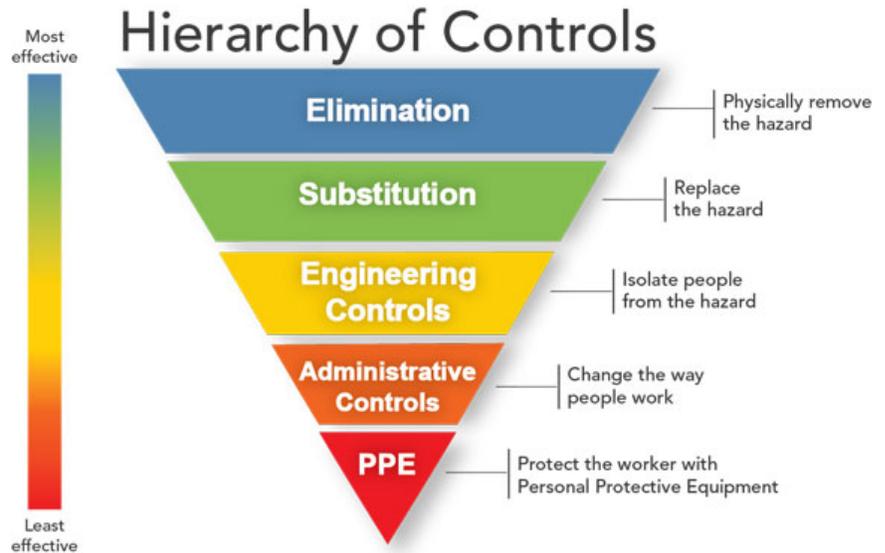
Examine each step to identify hazardous actions, conditions and potentials that can lead to an accident. All hazards should be identified including those that are not obvious. Risks to look for include caught between, struck by, slips, trips and falls, falling objects, weather conditions, chemicals, tools, machinery and equipment.

3. Determine the controls that are necessary to monitor, minimize or eliminate the hazards.

List recommended safe procedures. Be specific and list exactly what needs to be done to control the hazard. Methods for hazard elimination include choosing a different process, engineering the hazard out, improving the environment, modifying a process, changing equipment or tools, substituting for less hazardous substances, and housekeeping.

The controls listed on the JHA form are the controls that must be implemented on site. If job site conditions change after the original JHA is completed, another JHA must be completed. Periodically inspect the job site to verify that the controls are effective. The JHA should be reviewed with all employees that will be involved with the project.

The JHA evaluator must consider the hierarchy of controls in the following priority order: elimination, substitution, engineering controls, administrative controls and work practices. The idea behind this hierarchy is that the control methods at the top of graphic are potentially more effective and protective than those at the bottom. Following this hierarchy normally leads to the implementation of inherently safer systems, where the risk of illness or injury has been substantially reduced.



Elimination and Substitution

Elimination and substitution, while most effective at reducing hazards, also tend to be the most difficult to implement in an existing process. If the process is still at the design or development stage, elimination and substitution of hazards may be inexpensive and simple to implement. For an existing process, major changes in equipment and procedures may be required to eliminate or substitute for a hazard.

Engineering Controls

Engineering controls are favored over administrative controls and personal protective equipment (PPE) for controlling existing worker exposures in the workplace because they are designed to remove the hazard at the source, before it comes in contact with the worker. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The initial cost of engineering controls can be higher than the cost of administrative controls or PPE, but over the longer term, operating costs are frequently lower, and in some instances, can provide a cost savings in other areas of the process.

Administrative Controls and PPE

Administrative controls and PPE are frequently used with existing processes where hazards are not particularly well controlled. Administrative controls and PPE programs may be relatively inexpensive to establish but, over the long term, can be very costly to sustain. These methods for protecting workers have also proven to be less effective than other measures, requiring significant effort by the affected workers.