

# Workplace ergonomics: Hierarchy of controls for musculoskeletal disorders (MSDs)

One of the most effective tools in the safety toolkit is the hierarchy of controls. It is a model that anyone can use to reduce the risks for any hazard.

Hazards associated with musculoskeletal disorders (MSDs) can be examined in the same way, although the controls are different.

In both models, the most effective measures are at the top and the least effective measures at the bottom. But there are key differences, most notably that no personal protective equipment has been validated for controlling the risk of MSDs.

Here's the breakdown of controls for MSDs. Use this model for any task with an MSD risk. Analyzing the risk may help you come up with innovative solutions that can make a big difference in workers' health.

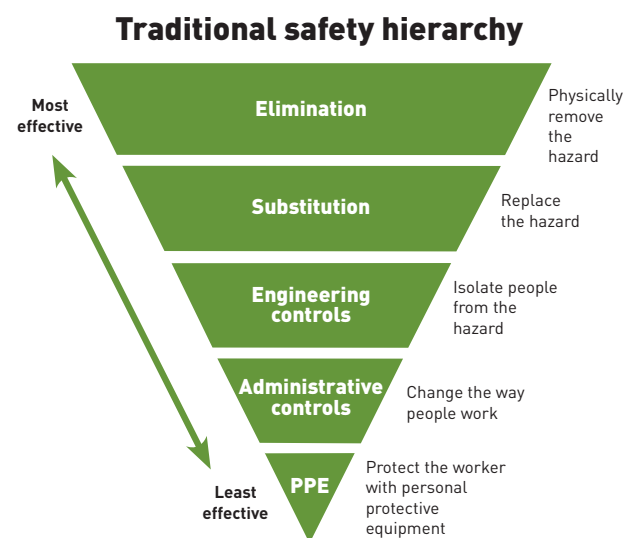
**Eliminate:** Removing the hazard altogether. Changing the space layout to eliminate an awkward posture is a good example.

**Equipment change:** Substituting or using equipment to reduce the risk. For instance, instead of carrying heavy boxes, a worker may use a hand truck.

**Job rotation and schedule:** Limiting the amount of time a worker performs a task is one way to reduce a hazard when other controls are not feasible.

**Work instruction and coaching:** Teaching proper lifting technique is one example. It is less effective than the other measures because it relies on workers' actions alone to control the hazard.

**Other:** Examples include pre-task warm-ups, physical or musculoskeletal conditioning, matching worker's skills to their jobs, pre-employment testing for physical capacity, and workplace health and fitness promotion.



## Hierarchy of controls for MSDs



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### There's more

Please refer to additional materials that accompany this topic, which have helped prevent injuries at other organizations. [saif.com/ergo](http://saif.com/ergo)