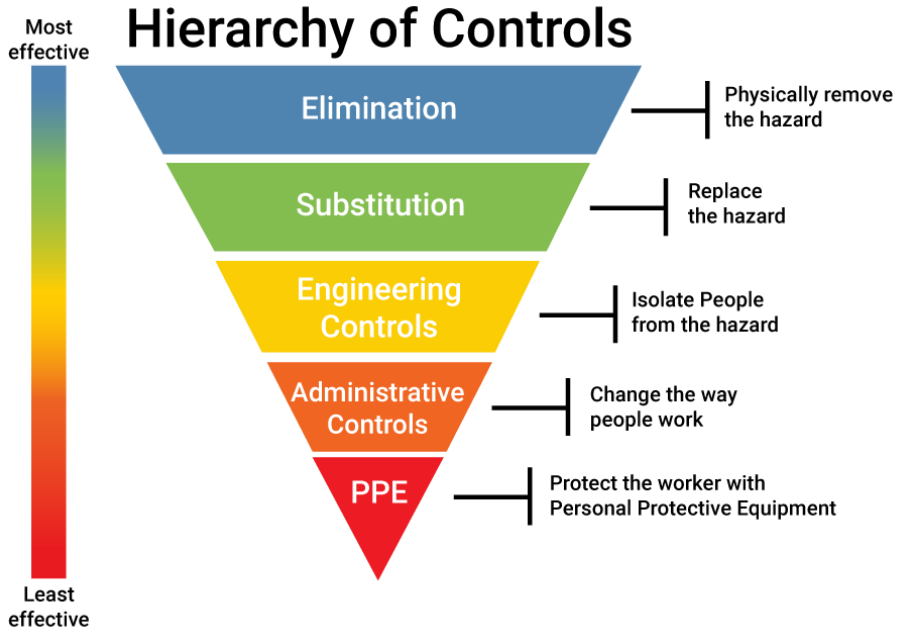
COURSE n° 6: Risk Control – The hierarchy of controls

Hierarchy of Controls

The hierarchy of controls is a method of identifying and ranking safeguards to protect workers from hazards. **They are arranged from the most to least effective** and include elimination, substitution, engineering controls, administrative controls and personal protective equipment.

Often, you'll need to combine control methods to best protect workers. For example, a local exhaust system (an engineering control) requires training, periodic inspections, and preventive maintenance (administrative controls).



Elimination: makes sure the hazard no longer exists. Examples:

- Ending the use of a hazardous material
- Doing work at ground level rather than at heights
- Stopping the use of noisy processes

Substitution: means changing out a material or process to reduce the hazard. Examples:

- Switching to a less hazardous material
- Switching to a process that uses less force, speed, temperature, or electrical current

Engineering controls: reduce exposure by preventing hazards from coming into contact with workers. They still allow workers to do their jobs, though. Examples:

- Noise enclosures
- Local exhaust ventilation
- Guardrail system
- Machine guards
- Interlocks
- Lift equipment

Administrative controls: change the way work is done or give workers more information by providing workers with relevant procedures, training, or warnings. They're often used together with higher-level controls. They include:

- ***Procedures***, such as equipment inspections, planned preventive maintenance, checklists, lockout/tagout/tryout, infection prevention and control practices, changing work schedules, pre- and post-task reviews, and rotation of workers;
- ***Training*** on topics such as hazard communication, permit-required confined space entry, lockout/tagout/tryout, and safe work procedures;
- ***Warnings***, such as signs, backup alarms, smoke detectors, computer messages, mirrors, horns, labels, and instructions.

Personal protective equipment (PPE): includes clothing and devices to protect workers. PPE needs constant effort and attention (including proper use and training) from workers. Higher-level controls aren't always feasible, and PPE might be needed in conjunction with other control measures. Examples:

- Safety glasses;
- Personal Fall Protection Systems and related equipment;
- Hardhats;
- Respirators;
- Hearing protection;
- Protective clothing.