



"We all know that construction jobs are dangerous, but not everybody knows what to do to be safer in their jobs."

—RAMÓN HIDALGO

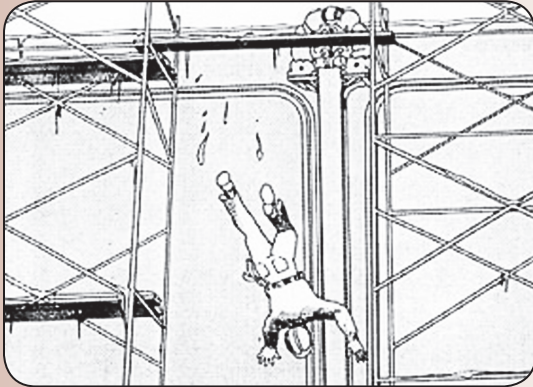


CONTROLLING HAZARDS

PROTECT YOURSELF FROM HAZARDS IN CONSTRUCTION

HAZARDS IN CONSTRUCTION

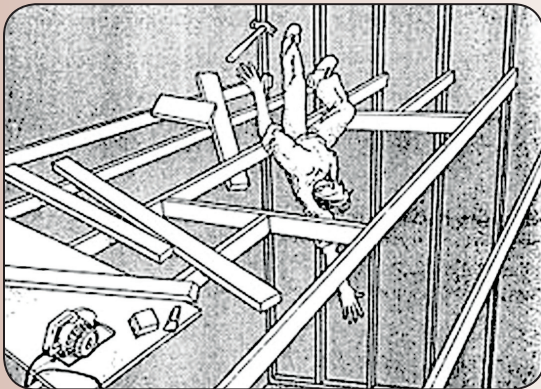
Hazards that can cause physical harm



FALL HAZARDS:

Any situation where a person could slip and fall from six feet or higher.

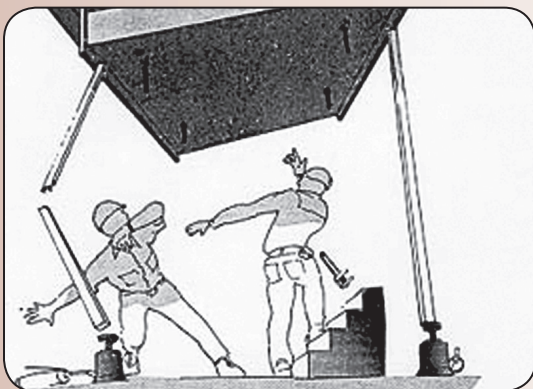
EXAMPLES: Broken ladders, scaffolding without guardrails, open stairways, and unprotected sides of buildings.



SAME-LEVEL FALLS:

Conditions that cause people to slip, fall, or injure themselves.

EXAMPLES: Messy workplaces, slippery surfaces, wet or greasy floors.



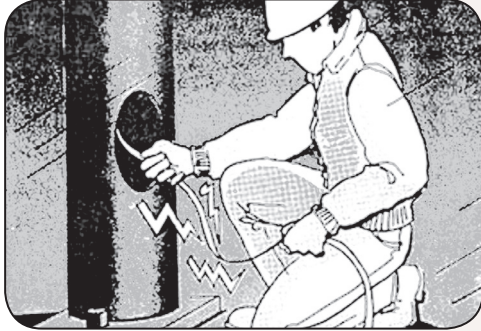
FALLING OBJECTS:

Workers are at risk of falling objects when somebody is doing work above them or when materials are not stored properly.

EXAMPLES: Working under scaffolding or a crane, objects located too high up.

Source: *Work Safe, Work Smart, Minnesota Department of Health Curriculum.*

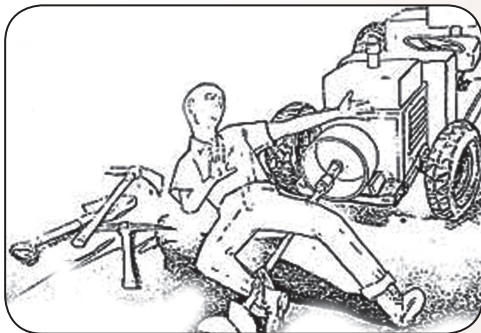
HAZARDS IN CONSTRUCTION



ELECTRICITY:

Electrocution can occur when a person makes contact with an electrical current.

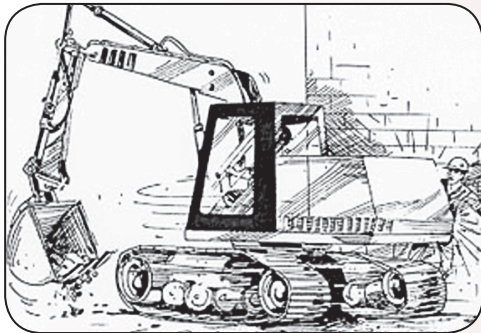
EXAMPLES: Electrical equipment, electric cables, lightning, batteries.



MACHINE HAZARDS:

Parts of machines, both slow and fast moving, can cause accidents such as crushing or even amputating parts of the body.

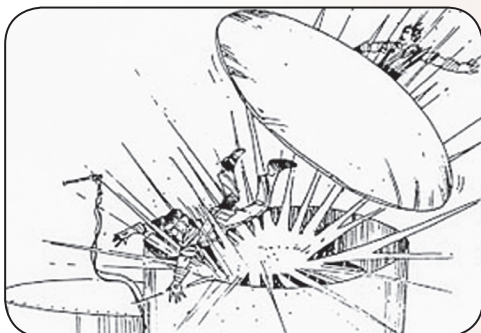
EXAMPLES: Motor parts, drills.



MOVING OBJECTS:

A person can be hit, run over, or crushed by heavy machinery.

EXAMPLES: Tractors, trucks.



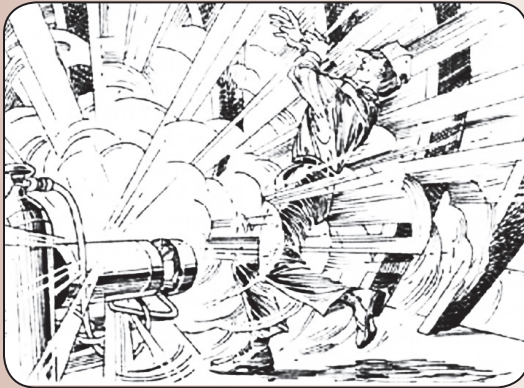
FIRE HAZARDS:

Any condition that increases the risk of a fire in the workplace.

EXAMPLES: Poor electrical installation, improper use of heaters, not having fire safety equipment.

HAZARDS IN CONSTRUCTION

Physical hazards can cause illness in the workplace



NOISE:

Loud noises can cause injury to the ears, both immediately and over time. **EXAMPLES:** Machines, motors, explosions, loud music.

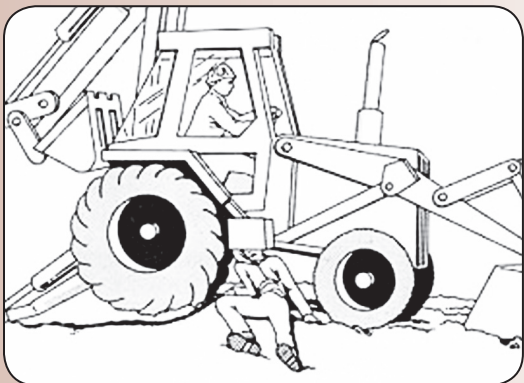
HEAT:

A hot surface can cause a burn; overexposure to the sun or to heat causes dehydration. **EXAMPLES:** Working outside during the summer, stoves, fryers, grills.



COLD:

Exposure to the cold or being enclosed in a cold place can cause frostbite, hypothermia, or even death. **EXAMPLES:** Working outside during the winter, refrigerators, freezers.



MISCELLANEOUS:

Any other object that can cause injury or illness. **EXAMPLES:** Radiation, improperly fitting protective equipment.

Source: *Work Safe, Work Smart*, Minnesota Department of Health Curriculum.

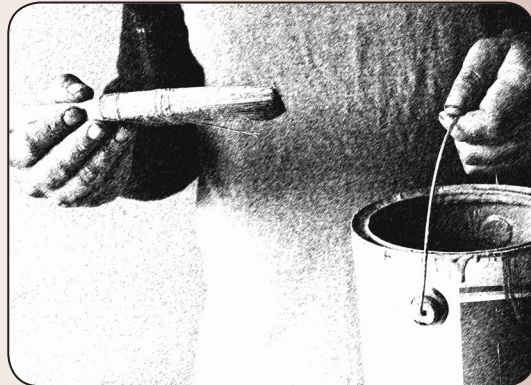
HAZARDS IN CONSTRUCTION

Chemicals can enter the body!

Chemicals can enter the body through the skin, through cuts and openings in the skin or through the mouth by breathing or swallowing.

SOLIDS:

Chemicals in solid form. EXAMPLES :
Paint can contain lead.



LIQUIDS:

These are chemicals that are in liquid form at room temperature. EXAMPLES:
Pesticides, paints, cleaning products.



DUST:

Dust is small particles of solids. You can be exposed to materials already in dust form, or through work processes that create dust. EXAMPLES: Bags of cement, fiberglass, asbestos.

VAPOR:

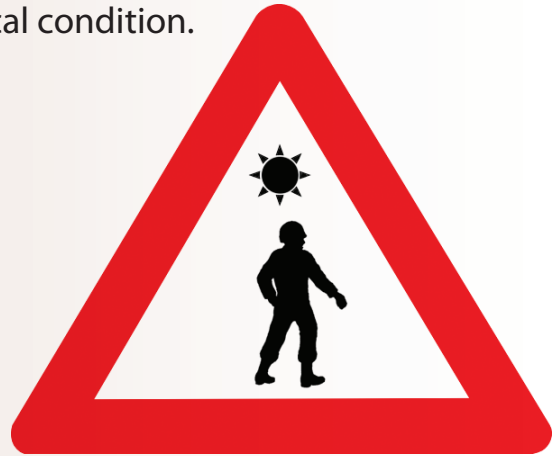
Certain vapors can cause eye and skin irritation. Some can damage the brain over time. EXAMPLES: Pesticides, paints, cleaning products.



PROTECT YOURSELF FROM HEAT STRESS!

What things cause heat stress?

- Physical activity and a poor physical condition.
- High temperatures and humidity.
- Excessive heat and direct sun.
- Poor air circulation.
- Some medications.



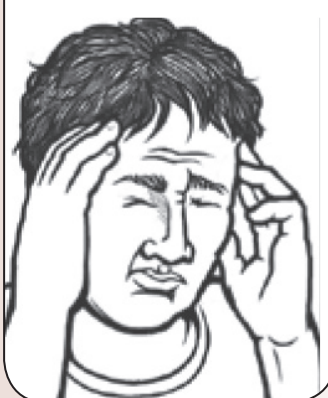
What are the symptoms of heat stress?

- Headaches, dizziness, or fainting. Nausea or vomiting.
- Fatigue and humid skin.
- Mood changes, such as irritability or confusion.

Fatigue & humid skin



Headaches, dizziness, or fainting

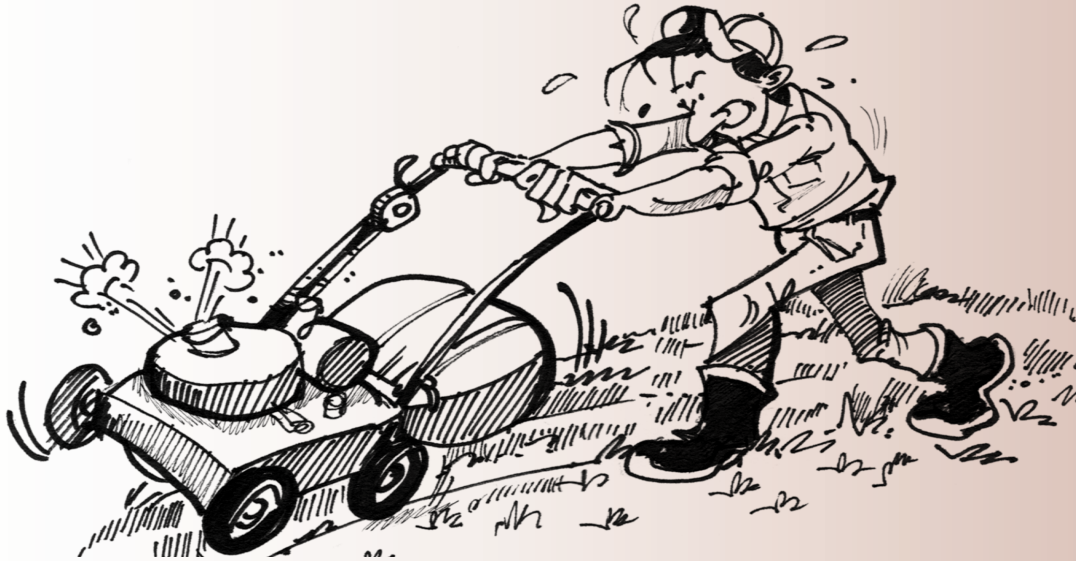


Nausea or Vomiting



Source: <http://www.osha.gov/SLTC/heatillness/index.html>

PROTECT YOURSELF FROM HEAT STRESS!



What are the symptoms of heat stroke?

- Dry and hot skin, without sweat.
- Confusion or loss of consciousness.
- Convulsions or stroke.

Dry and hot skin,
without sweat



Confusion or loss
of consciousness



Convulsions or
stroke



Source: <http://www.osha.gov/SLTC/heatillness/index.html>

PROTECT YOURSELF FROM HEAT STRESS!

Avoid heat stress!

- Know the signs and symptoms of heat related illness; keep an eye on yourself and your colleagues.
- Block direct sun and other heat sources.
- Drink a glass of water every 15 minutes while working in hot, humid conditions.
- Avoid alcohol, caffeinated beverages and heavy foods.



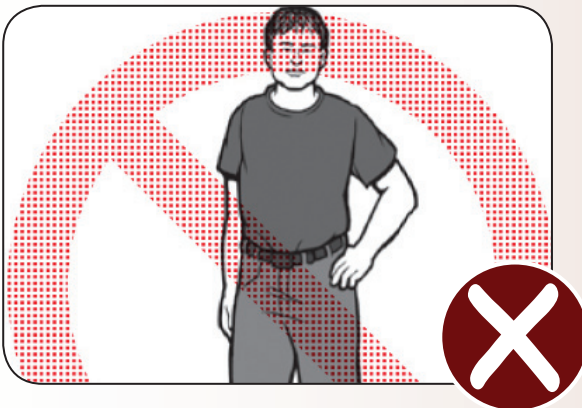
Source: <http://www.osha.gov/SLTC/heatillness/index.html>

PROTECT YOURSELF FROM HEAT STRESS!

Avoid heat stress!



- Wear light clothing with light colors and that is loose-fitting.



- Don't drink more than 3 gallons (more or less 10 liters) of liquid in a 24-hour period.



- Use fans or air conditioning; rest regularly.

Source: <http://www.osha.gov/SLTC/heatillness/index.html>

PROTECT YOURSELF FROM HEAT STRESS!

What do I do if a coworker shows these symptoms?

Call 9-1-1 immediately! While waiting for help:

- Move the person to a cool and shady place.
- Fan them and take off heavy or tight clothing.
- Spray them and give them water to drink.



Source: <http://www.osha.gov/SLTC/heatillness/index.html>

PROTECT YOURSELF FROM HEAT STRESS!

For more information, see the following resources from OSHA:



WATER. REST. SHADE.
The work can't get done without them.

Occupational Safety & Health Administration We Can Help What's New | Offices

Home Workers Regulations Enforcement Data & Statistics Training Publications Newsroom

Small Business OSHA

WATER. REST. SHADE.
The work can't get done without them.

[en Español](#)

Home Using the Heat Index Training Media Resources

YOU'LL LAST LONGER AFTER A LITTLE REST.

Photos by: CAL-OSHA

Welcome to OSHA's Campaign to Prevent Heat Illness in Outdoor Workers

Highlights

OSHA
Heat Smartphone App

[Video](#) - Dr. David Michaels, Assistant Secretary of Labor for Occupational Safety and Health

HEAT FATALITIES

Source: <http://www.osha.gov/SLTC/heatillness/index.html>

CONTROLLING WORKSITE HAZARDS

How do you control worksite hazards?

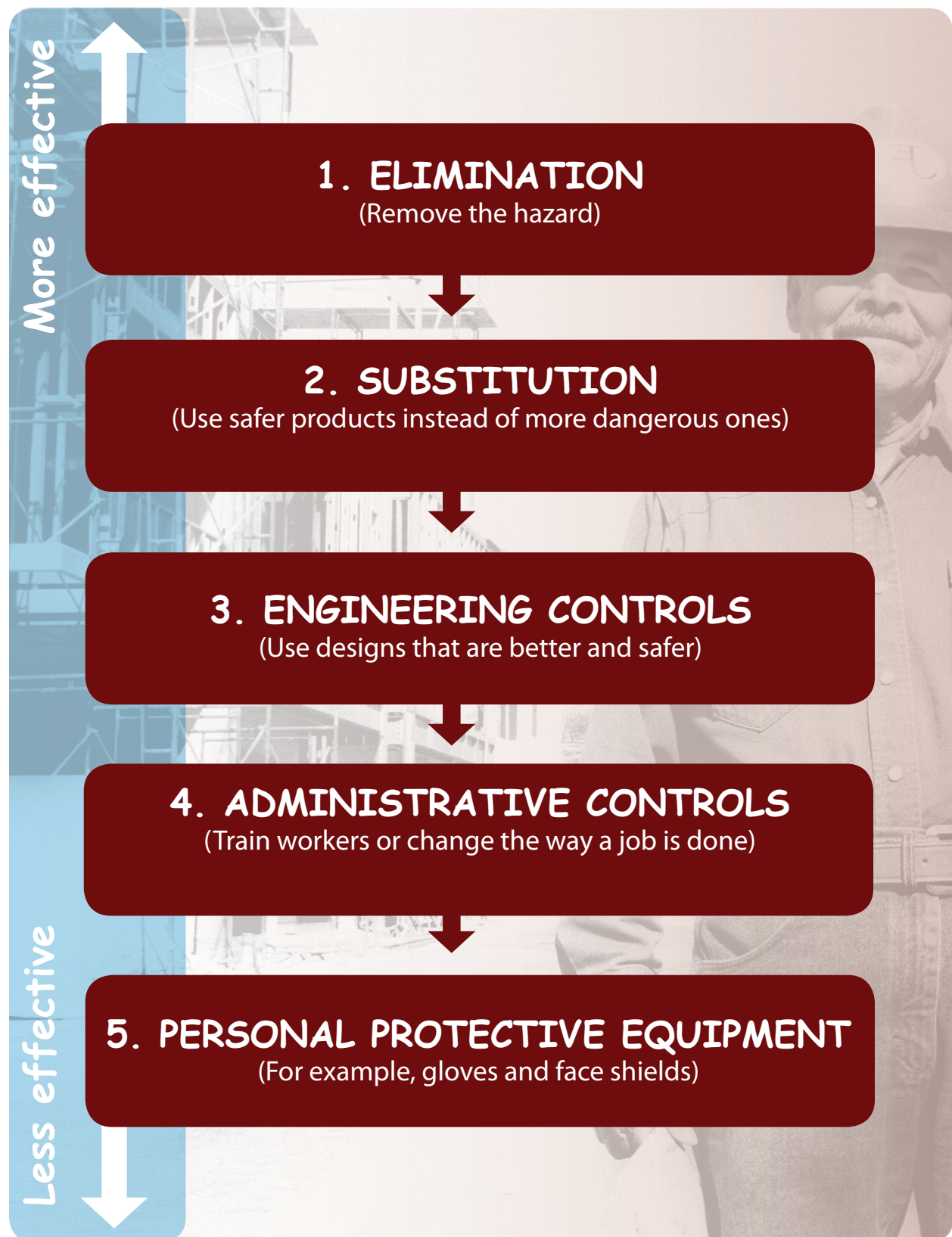
- Many kinds of hazards can be found in the workplace. For example, there are poisonous chemicals, unprotected machinery and situations where work is done up high.
- If a hazard exists, you must know how to manage it. “Hazard controls” are ways to reduce hazards or prevent contact between the worker and the hazard.
- Employers should design jobs in a way that makes them as safe as possible for workers.
- Workers should make sure that their employers use the best possible ways to control hazards. Fix the workplace, not the worker!



REMEMBER!

The best way to control a hazard is to eliminate it. If this is not possible, there are other ways.

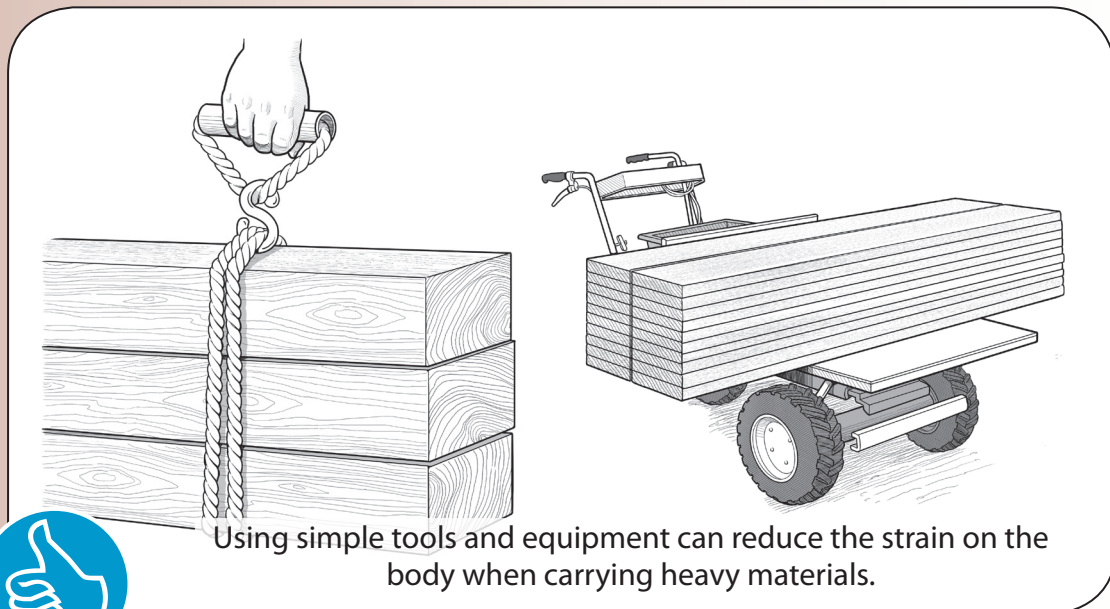
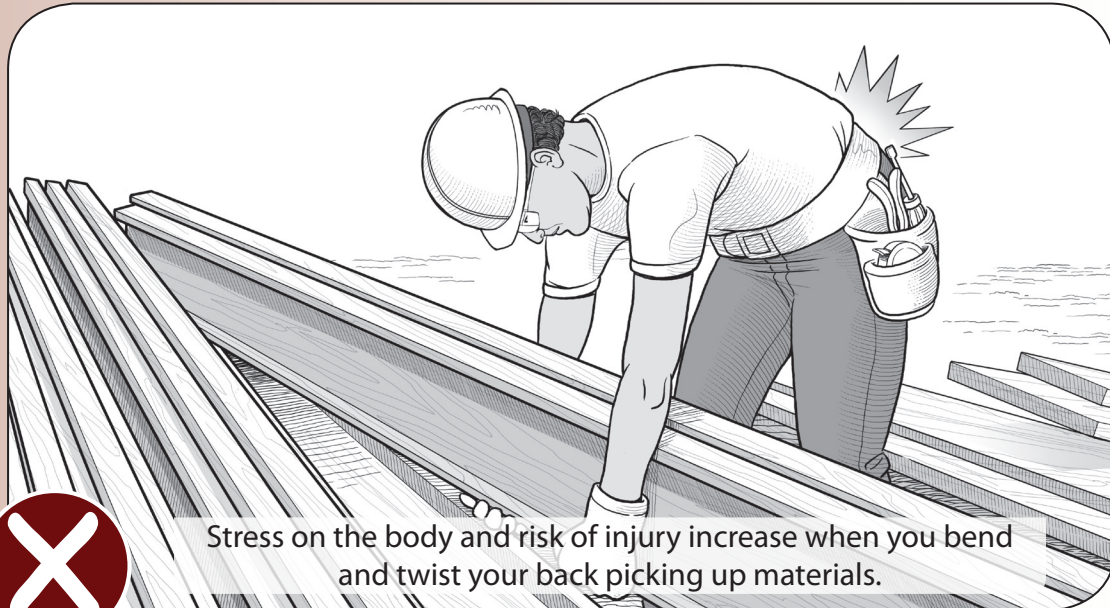
HIERARCHY OF CONTROLS



HIERARCHY OF CONTROLS

1. How do you eliminate hazards?

One example of eliminating a hazard is to automate a process so that workers don't have to lift heavy equipment.

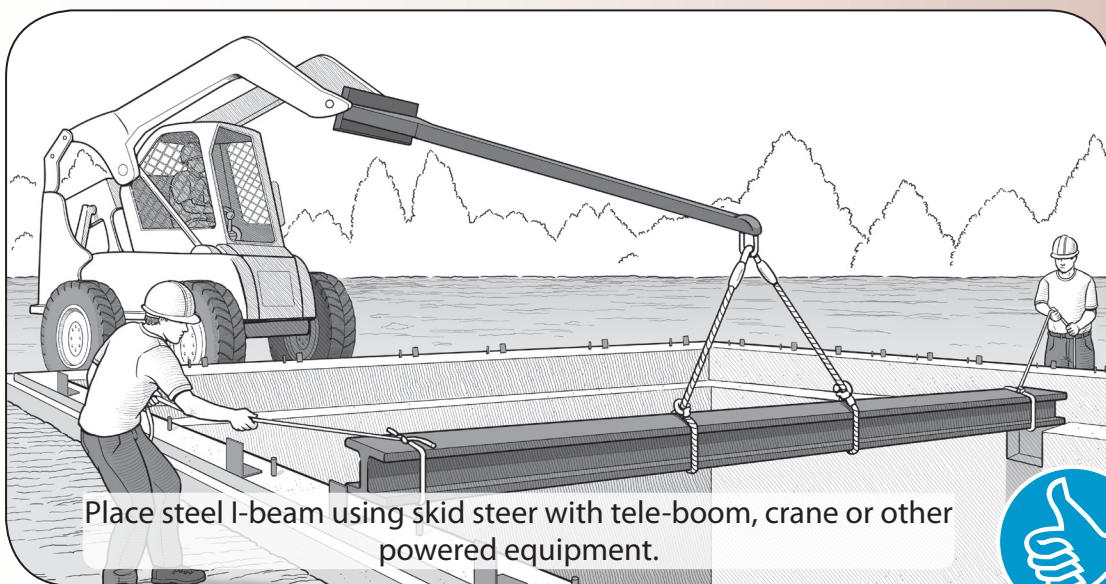
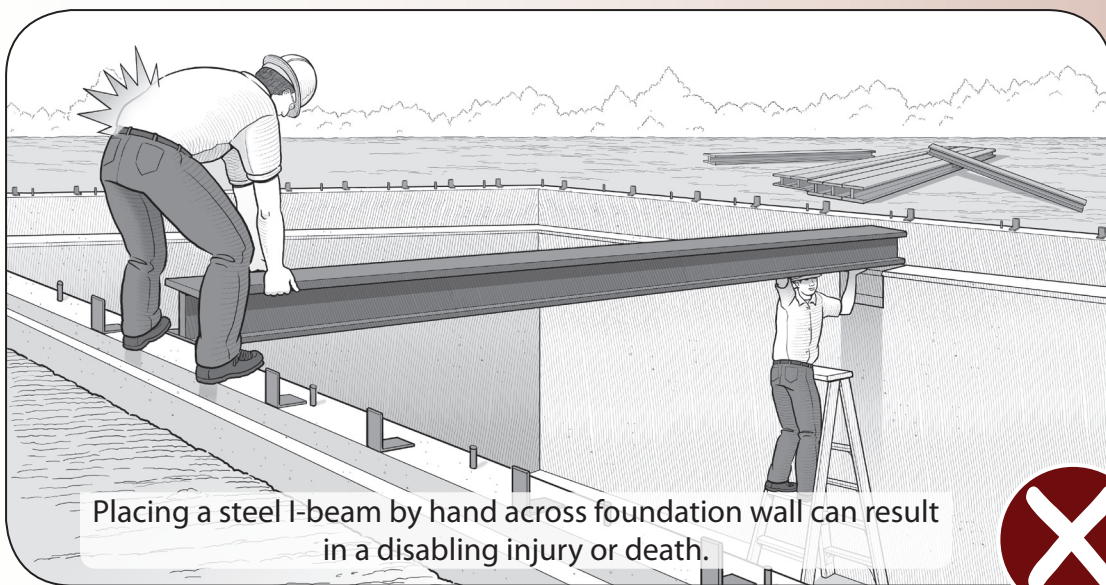


Source: http://www.cdc.gov/niosh/pubs/all_date_desc_nopubnumbers.html

HIERARCHY OF CONTROLS

2. What is substitution?

The second best option to control a hazard is to use another product that is not a hazard or isn't as dangerous. For example, a ladder that's not right for the job can be replaced by another way of doing the work more safely.

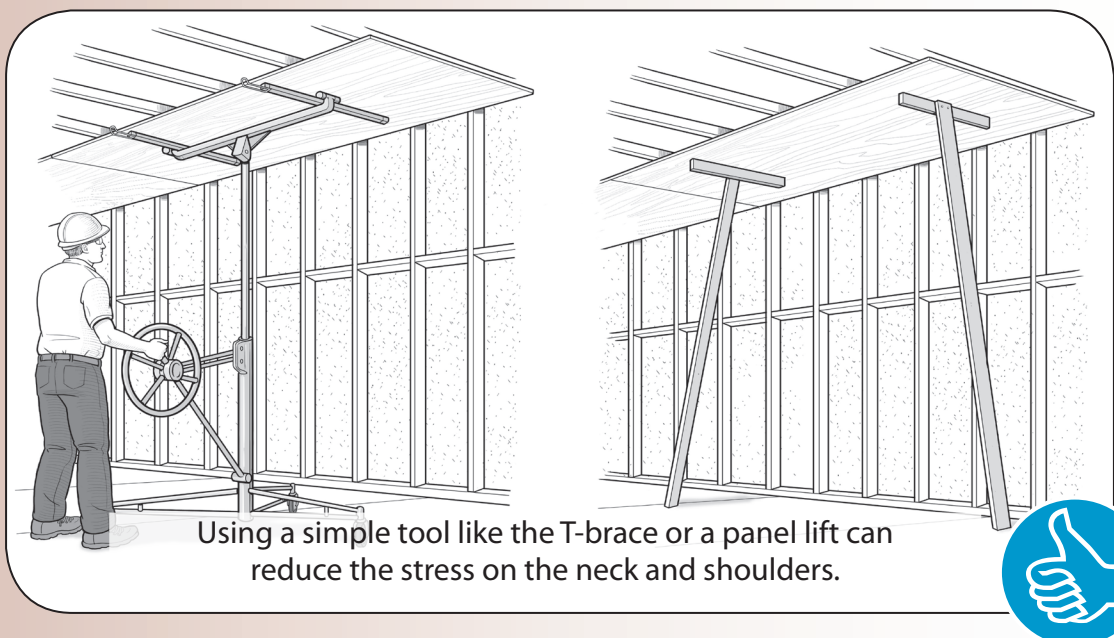
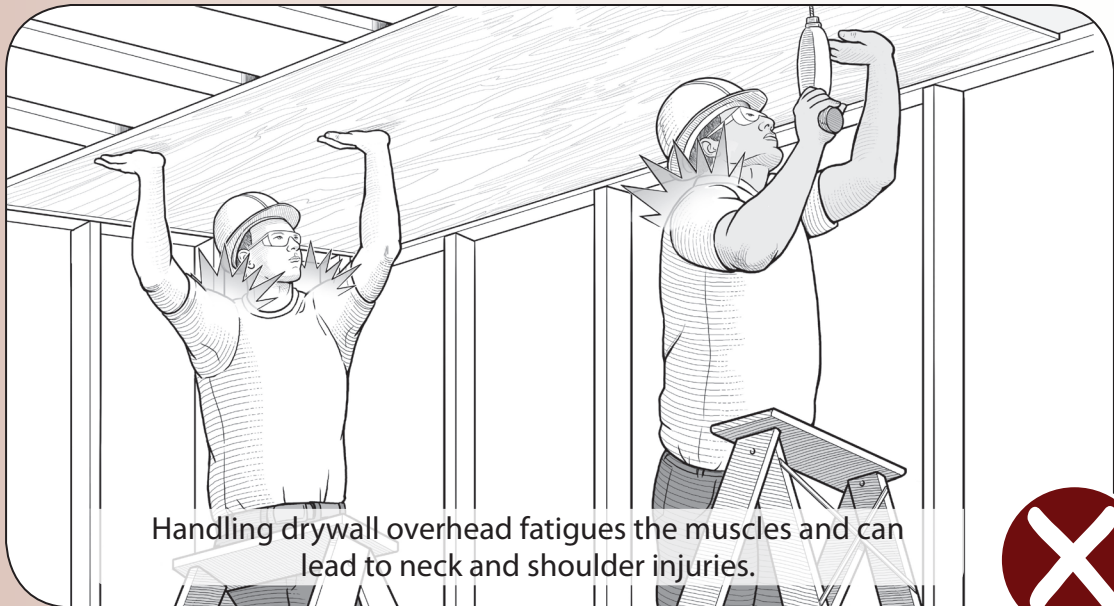


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HIERARCHY OF CONTROLS

3. What are engineering controls?

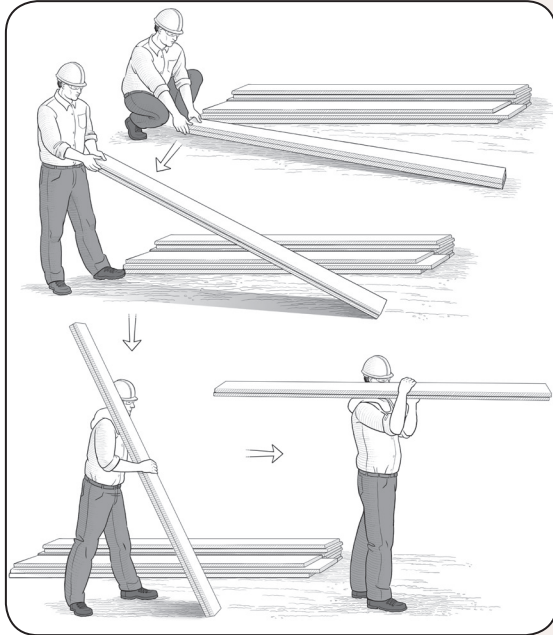
If the hazard cannot be eliminated, or can't be substituted by a safer option, the next step is to use engineering controls, which keep hazards far from workers.



Source: http://www.cdc.gov/niosh/pubs/all_date_desc_nopubnumbers.html

HIERARCHY OF CONTROLS

4. What are administrative controls?



If engineering controls aren't possible, the next best option is that of administrative controls.

- For example: Rotate workers or train new workers have current workers do a job in a different way.
- Although these kinds of controls are important, they should not be used instead of correcting the hazard.

5. When should you use PPE?



PPE should be used only while more effective controls are being developed, or if there is no more effective way to control the hazard, because:

- PPE doesn't change or eliminate the hazard.
- PPE aren't perfect- if the PPE is inadequate or fails, the worker is not protected.
- PPE are uncomfortable and difficult to use.

PERSONAL PROTECTIVE EQUIPMENT

A few key points on personal protective equipment

- The employer is responsible for requiring the wearing of appropriate personal protective equipment in all operations where there is an exposure to hazardous conditions or where the need is indicated for using such equipment to reduce the hazard to the employees.
- OSHA requires employers to provide and for employees to use specific types of personal protective equipment including, foot, head, hearing, eye and face protection, respiratory protection, personal fall arrest systems, and other forms of fall protection.



REMEMBER!

Employers must provide most personal protective equipment at no cost to employees.

PERSONAL PROTECTIVE EQUIPMENT

What does OSHA say about personal protective equipment?

- Using personal protective equipment is often essential, but it is generally the last line of defense after engineering controls, work practices, and administrative controls. Engineering controls involve physically changing a machine or work environment. Administrative controls involve changing how or when workers do their jobs, such as scheduling work and rotating workers to reduce exposures. Work practices involve training workers how to perform tasks in ways that reduce their exposure to workplace hazards.
- OSHA's general personal protective equipment requirements mandate that employers conduct a hazard assessment of their workplaces to determine what hazards are present that require the use of protective equipment, provide workers with appropriate protective equipment, and require them to use and maintain it in sanitary and reliable condition.



DON'T FORGET!

Personal Protective Equipment (PPE) is the least effective way of protecting workers from hazards. This type of equipment is used on workers' bodies.

PERSONAL PROTECTIVE EQUIPMENT

Protect your eyes, ears, face, and feet!

Protective equipment shall be provided when operations present potential for injury. Select eye, ear, face and feet protection based on the anticipated risks.



Wear safety glasses when foreign objects can hit eyes.



Use ear protection in noisy worksites, and where chainsaws or heavy equipment are being used.



Clean or replace ear protection regularly.



Use work shoes or boots with protective soles. Use steel-toed boots to prevent injury to the toes.

PERSONAL PROTECTIVE EQUIPMENT

Protect your head & hands! Protect yourself from inhalation of dust, aerosols, & smoke!

Use a hardhat when there is a risk of falling objects, of hitting your head on stationary objects, or contact with electrical hazards. Frequently inspect hardhats for damage.



Keep hardhats in good condition. Replace them after they've been heavily hit or exposed to electric shock.



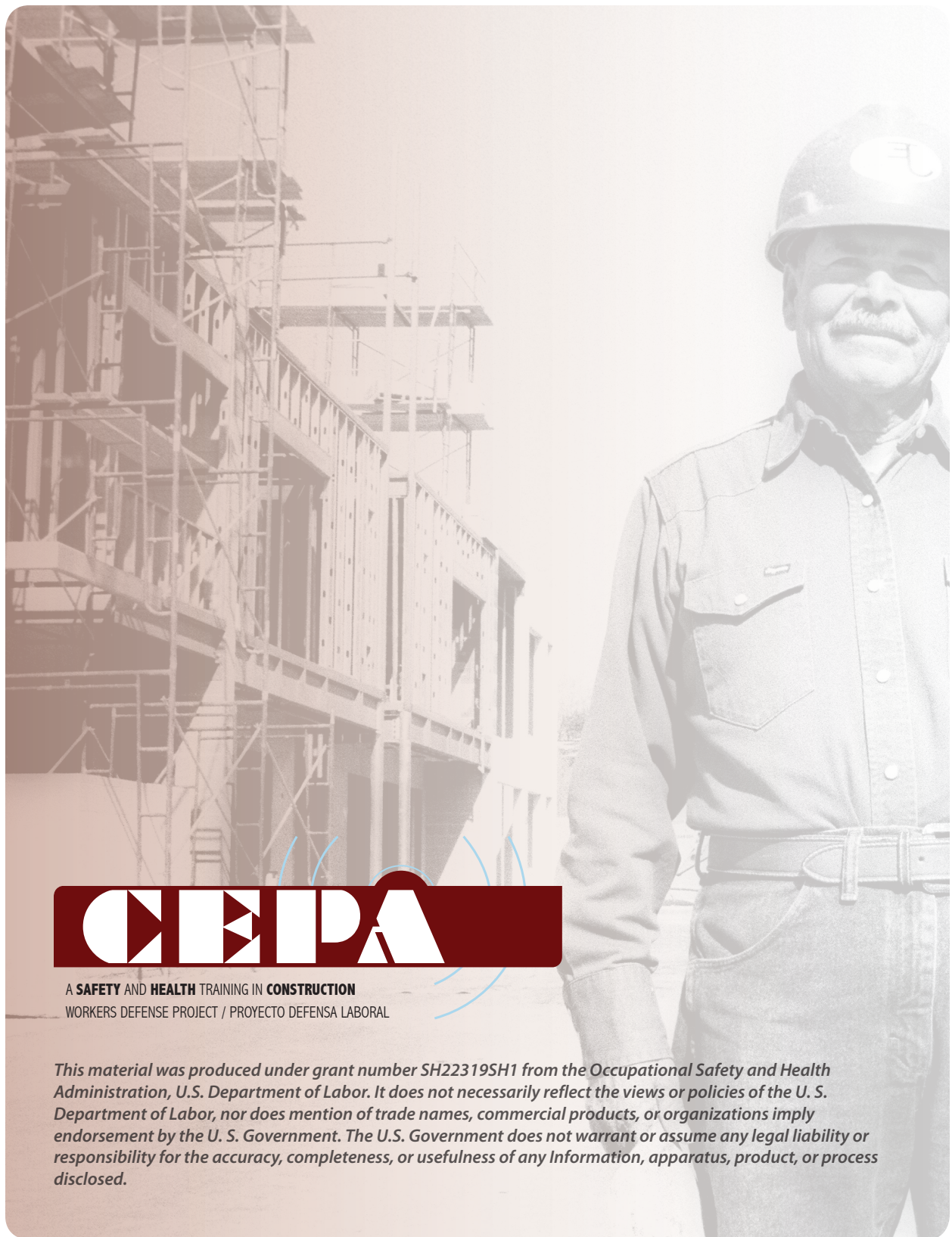
Use the right kind of gloves for the job that you're doing. Gloves should adjust comfortably.



Use the right respirator for the job. There are different types to protect you from different toxic substances.



Get trained in the proper use of respirators. Adjust the respirator before each use.



A **SAFETY** AND **HEALTH** TRAINING IN **CONSTRUCTION**
WORKERS DEFENSE PROJECT / PROYECTO DEFENSA LABORAL

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