

Understanding Job Hazards

Many hazards on the job are obvious, like sharp objects, slippery floors, and hot liquids. Other hazards, such as repetitive movements and chemicals, may be hidden. Sometimes it is hard to tell if pain in your arms, hands, or back was caused by repetitive movements on the job. It may also be hard to tell if an illness you have was caused by the chemicals at work.

It is important to be aware of all the different types of hazards to look for on the job, both obvious and hidden ones.

Workplace hazards can be broken down into different categories, such as Safety Hazards, Chemical and Biological Hazards, and Other Health Hazards, such as noise, heat, and radiation that don't fit into the first two categories.

Safety Hazards

Safety hazards can cause injuries right away. Examples include:

- Hot surfaces
- Slippery floors
- Unsafe ladders
- Working at heights
- Unguarded machines
- Knives and other sharp objects
- Hot grease
- Electrical hazards
- Lack of fire exits
- Cluttered work areas
- Poorly designed tools
- Heavy lifting



Safety Hazards (CONTINUED FROM PREVIOUS PAGE)

- Inadequate lighting
- Vehicles (cars, tractors, forklifts, etc.)
- Working in a confined space (any enclosed or partly enclosed area that is difficult to get in or out of). The hazard increases if vapors or fumes are present, if there is a lack of oxygen, or there is too much oxygen.
- Unshored trenches that can cave in
- Unidentified utility gas and fuel lines that may explode if punctured
- Chemicals that can cause a fire or explosion
- Workplace violence (assaults, threats, verbal abuse, robberies, etc.).

Chemical and Biological Hazards

Chemical and biological hazards are agents that can make you sick. Some produce effects right away, but others take time.

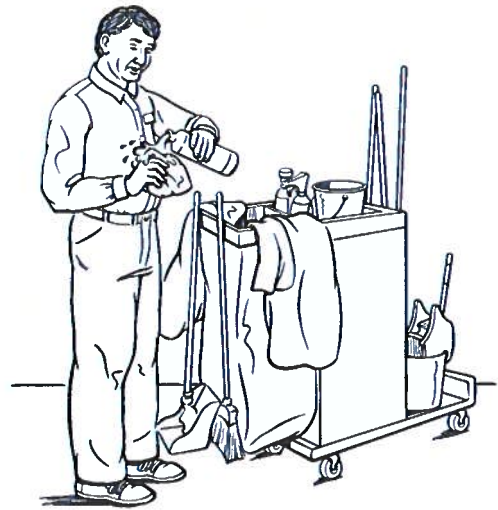
CHEMICAL HAZARDS

All kinds of chemicals are used in the workplace including solvents, cleaners, construction materials, pesticides, and a wide range of substances used in manufacturing.

Chemicals exist in different forms: solids (including dusts and fumes), liquids, and gases (including vapors). A chemical can change its form when it is heated or cooled. For example, when you freeze water, it changes from a liquid to a solid. When you heat water, it evaporates from a liquid to a vapor.

The hazards of a chemical can change depending on what form it takes. Some chemicals are more harmful as a vapor or gas than as a liquid. For example, a liquid solvent can become a dangerous vapor in the air if it is heated.

Chemicals can cause damage at the point where they first contact the body (such as the skin, eyes, nose, or throat). Some can also get inside the body when you breathe them in, swallow them, or get



CHEMICAL HAZARDS (CONTINUED FROM PREVIOUS PAGE)

them on your skin. Then they travel in the bloodstream to internal organs like the liver, kidneys, heart, nervous system, brain, and reproductive organs. They may cause harm throughout the body.

The **hazard** of a chemical is the likelihood that it will cause harm. The hazard depends on these factors: how toxic the chemical is, how much exposure is required to cause harm, how the chemical enters your body, how much of it actually enters your body, the length of time you are exposed, other chemicals you are exposed to, and how your own individual body reacts to the chemical.

BIOLOGICAL HAZARDS

Biological hazards are living things that can cause disease. Examples are bacteria, viruses, molds, animals, and insects. Biological hazards are found in a wide variety of jobs. Health care workers can be exposed to HIV (the AIDS virus), hepatitis viruses, and tuberculosis (TB) bacteria, for example. Garbage collectors who pick up waste from research laboratories, hospitals, or public parks can get diseases from the waste or from discarded needles in the trash. Workers in offices, schools, and many other buildings may be exposed to mold spores that can grow in any moist environment and spread through the air.



The effects of biological hazards range from mild skin irritation to life-threatening illnesses.

Other Health Hazards

There are also other workplace conditions that can injure you or make you sick. Below are some examples.

ERGONOMIC HAZARDS

Ergonomic hazards are caused by poor equipment and job design. These produce unnecessary wear and tear on the body. The result can be pain and eventual damage to the hands, arms, neck, back, feet, or legs.

Risk factors for ergonomic injuries include:

- **Repetition:** Performing the same motion over and over again.
- **Excessive Force:** Using physical effort such as pushing, pulling, and lifting.

ERGONOMIC HAZARDS (CONTINUED FROM PREVIOUS PAGE)

- **Awkward Posture:** Working in a way that puts strain on the body, such as stooping, bending, reaching overhead, or staying in one position too long.
- **Direct Pressure:** Prolonged contact with a hard surface or edge.
- **Vibration:** Working with vibrating tools or equipment.
- **Extreme Cold or Heat.**



The more risk factors that are present, the greater the chances of developing an ergonomic injury, often called a **repetitive strain injury (RSI)** or a **cumulative trauma disorder (CTD)**. The best solution is to redesign the job so the risk factors are reduced.

TEMPERATURE EXTREMES

Extremes in temperature, either too cold or too hot, are a health hazard. People who work where it is too cold may suffer frostbite and hypothermia. Heat stress occurs when the body is unable to maintain a normal temperature and overheats. This can cause serious illnesses and even death.

When the body's heat regulating mechanism completely breaks down, heat stroke occurs. This is a life-threatening emergency. The person's body must be cooled while emergency help is on the way.

INDOOR AIR POLLUTION

Poor ventilation and lack of fresh air can result in a build-up of chemical vapors, fumes, or gases in the workplace. Biological hazards such as molds, viruses, and bacteria can also build up in a workplace that is not properly ventilated.

NOISE

Noise is a widespread problem in the workplace. Long-term health effects of noise include permanent ringing in the ears, hearing loss, irritability, fatigue, and trouble concentrating and communicating.



NOISE (CONTINUED FROM PREVIOUS PAGE)

Noise may be a problem at your worksite if:

- You have to shout to be heard while working
- You have trouble hearing after work
- You have ringing in your ears.

RADIATION

Radiation is a form of energy. There are two types of radiation:

- Ionizing radiation, such as nuclear waste and some hospital waste
- Non-ionizing radiation, such as ultraviolet light and microwaves.

Ionizing radiation can destroy or change the atomic structure of body cells. Non-ionizing radiation is generally not as hazardous, but can still cause injury. Some non-ionizing radiation, like infrared and ultraviolet light, can damage the eyes.

Watch for sources of radiation in the workplace such as x-ray machines, electric welding arcs, nuclear waste, and hospital waste.

STRESS

There are many factors in the workplace that can create anxiety, frustration, and fear. The body's response to chronic stress can lead to high blood pressure, heart disease, and emotional disorders.

Causes of stress can include, for example:

- Work overload and production pressure
- Fast work pace
- Harassment or discrimination
- Job insecurity
- Shift work or rotating shifts
- Threat of workplace violence
- Lack of input or control on the job.



