First: Physical Hazards

These are the hazards to which workers are exposed as a result of exposure to unfavorable factors such as excessive heat, humidity, excessive cold, inappropriate lighting, noise, or exposure to high or low atmospheric pressure, which can cause various health problems for workers.

1- Heat

It refers to the rise in the temperature surrounding a person beyond the point at which he cannot bear it, which exposes him to many dangers, the final stage of which may be death. The amount of heat is measured in a unit called the calorie, which is the amount of heat needed to raise the temperature of one kilogram of a substance by one degree Celsius.

The occupations in which workers are exposed to the harmful effects of heat are:

1. Working outdoors under the influence of the sun's heat.
2. Working underground in mines and tunnels.
3. Working near furnaces and stoves, such as in the iron and steel industry, foundries, metal smelting, petroleum distillation, and fertilizer production.
4. Working near boilers and in front of ovens and bakeries.

Harmful effects on workers exposed to high temperatures:

1. Psychological and nervous disorders and a feeling of distress, manifested in increased work errors, increased risk of injury, and decreased ability to concentrate.
2. Feeling tired and exhausted.
3. Cramps in the voluntary muscles of the legs and abdominal wall.
4. Heat stress, which causes dilation of the blood vessels in the skin, blood rushing to them, and an increased heart rate, leading to headaches and fainting.

5. Heat stroke, which results from exposure to high temperatures and high humidity, preventing the body from dissipating its heat. The victim experiences severe headaches and blurred vision. Then, the body temperature begins to rise, followed by nervous convulsions and loss of consciousness. If the victim is not treated promptly, death may occur.
6. Skin and eye infections, which occur as a result of chronic exposure to high temperatures.

Prevention Methods:

1. Protect workers from exposure to high temperatures.
2. Keep workers with heart and kidney diseases away from working in areas with high temperatures.
3. Establish a heat exchange system for workers exposed to heat in their workplace. For example, a group works in front of ovens and is then transferred to work inside workshops, while a group in the workshops works in front of ovens, thus transferring the rate of heat exposure.
4. Use personal protective equipment for workers to protect against high temperatures.
5. Provide large quantities of fluids and tablets containing mineral salts to replace the body's lost fluids and salts due to heat exposure.
6. Conduct initial and periodic medical examinations for workers exposed to high temperatures.
7. Move the injured person to a cool place and administer first aid in cases of heatstroke.

2- Cold:

This refers to a drop in temperature to the point where it affects the person in the work environment, making them unable to perform their vital functions as required and exposing them to risks that may result in death.

Jobs where workers are exposed to the harmful effects of cold include:

1- Working inside refrigerators, ice cream and ice cream factories, and other cold places.

2- Cold places such as the Arctic.

Symptoms workers experience when exposed to extreme cold temperatures:

1- Pale skin and harmful effects on fingers and extremities.

2- Circulatory disturbances and severe heart failure.

Prevention Methods:

1- Keep workers with heart disease away from cold areas.

2- Give workers warm fluids to raise their body temperature.

3- Wear protective clothing against cold.

4- Move the injured person to a warm location and administer first aid.

3- Atmospheric pressure:

- It refers to the change in pressure exerted on the human body as a result of being in a certain atmosphere or performing certain activities, such as working inside tunnels, diving, or flying.

Work in which workers are exposed to pressure differences when ascending to the upper atmosphere inside aircraft.

1- When digging trenches and tunnels to great depths.

2- When diving to great depths.

Preventive methods:

Reducing the effects of pressure by gradually ascending the worker from trenches and tunnels to pressurized rooms. The worker remains there for longer periods of time as the pressure decreases until it reaches normal atmospheric pressure.