

In a cold wave How to Prevent Cold-related Illnesses



Every workplace must perform pre-checks for cold-related illnesses before the commencement of a cold wave and set up internal preventive measures to respond appropriately.

What are cold wave alert criteria?

Cold Wave Watch

- When it is expected that morning lows will be **-12°C or under**, for at least two days
- When it is expected that morning lows will be lower than the previous day by **10°C or more**, reaching 3°C or under, and lower than normal by **over 3°C**
- If a serious damage is expected due to a sharp drop in temperature

Cold Wave Warning

- When it is expected that morning lows will be **-15°C or under** for two or more days
- When it is expected that morning lows will be lower than the previous day by **15°C or more**, reaching 3°C or under, and lower than normal by **over 3°C**
- If a serious damage is expected in a vast area due to a sharp drop in temperature

※ [Attached Table 6] Criteria for Special Reports in 'Weather Forecast Rules' of KMA

The basic rules for prevention of cold-related illnesses are warm clothes, warm water and a warm place!

Warm clothes (Gear against cold)

- **Wear several layers of clothing, with at least three layers to enhance the warmth effect.**
 - (Outer layer) Wear clothing made of material that blocks wind and moisture while providing air permeability.
 - (Middle layer) Wear clothing that absorbs sweat from the inner layer and maintains insulation even when wet.
 - (Inner layer) Wear clothing made of material effective in absorbing sweat.
- **Wear a hat or do-rag to reduce body heat loss.**
- **Use a mask to cover your face and mouth if necessary.**
- **Wear insulated gloves and shoes with insulation and waterproof features.**
 - If working in environments susceptible to moisture, wear gloves equipped with an additional waterproof feature.



Warm water

- **Take enough warm water and beverages containing sugar.**

A warm place (Rest)

- **Provide a warm place near the work area to allow workers to take a rest avoiding the cold.**
 - Install heating devices such as heaters but make sure that there are no concerns about fire or hazardous gas exposure.
- **Ensure that workers can take a suitable rest in the event of a cold wave alert.**

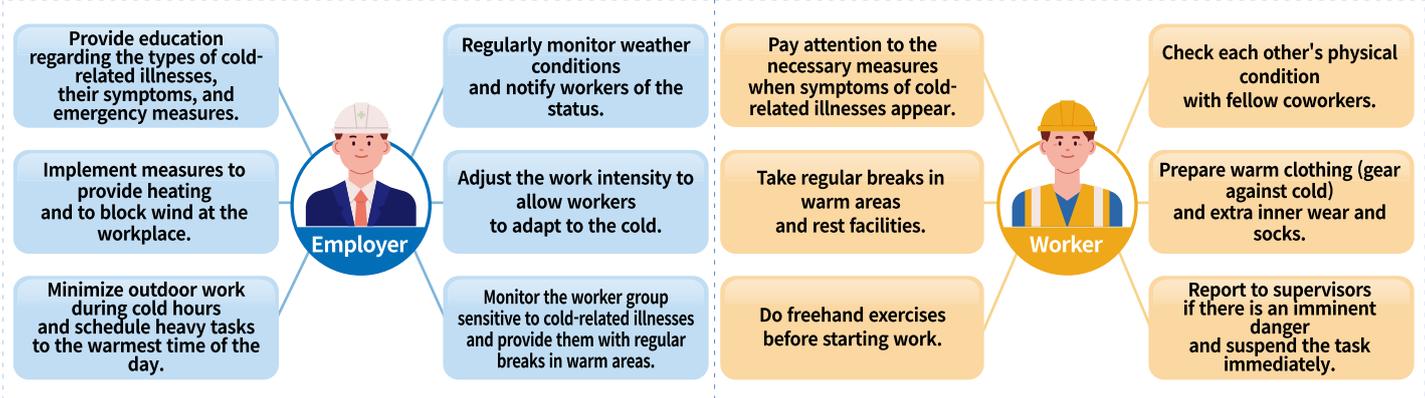
Which measures must be taken when a cold-related illness case occurs?

- Exposure to a cold wave for a long time may lead to cold-related illnesses and cardiovascular diseases such as hypothermia, frostbite and chilblains or worsen the symptoms.
- If such illnesses occur, prompt medical attention is essential, and thorough care is needed for the group sensitive to cold-related illnesses.

Cold-related illnesses	Definition and symptoms	Emergency measures to take
<p>Mortality risks</p> <p>Hypothermia</p>	<ul style="list-style-type: none"> • A state in which core temperature drops below 35°C due to prolonged exposure to low temperature - Severe shivering - (Moderate) Slow speech, irregular pulse, and decreased blood pressure. - (Severe) Cessation of shivering, loss of consciousness, lack of breathing or respiratory effort. - Irregular or absent pulse, dilated pupils. 	<ul style="list-style-type: none"> • Contact 119 or move the person immediately to the nearest emergency medical institution. • Move to a warm place. • Remove wet clothing and cover with a blanket. • If the person is conscious, offer warm sugary beverages. * If medical attention is delayed for more than 30 minutes: <ul style="list-style-type: none"> - Give warm beverages cautiously (prohibited in case of an unconscious state). - Place hand warmers (hot pack) or a warm water bottle under the armpits, on the neck, and in the groin area.
<p>Frostbite</p>	<ul style="list-style-type: none"> • A state in which skin and subcutaneous tissue have frozen due to prolonged exposure to temperature below 2°C - Skin becomes tingly, numb, and itchy when frozen. - If the symptom becomes grave, skin may suffer pain, blistering, or hardening. - In severe cases, it causes sensory disturbances, stiffness, and damage to deep tissues such as nerve tissues. 	<ul style="list-style-type: none"> • Follow the measures instructed for hypothermia. • Do not rub or massage the frostbitten area. • Do not walk on frostbitten feet. • If blisters are present, apply sterile gauze to prevent them from bursting. • (Unless directed by healthcare professionals), do not apply heat to the frostbitten area.
<p>Chilblains</p>	<ul style="list-style-type: none"> • A condition where the small blood vessels in the skin of the hands, feet, ears, nose, etc., are damaged due to cold weather. - The skin of the affected area may turn red and become itchy. - Blisters or ulcers may form. 	<ul style="list-style-type: none"> • Do not scratch the affected area of chilblains. • Warm the skin gradually. • Apply an itch-relief and anti-inflammatory cream (upon consulting with a doctor). • Seek medical attention as soon as possible.
<p>Trench foot</p>	<ul style="list-style-type: none"> • Damage caused by exposure of wet feet to a damp and cold environment - Symptoms include redness, tingling, and numbness. - Pain is experienced when walking. - If the state is serious, it can result in numbness, cramps, swelling, and the formation of blisters. 	<ul style="list-style-type: none"> • Remove your shoes and wet socks. • Warm and dry your feet. • Seek medical attention as soon as possible.

※ The worker group sensitive to cold-related illnesses and those engaged in physically demanding tasks with high intensity must assess their health status before and after work.

As employers and workers, what to do to prevent cold-related illnesses during the winter season?



Sensitive group Workers with hypertension, diabetes, cardiovascular disease, hypothyroidism, feeble constitution; aged people and newly assigned workers

Heavy task group It is a high-calory expenditure task: using shovels, hammers, saws, pickaxes or axes; using the full-body movements for formwork, reinforcing iron bars or concrete work; or lowering heavy objects or handling them repeatedly by hand.

Take the response measures corresponding to each stage of the cold wave.



- Provide warm clothes (gear against cold), warm water and a warm place.
- During cold hours, minimize outdoor work as much as possible.
 - ▶ Adjust outdoor work hours and break times during cold hours.



- Provide warm clothes (gear against cold), warm water and a warm place.
- During cold hours, minimize outdoor work as much as possible.
 - ▶ Prioritize the group sensitive to cold-related illnesses and those performing heavy tasks.



- Provide warm clothes (gear against cold), warm water and a warm place.
- Refrain from doing outdoor work during cold hours. When it is inevitable, assign sufficient time to rest.
 - ▶ The group sensitive to cold-related illnesses and those performing heavy tasks must take emergency safety measures during cold hours and restrict outdoor work.

The cold wave stage in each region is available in the Website of Korea Meteorological Administration (www.weather.go.kr)>Weather>Special weather report>Impact forecast>Industry or Weather Forecast (App).

Prevent cold-related illnesses through our healthcare service with direct visits from medical professionals.

- Delivered by occupational health experts, including specialized medical doctors and nurses, this service involves direct on-site visits to offer complimentary services like blood pressure and diabetes screenings, health consultations, and educational sessions for workers.
 - ▶ Apply for this service by contacting KOSHA (1644-4544) or the Workers' Health Center (1577-6497).
- Workers under a special category can receive support covering health check-up expenses aimed at preventing cardiovascular diseases. Additionally, post-management support such as health consultations is available at the Workers' Health Center.
 - ▶ Apply for these services by contacting KOSHA (1644-4544).



Be aware of accidents that frequently occur in winter to ensure accurate preventive measures.

Prevent cardiovascular diseases



- Since "cold weather" can raise the incidence of cardiovascular diseases, do stretching exercises before starting work, and avoid alcohol and smoking.
- Identify individuals with underlying health conditions in advance and pay special attention to their duty process.

Prevent the risk of choking when using brown coal on construction sites.



- For concrete curing, use a heating fan instead of brown coal.
- When using brown coal for concrete curing, always remember to ▲measure oxygen and harmful gas concentrations, ▲ensure adequate ventilation, and ▲wear protective gear.

Prevent slipping on icy roads.



- Wear slip-resistant safety shoes.
- Before starting work, clear areas covered with ice or snow and spread sand.