



COLD STRESS 101

HYDRATION DOESN'T HIBERNATE

Although not as talked about as heat stress, cold stress is very much a reality. It's almost identical to heat stress because of the extreme conditions, dangers and consequences that result when it's neglected. The best way to protect against cold stress is to stay properly hydrated.

Most people don't know this, but dehydration is just as common in cold weather as it is in hot weather. And it can be more hazardous in cold weather due to thirst suppression, lack of perspiration, diuretics and increased urination. It's crucial to hydrate yourself with Sqwincher to stay safe and healthy in the winter months.

AWARENESS

Cold Stress caused by dehydration is a big deal. It leads to poor judgment, mental errors, unsafe shortcuts, lack of productivity and extremity constraints. To stay safe and productive when the temperatures drop, make sure you're always aware of the current weather conditions, your workload and how long you've been exposed to the cold. Also consider your body and mind's ability to handle the colder conditions.

MAKE SURE YOU CONSIDER THESE FACTORS DURING THE COLDER MONTHS:

1. Acclimation to colder climate is needed
2. Thirst is suppressed, making hydration even more important
3. The body uses a lot of energy to maintain standard body temperature
4. Dress in warm clothing, specifically in layers
5. Cold Diuresis (frequent urinating) will accelerate fluid loss

PREPARATION

PREPARATION IS KEY TO EQUIP THE BODY FOR A LONG DAY ON THE JOB. BEFORE STARTING A SHIFT, BE SURE TO TAKE THESE FACTORS INTO CONSIDERATION:

1. Pay close attention to your surroundings and the weather to prepare accordingly
2. Remember that proper hydration is needed to perform both physically and mentally on the job
3. Monitor your diet and increase calories to prepare for heavy workload
4. Monitor your consumption of coffee and other diuretics
5. Hydrate before, during and after activity to avoid dehydration
6. Dress in warm clothing, layering properly for perspiration control
7. Monitor urine color and frequency before and during work

CONDITIONING

You're the only one who knows your body and what condition it's in. And being properly hydrated is a big part of being properly conditioned for the job.

BE SURE TO TAKE THESE CONSIDERATIONS INTO ACCOUNT AS POTENTIAL HYDRATION OBSTACLES:

1. Your medical history and how it relates to your work environment
2. Your age and weight
3. Your experience level to the activity, workload and surroundings
4. Your ability to adapt well and acclimate to your surroundings
5. Your previous day's activity level and previous night's amount of sleep
6. Your total water and fluid intake over the last 12 hours, including sodas, coffees and alcoholic beverages
7. Your urine color and frequency

After assessing your condition, make sure you adjust your hydration level to deal with any potential obstacles head on.

COLD STRESS

Like the heat, the cold can leave the body dehydrated. In addition to the amount of energy it uses while working, it also burns through a lot of fuel trying to stay warm.

Be sure to follow the Wind Chill Index to understand the hazards you're up against.

WIND CHILL INDEX

APPARENT DANGERS POSED BY COLD STRESS

32° to -19° F	-20° to -40° F	-40° F & Below
Discomfort to cold conditions, chilblains and frostbite possible to face and extremities.	Hypothermia possible with prolonged exposure to cold, and frostbite occurs within 10-30 minutes.	Frostbite within 5 minutes. Hypothermia imminent without proper precaution.

COLD ILLNESSES

Chilblains, trench foot, frostbite and hypothermia are common cold illnesses caused by dehydration. It's important to know what they are and how to respond to them.

CHILBLAINS

Diagnosis Red, swollen, itchy skin due to inflamed blood vessels. Usually occurs on the face, ears, hands and feet.

Response Cover and protect areas immediately. Lotions and ointments can treat areas. For severe cases, consult a physician.

TRENCH FOOT

Diagnosis Extended exposure to cold and wet conditions causing multiple symptoms including swelling, tingling, numbness and pain.

Response Go to a warm, dry place, remove wet clothing and gently dry feet. Warm the feet slowly and apply clean dry socks. **DO NOT** warm areas too quickly. Seek medical attention.

FROSTBITE

Diagnosis The freezing of skin and/or deeper tissue causing itching, burning, numbness and pain. Area will appear white to grayish in color and feel cold, waxy and hard.

Response Get out of the cold. Gradually warm affected areas with blankets and body-to-body contact. Do not apply direct heat or rub affected areas. This could cause further tissue damage, especially to affected areas below skin surface. Seek medical attention.

HYPOTHERMIA

Diagnosis Occurs when the body loses heat faster than it can produce heat and the core body temperature drops below 98.6°F. As the condition worsens, be aware of slurred speech, confusion, violent shivering, weak pulse, shortness of breath and loss of consciousness. Skin may have pale to blue appearance.

Response Get out of the cold immediately and call 911. Always handle the patient gently to keep from disturbing vital organs under low body temperatures. Remove any wet clothing and apply dry clothing when necessary. Apply any warming to the neck, chest and groin first. Do not warm extremities first due to threat of shock. Get victim to the nearest hospital immediately. A body temperature of 82°F or below results in death.

FACT OR MYTH

FACT: DEHYDRATION IS OFTEN OVERLOOKED IN COLD WEATHER.

This is true, because the importance of fluid intake is underestimated during colder conditions. Dehydration is just as hazardous, if not more, in cold weather due to thirst suppression. People tend to consume warmer liquids like coffee when it's cold outside. Coffee doesn't have the electrolytes your body needs to perform, which leaves the body vulnerable to dehydration.

MYTH: YOU DON'T SWEAT IN COLDER MONTHS SO YOU DON'T NEED TO DRINK AS MUCH.

This is false. The body is using energy to keep it at its normal temperature of 98.6°F. Combine this amount of exertion with the amount exerted at work and it's easy to see how important it is to replenish fluids during the winter months. Remember, wearing proper clothing and layering is also crucial during winter months to absorb and dissipate sweat from the body.

