

## MONTHLY REFRESHER TRAINING

### COLD STRESS

#### December Week 4 — Warmups

### THE COLD CHANGES THE GAME

Cold weather is one of the most underestimated hazards on a job site. It affects grip strength, reaction time, decision-making, and balance.

#### Key Statistics:

- Cold environments cause a 14–20% decrease in hand dexterity.
- Grip strength can drop by 25–30% when fingers are cold.
- Over half of cold-related incidents happen within the first hour of exposure.
- Wind chill can make exposed skin freeze in as little as 10 minutes at extreme temps.

### WHAT COLD STRESS DOES TO YOUR BODY

Cold stress happens when your body loses heat faster than it can produce it. This leads to:

- Loss of coordination
- Slow reflexes
- Poor grip
- Mental fog or confusion
- Increased slips and falls
- Strain on the heart

When the cold cuts in and the wind won't quit,  
That's when sharp crews gear up and commit.  
Watch your buddy close, keep your warmth in mind  
Cold stress hits fast, so don't get left behind.

## Protect Yourself from the Cold



**You are at risk if you work outside or in cold conditions**



### Dress Appropriately

Wear clothes meant for cold, wet, and windy conditions such as:

- ❄️ Loose-fitting layers
- ❄️ Hats, socks, shoes, and gloves
- ❄️ Outerwear that will keep you dry



Extreme exposure to the cold can eventually lead to **hypothermia**.

### Drink Warm Beverages & Take Breaks



- ❄️ Take frequent breaks in heated areas, if possible.
- ❄️ Drink plenty of warm, sweet beverages (sugar water, sports drinks).
- ❄️ **AVOID** caffeine (in coffee, tea, sodas, or hot chocolate) and alcohol.

### Know the Warning Signs

#### Health Problems:



Trench Foot



Frostbite



Hypothermia

#### Hypothermia—Don't ignore the signs!



Uncontrollable Shivering



Slurred Speech



Clumsiness



Fatigue



Confusion

### Hypothermia is a medical emergency

**Call 911**

Getting help can be the difference between **life** and **death**.



You are at a higher risk if you take certain medications, are in poor physical condition, or suffer from illnesses such as diabetes, hypertension, or cardiovascular disease.

**Work in pairs so that you and a co-worker can spot danger signs in each other.**

❄️ **Follow these tips and stay safe in the cold.** ❄️

## **THE BIG THREE: WARNING SIGNS**

### **1. Hypothermia**

#### Early Signs:

- Shivering
- Pale or cold skin
- Numbness
- Slow thinking
- Trouble with fine motor tasks

#### Advanced Signs:

- Slurred speech
- Confusion
- Stumbling
- Slow movements
- Shivering stops (emergency)

### **3. Trench Foot**

#### Early Signs:

- Tingling or burning
- Redness or blotchy patches
- Swelling
- Numbness
- Cramping
- "Prune-like" skin

Warm water helps maintain core temperature and supports circulation.

- Keeps blood flowing to fingers and toes
  - Prevents cold-induced cramping
  - Reduces shivering intensity
  - Rehydrates the body faster than cold water
- Warm water = hydration + internal heat support.

Sports drinks provide fast-acting energy and replace minerals lost through cold exposure.

- Replaces electrolytes (sodium, potassium, magnesium)
  - Restores muscle function
  - Provides simple carbs for immediate heat and energy
  - Reduces fatigue and keeps reaction time sharp
- Sports drinks = fuel your body uses instantly.

### **2. Frostbite**

#### Early Signs:

- Redness
- Tingling
- Pins and needles
- Skin feels firm

#### Advanced Signs:

- Waxy or bluish skin
- Stiff skin
- Complete numbness
- Blisters after rewarming

## **HYDRATE**

Cold weather drains your body faster than most people realize. When temperatures drop, the human body burns more calories, uses more energy, and loses hydration more rapidly — even if you don't feel thirsty. To stay safe and maintain performance, workers must hydrate and fuel correctly throughout cold-weather operations.

Electrolytes keep the nervous system functioning correctly.

- Prevent muscle cramping
  - Maintain mental clarity
  - Keep the heart and muscles firing properly
  - Help stabilize body temperature during exposure
- Electrolytes = nerve and muscle protection in the cold.

## **WHAT TO AVOID**

Caffeine (coffee, tea, sodas, energy drinks) increases heat loss and dehydration.

- Speeds up dehydration
  - Restricts blood flow to hands/feet
  - Causes jitteriness, reducing fine-motor control
  - Can worsen cold-induced heart strain
- Caffeine + cold = cold hands, poor grip, and faster heat loss.

Alcohol is extremely dangerous in cold weather.

- Drops core temperature rapidly
  - Makes you feel warm while cooling your core
  - Slows reaction time and judgment
  - Increases risk of hypothermia
- Alcohol + cold = a fast-track to medical emergencies.

Energy Drinks combine caffeine, stimulants, and sugars.

- Spike and crash effect leads to fatigue
  - Increase dehydration
  - Strain the heart during cold exposure
  - Reduce coordination and grip strength
- Energy drinks = temporary hype, long-term danger

