

Canadian Birkebeiner Society

Safe Practice Implementation Protocol #002 Cold Weather Hazards and Recommendations

Scope:

This SPIP ensures that all CBS workers are aware of the hazards of cold weather as well as the means to mitigate the hazards.

Required PPE: As noted in other SPIPs relevant to a task.

Recommended PPE: As noted in other SPIPs relevant to a task.

Equipment required: Cold weather apparel as noted.

General Procedures: As per below -

Hazards

- **Frostbite** – freezing of both the skin and the underlying tissues; leaving one prone to short or long-term damage and increased likelihood of refreezing the area on future outings. Frostbite may affect the face, which others might observe, but can also affect toes and fingers and other areas which are hidden.
- **Windchill** – increased convective heat loss due to wind. Windchill can also reduce the effective insulative value of clothing and boots as cold air currents penetrate deeper.
- **Motion-related Convection Heat Loss** – increase in convective heat loss due to a person moving through the air. It can combine with windchill if moving into the wind.
- **Hypothermia** – cooling of the body's core temperature caused by extended exposure to cold temperatures, windchill and convective heat loss, fatigue, dehydration and insufficient insulative value of clothing.
- **Exhaustion** – exhaustion affects your ability to make good decisions in a timely way.
- **Dehydration** – decline in fluid level in the body. Dehydration increases the potential for frostbite, hypothermia and exhaustion. Hot drinks are crucial but are harder to guarantee on very cold days when stoves might fail. Cold drinks may contribute to hypothermia and cold injuries.
- **Exercise-induced Asthma** – a narrowing of the airways caused by exercise exacerbated by breathing cold, dry air through the mouth. Once affected, it is often a permanent condition in the individual.
- **Clothing Limitations** – wetness decreases the insulative value of clothing and footwear.
- **Age** – seniors may have less muscle mass and a slower metabolism and are more susceptible to the cold.

Recommendations

- First and foremost, be self critical of your underlying health, level of fitness and your equipment.
- Dress for the cold. Wick moisture away from your body and out through the layers to the exterior, while having insulating layers to retain heat and an outer breathable shell to break the wind. Wet clothes are not desired as they conduct heat away from your body.

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Be familiar with layering – the layer closest to you wicking moisture away from your skin (wool or synthetics such as polypropylene), one or more insulating layers (wool or synthetic fleece etc.) and an outer breathable wind break layer. Due to the wide range of products – check with a knowledgeable outdoor expert or on the web for the best products.

- Mitts are usually warmer than gloves. Ensure they breathe as wet ones get very cold. Use the same principle of wicking moisture to the exterior, insulation and external wind protection in your choice of mitt or glove. Mittens or gloves extending over your wrists helps keep your hands warm.
- In frostbite conditions, use a face mask or scarf and cover as much of your face as possible. Bring a spare one, as they can accumulate ice. Synthetics work well.
- If away from shelter, carry spare dry clothes, a hat, mittens and face covering.
- Socks may range from synthetic to wool.
- Wear breathable and water-resistant boots. Stop and warm up if your feet get cold in your boots.
- Stay hydrated and nourished.
- Ask others to check you for frostbite periodically. Generally, it is a patch of very white looking skin.
- Feel your toes and fingers. If they feel very cold, or you don't feel anything - get into a warmup shelter or tent and warm them slowly. Do not rub snow on them. Seek medical advice.
- If you are shivering or feeling disoriented – seek shelter immediately and medical advice immediately.
- Bring chemical pack hand warmers if you are particularly prone to cold hands or feet.
- If you feel even slightly chilled get inside and warm up.
- Report to your Chief if you have concerns and they will arrange transport to a warm shelter.

Key Do's and Don'ts

Do

- *Refer to other relevant SPIPs for the task.*
- *Dress appropriately for the cold weather as per above.*

Don't

- *Continue working when cold.*