

Factors that Impact Cold

Cold temperatures are exacerbated by the following:

1. Low temperature
2. Wind
3. Dampness or wetness of clothes

Wind and damp or wet clothes can enhance the effect of low temperatures.

Signs and Management of Cold Injury

Most cold injuries in sports usually involve the ears, nose, cheeks, chin, fingers and toes. A drop in core body temperature (hypothermia) most often occurs during skiing, mountain climbing, and similar outdoor activities.

Types of Cold Injury

There are three types of cold injury - **mild**, **moderate** and **severe**. Let's look at each in more detail.

Mild Cold Injury

Signs

- Most often noticed by others first
- Skin is soft to touch and appears initially red, then white and is usually painless
- Cold, painless areas that may peel or blister in 24-72 hours

Management

- Cover the effected area with gloves, mittens, ear coverings, ski mask, etc
- Blow hot breath on the spot
- Warm fingertips under armpits

Moderate Cold Injury

Signs

- Skin is firm to touch, but tissue beneath is soft and appears initially red and swollen, blister formation in affected area, numbness, skin color is white or waxy in nature

Management

- Remove from cold
- Do not rub the area
- Seek immediate medical attention

Severe (Frostbite) Cold Injury

Signs

- Skin is hard, numb, and shows white, yellow-gray, or blue-gray blotches

Management

- **Seek immediate medical attention**
- Remove from cold
- Do not rub the area

A key component in the management of moderate and severe cold injuries is **re-warming**. However, there is a specific way to re-warm a body part in order to have the least amount of damage and this should be done in a controlled setting where re-warming temperature can be *monitored by a professional*.

Following are suggestions of ways to prevent cold injuries:

- Wear appropriate clothing
- Wear clothing that is windproof and waterproof yet allows for the passage of heat and the evaporation of sweat
- Dress in thin layers of clothing that may be easily removed and added as the temperature rises and falls
- Engage in warm-up activities to raise body temperature
- Monitor weather conditions, including wind chill factors

Suggestions of ways to prevent cold injuries (cont'd):

- Add one layer of protective clothing for every 5 mph of wind in temperatures below 32 degrees F
- Dehydration is possible in cold weather: Replace fluids often