






GSLC – SAFETY MOMENT

Frostbite

Introduction

There are four different degrees (severity) of frostbite ranging from frost nip to frostbite. The extent of the injury will depend on the length of exposure, outside temperature, wind chill and how the exposure is treated. Below is a table from University of Utah Health’s Burn Center describing the different levels and severity of injury, characteristics, management and treatment guidelines.

	Depth of Injury	Wound Characteristics	Treatment	Intervention/Care
<p>1st Degree Frost Nip (Superficial)</p> 	<ul style="list-style-type: none"> Limited damage to epidermis, skin intact 	<ul style="list-style-type: none"> Painful No immediate blister formation Central white area surrounded by pink skin Mild swelling 	<ul style="list-style-type: none"> Heals completely with minimal to no intervention besides rewarming 	<ul style="list-style-type: none"> ❖ Immediately remove individual from cold and change clothing if needed ❖ Soak affected area in warm water (100F – 105F) ❖ Body heat may also be used to warm the area
<p>2nd Degree Frostbite (Superficial)</p> 	<ul style="list-style-type: none"> Affects the epidermis and part of the dermis 	<ul style="list-style-type: none"> Tissue remains resilient Pink and moist tissue present beneath clear blisters Blisters are usually surrounded by redness Swelling of affected extremity 	<ul style="list-style-type: none"> Most injuries should heal within 30-days Slightly increased risk of future cold injury to the site. 	<ul style="list-style-type: none"> ❖ Do not rub affected area. Friction may cause more damage to the area ❖ Rewarm as above ❖ Do not rewarm affected area until patient has reached a location for definitive care and has minimal risk of refreezing
<p>3rd or 4th Degree Frostbite (Deep)</p> 	<ul style="list-style-type: none"> Epidermis and dermis involved. There may also be damage to muscle, tendons and bone (4th degree) 	<ul style="list-style-type: none"> Skin feels frozen and hard Affected tissue appears red, purple or even black Blisters may look like they are filled with blood Tissue beneath blisters is purple or deep red, may have evidence of clotted blood vessels 	<ul style="list-style-type: none"> Development of thick, black, dead tissue over 1-2 weeks following injury High likelihood of ongoing nerve pain from injury 	<ul style="list-style-type: none"> ❖ Patients will need good pain control for rewarming

Act Quickly

If a Scout experiences or displays any symptoms of 2nd, 3rd or 4th degree frostbite, go to the nearest healthcare facility/burn center immediately. Non-burn center providers can request consultation with burn specialists and send digital images by calling (801) 581-2700. For the best results, injuries should be seen by a doctor within 24 hours, and preferably within 12 hours from the time of exposure to begin therapy.

Summary

Any of these injuries can occur when it's cold and you spend time working, playing, or sleeping outside, if you or your clothes are wet or too tight. Please watch for any signs of exposure on you or your Scouts! If Scouts are at a Klondike event, winter camp or troop campout and start experiencing any of the above symptoms, tell an adult as soon as possible!

Additional Resources

- [State of Alaska Cold Injury Guidelines](#)

This Frostbite safety moment was created in partnership with University of Utah Health's Burn Center. For more information on this topic, please contact them directly, visit their website or stop by.

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<https://healthcare.utah.edu/burncenter/>

