

* DO NOT attempt to thaw frostbitten limbs
 * Make certain thawed part will not refreeze,
 place foot inside shirt against chest,
 * Place victims hands in armpits or crotch,
 circulation,
 * Exercise the affected area to promote
 * Hold it near fire or use cold water to thaw it,
 * Do not rub the affected area!

Treatment of Frostbite:

be necessary.
 Gangrene may develop and amputation may
 Swelling and sweating occur after thawing.
 thickness and perhaps bone is involved.
Symptoms of Severe Frostbite: The full
 from wind and weather; Insulate the victim
Treatment of Hypothermia - Shelter the victim
 Stupor;
 pupils; Decreased heat and respiration rate;
 Hallucinations; Blueness of skin; Dilation of
 Amnesia; Irrationality and poor judgment;
 drowsiness, fatigue; Thickness of speech;
Symptoms of Hypothermia - Slowing of pace,
 function; 5- Use Buddy System to watch for
 problems.

white, gray or waxy in color. The skin is firm
 to the touch but resilient underneath. Upon
 3- Make camp early;
 windproof clothing.
 4- Exercise to keep up the body's heat
 function; 5- Use Buddy System to watch for
 problems.
 Take corrective action immediately!

If pain goes away, the victim may be danger
 of moving into severe injury from frostbite.
 Take corrective action immediately!

FIRE... GOOD OR BAD?

Nowhere in winter clothing or sleeping
 systems will you see any provision for fire to
 provide body heat. Experts on winter
 camping advise that fire in the winter is a
 "false god" in regards to warmth. The body
 itself is like a big furnace. You stoke your
 body's furnace with good food and water: It
 burns the food and provides heat, which
 your heart circulates throughout your body.
 Layers of insulation determine how much of
 that heat is retained and how warm you feel.
 Fire is useful for turning snow into water, for
 heating water for cooking, and for its
 cheerful glow. Extreme care must be taken
 around an open fire. Do not get too close
 with synthetic fiber garments or boots.
 These will shrivel, melt or become damaged
 from the reflected heat.

STAYING WARM

Remember this key: "C-O-L-D will help you

windproof clothing.
 3- Make camp early;
 windproof clothing.
 4- Exercise to keep up the body's heat
 function; 5- Use Buddy System to watch for
 problems.
Symptoms of Hypothermia - Slowing of pace,
 drowsiness, fatigue; Thickness of speech;
 Amnesia; Irrationality and poor judgment;
 Hallucinations; Blueness of skin; Dilation of
 pupils; Decreased heat and respiration rate;
 Stupor;
Treatment of Hypothermia - Shelter the victim
 from wind and weather; Insulate the victim
 from the ground; Change wet clothing; Put
 on windproof, waterproof gear. Increase
 exercise if possible. Put victim in a pre-
 warmed sleeping bag or blankets. Give warm
 drinks, followed by candy or high sugar
 foods. Apply heat with warm water bottles or
 canteens. Huddle for body heat from others.
 Place someone in sleeping bag with victim.
Self-Test for Hypothermia - Touch the little
 finger and
 thumb together. If this cannot be done, stop
 immediately and warm up!
C. First Aid Condition: Snow Blindness -
 Snow blindness is an inflammation of the eye

Pocket Booklet No. 14 Cold Weather Camping

This booklet is a gift to you to help you
 understand and prepare for camping in cold
 weather. Use this booklet as a supplement to
 your handbook, as a basis for games and
 contests at your Scout meetings. Like all
 Pocket Booklets, you can keep this in your
 Scout shirt pocket for easy reference.

I created this booklet when I was
 Klondike Chair and Outdoor Program/
 Camping Chair in Timberline District of the
 Denver Area Council, USA. Our winter
 Klondike campouts went Friday through
 Sunday with temperatures well below zero.
 Be prepared... Stay warm... Enjoy!

Best Regards,

Doc

Dr. Mark "Doc" Palmere, Ph.D.
 1504 South Johnson Court
 Lakewood, CO 80232 USA
 E-Mail: docp@E-2-A.org
 Support Site: www.E-2-A.org

Treatment for Dehydration - In mild cases,
 warm fluids
 (not hot) are absorbed fastest. Warm Jell-O
 (not hot) are absorbed fastest. Warm Jell-O
 absorption, and the flavors are enjoyed.
 Keep the victim warm and allow rest. More
 severe cases require professional medical
 care. Proactive Measures - Since dehydration
 can lead to other more serious problems
 such as hypothermia and frostbite, the buddy
 system MUST be used at all times. Everyone
 in the group should be on the alert for signs
 of dehydration.
B. First Aid Condition: Hypothermia.
 Hypothermia is a lowering of the temperature
 of the inner core of the body. Hypothermia
 can and usually does occur at above
 freezing temperatures. The victim may not
 be able to think clearly enough to react to
 this condition. Injury or death may be a
 result. Predisposing conditions may include
 poor physical condition, poor circulation, thin
 build, and exhaustion.

I. NUTRITION.

The body "fires" burn somewhat hotter in
 cold weather. With food affecting morale,
 you will want to supply your group with this
 in mind. Caloric intake in cold weather
 increases for two reasons: 1) the extra
 activity required by dressing for the cold and
 the effect of that weight increases energy
 needs; 2) living and working in the cold
 gives us a ravenous appetite. In cold
 weather camping, each person consumes
 3,000 to 4,000 calories per day. These
 calories should come from a diet made that
 is 40% carbohydrates, 40% fats, and 20%
 protein. This diet should include drinking
 two to three quarts of water per day. The
 single biggest problem encountered with
 winter camping is dehydration so drinking
 water should be encouraged all day long.
 The amount of water consumed should
 increase with extra activity.

II. FOOD PREP TIPS:

Prepare meals before the trip using "seal-a-
 meal" technology. This allows you to just
 place them in boiling water, heat and enjoy!
 Encourage the use of plastic bowls and
 utensils. Plastic conducts less heat than

in the field,
 * Check for hypothermia,
 * Transport the victim to a hospital or
 physician immediately!
IV. CLOTHING SYSTEMS
 Winter camping calls for clothing that
 protects you from the cold and wind, while
 holding in body heat and allowing ventilation.
 Several thin layers are better than one big
 heavy layer. This layering allows for
 flexibility in varying conditions. A key
 consideration is function over appearance.
A. Socks - Wear a wicking sock (liner) next to
 your foot. Polypropylene liner socks, silk
 socks and even nylon stockings work well.
 An insulating sock should be placed over this
 wicking or liner sock. The best insulating
 socks are wool or a wool blend. NEVER USE
 COTTON!! Cotton soaks up water, loses all
 insulating qualities, stays wet, and makes
 your feet cold.
B. Long Underwear - Use long underwear
 made from a wicking material such as
 polypropylene. Polypropylene long
 underwear comes in light, medium and

almost more important than what is on top of
 you. Leave the snow on the ground under
 your tent. Build several layers of insulation
 between you and the ground. In very cold
 weather, snow itself can be insulation
 against severe cold. While the ground
 temperature may drop to zero or below,
 snow remains 32 degrees (F).

B. Selection of Sleeping Bag- Use a "zero
 bag" or simply place your summer bag inside
 a second bag. Or, make a liner for your
 sleeping bag out of polar fleece and put it
 inside your three season bag. Army Surplus
 stores offer inexpensive bag covers to add
 another layer of insulation (pocket of air) to
 your mummy bag. Be sure to keep bedding
 clean and dry.

C. Before Turning In- Dry your feet well.
 "Dry" wash with foot powder. The best foot
 powder contains aluminum chlorohydrate.
 This substance dries to your skin and
 shrinks your pores, reducing normal
 perspiration. Wear a stocking cap and
 wristlets to keep your head and hands
 warm. Do not overdress for bed.
 Overheating will cause you to sweat and

G. Head Gear - A warm hat will help you throat and neck areas.

F. Neck Protection - Be sure that you have either a scarf or neck garter to protect your mittens and gloves WILL get wet.

E. Hand Protection - Mittens are warmer than gloves. Gloves are more useful when you have work to do, so bring both. Some polar fleece liners allow you to use a liner that can be replaced. Don't forget extras, your mittens and gloves WILL get wet.

D. Upper Body Protection - Use layers they're made of cotton!

dehensible indicator of your need for water. When dehydration occurs, reasoning and judgment may be impaired. You may simply not recognize that you are thirsty. Often it is easier to recognize a change in urine color than to judge degree of thirst. With this in mind, a rule of thumb is: "If your urine is not clear by noon, you should be drinking more water."

C. Pants - Good, loose fitting wool pants are the best for insulation. Inexpensive wool pants can be found at Army Surplus stores, and used clothing stores. Use suspenders to hold them up. Ski bibs also work for keeping you warm. Blue jeans are completely dependant on winter camponist! (Of course... consisting of a turtleneck, shirt, sweater, vest and jacket. Make sure items fit together comfortably and are not restricting. Correct layering captures heat in the air spaces between the layers.

E. Hand Protection - Mittens are warmer than gloves. Gloves are more useful when you have work to do, so bring both. Some polar fleece liners allow you to use a liner that can be replaced. Don't forget extras, your mittens and gloves WILL get wet.

minimize the heat loss from your head. Radiation of heat from an covered head can account for 50% to 75% of total heat loss. Remember the old maxim: "When your feet are cold, put on a hat."

H. Footwear- This may be the most important item of your gear. Strongly consider Pak Boots. They have waterproof bottoms, upper leathers that breathe (that moisture out!), and a removable liner. Take the felt liners out and take them to bed with you, and in the morning you'll have warm liners to put your feet into. When using liners, put duct-tape on the heels to prevent wear. Be sure to use boots that fit comfortably and allow for good circulation. Leather hunting boots are less desirable because they do not have removable liners. When leather boots get wet (and they will) they will freeze solid. Moon boots are acceptable as long as you have many replacement socks.

V. SLEEPING SYSTEMS
Sleeping comfortably will make or break your experience in cold weather camping.

A. Insulation- The insulation under you is

of urine. Additionally, water is lost through respiration (lungs), skin (evaporation) and the gastrointestinal tract (digestion). Normally, water intake or "thirst" is regulated by the "thirst mechanism." However, in the cold, this thirst mechanism is not a dependable indicator of your need for water. When dehydration occurs, reasoning and judgment may be impaired. You may simply not recognize that you are thirsty. Often it is easier to recognize a change in urine color than to judge degree of thirst. With this in mind, a rule of thumb is: "If your urine is not clear by noon, you should be drinking more water."

Symptoms of Dehydration - Increased pulse rate; Nausea and loss of appetite; Urine dark in color or constipation; Fatigue, sleepiness or irritability; Thirst; Headaches or dizziness; Bluish or grayish skin color.

Prevention of Dehydration - Drink two to three quarts of water per day; Increase intake at first sign of color change of urine; Avoid dehydrating foods and drinks that contain caffeine and foods high in protein.

metal, and they are easier to clean.

Suggestions for foods:

- 1- Warm applesauce (with or without cinnamon red-hots) makes a good warm-up food in the morning. It tastes good includes fruit.
- 2- Warm orange juice or apple juice. This provides a quick "pick me up" and is often used as pre-meal upon getting up in the morning.
- 3- Warm fruit juice available all day long.

III. FIRST AID
It is impossible (and poor judgment) to cover all the first aid you'll need in cold weather camping in a few pages. Consult your First Aid Merit Badge Book, other resources and be aware of other resources on-hand for your event. Many Camporee's and winter campouts such as Klondike's have Emergency Medical Technicians (EMTs) available to assist.

A. First Aid Condition: Dehydration.
Most winter emergencies are linked to dehydration which is the excessive loss of body water. Exposure to the cold has a diuretic effect resulting in increased output

caused by exposure to reflected ultra violet (UV) rays from sun light reflecting off snow. * Sensation of grit in eyes, watering, redness, headache and sensitivity to light.

Symptoms of Snow Blindness -

First Aid for Snow Blindness -

- * Blindfolding and rest
- * Avoid further exposure to light without sun glasses
- * This condition may heal in a few days without permanent damage
- * Put on sunglasses to prevent further injury

Proactive Measures for Snow Blindness -

- * Wear sunglasses
- * New Development/More Sun Related Problems...

Macular Degeneration is a major cause of vision problems in older people. The macular is that part of the eye that allows for "fine focus" when trying to view detailed work and when reading. Macular Degeneration is on the rise in the US and is directly related to the rise in the UV and is directly related to their eyes from the sun's ultra violet rays. Is it essential that everyone wear UV rated sun

Cold Weather Camping Information

Pocket Booklet No. 14

Table of Contents

Page	Description
3	Nutrition
3	Food Prep
4	First Aid
11	Clothing Systems
13	Sleeping Systems
15	Fire.. Good or Bad?
15	Staying Warm using " C-O-L-D "

www.E-2-A.org
Copyright © E-2-A, 2000, 2004
Permission granted to copy as complete document only.

glasses in winter camping.

D. First Aid Condition: Frostbite

Frostbite occurs when there is actual freezing of the skin and underlying tissue. Recovery from frostbite is slow and often painful. Once exposed, victims are predisposed to ward frostbite in the future. Frostbite occurs when the body needs heat elsewhere; the body redirects blood flow from the extremities to protect internal organs. The blood in the sledge-like. Ice crystals form in skin cells, making it impossible for the skin to get oxygen and the nutrients it needs. This further damages the tissue.

Prevention of Frostbite -

- 1- Proper insulation -- cover exposed skin.
- 2- Guard against wind chill and moisture.
- 3- Maintain good nutrition, drink water and exercise.
- 4- Use Buddy System to check exposed skin for frostnip and frostbite.
- 5- Avoid restrictive clothing, dress in layers

Symptoms of Frostbite: Redness of skin, pain, burning, stinging or prickly sensation. After the pain disappears, the skin may appear

learn the techniques to keep warm!"

C —Keep Clean - Keep yourself and your clothes clean. Dirt and body oils that build up on clothing destroy its insulating qualities.

O— Avoid Overheating - Avoid overheating. Avoid wearing clothing that cannot be removed in layers as needed.

L — Layers - Your clothing system should be designed so layers can be added or taken off. Proper layering helps to maintain even body heat. Layers should be loose fitting.

D — Stay Dry - Keep dry. Wet clothing removes heat 200 times faster than it will dissipate through dry clothing. Wet cloth mean trouble.

The keys to keeping warm are in the word **COLD**. Use the letters **C-O-L-D** to remember the keys to staying warm.

