

## Cold Weather Camping & Keeping Warm

### PLANNING

- Check the Weather Channel's website to find out approximately what the temperatures will be in the area that you will be camping. Note approaching inclement weather.
- Know your body type (warm blooded, sweat easily, etc.) to know how to dress and what to pack. Remember it is better to take too much and not use it than to need it and not have it.
- Good meals, comfortable sleeping arrangements, and warm clothing make for an enjoyable camping experience.
- Bright colored clothing and gear is harder to lose in the snow.
- Wear layered clothing so you can better regulate your body's temperature by removing layers to avoid perspiring.
- Everything before going to bed must be secured so it is not lost in a snow fall, wind or ruined by frost or freezing.
- Make sure your sleeping bag covers your head and insulates you from the ground. Mummy sleeping bags work the best since they cover the head and have less space to heat. Sleeping bag ratings are usually based on sleeping completely clothed.
- Do not put your face into your sleeping bag as the vapor from your breath will introduce water into your bag. It is better to have a separate small blanket or towel to cover your face.
- Hang your sleeping bag up or just lay it out between trips so the filling will not compress and lose its insulating properties.
- A 3 to 4 pound synthetic bag will maintain its insulation properties when damp.
- Before rolling up your sleeping bag for the trip, place sleepwear in it, such as pajamas, wool socks, hooded sweatshirt, wool cap, etc. so you can dress warm and dry for sleeping when your sleeping bag is unrolled.
- Since liquids, eggs, etc. will freeze solid, it may be better to bring dry or powdered.
- For fresh foods (including cold cuts) bring a hot water bottle and a cooler.
- Bring three times the fuel you need to use in melting snow for water.
- Water proof your leather hiking boots (silicone based products work easiest).
- Learn to recognize and have first aid equipment to treat cold weather health problems—frostbite, hypothermia, dehydration, chilblains, trench foot, snow blindness and carbon monoxide poisoning.
- Take and wear dark sunglasses if snow is in the forecast to reduce the glare.
- Bring sunscreen and Chap Stick.

- Bring hand warmers to place in the bottom of sleeping bags or for emergency warming.
- Do an equipment check to make sure nothing is forgotten. Check it off as it is loaded.

## **CLOTHING**

- Wear wool, synthetic, polypro or other nylon clothing since they retain most of their insulating qualities when wet. Good duck or goose down is very warm but must be kept from getting wet as it will reduce its insulation properties. Rain gear is waterproof and usually will not allow perspiration to evaporate.
- Wear loose fitting clothing to optimize insulation. Allow for heat loss from evaporation of sweat by using breathable fabrics to allow this moisture to pass out freely.
- Heat loss is mainly from the head (up to 80%) and the skin in contact with cold.
- Avoid any cotton directly against the skin.
- Clothing is going to get wet (perspiring or snow) so make sure you have enough changes of clothing.
- Keep your head covered. If, when very active, you only need to wear a fleece ear protector, have a ski cap for when you stop to avoid cooling off too quickly.
- Be able to change your socks at least twice every day.
- Wear either mukluks, water-proofed leather hiking boots, rubber overshoes or rubberized boots. Rubberized boots do not allow for ventilation so socks must be changed often. Felt inserts would help with insulation. A plastic bag between socks and boots will help with water proofing.
- Pull trouser legs over top of shoes to keep out snow or wear gators.
- Wear mittens instead of fingered gloves when you do not need independent use of your fingers. This allows the fingers to help keep each other warm. Extra socks can work as mittens.
- Most heat loss is through the head so wearing a warm hat heats the rest of your body, too. If your feet start getting cold make sure you put on a warm hat that covers your ears and scarf.
- A scarf can reduce heat loss around the neck. A scarf or ski mask protects your face from the cold and wind.
- Paper and cardboard are great insulators and moisture absorbers. It can be wrapped around your body under clothes or placed under your sleeping bag for insulation.

- Some of the best clothing and footwear is ruined by burning or melting when too close to the fire. If you need a fire to keep warm, you are not dressed properly. If heat can get to your body, so can the cold.
- Place boots, gloves, damp clothing in a plastic bag under your sleeping bag to keep warm.

## **SLEEPING**

- Air out your sleeping bag and tent when weather permits. Perspiration and breath condense in the tent and sleeping bag at night. Water reduces insulating properties.
- Wear a loose fitting hooded pull over type sweatshirt and clean dry socks to sleep in.
- Never go to bed wearing anything that's wet—wear dry clothing or pajamas.
- Wearing some insulation to bed can add up to 20° to the effectiveness of your sleeping bag.
- A bag liner made from an old blanket, preferably wool or fleece will enhance its warmth. Also, placing one sleeping bag inside another improves warmth.
- In a rectangular bag, pack a blanket around your shoulder in the opening.
- If you are about to retire and you are feeling cold, take a walk around the camp to get the blood pumping to warm yourself up a bit, but do not work up a sweat.
- You **MUST** use a sleeping pad or pads or else ground cold will reach you. Use anything you have to insulate you from the ground! (Blankets, spare clothing, sheets of cardboard, even sheets of newspaper are better than an air mattress). You want 2 to 3 times the insulation below you as you have over you.
- Use a ground cloth to keep ground moisture from your bag—not space blankets due to their metallic properties (They make good wind shields only).
- Cold air will be above and below you if you sleep on a cot in a trailer or in a vehicle.
- Put a hand warmer in a sock at the foot of your bag before getting into it or fill a canteen (not plastic) with hot water (not boiling) and put at the foot of your bag.
- Since the body vaporizes about a pint of water during the night, keep one of the tent windows open just a little to create just enough air circulation to keep ice from forming on the ceiling of the tent.
- IF windy build a wind break outside your tent by piling up snow or leaves to a height sufficient to protect you when lying down.
- Do not sleep with your head under the covers (increases humidity in bag). Use a small blanket or towel to place over your face and head.

- Answer the call of nature one last time just before retiring. Place an empty capped plastic bottle outside your tent door for “night calls”.
- Before getting out of bed in the morning bring your clean dry clothes you plan to wear inside your bag and warm them up some before dressing.
- Store gloves and shoes inside your tent. Best in a plastic bag under your sleeping bag.

## **FOODS AND DRINKING WATER**

- On very cold nights, for fresh foods pour hot water into a water bottle and put that into the cooler for the night with the food to keep them from freezing.
- To keep drinking water from freezing, take it to bed with you.
- Take a bottle of propane into your tent at night to more easily light the stove in the morning.
- Before going to bed pour enough water for breakfast into a pot. Just heat the pot in the morning.
- Keep matches in a metal match safe as frozen plastic can break when dropped. Carry extra matches because the more you need a fire, the less likely it will start up easily.
- Snow & ice can be used for drinking water only after boiling. Don't eat ice or snow. They may not be pure and will reduce your body temperature.
- Drink 2 quarts of fluids per day besides what you drink at meals. You should start drinking extra fluids 24 hours before going winter camping.
- Be careful when drinking too many liquids which are real hot or too cold as either extreme can cause the body to lose heat.
- Gather twice as much fuel as you think you'll need for fires. Bring tinder from home because it is hard to find in snow. Gather your wood for the morning fire in the evening so that you can start the fire quickly in the morning. Protect it from frost and moisture. Presoaked kindling wood with lighter fluid and kept in a plastic bag make lighting a firer easier.
- Start the day with something warm!
- Remember raw eggs, milk, yogurts, juices, butane, etc. can freeze and must be protected.
- Hard boiled eggs or baked potatoes placed in the pocket can make great hand warmers and can be eaten later.
- A winter campout burns more fat and calories. Foods high in fat, complex carbohydrates and protein release their energy slowly, keeping you warmer. Sugar and starch burn too quickly. Best foods are beef, poultry, fish, eggs, corn, beans, whole-wheat bread, peanut butter, macaroni and cheese, vegetables,

fruits, butter, nuts, cheese, salami, and bacon. Avoid sweets. Consider cold cuts for sandwiches, crackers, power bars or instant soups and stews for lunches, dinners and snacks.

## **HEALTH & SAFETY**

- If you get cold at night, let adult leadership know before cold weather health problems occur.
- Use the buddy system to check each other for cold weather health problems.
- If you feel cold, gather wood or do other work to help warm you. Wiggle your toes inside your boot and put on a stocking cap to keep your feet warm.
- Keep off ice on streams, lakes and ponds.
- Carry extra plastic garbage bags in cold weather to use as wind shields and ponchos.
- Flashlight batteries are affected by cold. Retrieve a dead battery by warming it up near the fire.
- Heaters inside your tent can lead to carbon monoxide poisoning.
- Handling gasoline and other super-cooled liquids at low temperatures is especially dangerous due to potential contact with skin.

## **Dehydration** (Excessive loss of body water)

- Prevention
  - Drink at least 2 quarts of water daily.
  - Avoid dehydrating foods (high protein) and fluids (coffee, caffeine).
  - Increase fluid intake at first signs of darker yellow urine.
- Symptoms
  - Increased pulse rate
  - Nausea and loss of appetite
  - Dark urine or constipation
  - Irritability, fatigue
  - Thirst
  - Headache, dizziness
  - Labored breathing
  - Tingling
  - Absence of salivation
  - Inability to walk

- Bluish or grayish skin color (cyanosis)
- Swollen tongue, inability to swallow
- Dim vision, deafness
- Shriveled, numb skin
- Painful urination
- Delirium, unconsciousness and death
- Treatment
  - Mild cases – drink liquids, keep warm
  - More severe cases – professional medical treatment

**Hypothermia** (Lowering of the inner core temperature of the body)

- Prevention
  - Good physical condition
  - Adequate nutrition and water intake
  - Protective clothing
  - Staying dry
  - Avoid exhaustion

- Symptoms
  - Loss of ability to reason
  - Shivering
  - Slowing, drowsiness, fatigue
  - Stumbling
  - Thickness of speech
  - Amnesia
  - Irritability and poor judgment
  - Hallucinations
  - Cyanosis (blueness of skin)
  - Dilation of pupils of eyes
  - Decreased heart and respiration rate
  - Stupor

One simple way to test for Hypothermia is to have the person touch the little finger to the thumb on both hands.

- Treatment
  - Shelter victim from wind and weather
  - Insulate victim from ground
  - Change to dry clothing and windproof, waterproof gear.
  - Increase exercise
  - Put in pre-warmed sleeping bag

- Hot drinks followed by high-sugar foods
- Apply external heat
- Huddle for body heat from others

**Frostbite** (Tissue injury involving the actual freezing of the skin and tissues)

➤ Prevention

- Proper clothing
- Good nutrition, drink water, maintain core temperature
- Use buddy system to check face, nose and ears
- Immediate treatment of minor symptoms

➤ Symptoms – First degree (frostnip)

- Redness, pain, burning, stinging or prickly sensation
- Pain disappears and there is a sudden blanching of the skin
- Skin may look mottled (spots or streaks of different shades/colors)
- Skin is firm to touch but resilient underneath.
- On thawing, there is aching pain or brownness. Skin may peel off.

➤ Symptoms – Second degree (superficial)

- No pain – part may feel dead
- Numbness, hard to move the part.
- Tissue and layers underneath are hard to the touch
- After thawing (takes 3 to 20 days) pain, large blisters, sweating
- Black or discolored skin sloughs off, leaving tender new skin

➤ Symptoms – Third degree (severe)

- Full thickness of the skin involved
- After thawing, pain continues for 2 to 5 weeks

➤ Symptoms – Fourth degree (severe)

- Skin and bone are frozen
- Swelling and sweating occur
- Gangrene may develop, amputation may be necessary.

➤ Treatment

- Do not rub with snow nor hold it over fire or use cold water to thaw it.
- Exercise the affected area.
- Do not attempt to thaw frostbitten limbs in the field. Thawing only risks additional injury and the victim will be in too much pain to walk.

**Snow Blindness** (Inflammation of the eye caused by exposure to reflected ultraviolet rays when the sun is shining brightly on an expanse of snow.)

➤ Prevention

- Wear sunglasses when any danger is present; do not wait for discomfort.

➤ Symptoms

- Sensation of grit in the eyes made worse by eye movement, watering redness, headache and increased pain on exposure to light.

➤ Treatment

- Blindfold the victim and get rest.
- Avoid further exposure
  - If unavoidable, the eyes should be protected with dark bandages or the darkest sunglasses.