

# Boy Scout Troop 44

## Cold Weather Camping

### Survival Guide

*"The long, warm days of summer are perfect for campouts, but don't put away your tent and camp stove just because cold weather has arrived. Snow can turn familiar countryside into a wintry wilderness just right for overnight trips that might include snowshoeing, skiing, igloo building and tracking animals."*

*-The Boy Scout Handbook*

### Warm & Dry

Cold weather camping represents one of the greatest challenges a Scout will face. With the proper planning and knowledge, this challenge can be easily attacked. This guide is intended to provide the Scouts with a quick start course of the skills of cold weather camping. This guide is broken down into several key areas that include clothing, the layering system, special equipment, bedding down, nutrition, and cold weather first-aid. We hope everyone will accept this challenge and most importantly, enjoy it!

### Clothing

The clothing that your son brings on a winter camping trip will be one of the most important determinants of his warmth. While the clothing will not directly provide warmth, it rather provides insulation to preserve body heat from activity.

Clothing material can primarily be broken down into wool, synthetics, cottons, and blends. Each type of material holds its own advantages and disadvantages. Wool, although itchy, provides warmth when wet. Synthetics provide waterproof and windproof advantages yet lack breathability. Cottons are primarily used in warm weather camping by providing lightweight, cool clothing. Finally, blends represent a mix between cotton or wool and synthetics. The Scout uniform represents an ideal example of blends.

Before running through a recommended list of clothing for the weekend, it is important to address several important issues. First, perspiration can prove to be a serious side effect of intense winter activity. To avoid this, it is important that the first layer of clothing be able to wick moisture away. Polypropylene long underwear is the solution. Commonly referred to as "Wicker's", poly's wick moisture away from the body allowing your body heat to evaporate your sweat and ultimately reduce any chilling. The second important issue concerns breathability. Waterproof materials do a superb job in keeping us dry, however, they hold one important drawback. They lack breathability. What this means is that they counteract the effects of Poly's by trapping the moisture that the thermal underwear attempts to wick away. Ultimately, when this occurs, it is important to change layers throughout the day to avoid excessive moisture build-up that brings down the body temperature. Finally, the proper clothing on your feet is important to enjoying a cold weather weekend. Poly liners should be worn under wool or wool synthetic socks in order to wick away moisture. Wool socks help combat cold feet in the event that your socks get wet. Wool, unlike other fabrics, will still keep you relatively warm if wet. Be sure that your socks are not too tight, as this can reduce blood circulation and lead to cold feet. In the event your feet to get wet, be sure to change into a dry, clean pair of socks as soon as possible!

## **Outerwear**

Your feet will appreciate warm boots, and wool or synthetic socks to keep your feet warm and dry. Good hiking boots and socks are appropriate for all weather conditions. Gym shoes can get wet easily, don't protect socks from getting wet in the snow and are not appropriate for cold weather camping, particularly when there is the potential for wet or snowy conditions.

A parka with a hood is a good bet for the cold winter months. A good camping parka should be resistant to rain, sleet and snow. Your parka should also have large pockets for carrying your hiking essentials (i.e. flashlight, personal first aid kit, water bottle, map & compass, etc.). Many traditional "down" jackets or coats are not good camping outerwear as their fragile outer shells can easily get caught and tear on tree limbs and thick brush.

A knit hat and gloves or mittens are also essentials for keeping your extremities warm. Since up to 40% of the heat we lose radiates from our heads, a good knit hat can make a significant difference in the amount of total heat you lose to the outdoors.

The following list represents the recommended clothing for a two day winter camping trip:

- 2 shirts (wool or flannel)
- Turtlenecks
- 2 pairs of wool or casual pants (similar to Dockers)
- Polypropylene long underwear
- Boots (Waterproofed)
- 2 pairs of heavy socks (wool recommended)
- 2 pairs of lighter socks (preferably polypropylene liners)
- Windbreaker
- Wool stocking cap, ear warmers, & neck gators
- Parka or heavy jacket
- Wool mittens (preferable to gloves)
- Poncho

If it is at all possible to single out one important feature of clothing, it would be that no Scout should have sweatshirt material in his pack. The only exception to this rule is a hooded sweatshirt for sleeping at night. We cannot over emphasize how important this is, sweatpants absorb moisture like a sponge and hold no wind breaking capabilities.

## **The Layering System**

While clothing will provide the insulation to maintaining a constant body temperature and steady warmth, it is useless if not worn properly. Layering represents an individual's personal thermostat. As you begin to feel cool, you can put on another layer. As your body begins to sweat, you simply remove a layer. More often than not, this body temperature regulation can be performed through the wool cap. The body loses 80% of its heat through its head. A wool cap helps maintain this heat within your body, warming you rather than your surroundings. The layers begin with the polypropylene long underwear and work their way up to the parka. In short, the primary importance of the layer system lies in body temperature regulation. For this reason, it is important to have various layers packed in order to properly regulate your body temperature.

## **Special Winter Camping Equipment**

This section is intended primarily to introduce equipment concerns that need to be addressed when camping in extreme cold weather. The first, single most important piece of special equipment is fortunately the cheapest. Zip Lock Bags! All underwear, socks, and long underwear should be packed in zip-lock bags. All other clothing should be stored in something waterproof. This can range from a garbage bag to stuff sacks.

All the wool and polypropylene in the world won't do any good if it is wet from the beginning. Dryness is the key to success. Foam pads are the second most important piece of special equipment. The ground is cold! When you are sleeping, it is important to have that added insulation under you to avoid losing body heat to warming the Earth. Remember the rule of thumb, it is a good idea to have two to three times as much insulation under you as you do above you. The next most important piece of equipment will more than likely not cost anything because you probably have it lying around the house. All Scouts should carry a wool blanket with them on the weekend. The Troop does have a limited number for emergency use. If you cannot locate a wool blanket (Army blanket), ask around. Someone is bound to have a wool blanket somewhere in a closet. Finally, the next important piece of equipment is not one that we want everyone to run out and purchase for the weekend, however, in the long run, it may want to be considered if your son enjoys Scouting. Mummy sleeping bags provide a great degree of warmth due to the contour and snug fit of the bag to the body. Unfortunately, the degree of warmth represents a direct function of price. These bags can range anywhere in price from \$50 for a 35 degree bag to \$300+ for a zero degree or sub-zero degree bag. For recreational use, a good quality zero degree to fifteen degree mummy bag can be purchased for approximately \$60 to \$80. If you have questions on a specific bag, please let one of the adult leaders know.

## **Bedding Down**

Sleeping in the winter is really no different than camping out in the summer. However, there are a few important tips that require mentioning. The first most important tip is to *never* wear wet clothes to sleep. Not only will it decrease your body temperature, it will also cause moisture in your sleeping bag that will decrease the insulating properties of the bag. Secondly, if you do get cold during the night, *do not* place your head inside the sleeping bag as this will cause moisture from your breath to have the same effect as mentioned above. Wearing a hat while your sleeping will produce the same results as sticking your head inside the bag. Finally, the insulated capabilities of the bag come from warmth being trapped in the dead air space of the synthetic fibers (or bag fill), be sure that the bag is as fluffed out as possible to increase the insulating characteristics. In addition, it is recommended to keep the bag in a stuff sack until you are ready to bed down, this will keep moisture in the air from finding a place on or in your bag before you bed down. When storing your sleeping bag at home, hang it in a closet rather than in the stuffsack in order to avoid crushing the fill in the bag.

### **Your Sleep “System”**

Your sleep system is a critical component of your safety and comfort. Your sleep system should perform several functions, which is why we call it a sleep “system”. It should separate you from the cold ground, it should conserve your body warmth and wick moisture away from your body. Your sleep system includes the pads or other materials used to separate you from the ground, your sleeping bag(s) and your nightwear.

Sleeping at least 3 inches from the ground will help keep cold ground temperatures from being transferred to you. Getting at least 3 inches from the ground can be accomplished by using multiple rubber pads or blankets, an inexpensive cot, Styrofoam insulating boards or any combination of these items. While some air mattresses alone may be greater than 3 inches thick, they often do not provide adequate insulation and should be avoided during cold weather, unless used in combination with other barriers such as rubber pads and/or blankets. Once again, layering is more effective.

Most sleeping bags are rated as to the lowest temperature to which they are designed to keep you warm. You can modify or enhance your bag's rating by using a blanket as an additional liner inside your sleeping bag, or even doubling up on sleeping bags using one inside the other. All sleeping bags are designed to use your own body warmth to keep you warm. However, you must use it as intended. Zip your sleeping bag closed after you get in it and try to stay in it until it's time to get up in the morning (see “Avoiding Midnight Walks” below.)

Some sleeping bags, often referred to as “mummy” bags also have a draw string to close the end of the sleeping bag around the occupant's face. To use this feature, pull the drawstring tight as desired bringing the end of the bag over your forehead and around your face. Never close the bag over your entire head. Instead, always leave your nose and mouth exposed to the air outside the tent. This accomplishes two

things, it provides for clean continuous air and helps prevent the moisture from your breath from accumulating inside your sleeping bag.

It can't be overemphasized that keeping dry is critical to keeping warm. Since everyone perspires during the day, it is critical to change into separate nightwear before climbing into your sleeping bag for the night. Here again, the material of the clothing you choose can be important. Synthetic wicking materials are a good choice for keeping you warm while wicking moisture away from your body during the night. While doubling up and layering are good ideas, take care not to overheat. Overheating will cause you to perspire and result in damp bedding that will quickly lose its insulating value.

Insulation under you is the key to enjoying a warm winter night. The first layer down should be a plastic ground cloth to keep moisture from the cold ground from coming in contact with and ultimately penetrating your sleeping bag. On ½ of the ground cloth layout the sleeping pad. On top of the pad layout a folded wool blanket (army blankets work great) to add extra insulation from the cold ground. Place your sleeping bag on top of the wool blanket and fold the remaining ½ of the ground cloth on top of the bag. The ground cloth on top of the bag helps to prevent dew and frost from forming on the bag and ultimately reducing the insulating capabilities. In extreme cold weather, newspaper, hay or more natural materials such as leaves and pine needles can be placed under the sleeping pad to provide more insulation. Finally, get warm before going to bed. Increasing activity by cutting wood for the morning fire or doing jumping jacks increases your metabolism and body heat before hitting the sack!

### **Avoiding Midnight Walks**

When nature calls us to relieve ourselves, there isn't much we can do. Nonetheless, we can take some steps to help avoid those calls in the middle of the night when we're tucked in and warm in our sleeping bags. During summer campouts, these "midnight walks" are nothing more than a nuisance. However, during cold weather camping, "midnight walks" make you more susceptible to an early morning chill and even hypothermia. We all perspire sometimes as much as a pint of water during the night. When we open our sleeping bags, we release the accumulated warmth from the bag, we let cold tent air in, and despite our best wicking nightwear, we're bound to carry that moisture with us into the cold night air as we embark on our midnight walk. As a result, despite getting back into our sleeping bag, it is often very difficult to get warm again. You may find that a complete change of clothing is required in order to dry out and get warm again in your sleeping bag.

There are some steps you can take to help you avoid those midnight walks. These are:

- 1) Stop eating and drinking at least 1 hour before bed time.
- 2) Use the restroom/outhouse/facilities 1 hour before bed time and again right before going to sleep.

## **Nutrition**

Menu planning and a properly balanced diet become crucial in cold weather camping. Unfortunately, it is sometimes difficult to do. Who wants to cook and clean a full course dinner or grand slam breakfast in zero degree weather? Most important to realize is that you will require a greater calorie intake in cold weather. In addition to increased activity, increasing your metabolism is a good way to increase your warmth. A proper diet should be high in carbohydrates and protein. Many of the menus have already been planned and approved by the adults. However, we would recommend sending some extra snacks along for the trip. Rather than sending cookies and chips, replace them with cheese and crackers, granola bars, and trail mixes (My favorite is Cheriots, chocolate chips, peanuts, raisins, and M&M's). Foods high in protein result in a slow release of body heat as your metabolism digests the foods. Candy and other high sugar foods result in a quick release of body heat that causes your body temperature to drop below what it was originally. Ultimately, it is important to have a high calorie diet that is high in protein and carbohydrates.

# Cold Weather First Aid

This subject always become an important topic that I hope no Scout will ever have to use. However, up to date knowledge is of extreme importance. In addition to basic first-aid skills that many of the Scouts are educated on, cold weather first aid concerns and safety issues often take precedence on cold weather outings. As a refresher to cold weather first aid, it is important to review common problems and remedies found in cold weather camping:

**Dehydration**- When it's cold out, we often don't notice our need for water. Nonetheless, we continue to perspire and often exert ourselves strenuously as we trudge through snow, and our bodies burn off additional energy to keep warm. As a result, we may need as much water as we do during the summer. You must monitor your own water intake and ensure that you are drinking sufficient water during the day. The symptoms of dehydration during cold-weather camping are the same as they are in the summer and include disorientation, headaches, nausea, dizziness or any combination thereof. If these symptoms exist, drink plenty of water. If they persist, seek medical attention.

**Prevention:** 1) Drink at least 2 quarts of water a day 2) Avoid dehydrating foods (High Protein) and fluids (coffee, caffeine). Treatment includes increasing liquid intake and keeping warm. Severe cases require immediate medical attention. Freshly fallen clean snow is an excellent source of water, and enables you to reduce the amount of weight carried into the wilderness. As you hike, every time you take a sip of water from your water bottle, replace the water with a handful of fresh snow. The remaining water in the bottle will help melt the snow. For greater quantities of water, simply melt a pot of snow on your camp stove. If available, a cup of water at the bottom of the pot will speed the melting process.

**Hypothermia** - Lowering of the inner core body temperature. Can and usually does happen in temperatures above freezing. The victim may not recognize the symptoms and may not be able to think clearly enough to react. Injury or death may result. Prevention includes good nutrition, consumption of high-energy foods, proper clothing, and increased activity. Treatment includes providing shelter and warmth for the victim from the elements, hot drinks followed by candy or other high sugar foods to jump start the metabolism, and increasing body heat through huddling. If hypothermia is suspected medical attention should be contacted as quickly as possible.

**Frostbite** - Tissue injury involving the actual freezing of the skin and underlying tissues. Recovery is slow. Once exposed, the victim will be *predisposed* toward frostbite in the future. Prevention includes proper clothing, good nutrition, drinking fluids, immediate treatment of minor symptoms, and use of the buddy system to check face, nose, and ears of fellow Scouts. Treatment includes warming area through exercise, heat, or water (Do not rub with snow).

**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 includes wearing sunglasses when any danger is present. Treatment includes blindfolding the victim, rest, and avoided future exposure. Snow Blindness heals in a few days without permanent damage.

## Conclusion

It is our hope that this cold weather survival guide has been helpful in preparing you for your cold weather trek. Please do not throw it away. It will provide a valuable resource for years to come. The information on cold weather camping is abundant. If you have any specific questions or are interested in learning more about anything discussed in this packet, please do not hesitate to contact us. The Troop is filled with extremely knowledgeable and experienced Scouters that would love to pass this information off. Enjoy the weekend!

## More Cold Weather Tips

- If you only have a rectangular sleeping bag, bring an extra blanket to pack around your shoulders to keep air from getting in.
- Use a ground cloth (or poncho) to keep ground moisture from forming your bag.
- Put a hand warmer (in a sock) in the bottom of your sleeping bag to warm it up before bedding down.
- Avoid eating snow. The coldness requires too much energy to convert to water and could result in a decrease in body temperature.
- Using deodorant on your feet before a day in cold weather reduces the chance of sweating which can cause a chill in your feet.
- Use the buddy system to check each other for signs of cold weather health problems. Notify the adult leadership if any symptoms occur.
- Place the next day's clothes inside your sleeping bag as added insulation and to warm them up.
- Stay warm and dry. ***Have Fun!***