



## TIPS FOR HEALTHY OUTDOOR TRIPS

Each year many residents and visitors to Muskoka-Parry Sound venture into the backwoods in search of wilderness adventures. Whether you are picnicking, canoeing or backpacking the wilderness can provide unique experiences that are fondly remembered, however, if you are not properly prepared, outdoor excursions can leave you with an unexpected illness. This fact sheet has been prepared to provide you with tips on how to stay healthy while you travel through the wilderness.

### **Safe Water**

It is essential that a safe supply of water is available for drinking and cooking. Water obtained from surface water sources such as springs, streams, lakes and rivers are not considered safe due to the presence of disease causing germs (i.e. bacteria and parasites). The easiest way to provide a safe water supply is by boiling. Water should be brought to a rolling boil for at least 5 minutes. Be sure to keep it covered in a sanitary container until ready for use.

One disadvantage to boiling is the need to provide fuel for heating the water. On long trips this fuel can be heavy and cumbersome. An alternate method is the use of chemicals such as chlorine (bleach) or iodine to treat the water. These chemicals can be purchased in pill or liquid form. Usually only small amounts of the chemical are required but this will depend on the strength of the sanitizing chemical and the volume of water to be treated. Once the sanitizer is added the solution should be thoroughly mixed and allowed to stand undisturbed for at least 20 minutes. This will provide enough contact time to ensure the destruction of waterborne bacteria.

The chemical method of water treatment does have one disadvantage. It is not effective against some disease causing parasites commonly found in surface water (i.e. Giardia lamblia that causes Giardiasis and Cryptosporidium). To eliminate these parasites the water must be boiled or filtered. Filtration can easily be accomplished by using portable water filters. These devices can be purchased at a cost ranging from less than one hundred dollars up to several hundred dollars. They are lightweight, durable and have been proven to be very effective if they are properly maintained. For these systems to be effective at removing disease causing parasites it is essential that only filters with pore sizes of 1 micron or less be used. Filters with pore sizes down to .2 microns or less are effective at removing bacteria as well. Unfortunately they will not remove small viruses. Some filter manufacturers use iodine with filtration to ensure the removal of parasites, bacteria and the destruction of viruses.

## **MUSKOKA-PARRY SOUND HEALTH UNIT**

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Bracebridge  
705-645-4471 VOICE/TDD  
705-645-8567 FAX

Burk's Falls  
705-382-2018  
1-800-563-2808

Huntsville  
705-789-8813

[mpshu@mpshu.on.ca](mailto:mpshu@mpshu.on.ca)

Parry Sound  
705-746-5801

## Safe Food

Hazardous foods are moist foods, which are high in protein or carbohydrates. They are normally in the neutral or slightly acidic range, and have a low salt and/or sugar content. The term "hazardous" is used because these foods provide an excellent environment for food poisoning bacteria to multiply. For example, raw foods such as meats, poultry, eggs, fish and shellfish often contain food poisoning bacteria. If this food is then left at temperatures between 4°C (40°F) and 60°C (140°F) the bacteria can rapidly increase in numbers to unsafe levels. To prevent this, hazardous foods must be stored in refrigerators at temperatures below 4°C (40°F). However, during the spring, summer and fall refrigeration in the wilderness environment is not usually available. Other methods of preservation must be used to ensure foods are kept safe.

One common method of preservation is canning. However, canned foods are not very popular with most wilderness enthusiasts. Cans can be heavy and bulky occupying valuable pack space on long trips. Once emptied they create a garbage problem since they are not biodegradable and cannot be burned. For this reason many outdoor parks prohibit their use on wilderness trips.

A more environmentally popular form of food for wilderness trips are the MRE (Meals Ready-to-eat) food pouch. As long as the original seal on the pouch remains intact these hazardous foods require no refrigeration. Preparation simply involves placing the pouch in boiling water for several minutes. Many campers choose to eat the meal right out of the pouch cutting down on the need for utensils such as plates and bowls. Although the empty pouches are not biodegradable some varieties can be burned reducing the garbage load.

Another popular form of food preservation is dehydration. This involves the removal of much of the moisture in the food, making it a much smaller, lighter product that requires no refrigeration. Before the food is cooked and served it must be rehydrated by soaking it for a short time in clean drinking water. Although much lighter than MRE food pouches, dehydrated foods are often more expensive.

It is important to remember that once moisture has been added back to dehydrated food the food is no longer safe to be left at room temperature. The same applies to many common powdered or dried potentially hazardous foods such as milk powders, rice, instant mashed potatoes and oatmeal. Once prepared these foods should be consumed immediately. Leftovers should be discarded to waste unless equipment is available to maintain the internal temperature of the food below 4°C (40°F).

Salted or cured meat products such as beef jerky, pepperoni sticks and smoked meats and fish have always been popular trail snacks with outdoor enthusiasts. However, many people do not realize that many commonly used smoking procedures and some curing

procedures do not leave an end product that does not require refrigeration. If in doubt be sure to ask the butcher or in the case of commercially prepared products read the label. If the words "Perishable" or "Keep Refrigerated" are present the food must be stored at a temperature below 4°C (40°F).

### **Personal Hygiene**

Proper hand washing has always been the easiest most consistent way to prevent the spread of disease. Although many people relax their normal personal hygiene habits a little when in the wilderness this should not apply to hand washing. Use lots of soap and whenever possible warm water. Do not dry clean hands on cloth towels as cloth quickly becomes contaminated with bacteria from previous uses and can be a source of cross contamination. Use single service towels whenever possible and discard or burn the used towels. Moist disinfectant hand towelettes (i.e. alcohol wipes) can also be used when soap and water washing is not possible.

Also, be sure that clean drinking water is used to moisten toothbrushes or for rinsing the mouth. Even a small amount of untreated surface water can be enough to make you sick.

### **Utensil Cleaning**

Utensils used for food preparation, eating and drinking should be cleaned and sanitized between uses. Although pots or buckets can be heavy and bulky they are important to ensure utensil cleaning is carried out properly. Lightweight, collapsible and nesting containers have been developed to minimize weight and space problems. Whenever possible the utensils should be cleaned and sanitized with clean treated water using a 3-stage procedure. In the first container provide detergent and water, in the second container provide clean water only and in the third container provide water and sanitizer (i.e. javex). The utensils are washed in the first container, transferred to the second container for approximately 45 seconds to remove the detergent residue, and sanitized in the third sink for at least 45 seconds. Sanitizers which may be used include chlorine (100 ppm), iodine (25 ppm) and quaternary ammonia compound (200 ppm). To make a 100 ppm solution of chlorine use 28 ml (1 ounce) of javex (containing at least 5.25 % sodium or calcium hypochlorite) in 3 gallons of water. Once washed and sanitized the utensils should be air-dried.

### **Ticks**

Ticks are tiny external parasites of a variety of animals many of which live in the forest environment. Ticks can vary in colour but are most commonly white, reddish brown, or black. Ticks range in size from that of a pinhead to the size of a raisin or watermelon seed.

Ticks feed by attaching themselves to the animals flesh using barbed mouthparts and digesting the animals blood. They can remain attached to the animal for 2 to 4 days and

during this time can enlarge dramatically as they slowly engorge themselves. Ticks usually only feed about 3 times in their life cycle.

During the early stages of a tick's life cycle it is usually found close to the forest floor and commonly infects birds foraging on the ground or small rodents. Detached ticks can be found on low-lying foliage and can attach onto peoples clothing as they walk through the forest. The ticks will then move across the clothing until they find unprotected flesh. Penetration of the skin by the tick's mouthpart during feeding is usually not felt. People have no idea that a tick has attached itself to their skin and is feeding.

Diseases such as Lyme Disease, Ehrlichiosis, Rocky Mountain Spotted Fever and Powassan Encephalitis can be passed on to people by the feeding of certain types of ticks. Normally the ticks must remain attached to the skin and actively feeding for at least 24 hours before disease can develop. For this reason it is important that people protect themselves when walking in the wilderness. Here are some helpful hints:

i) **Clothing**

Wear clothing that covers as much skin as possible such as long sleeved shirts that button at the wrists, pants that are tucked into the socks, collard shirts and hats. Ticks are more easily seen on light coloured clothes and cannot readily attach to tightly woven fabrics with smooth finishes. If ticks are observed on clothes they can be destroyed by placing the clothes into a dryer on the hot air cycle for at least 30 minutes.

ii) **Repellents**

Tick repellents can be placed on the skin and clothing to discourage the attachment of ticks. Products containing DEET are the best. Adults should use products with DEET contents less than 50 % and children should use products with less than 20%.

iii) **Check Your Skin**

When walking through the wilderness it is a good idea to do occasional tick checks of the skin. Ticks can sometimes appear as a freckle that was not there on the skin before. Pay particular attention to the lower legs, backs of the knees, groin area, armpits, neck, especially if there is long hair, the back and the scalp.

If you do find a tick remove it immediately. Don't try to kill the tick first before you remove it. Never use matches, heat or chemicals to try to kill or encourage the tick to detach. Removal should be done very carefully. If they are available, tweezers should be used. Grasp the tick firmly as close to the skin as possible and pull straight back. Record the date and time the

tick was removed. If circumstances permit try to save the tick, alive if possible. Ticks removed from peoples skin should be tested to see if the tick is a type that is normally associated with the transfer of disease to people. For testing information contact your local Health Unit.

iv) **Protect Your Pets**

If pets are brought along on wilderness adventures be sure they are also provided with a form of tick repellent device. Check your pet over regularly for evidence of ticks.

For further information please call the Environmental Health Services Department of the Muskoka-Parry Sound Health Unit.