



Acute gastroenteritis is the most common infectious disease encountered when camping. Symptoms of acute gastroenteritis include abrupt onset of vomiting, diarrhea and abdominal cramps. The majority of these cases are transmitted from one person to another or through contaminated foods and water. The most common cause of acute gastroenteritis is a virus, norovirus, that can spread very rapidly in a camp setting. Other types of foodborne illness that have occurred in camps include:

- *Salmonella*
- *Shigella*
- *Campylobacter*
- Shiga toxin-producing *E coli*
- *Giardia*
- *Cryptosporidium*

11 Top Food Safety Tips

Following some basic food safety guidelines when cooking outdoors can help prevent foodborne illness. Here are some basic tips for camp staff on food safety:

- 1. Insist that campers and staff wash their hands after using the bathroom, before preparing food, before eating, and after handling foods like meat, poultry and eggs.** Make sure that soap, water and towels are available in camp. While wilderness camping, or other times when soap and water are not available, make sure hand sanitizer is available. Dirty hands can spread disease from one camper to another and can contaminate food that will be eaten by other people.
- 2. Supervise campers to assure that clean cooking surfaces are used to prepare food.** Always wash cutting boards and other utensils with detergent and clean water after contact with raw meat, poultry or eggs. Eggs, meat and poultry can carry *Salmonella* and other bacteria.



3. **Tell campers and staff not to drink water from rivers, lakes, creeks or streams (i.e., ‘surface water’). Also, do not use surface water for cleaning cooking and eating utensils.** Surface water is often contaminated with bacteria and parasites from animal feces. Make sure campers know to use only properly treated water for cooking and drinking.
4. **Remind your campers and staff not to share cups or utensils with others.** Saliva can spread a variety of viruses and bacteria, including those that cause colds, influenza and meningitis.
5. **Instruct campers and staff to pack food in tight, waterproof bags and containers and explain to them the importance of keeping the containers sealed.** This will keep bacteria and insects out of the food. Food, even snack food, should never be stored in tents because it can attract wildlife. There is a lot of wildlife in West Virginia.
6. **Instruct campers and staff to keep food in an insulated cooler to help keep foods at desired temperatures.** Cold foods should be kept cold and hot foods should be kept hot. Storing foods at the right temperature can inhibit bacterial growth.
7. **Supervise campers to make sure they keep raw foods separate from cooked food to prevent cross contamination.** Use separate areas for preparing food that will be cooked and food that will not be cooked. Cutting boards, plates and other utensils used for meat, poultry and eggs should be cleaned with water and detergent after use. Never use cooking surfaces that were used for raw meat or chicken to prepare or store cooked food. By the same token, only use clean cutting boards and utensils for foods that will be eaten raw, such as raw fruits and vegetables or salads.
8. **Assure that campers and staff clean their dishes and utensils properly with clean water and detergent.** Do not use water from rivers, creeks or streams for cleaning as it may be contaminated.
9. **Assure that campers and staff cook foods to proper internal temperatures.** Meat and poultry must be cooked to the proper internal temperature to destroy the germs that cause foodborne illness. You must use a food thermometer to be sure it is done, you



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can't tell just by looking! Color is not a reliable indicator of doneness, and it can be especially tricky to tell the color of a food if you are cooking in a wooded area in the evening. Hamburger must be cooked to an internal temperature of 160°F and chicken or other poultry must reach 165°F to be safe. See [USDA Minimum Internal Temperature Chart*](#) for a complete list of proper cooking temperatures.

10. Use meat and fish as little as possible because it is hard to keep fresh in the outdoors. If your campers catch fish to eat, they should keep fish chilled or alive until they are ready to cook it.

11. Make sure campers and staff wash fruits and vegetables thoroughly in clean water before eating raw.

Please use the links provided for additional information:

1. **Center for Disease Control:** <http://www.cdc.gov/family/camping/>
2. **United States Department of Agriculture:**
http://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/safe-food-handling/food-safety-while-hiking-camping-and-boating/ct_index
3. **Foodsafety.gov:** <http://www.foodsafety.gov/>
4. **National Institute of Health:** <http://health.nih.gov/topic/FoodborneDiseases>
5. **WVBPH-Food and Waterborne Illness Page:**
<http://www.dhhr.wv.gov/oeps/disease/FnW/Pages/default.aspx>

*: http://www.fsis.usda.gov/wps/wcm/connect/625d9435-4f14-46fe-b207-5d6688cb4db5/Safe_Minimum_Internal_Temperature_Chart.pdf?MOD=AJPERES