

Food Safety

Keeping What You Eat Safe

Whenever you go camping and hiking we expect ourselves to be in our top condition to better enjoy this enjoyable and extraneous activity. Getting sick would be the last thing we want to happen and keeping yourself and your Scouts healthy and safe is your top priority as a Scout Leader. There are many causes of illness and a major cause is from food borne illnesses.

Food borne illness is a disease that is carried or transmitted to people by food. As a Scout Leader, you will be faced with challenges for preventing outbreaks¹ due to numerous causes:

1. Potentially Hazardous Food (PHF)²
2. Multiple chances for food to become contaminated.
3. Types of people we are serving.
4. Shortage of trained people.

How Food Becomes Unsafe

There are several factors that contribute in making food unsafe for consumption. These factors can be categorized into three groups:

Time and Temperature Abuse

Food has been time and temperature abused any time it has been allowed to remain too long at temperatures favorable to the growth of food borne microorganism. The range is approximately between 4°C to 60°C (40°F to 140°F). This temperature range is called the temperature danger zone.

- Failure to hold or store food at required temperatures.
- Failure to cook or reheat food to temperatures.
- Failure to cool food properly.
- Preparing food a day or more in advance.

Cross Contamination

Occurs when microorganisms are transferred from one surface or food to another.

¹ **Food Borne Illness Outbreak.** Where two or more people experience the same illness after eating the same kind of food.

² **Potentially Hazardous Food (PHF).** Food in which microorganisms can grow rapidly. Most PHF would be food that are moist, high in protein, and are neutral or slightly acidic on the Ph scale.

- Adding raw or contaminated ingredients or food that receives no further cooking.
- Food-contact surfaces (e.g., cutting board, utensils) that are not cleaned and sanitized before touching cooked or ready-to-eat food.
- Allowing raw food to touch or drip fluids onto cook and ready-to-eat food
- Hands that touch contaminated (usually raw) food and then touch cook and ready-to-eat food
- Contaminated cleaning cloths that are not cleaned and sanitized before used on other food-contact surfaces.

Poor Personal Hygiene

Individual with unacceptable personal hygiene can contaminate food and can cause illnesses.

- Food handlers who fail to wash their hands properly after using the restroom or whenever necessary
- Food handlers who cough or sneeze on food
- Food handlers who touch or scratch sores, cuts, or boils, and then touch food they are preparing or serving

Controlling Time and Temperature

Microorganism poses the largest threat to food safety. Like all living organisms, they cannot survive or replicate outside certain temperature ranges. Below is a sample flow of food:³

1. Receiving and Storage.

- *Meats*. Received and stored at 4°C (40°F) or less. If frozen, store at -18°C (0°F) or less.
- *Poultry*. Received and stored at 4°C (40°F) or less. If frozen, store at -18°C (0°F) or less.
- *Eggs*. Received at 7°C (45°F) or less. Stored at 4°C (40°F) or less.
- *Fish and Shellfish*. Received and stored at 4°C (40°F) or less. If frozen, store at -18°C (0°F) or less.
- *Dairy Products*. Received and stored at 4°C (40°F) or less. If frozen, store at -18°C (0°F) or less. Ice cream should be stored at -15°C to -13°C (6°F to 10°F).
- *Fresh Produce*. Received and stored at 7°C (45°F) or less.
- *Dry Goods*. Received and stored at 10°C to 21°C (50°F to 70°F) or using manufacturer's recommendations.

2. Preparation.

This is the time when food will be exposed to room temperature. Minimize the time spent in the temperature danger zone 4°C to 60°C (40°F to 140°F). Food

³ **Flow of Food.** The path food takes from receiving/purchasing and storage through preparing and cooking, holding, serving, cooling, and re-heating.

subjected falling within the temperature danger zone for a maximum of four hours must be discarded.

Thawing⁴ food should only be done in the following ways:

- *Refrigerator*. In 4°C (40°F) or lower.
 - *Running Water*. Submerged under potable running water at 21°C (70°F) or lower. This should be done in less than two hours.
 - *Microwave*. Only done if food will be cooked immediately after thawing.
 - *Part of Cooking*. As long as the food reaches it's minimum cooking temperature.
3. **Cooking**. Food internal temperature should ideally reach this temperature, and stay on or over this temperature for a minimum of fifteen- (15) to be considered safe for consumption.
- *Meats*. 63°C (145°F).
 - *Poultry*. 74°C (165°F).
 - *Egg*. 63°C (145°F).
 - *Fish*. 63°C (145°F).
 - *Ground Meats*. 69°C (155°F)
4. **Holding**. The general rule is to “*Keep Cold Food Cold, Hot Food Hot*”. This rule may sound silly, but it is one of the most widely neglected rule.
- *Hot Foods*. Hold at 60°C (140°F) or higher. Temperature of food should be checked every two hours. If at any time the temperature goes below this holding temperature, the food must be reheated to 74°C (165°F) for a minimum of fifteen- (15) seconds within two hours. Hot food that went below the holding temperature for more than four hours must be discarded.
 - *Cold Foods*. Hold at 4°C (40°F) or less. Temperature of food should be checked every two hours. If at any time the temperature goes above this holding temperature, the food must be refrigerated at once. Cold food that went over the holding temperature for more than four hours must be discarded.
5. **Cooling**. Cooling is done for leftover hot food that is to be stored. Food should be cooled using a two-staged method of cooling food. First it should be cooled down from 60°C (140°F) to 21°C (70°F) within two hours; otherwise it should be reheated to 74°C (165°F) within the next two hours and the cooling process must be repeated. Once successfully cooled, the second stage isto cool down the food further to 4°C (40°F) within the next four hours inside a refrigerator. Never use a refrigerator to perform the first stage, as the heat from the food may possibly raise the temperature of your refrigerator to the temperature danger zone.

⁴ **Thawing**. Processing of defrosting.

6. **Reheating.** Food should be reheated to 74°C (165°F) for fifteen seconds within two hours. Hot food that goes below 60°C (140°F) must be reheated.