

Volunteer Leader Training Guide

Food Safety and the Consumer

Easter H. Tucker, Associate Professor - Nutrition
Teresa Henson, Family and Consumer Sciences Technician

Introduction

“It must be something I ate” is often the explanation people give for a bout of acute diarrhea or some other unwelcome gastrointestinal upset. Despite the fact that America’s food supply is the safest in the world, the unappetizing truth is that what we eat can very well be the vehicle for foodborne illnesses that cause a variety of unpleasant symptoms and may be life-threatening to the less healthy among us.

The Food and Drug Administration has given high priority to combating microbial contamination of the food supply. But the agency can’t do the job alone. Consumers have a part to play, especially when it comes to following safe food-handling practices in the home.

Target Audience

- EHC leaders
- Adult audiences

Objectives

Participants will learn:

- What causes foodborne illnesses.
- The importance of not cross-contaminating foods.
- The four major components of food safety.

Main Teaching Points

- What Is Foodborne Illness?
- How Bacteria Gets in Food
- Don’t Cross Contaminate
- Four Steps to Food Safety

Handouts

- Handout 1: Bacteria That Cause Foodborne Illnesses
- Handout 2: Recommended Cooking Temperatures
- Handout 3: What You Need to Know About Thermometers
- Handout 4: Food Product Dating and Storage Charts

Suggestions for Teaching

- Review the lesson introduction and study the major teaching points.
- Make copies of :
 - Handout 1: Bacteria That Causes Foodborne Illnesses
 - Handout 2: Recommended Cooking Temperatures
 - Handout 3: What You Need to Know About Thermometers
 - Handout 4: Food Product Dating and Storage Charts
 - Activity 1: Food Safety Quiz
 - Activity 2: Work Station Demonstrations: Clean, Separate, Cook and Chill

What Is Foodborne Illness?

Activity 1: Food Safety Quiz. Conduct Activity 1. Have participants answer questions and discuss as a group.

Foodborne illness often presents itself as flu-like symptoms such as nausea, vomiting, diarrhea or fever, so many people may not recognize the illness is caused by bacteria or other pathogens in food. Foodborne illness, often called “food poisoning,” results from eating contaminated foods. When food is not handled properly, microorganisms that cause foodborne illness can contaminate it. These include bacteria, viruses, parasites and molds. All can cause serious illnesses, but bacteria is the most common culprit.

Thousands of types of bacteria are naturally present in our environment. Not all bacteria cause disease in humans. For example, some bacteria are used beneficially in making cheese and yogurt.

Bacteria that cause diseases are called pathogens. When certain pathogens enter the food supply, they can cause foodborne illness. Millions of cases of foodborne illness occur each year. Most cases of foodborne illness can be prevented. Proper cooking or processing of food destroys bacteria.

Age and physical condition place some persons at higher risk than others, no matter what type of bacteria is implicated. Very young children, pregnant women, the elderly and people with compromised immune systems are at greatest risk from any pathogen. Some persons may become ill after ingesting only a few harmful bacteria; others may remain symptom free after ingesting thousands.

Distribute Handout 1 and discuss (**Handout 1: Bacteria That Causes Foodborne Illness**).

How Bacteria Get in Food

Bacteria may be present on products when purchased. Plastic-wrapped boneless chicken breasts and ground meat, for example, were once part of live chickens or cattle. Raw meat, poultry, seafood and eggs are not sterile. Neither is fresh produce such as lettuce, tomatoes, sprouts and melons.

Food, including safely cooked, ready-to-eat foods, can become cross-contaminated with bacteria transferred from raw products, meat juices or other contaminated products or from food handlers with poor personal hygiene.

Don't Cross Contaminate

Cross-contamination is the transfer of harmful bacteria to food from other foods, cutting boards, utensils, etc., if they are not handled properly. This is especially true when handling raw meat, poultry and seafood, so keep these foods and their juices away from already cooked or ready-to-eat foods and fresh produce. When handling foods, it is important to **be smart. Keep foods apart – don't cross-contaminate.** By following these simple steps, you can prevent cross contamination and reduce the risk of foodborne illness.

When shopping:

- Separate raw meat, poultry and seafood from other foods in your grocery shopping cart. Place these foods in plastic bags to prevent their juices from dripping onto other foods. It is also best to separate these foods from other foods at checkout and in your grocery bags.

When refrigerating food:

- Place raw meat, poultry and seafood in containers or sealed plastic bags to prevent their juices from dripping onto other foods. It is best to place these items on the bottom shelf. Raw juices often contain harmful bacteria.
- Store eggs in their original carton and refrigerate as soon as possible.

When preparing food:

Wash hands and surfaces often. Harmful bacteria can spread throughout the kitchen and get into cutting boards, utensils and countertops. To prevent this:

- Always wash hands before and after handling foods.
- Use hot, soapy water and paper towels or clean cloths to wipe kitchen surfaces or spills.
 - Cutting boards:
 - Always use a clean cutting board.
 - Once cutting boards become excessively worn or develop hard-to-clean grooves, you should replace them.
 - Marinating food:
 - Always marinate food in the refrigerator, not on the counter.
 - Sauce that is used to marinate raw meat, poultry or seafood should not be used on cooked foods, unless it is boiled just before using.

When serving food:

- Always use a clean plate.
- Never place cooked food on the same plate or cutting board that previously held raw food.

When storing leftovers:

- Refrigerate or freeze leftovers within two hours or sooner in clean, shallow, covered containers to prevent harmful bacteria from multiplying.

Four Steps to Food Safety

To reduce your risk for foodborne illnesses, everyone should follow these four simple steps.

STEP 1 – CLEAN (WASH HANDS AND SURFACES OFTEN)

- Wash hands with warm water and soap for 20 seconds before and after handling food and after using the bathroom, changing diapers or handling pets.
- Wash cutting boards, dishes, utensils and countertops with hot water and soap after they come in contact with raw meat, poultry, seafood and eggs.
- Rinse raw produce in water. Don't use soap or detergents. If necessary, use a small produce brush to remove surface dirt.
- Wipe up spills in the refrigerator immediately and clean the refrigerator regularly.
- A solution of 1 teaspoon of bleach in 1 quart of water may be used to sanitize surfaces and utensils.

STEP 2 – SEPARATE (DON'T CROSS-CONTAMINATE)

- Raw meat, poultry and seafood may contain harmful bacteria, so keep these foods separate from other foods in your refrigerator.
- If possible, use one cutting board for raw meat, poultry and seafood and another one for produce.
- Wash cutting boards, dishes and utensils with hot water and soap after they come in contact with raw meat, poultry, seafood and eggs.
- Place cooked food on a clean plate. Never place cooked food on the same plate or cutting board that was used for raw food.

STEP 3 – COOK (COOK FOODS TO A SAFE INTERNAL TEMPERATURE)

- Heating foods to the right temperature kills harmful bacteria, so cook meat, poultry and seafood thoroughly. Use a clean food thermometer to check for proper temperatures.
- People in the at-risk groups should not eat hot dogs and luncheon meats – unless they're reheated until steaming hot. They also should not eat refrigerated smoked seafood – unless it's in a cooked dish, such as a casserole.
- Cook eggs until the yolk and white are firm. If you use recipes in which eggs remain raw or only partially cooked, use pasteurized eggs; cook to 160°F (71°C).
- Fish should be opaque and flake easily with a fork.
- Reheat leftovers to 165°F (74°C). Bring sauces, soups and gravies to a boil when reheating.

Distribute Handout 2 and discuss (**Handout 2: Recommended Cooking Temperatures**).

Distribute Handout 3 and discuss (**Handout 3: What You Need to Know About Thermometers**).

STEP 4 – CHILL (REFRIGERATE PROMPTLY)

- Your refrigerator should register 40°F (4°C) or below and the freezer 0°F (-18°C). Place a refrigerator thermometer in the refrigerator and check the temperature periodically. A second thermometer should go in the freezer.

- Store perishable foods that are precooked or ready-to-eat in your refrigerator at 40°F (4°C) or below and eat them as soon as possible. Don't keep them in the refrigerator too long.
- Refrigerate or freeze perishables, prepared food and leftovers within two hours of eating or preparation or after one hour in temperatures over 90°F.

Distribute Handout 4 and discuss (**Handout 4: Food Product Dating and Storage Charts**).

Activity 2: Work Station Demonstrations: Clean, Separate, Cook and Chill

(Each work station consists of hands-on activities, role playing and proper food safety techniques that will include the following: hand washing, handling of raw foods and proper food storage).

References

Serving Food Safely: A food safety guide for food handlers working with food recovery agencies. Developed as a collaborative project with LSU AgCenter, Southern University AgCenter, University of Arkansas Cooperative Extension Service and Mississippi State University Cooperative Extension Service.

United States Department of Agriculture and Food Safety and Inspection Service.

Department of Health and Human Services, Food and Drug Administration and Centers for Disease Control and Prevention.

Shopping Your Way to Food Safety, Amanda Scott, Texas Cooperative Extension Service.