

Protecting Yourself from Food Problems

Most of the foods you eat have food labels to help you make informed food choices and reduce health risks associated with certain foods. Yet, some risks are not reflected on these labels. How can you be sure the food you eat is safe? In this lesson, you will learn ways to protect yourself from food-related problems.

HEALTH TERMS

foodborne illness
contaminant
pasteurized
perishable
cross-contamination
food allergy
food intolerance

HEALTH CONCEPTS

- Foodborne illness can be caused by bacteria.
- Specific safety measures can be taken to limit the spread of foodborne pathogens and to help avoid cross-contamination.
- Food allergies stem from additives as well as from various kinds of foods.



Food Safety

Food safety has been described as one of the major health problems. Foodborne illness is on the rise. More than 6 million Americans suffer from foodborne illness each year, and the incidence may be much higher.

Foodborne Illness

Foodborne illness, or *food poisoning*, often comes from eating food that has come in contact with a **contaminant**, a *substance that spoils or infects*. In most cases, the contaminant is a bacteria, a parasite, or virus. These bacteria cannot be seen, smelled, or tasted. The best protection against foodborne illness is knowledge of the causes of contamination and ways to keep food safe.



Causes and Symptoms of Foodborne Illness

There are two main ways that food can become contaminated:

- Animals raised or caught for food may harbor disease organisms in their tissues. If meat or milk from such an animal is eaten without being thoroughly cooked or **pasteurized**—*treated by a process of heating to destroy or slow the growth of pathogens*—the organisms may cause illness.
- Food may be contaminated with bacteria spread from an infected person or animal.

Foodborne illnesses related to food spoilage are commonly caused by bacteria: *Salmonella*, *Staphylococcus aureus*, *Clostridium perfringens*, *Escherichia coli* (*E. coli*), and *Clostridium botulinum*. The last, which

Building Health Skills

Analyzing Messages About Food and Food Safety

NEWSPAPER, MAGAZINE, TELEVISION, and radio reports advise people about food and food safety on an almost daily basis. Trying to sort through all these messages can be confusing. Sometimes reports from different sources contain conflicting information. How can you tell whether the information is reliable? Which warnings should you pay attention to? The following tips can help you decide.

15-18 Year Olds

Hearly Habits
Don't Eat Your
Heart Out.



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and Blood Institute

- 1. Consider the source.** Where does the message come from? Information from sources such as the FDA or U.S. Department of Health are likely to be more reliable than information from a manufacturer trying to market a product. Reliable sources, such as the FDA, often have authority. They generally use scientific evidence to back up the information or warning.
- 2. Consider the risk group.** Are you at risk, or is the problem limited to a specific group, such as aging people, or to a certain area of the country? For example, if you might have food that has been shipped from an area with a problem, such as contaminated strawberries from California, you need to check the source of the food.
- 3. Consider the specifics.** Sometimes manufacturers recall batches of a product that may be unsafe. Most manufactured products, such as canned goods, have lot numbers. If there is a problem with a specific batch, you need to check lot numbers and discard or return any items with the lot number that is being recalled.
- 4. Consider the nature of scientific research.** Messages about food and food safety can change as researchers discover new information. Early findings can be contradicted by later findings. Different researchers might even interpret the same findings in different ways! Look at their conclusions as guidelines, not established fact.

causes botulism, is found in improperly canned or preserved food. Botulism is especially dangerous, because it can be fatal.

Common symptoms of foodborne illness include nausea, vomiting, diarrhea, fever, and body aches. Since many of these symptoms are similar to those of the flu, foodborne illness is sometimes hard to diagnose. Most people recover from the symptoms in a few days. For the elderly, very young, and individuals who are malnourished or have problems with their immune system, however, foodborne illness can be serious.

Minimizing Risks of Foodborne Illness

Bacteria need three conditions for growth: nutrients, moisture, and warmth. Bacteria in food multiply rapidly between 40° and 140° F (4.4° and 60° C). At these temperatures, bacteria double in number in 30 minutes.

You can keep food safe by selecting and handling it with care. The U.S. Department of Agriculture has identified six critical control points that can limit foodborne illness:

- 1. Buying.** Do not buy or eat food with damaged packaging, dents, cracks, bulging lids, or popped safety buttons. Make sure meat and poultry products are refrigerated when purchased. Keep packages of raw meat and poultry separate from other foods. Refrigerate foods that are **perishable**, or *liable to spoil*, within one hour.
- 2. Home Storage.** Refrigerate or freeze meat and poultry immediately. Wash your hands before and after handling any raw meat, poultry, or seafood. Store foods according to package instructions.
- 3. Pre-preparation.** Thaw meat in the refrigerator, *never* at room temperature. Bacteria can grow rapidly at certain temperatures. Avoid **cross-contamination**—*the spreading of bacteria from one food to another*—by washing your hands before and after handling food. In addition, wash work surfaces and utensils immediately after use. Do not let juices from raw meat, poultry, or seafood come in contact with cooked foods or foods that will be eaten raw.
- 4. Cooking.** Always cook food thoroughly. Use a meat thermometer to determine whether food has reached a safe internal temperature. Cook food thoroughly, then refrigerate and reheat it if necessary.



Did You Know?

- Food irradiation is a process in which radiant energy is used to kill pathogens on food.
- Research shows that by using this process, especially on fruits and vegetables, the use of pesticides and additives can be reduced and shelf life of these foods extended. It is also used to control salmonellae in poultry and trichinae in pork.
- Those against food irradiation are concerned about the unknown effects of gamma rays on people.

▼ **Washing cutting boards and other equipment in hot, soapy water can prevent cross-contamination of foods.**

ACTIVITY Explain why juices from raw meat, poultry, or seafood should not come in contact with other foods.

5. **Serving.** Keep hot foods hot (above 160° F; 71.2° C) and cold foods cold (below 40° F; 4.4° C). Never leave perishable foods at room temperature for more than two hours.
6. **Handling Leftovers.** Refrigerate leftovers within two hours of cooking. Put dates on containers before refrigerating. When reheating leftovers, reheat thoroughly. Throw away suspicious foods without tasting them. Remember, if in doubt, throw it out!

Food Sensitivities

Many people experience abnormal reactions to a food substance or food additive. These reactions may stem from a sensitivity to certain foods or from a specific physiological response to a food or food additive.

Food Allergies

Do you have itchy eyes and sneeze during hay fever season? Have you ever developed a raised welt from an insect bite? These are signs of an *allergy*. An allergy is the body's reaction to an irritating substance or a toxin. Foods can also cause an allergic reaction in some people. With a true **food allergy**, the body's immune system overreacts to substances in some foods. These substances, called allergens, are usually proteins. The immune system responds to them as it would to **pathogens**, or foreign invaders. The body produces antibodies for defense against these substances.



▶ Foods such as bleu cheese, soy sauce, milk, eggs, nuts, and wheat can cause allergic reactions.

ACTIVITY How would you advise a person to find out about a reaction to a particular food item?



The foods that cause most food allergies are nuts, eggs, wheat, and soy. Fish, shellfish, chicken, and tomatoes may also cause problems. Sulfites, or food additives that help preserve food, and certain nutrients, such as monosodium glutamate (MSG), cause allergic reactions in some people. To identify an allergy, doctors ask patients to eliminate certain foods from their diet one at a time or to keep a food diary. They may also conduct tests for antibodies.

Some people with food allergies show no symptoms. Others may experience one or more reactions. These include rash, hives, or itchiness on the skin; vomiting, diarrhea, or abdominal pain; and hay fever-like symptoms in the respiratory tract. In the most serious cases, food allergies can be deadly. If, after eating a food, you experience any of the symptoms described, be sure to consult a health care professional.

Food Intolerance

Food allergy should not be confused with food intolerance. **Food intolerance** is *a negative reaction to a food or an ingredient in food that is not related to the body's immune system or to food poisoning*. It is sometimes caused by irritants such as food additives. It may also be associated with certain foods, such as green peppers or fried foods. Food intolerance can also be caused by an inborn or acquired defect, such as the inability to digest the lactose in milk, called **lactose intolerance**.