



Foodborne Illness: What Consumers Need to Know

What is Foodborne Illness?

Foodborne illness is a preventable public health challenge that causes an estimated 48 million illnesses and 3,000 deaths each year in the United States. It is an illness that comes from eating contaminated food. The onset of symptoms may occur within minutes to weeks and often presents itself as flu-like symptoms such as nausea, vomiting, diarrhea, or fever. Because the symptoms are often flu-like, many people may not recognize that the illness is caused by harmful bacteria or other pathogens in food.

Everyone is at risk for getting a foodborne illness. However, some people are at greater risk for experiencing a more serious illness or even death should they get a foodborne illness. Those at greater risk are infants, young children, pregnant women and their unborn babies, older adults, and people with weakened immune systems (such as those with HIV/AIDS, cancer, diabetes, kidney disease, and transplant patients.) Some people may become ill after ingesting only a few harmful bacteria; others may remain symptom free after ingesting thousands.

How Do Bacteria Get in Food?

Microorganisms may be present on food products when you purchase them. For example, plastic-wrapped boneless chicken breasts and ground meat 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.

Thousands of types of bacteria are naturally present in our environment. Microorganisms that cause disease are called pathogens. When certain pathogens enter the food supply, they can cause foodborne illness. Not all bacteria cause disease in humans. For example, some bacteria are used beneficially in making cheese and yogurt.

Foods, including safely cooked and ready-to-eat foods, can become cross-contaminated with pathogens transferred from raw egg products and raw meat, poultry, and seafood products and their juices, other contaminated products, or from food handlers with poor personal hygiene. Most cases of foodborne illness can be prevented with proper cooking or processing of food to destroy pathogens.

The "Danger Zone"

Bacteria multiply rapidly between 40 °F and 140 °F. It is important to keep food out of this "Danger Zone," so **keep cold food cold and hot food hot.**

- Store food in the refrigerator (40 °F or below) or freezer (0 °F or below).
- Cook food to a safe minimum internal temperature.
 - Cook all raw beef, pork, lamb and veal steaks, chops, and roasts to a minimum internal temperature of 145 °F as measured with a food thermometer before removing meat from the heat source. For safety and quality, allow meat to rest for at least three minutes before carving or consuming. For reasons of personal preference, consumers may choose to cook meat to higher temperatures.
 - Cook all raw ground beef, pork, lamb, and veal to an internal temperature of 160 °F as measured with a food thermometer.
 - Cook all poultry to a safe minimum internal temperature of 165 °F as measured with a food thermometer.
- Maintain hot cooked food at 140 °F or above.
- When reheating cooked food, reheat to 165 °F.

In Case of Suspected Foodborne Illness

Follow these general guidelines:

1. **Preserve the evidence.** If a portion of the suspect food is available, wrap it securely, mark "DANGER" and freeze it. Save all the packaging materials, such as cans or cartons. Write down the food type, the date, other identifying marks on the package, the time consumed, and when the onset of symptoms occurred. Save any identical unopened products.
2. **Seek treatment as necessary.** If the victim is in an "at risk" group, seek medical care immediately. Likewise, if symptoms persist or are severe (such as bloody diarrhea, excessive nausea and vomiting, or high temperature), call your doctor.
3. **Call the local health department** if the suspect food was served at a large gathering, from a restaurant or other food service facility, or if it is a commercial product.
4. **Call the USDA Meat and Poultry Hotline** at 1-888-MPHotline (1-888-674-6854) if the suspect food is a USDA-inspected product and you have all the packaging.

Bacteria	Associated Foods	Symptoms and Potential Impact	Prevention
<i>Campylobacter jejuni</i>	Contaminated water, raw or unpasteurized milk, and raw or undercooked meat, poultry, or shellfish.	Diarrhea (sometimes bloody), cramping, abdominal pain, and fever that appear 2 to 5 days after eating; may last 7 days. May spread to bloodstream and cause a life-threatening infection.	Cook meat and poultry to a safe minimum internal temperature; do not drink or consume unpasteurized milk or milk products; wash your hands after coming in contact with feces.
<i>Clostridium botulinum</i>	Improperly canned foods, garlic in oil, and vacuum-packed or tightly wrapped food.	Bacteria produce a nerve toxin that causes illness, affecting the nervous system. Toxin affects the nervous system. Symptoms usually appear 18 to 36 hours, but can sometimes appear as few as 6 hours or as many as 10 days after eating; double vision, blurred vision, drooping eyelids, slurred speech, difficulty swallowing, dry mouth, and muscle weakness. If untreated, these symptoms may progress causing muscle paralysis and even death.	Do not use damaged canned foods or canned foods showing signs of swelling, leakage, punctures, holes, fractures, extensive deep rusting, or crushing/denting severe enough to prevent normal stacking. Follow safety guidelines when home canning food. Boil home canned foods for 10 minutes before eating to ensure safety. (Note: Safe home canning guidelines may be obtained from State University or County Extension Office).
<i>Clostridium perfringens</i>	Meats, meat products, and gravy. Called "the cafeteria germ" because many outbreaks result from food left for long periods in steam tables or at room temperature.	Intense abdominal cramps nausea, and diarrhea may appear 6 to 24 hours after eating; usually last about 1 day, but for immune-comprised individuals, symptoms may last 1 to 2 weeks. Complications and/or death can occur only very rarely.	Keep hot food hot and cold food cold! Once food is cooked, it should be held hot, at an internal temperature of 140 °F or above. Use a food thermometer to make sure. Discard all perishable foods left at room temperature longer than 2 hours; 1 hour in temperatures above 90 °F.

Bacteria	Associated Foods	Symptoms and Potential Impact	Prevention
<i>Cryptosporidium</i>	Soil, food, water, contaminated surfaces. Swallowing contaminated water, including that from recreational sources, (e.g., a swimming pool or lake); eating uncooked or contaminated food; placing a contaminated object in the mouth.	Dehydration, weight loss, stomach cramps or pain, fever, nausea, and vomiting; respiratory symptoms may also be present. Symptoms begin 2 to 10 days after becoming infected, and may last 1 to 2 weeks. Immune-compromised individuals may experience a more serious illness.	Wash your hands before and after handling raw meat and poultry products, and after changing diapers, going to the bathroom, or touching animals. Avoid water that might be contaminated. (Do not drink untreated water from shallow wells, lakes, rivers, springs, ponds, and streams.)
<i>Escherichia coli</i> O157:H7	Uncooked beef (especially ground beef), unpasteurized milk and juices (e.g., "fresh" apple cider); contaminated raw fruits and vegetables, or water. Person to person contamination can also occur.	Severe diarrhea (often bloody diarrhea), abdominal cramps, and vomiting. Usually little or no fever. Can begin 2 to 8 days, but usually 3-4 days after consumption of contaminated food or water and last about 5 to 7 days depending on severity. Children under 5 are at greater risk of developing hemolytic uremic syndrome (HUS), which causes acute kidney failure and can cause death.	Cook hamburgers and ground beef to a safe minimum internal temperature of 160°F. Drink only pasteurized milk, juice, or cider. Rinse fruits and vegetables under running tap water, especially those that will not be cooked. Wash your hands with soap and warm water after changing diapers, using the bathroom, handling pets or having any contact with feces.
<i>Listeria monocytogenes</i>	Ready-to-eat foods such as hot dogs, luncheon meats, cold cuts, fermented or dry sausage, and other deli-style meat and poultry. Also, soft cheeses made with unpasteurized milk. Smoked seafood and salads made in the store such as ham salad, chicken salad, or seafood salad.	Fever, muscle aches, and sometimes gastrointestinal symptoms such as nausea or diarrhea. If infection spreads to the nervous system, symptoms such as headache, stiff neck, confusion, loss of balance, or convulsions can occur. Those at risk (including pregnant women and newborns, older adults, and people with weakened immune systems) may later develop more serious illness; death can result from <i>Listeria</i> . Can cause severe problems with pregnancy, including miscarriage or death in newborns.	Cook raw meat, poultry, and seafood to a safe minimum internal temperature; prevent cross-contamination; separating ready-to-eat foods from raw eggs, and raw meat, poultry, seafood, and their juices; wash your hands before and after handling raw meat, poultry, seafood and egg products. Those with a weakened immune system should avoid eating hot dogs and deli meats, unless they are reheated to 165 °F or steaming hot. Do not drink raw (unpasteurized) milk or foods that have unpasteurized milk in them (e.g., soft cheeses). Do not eat deli salads made in store, such as ham, egg, tuna, or seafood salad.

Bacteria	Associated Foods	Symptoms and Potential Impact	Prevention
<i>Salmonella</i> (over 2,300 types)	Raw or undercooked meat, poultry, and eggs; unpasteurized milk and juice; cheese and seafood; and contaminated fresh fruits and vegetables.	Diarrhea, fever, and abdominal cramps usually appear 12 to 72 hours after eating; may last 4 to 7 days. In people with weakened immune system, the infection may be more severe and lead to serious complications, including death.	Cook raw meat, poultry, and egg products to a safe minimum internal temperature. Do not eat raw or undercooked eggs. Avoid consuming raw or unpasteurized milk or other dairy products. Produce should be thoroughly washed before consuming.
<i>Shigella</i> (over 30 types)	Person-to-person by fecal-oral route; fecal contamination of food and water. Most outbreaks result from food, especially salads, prepared and handled by workers using poor personal hygiene.	Disease referred to as "shigellosis" or bacillary dysentery. Diarrhea (watery or bloody), fever, abdominal cramps; 1 to 2 days from ingestion of bacteria and usually resolves in 5 to 7 days.	Hand washing is a very important step to prevent shigellosis. Always wash your hands with soap and warm water for 20 seconds before handling food and after using the bathroom, changing diapers, or having contact with an infected person.
<i>Staphylococcus aureus</i>	Commonly found on the skin and in the noses of up to 25% of healthy people and animals. Person-to-person through food from improper food handling. Multiply rapidly at room temperature to produce a toxin that causes illness. Contaminated milk and cheeses.	Severe nausea, abdominal cramps, vomiting, and diarrhea occur 30 minutes to 6 hours after eating; recovery from 1 to 3 days — longer if severe dehydration occurs.	Because the toxins produced by this bacterium are resistant to heat and cannot be destroyed by cooking, preventing the contamination of food before the toxin can be produced is important. Keep hot food hot (over 140 °F) and cold food cold (40 °F or below). Wash your hands with warm water and soap and wash kitchen counters with hot, soapy water before and after preparing food.
<i>Vibrio vulnificus</i>	Uncooked or raw seafood (fish or shellfish); oysters.	In healthy persons symptoms include diarrhea, stomach pain, and vomiting. May result in a blood infection and death for those with a weakened immune systems particularly with underlying liver disease.	Do not eat raw oysters or other raw shellfish; cook shellfish (oysters, clams, mussels) thoroughly. Prevent cross-contamination by separating cooked seafood and other foods from raw seafood and its juices. Refrigerate cooked shellfish within 2 hours after cooking.

Food Safety Questions?

Call the USDA Meat & Poultry Hotline

If you have a question about meat, poultry, or egg products, call the USDA Meat and Poultry Hotline toll free at **1-888-MPHotline (1-888-674-6854)**. The hotline is open year-round



Monday through Friday from 10 a.m. to 4 p.m. ET (English or Spanish). Recorded food safety messages are available 24 hours a day. Check out the FSIS Web site at

www.fsis.usda.gov.

Send E-mail questions to MPHotline.fsis@usda.gov.

Ask Karen!

FSIS' automated response system can provide food safety information 24/7 and a live chat during Hotline hours.



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