



How to Prevent Foodborne Illness

- Wash hands before any food preparation begins.
- Use separate knives and cutting surfaces for raw and ready-to-eat foods.
- Cook raw meat/animal products thoroughly:
 - Eggs, pork, beef steaks, seafood . . .145° F
 - Ground meats:
(hamburger, sausage, etc.)155° F
 - Poultry165° F
- Use a meat thermometer to check final cooking temperatures.
- Refrigerate leftovers quickly.
- Reheat food thoroughly to 165° F.
- Reheat only the amount that will be used.
- Wash hands when they become contaminated.
- Wash fresh produce thoroughly with clean drinkable water before eating.
- Avoid unpasteurized raw milk and cheese.
- If pregnant, elderly or immune compromised, heat hot dogs, lunch meat and deli meats until steaming hot.

Additional resources and information

Indiana State Department of Health
www.in.gov.isdh

Centers for Disease Control and Prevention
www.cdc.gov

Food and Drug Administration
www.fda.gov

US Department of Agriculture
www.usda.gov



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What Everyone Should Know about Food-Related Illness



Bacteria and viruses can be present in food at levels strong enough to cause illness. Once ingested, humans can become ill from the bacteria or virus. This is called foodborne illness. Foodborne illness is often mistaken for the flu. Symptoms range from nausea, vomiting, diarrhea, or fever to other more serious symptoms.

Healthy individuals may become ill from contaminated food they've eaten. However, certain people can suffer more severe symptoms than a healthy person. People such as infants and children, pregnant women, the elderly and those with auto-immune disorders or diseases can have a more compromised immune system and therefore be at a high risk for certain severe foodborne illnesses.

Millions of cases of foodborne illness occur each year. Most cases of foodborne illness can be prevented. Handwashing is a very important step in preventing the spread of bacteria and viruses. Handwashing should always follow a trip to the restroom, changing a diaper, handling raw meat or poultry, or after touching anything that contaminates the hands. A thorough wash includes at least twenty seconds of scrubbing hands with soap.

Proper cooking of food destroys bacteria. It is also important to keep cold food cold, below 41°F and hot food hot, above 135°F. Why 41°F and 135°F? This is called the "temperature danger zone." Bacteria grow best between temperatures of 41°F and 135°F. It is important to note that the refrigerator slows bacterial growth. It does not stop bacterial growth.

How Bacteria Get in Food

Bacteria may be present on products when purchased. Raw meat, poultry, seafood and eggs should be considered contaminated. All fresh produce should be assumed to have bacteria on its surface, so wash thoroughly!

Foods can become cross-contaminated with bacteria transferred from raw products, meat juices or other contaminated products. A food handler's hands, if not kept clean, can also contaminate the food.

Summary of Major Foodborne Illnesses

Disease	Pathogen	Incubation Period	Duration of Illness	Symptoms	Foods Implicated	Type of Illness	Reservoir
Bacillus cereus	Bacillus cereus (bacteria)	1–6 hours	6–24 hours; 12 hours	Nausea and vomiting; diarrhea, abdominal cramps	Rice, custards, seasonings, dry food mixes, spices, salads, casseroles, milk, sauces, meats	Intoxication	Soil, dust
Campylobacter	Campylobacter jejuni (bacteria)	2–5 days	3–5 days	Diarrhea which may be watery or bloody, fever, nau- sea, headache	Chicken, unpasteurized milk, water	Infection	Domestic and wild animals (intestinal tract)
E. coli (0157: H7, and others)	Escherichia coli (bacteria)	1–8 days	2–5 days	Diarrhea (may be bloody), abdominal pain, nausea, vomiting, fever	Undercooked ground beef, imported cheeses, unpasteurized milk or juice, cider, alfalfa sprouts	Infection/ Intoxication	Human intestinal tract animals (especially cattle)
Botulism	Clostridium botulinum (bacteria)	12–72 hours	18–36 hours	Vertigo, inability to swallow, respiratory paralysis, visual disturbances	Improperly processed low acid canned goods, garlic in oil, grilled onions, meat, stew, baked potatoes	Intoxication	Soil, water
Hepatitis A	Hepatitis A (virus)	15–50 days	25–30 days	Fever, fatigue, stomach pain, nausea, dark urine, jaundice	Meat, meat products, gravy, thick foods that are held at a low temp., or cooked slowly	Infection	Infected people
Norovirus Infection	Norovirus (virus)	12–48 hours	1–2 days	Nausea, vomiting, diarrhea, stomach cramping, fever, chills	Sandwiches, salads, foods requiring hand contact	Infection	Human feces usually spread fecal-orally
Salmonellosis	Salmonella (bacteria)	1–3 days	2–3 days	Abdominal pain, headache, fever, nausea, diarrhea, chills, cramps	Poultry, eggs, meat, meat products, milk, smoked fish, protein foods, juice	Infection	Domestic and wild animals, humans
Shigellosis	Shigella (bacteria)	24–48 hours	Indefinite	Diarrhea, fever, chills, cramps, lassitude, nausea, dehydration	Moist, mixed foods, milk, potato, tuna, bean, and macaroni salads, apple cider	Infection	Human feces, flies
Listeriosis	Listeria monocytogenes (bacteria)	9–48 hours	Indefinite; high fatality in the immuno- compromised	Nausea, vomiting, chills, headache, fever, backache, meningitis	Unpasteurized dairy foods, vegetables, meat, poultry, seafood, raw and smoked fish, ready-to-eat foods	Infection	Domestic and wild animals, humans, soil
Staphylococcus	Staphylococcus aureus (bacteria)	1–6 hours	1–2 days	Nausea, cramps, vomiting, dehydration	Reheated foods, ham, poultry, dairy foods, custards, pota- to salad, cream-filled foods	Intoxication	Humans (skin, throat, nose), animals
Clostridium perfringens	Clostridium perfringens (bacteria)	6–22 hours	24 hours	Abdominal pain, diarrhea, gas	Meat, meat products, gravy, thick foods that are held at a low temp., or cooked slowly	Infection/ Intoxication	Human intestinal tract, animals, soil