Food poisoning, also called foodborne illness, is an illness caused by eating contaminated food. Infectious organisms — including bacteria, viruses, and parasites or their toxins are the most common causes of food poisoning.

Infectious organisms or their toxins can contaminate food at any point in processing or production. Contamination can also occur at home if food is incorrectly handled or cooked.
Food poisoning symptoms, which can start within hours of eating contaminated food, often include nausea, vomiting, or diarrhea. Most often, food poisoning is mild and resolves without treatment. But some people need to go to the hospital.

Symptoms

Food poisoning symptoms vary with the source of contamination. Most types of food poisoning cause one or more of the following signs and symptoms:

- Nausea
- Vomiting
- Watery or bloody diarrhea
- Abdominal pain and cramps
- Fever

Signs and symptoms may start within hours after eating the contaminated food, or they may begin days or even weeks later. Sickness caused by food poisoning generally lasts from a few hours to several days.

When to see a doctor

If you experience any of the following signs or symptoms, seek medical attention.

- Frequent episodes of vomiting and inability to keep liquids down
- Bloody vomit or stools

- Diarrhea for more than three days
- Extreme pain or severe abdominal cramping
- An oral temperature higher than 100.4 F (38 C)
- Signs or symptoms of dehydration — excessive thirst, dry mouth, little or no urination, severe weakness, dizziness, or lightheadedness
- Neurological symptoms such as blurry vision, muscle weakness, and tingling in the arms

Causes

Contamination of food can happen at any point of production: growing, harvesting, processing, storing, shipping, or preparing. Cross-contamination — the transfer of harmful organisms from one surface to another — is often the cause. This is especially troublesome for raw, ready-to-eat foods, such as salads or other produce. Because these foods aren't cooked, harmful organisms aren't destroyed before eating and can cause food poisoning.

Many bacterial, viral, or parasitic agents cause food poisoning. The following table shows some of the possible contaminants, when you might start to feel symptoms and common ways the organism is spread.

Contaminant	Onset of symptoms	Foods affected and means of transmission
Campylobacter	2 to 5 days	Meat and poultry. Contamination occurs during processing if animal feces contact meat surfaces. Other sources include unpasteurized milk and contaminated water.
Clostridium botulinum	12 to 72 hours	Home-canned foods with low acidity, improperly canned commercial foods, smoked or salted fish, potatoes baked in aluminum foil,

		and other foods kept at warm temperatures for too long.
Clostridium perfringens	8 to 16 hours	Meats, stews and gravies. Commonly spread when serving dishes don't keep food hot enough or food is chilled too slowly.
Escherichia coli (E. coli)	1 to 8 days	Beef contaminated with feces during slaughter. Spread mainly by undercooked ground beef. Other sources include unpasteurized milk and apple cider, alfalfa sprouts, and contaminated water.
Giardia lamblia	1 to 2 weeks	Raw, ready-to-eat produce and contaminated water. Can be spread by an infected food handler.
Hepatitis A	28 days	Raw, ready-to-eat produce and shellfish from contaminated water. Can be spread by an infected food handler.
Listeria	9 to 48 hours	Hot dogs, luncheon meats, unpasteurized milk and cheeses, and unwashed raw produce. Can be spread through contaminated soil and water.
Noroviruses (Norwalk-like viruses)	12 to 48 hours	Raw, ready-to-eat produce and shellfish from contaminated water. Can be spread by an infected food handler.
Rotavirus	1 to 3 days	Raw, ready-to-eat produce. Can be spread by an infected food handler.

Salmonella	1 to 3 days	Raw or contaminated meat, poultry, milk, or egg yolks. Survives inadequate cooking. Can be spread by knives, cutting surfaces or an infected food handler.
Shigella	24 to 48 hours	Seafood and raw, ready-to-eat produce. Can be spread by an infected food handler.
Staphylococcus aureus	1 to 6 hours	Meats and prepared salads, cream sauces, and cream-filled pastries. Can be spread by hand contact, coughing and sneezing.
Vibrio vulnificus	1 to 7 days	Raw oysters and raw or undercooked mussels, clams, and whole scallops. Can be spread through contaminated seawater.

Risk factors

Whether you become ill after eating contaminated food depends on the organism, the amount of exposure, your age and your health. High-risk groups include:

- **Older adults.** As you get older, your immune system may not respond as quickly and as effectively to infectious organisms as when you were younger.
- **Pregnant women.** During pregnancy, changes in metabolism and circulation may increase the risk of food poisoning. Your reaction may be more severe during pregnancy. Rarely, your baby may get sick, too.
- **Infants and young children.** Their immune systems haven't fully developed.
- **People with chronic disease.** Having a chronic condition — such as diabetes, liver disease or AIDS — or receiving chemotherapy or radiation therapy for cancer reduces your immune response.

Complications

The most common serious complication of food poisoning is dehydration — a severe loss of water and essential salts and minerals. If you're a healthy adult and drink enough to replace fluids you lose from vomiting and diarrhea, dehydration shouldn't be a problem.

Infants, older adults and people with suppressed immune systems or chronic illnesses may become severely dehydrated when they lose more fluids than they can replace. In that case, they may need to be hospitalized and receive intravenous fluids. In extreme cases, dehydration can be fatal.

Some types of food poisoning have potentially serious complications for certain people. These include:

- **Listeria infection.** Complications of a listeria food poisoning may be most severe for an unborn baby. Early in pregnancy, a listeria infection may lead to miscarriage. Later in pregnancy, a listeria infection may lead to stillbirth, premature birth or a potentially fatal infection in the baby after birth — even if the mother was only mildly ill. Infants who survive a listeria infection may experience long-term neurological damage and delayed development.
- **Escherichia coli (E. coli).** Certain E. coli strains can cause a serious complication called hemolytic uremic syndrome. This syndrome damages the lining of the tiny blood vessels in the kidneys, sometimes leading to kidney failure. Older adults, children younger than 5 and people with weakened immune systems have a higher risk of developing this complication. If you're in one of these risk categories, see your doctor at the first sign of profuse or bloody diarrhea.

Prevention

To prevent food poisoning at home:

- **Wash your hands, utensils and food surfaces often.** Wash your hands well with warm, soapy water before and after handling or preparing food. Use hot, soapy water to wash utensils, cutting boards and other surfaces you use.
- **Keep raw foods separate from ready-to-eat foods.** When shopping, preparing food or storing food, keep raw meat, poultry, fish and shellfish away from other foods. This prevents cross-contamination.

- **Cook foods to a safe temperature.** The best way to tell if foods are cooked to a safe temperature is to use a food thermometer. You can kill harmful organisms in most foods by cooking them to the right temperature.

  Cook ground beef to 160 F (71.1 C); steaks, roasts and chops, such as lamb, pork and veal, to at least 145 F (62.8 C). Cook chicken and turkey to 165 F (73.9 C). Make sure fish and shellfish are cooked thoroughly.

- **Refrigerate or freeze perishable foods promptly** — within two hours of purchasing or preparing them. If the room temperature is above 90 F (32.2 C), refrigerate perishable foods within one hour.
- **Defrost food safely.** Don't thaw food at room temperature. The safest way to thaw food is to defrost it in the refrigerator. If you microwave frozen food using the "defrost" or "50% power" setting, be sure to cook it immediately.
- **Throw it out when in doubt.** If you aren't sure if a food has been prepared, served or stored safely, discard it. Food left at room temperature too long may contain bacteria or toxins that can't be destroyed by cooking. Don't taste food that you're unsure about — just throw it out. Even if it looks and smells fine, it may not be safe to eat.

Food poisoning is especially serious and potentially life-threatening for young children, pregnant women and their fetuses, older adults, and people with weakened immune systems. These individuals should take extra precautions by avoiding the following foods:

- Raw or rare meat and poultry
- Raw or undercooked fish or shellfish, including oysters, clams, mussels and scallops
- Raw or undercooked eggs or foods that may contain them, such as cookie dough and homemade ice cream
- Raw sprouts, such as alfalfa, bean, clover and radish sprouts
- Unpasteurized juices and ciders
- Unpasteurized milk and milk products

- Soft cheeses, such as feta, Brie, and Camembert; blue-veined cheese; and unpasteurized cheese
- Refrigerated pates and meat spreads
- Uncooked hot dogs, luncheon meats, and deli meats