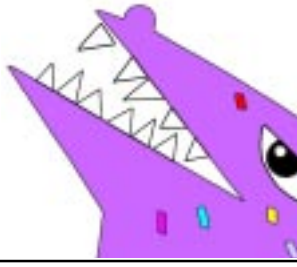
Organisms That Can Bug You

Disease and Organism That Causes It	Source of Illness	Symptoms
Bacteria		
Botulism Botulinum toxin (produced by *Clostridium botulinum* bacteria)	Spores of these bacteria are widespread. But these bacteria produce toxin only in an anaerobic (oxygen-less) environment of little acidity. Found in a considerable variety of improperly canned or home-canned foods, such as corn, green beans, soups, beets, asparagus, mushrooms, tuna, and liver paté. Also in luncheon meats, ham, sausage, garlic in oil, and smoked and salted fish.	Onset: Generally 4–36 hours after eating. Neurotoxic symptoms, including double vision, inability to swallow, speech difficulty, and progressive paralysis of the respiratory system. **Get medical help immediately. Botulism can be fatal.**
Campylobacteriosis *Campylobacter jejuni*	Bacteria on poultry, cattle, and sheep can contaminate meat and milk of these animals. Chief food sources: raw poultry, meat, and unpasteurized milk.	Onset: Generally 2–5 days after eating. Diarrhea, abdominal cramping, fever, and sometimes bloody stools. Lasts 7–10 days.
E. coli infection *Escherichia coli O157:H7*	Bacteria in meat, raw milk, contaminated water, unpasteurized ciders and juices, and on produce.	Onset: A few days after eating. Bloody diarrhea, severe abdominal cramps, dehydration, colitis, neurological symptoms, stroke, and hemolytic uremic syndrome (HUS), which can cause permanent kidney damage or failure and death. Lasts 4–15 days.
Listeriosis *Listeria monocytogenes*	Found in soft cheese, unpasteurized milk, raw or undercooked meat, hot dogs, poultry and	Onset: From 7–30 days after eating, but most symptoms have been reported 48–72 hours



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	fish; and ready-to-eat foods like luncheon meats, cold cuts, fermented and dry sausage, and other deli-style meat and poultry. The *Listeria* bacteria resist heat, salt, nitrite, and acidity better than many other micro-organisms. They survive and grow at low temperatures.	after consumption of contaminated food. Fever, headache, nausea, and vomiting. Primarily affects pregnant women and their fetuses, newborns, the elderly, people with cancer, and those with impaired immune systems. Can cause fetal and infant death.
Perfringens foodborne illness *Clostridium perfringens*	In most instances, caused by failure to keep food hot. A few organisms are often present after cooking and multiply to toxic levels during slow cool-down and storage of prepared foods. Meats and meat products are most frequently implicated. These organisms grow better than other bacteria between 49 and 54 degrees Celsius (120–130 Fahrenheit). So gravies and stuffing must be kept above 60 C (140 F) and cooled rapidly when being refrigerated.	Onset: Generally 8–12 hours after eating. Abdominal pain and diarrhea, and sometimes nausea and vomiting. Symptoms last a day or less and are usually mild. Can be more serious in older or debilitated people.
Salmonellosis *Salmonella* bacteria	Raw meats, poultry, eggs, milk and other dairy products, shrimp, frog legs, fresh produce, sprouts, unpasteruized orange juice, coconut, chocolate, and foods containing raw eggs.	Onset: Generally 6–48 hours after eating. Nausea, abdominal cramps, diarrhea, fever, and headache. All age groups are susceptible, but symptoms are most severe for the elderly, the infirm, and infants.

Organisms That Can Bug You (Continued)

Disease and Organism That Causes It	Source of Illness	Symptoms
Shigellosis (bacillary dysentery) *Shigella* bacteria	Food becomes contaminated when a human carrier does not wash hands after using the toilet and then handles liquid or moist food that is not cooked thoroughly afterwards.	Onset: l–7 days after eating. Abdominal cramps, diarrhea, fever, sometimes vomiting, and blood, pus or mucus in stools.
Staphylococcal foodborne illness Staphylococcal enterotoxin (produced by *Staphylococcus aureus* bacteria)	Toxin produced when food contaminated with the bacteria is left too long unrefrigerated. Meats, ham, poultry, egg products, tuna, potato and macaroni salads, and cream-filled pastries are good environments for these bacteria to produce toxin.	Onset: Generally 30 minutes to 8 hours after eating. Diarrhea, vomiting, nausea, abdominal pain, cramps, and prostration. Lasts 24–48 hours. Rarely fatal.
Vibrio infection *Vibrio vulnificus*	The bacteria live in coastal waters and can infect humans either through open wounds or through con-sumption of raw contaminated seafood (oysters, clams). The bacteria are most numerous in warm weather	Onset: Abrupt. Chills, fever, and/or prostration. At high risk are people with liver disease, low gastric (stomach) acid, and weakened immune systems.
vibrio parahaemolyticus		Onset: 4 hours to 4 days after eating. Diarrhea, abdominal cramps, nausea, vomiting, headache, fever, and chills. Lasts about 2-1/2 days.
Protozoa Cyclosporiasis *Cyclospora cayetanensis*	Source is unknown, but it's suspected that parasites in the water that is used to apply pesticides to crops contaminate foods such as berries, other fruit, raw vegetables, and basil.	Onset: About 2 days. Nausea, vomiting, loss of appetite, and diarrhea. Lasts 1 week to 2 months.

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Cryptosporidiosis *Cryptosporidium parvum*	Generally associated with parasites in sewage, contaminated water that gets on food, and not washing hands after using the toilet.	Onset: 1-12 days. Profuse watery diarrhea, abdominal pain, appetite loss, vomiting, and low-grade fever.
Giardiasis *Giardia lamblia*	Most frequently associated with consumption of contaminated water, including that in swimming pools. May be transmitted by uncooked foods that become contaminated while growing or after cooking by infected food workers. Cool, moist conditions favor organism's survival.	Onset: l–3 days. Sudden onset of explosive watery stools, abdominal cramps, anorexia, nausea, and vomiting. Especially infects hikers, children, travelers, and institutionalized patients.
Viruses		
Hepatitis A virus	Mollusks (oysters, clams, mussels, and cockles) become contaminated when their beds are polluted by untreated sewage. Raw shellfish are especially susceptible, although cooking does not always kill the virus.	Onset: Begins with malaise, appetite loss, nausea, vomiting, and fever. After 3–10 days patient develops jaundice with darkened urine. Severe cases can cause liver damage and death.
Gastroenteritis from Norwalk and Norwalk-like viruses Norwalk, Hawaii, Snow Mountain, Taunton viruses; caliciviruses	Sources of contamination include human feces, raw shellfish from polluted waters, and ready-to-eat foods (salads, sandwiches) prepared by an infected person.	Onset: 1-2 days. Nausea, vomiting, diarrhea, abdominal pain, headache, and low-grade fever. Lasts about 36 hours.