

FOOD PATHOGEN TABLE



Pathogen	Type	Symptoms	Onset	Common Sources	Cause of Food Contamination	Prevention
<i>Bacillus cereus</i>	Bacterium	2 different versions: - Diarrhea and cramps - Nausea and vomiting	1 hour - 24 hours	Starchy foods – like boiled or fried rice, sauces, pastas, custards, soups, potatoes	Temperature abuse	Keep hot foods hot (above 135°F) & cold foods cold (below 41°F) to prevent spore formation
<i>Botulism (Clostridium botulinum)</i>	Bacterium	Double & blurred vision, respiratory distress, difficulty swallowing, slurred speech	12 hours - 36 hours	Home-canned foods w/ low acid content such as beets, asparagus, green beans, corn; baked potatoes in foil at room temperature	Improper canning & sealing methods (which provide ideal conditions for bacterial growth & toxin production)	Never eat food from dented, bulging or leaking cans, refrigerate canned or pickled foods after opening, learn home-canning safety, use food stored in oil w/in 10 days of opening, never give honey to an infant
<i>Campylobacter</i>	Bacterium	Bloody diarrhea, fever, nausea, vomiting, abdominal cramps	2 days - 5 days	Raw/undercooked poultry, unpasteurized milk, contaminated water, contact with farm animals	Improper cooking, cross contamination, improper pasteurization	Avoid unpasteurized drinks, cook food to a safe temperature, avoid cross-contaminating food
<i>Cronobacter sakazakii</i>	Bacterium	In babies: Fever, poor feeding, crying, low energy, vomiting	6 hours - 6 days	Dry, powdered foods like infant formula, powdered milk, herbal teas	Contamination of processing surfaces & equipment	Maintain personal hygiene, avoid cross-contaminating food
<i>Clostridium perfringens</i>	Bacterium	Abdominal cramps & diarrhea, no fever or vomiting	6 hours - 24 hours	Meats, poultry, gravy, dried or precooked foods, temperature-abused foods	Temperature abuse	Cook food to a safe temperature, refrigerate leftovers at 40°F or colder, reheat food to a safe temperature
<i>E. coli & STEC</i>	Bacterium	Severe bloody diarrhea, abdominal cramps, vomiting, no fever	3 days - 4 days	Undercooked beef, unpasteurized milk or juice, fresh produce, contaminated water	Contamination of raw products, inadequate cooking	Cook meat to safe internal temperature, wash fruits & vegetables thoroughly, avoid cross-contaminating food
<i>Listeria monocytogenes</i>	Bacterium	Fever, muscle aches, convulsions, fatigue, loss of balance, nausea, diarrhea	1 week - 4 weeks	Raw vegetables fertilized with manure, ready-to-eat deli meats, hotdogs, soft cheeses, unpasteurized milk/milk products	Contaminated raw products, improper food processing	Cook meat to a safe internal temperature, avoid unpasteurized drinks, wash fruits & vegetables thoroughly, avoid cross-contaminating food
<i>Salmonella</i>	Bacterium	Bloody diarrhea, vomiting, nausea, chills, abdominal cramps, headache, fever	6 hours - 6 days	Eggs, poultry, meat, unpasteurized milk/juice, cheese, fresh produce	Cross-contamination of cooked food, &/or insufficient cooking	Cook & store your food at the appropriate safe temperatures, avoid cross-contaminating food
<i>Shigella</i>	Bacterium	Bloody diarrhea, fever, severe abdominal cramps	1 day - 2 days	Raw produce, contaminated drinking water, uncooked foods & improperly reheated cooked foods	Poor personal hygiene, sick food workers, contaminated surfaces	Maintain personal hygiene, keep food contact surfaces clean, avoid cross-contaminating food.

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<i>Staphylococcus aureus</i> / <i>MRSA</i>	Bacterium	Severe nausea, vomiting, diarrhea, abdominal cramps	30 min - 8 hours	Unrefrigerated potato & egg salads, improperly refrigerated meats	Poor personal hygiene &/or temperature abuse	Maintain personal hygiene, avoid cross-contaminating food, cook & store food at appropriate temperatures
<i>Vibrio</i>	Bacterium	Watery diarrhea, abdominal cramping, nausea, vomiting, fever, chills	24 hours - 3 days	Raw or undercooked shellfish, particularly oysters	Cross contamination of cooked food, & consumption of raw seafood	Avoid consuming undercooked/raw seafood, cook seafood to a safe internal temperature, maintain personal hygiene, avoid cross-contaminating food
<i>Trichinella</i>	Parasite	Diarrhea, nausea, fever, abdominal cramps, fatigue, vomiting	1 day - 2 days	Raw or undercooked meat, especially wild game, sometimes pork	Infection of food animals	Cook meat to safe internal temperatures, avoid consuming undercooked/raw meat
<i>Toxoplasma</i>	Parasite	Swollen lymph nodes, muscle aches, headache, fever, ocular symptoms	1 week - 3 weeks	Cat feces, unpasteurized milk, undercooked or raw meat, contaminated food & water.	Poor personal hygiene, contaminated food contact surfaces	Maintain personal hygiene, keep food contact surfaces clean, cook meat to safe internal temperatures, avoid unpasteurized drinks
<i>Giardia</i>	Parasite	Abdominal cramps, diarrhea, gas, nausea, fatigue, foul-smelling floating stool	1 day - 14 days	Animal feces, diapers, agricultural runoff, contaminated water	Poor personal hygiene, contaminated water	Maintain personal hygiene, wash fruits & vegetables thoroughly, avoid drinking untreated water
<i>Cyclospora</i>	Parasite	Watery diarrhea, loss of appetite, abdominal cramps, bloating, nausea, fatigue, gas, weight loss	2 days - 14 days	Imported fresh produce like raspberries, mesclun lettuce, snow peas, basil	Contaminated water used during growing	Wash fruits & vegetables thoroughly under running water, avoid drinking untreated water
<i>Crypto-sporidium</i>	Parasite	Watery diarrhea, loss of appetite, abdominal cramps, nausea, fatigue, weight loss	2 days - 10 days	Contaminated water, raw/unpasteurized milk, raw/unpasteurized cider, fresh produce	Poor personal hygiene, food contact with contaminated surfaces or contaminated water	Wash fruits & vegetables thoroughly, avoid drinking untreated water, maintain personal hygiene, avoid unpasteurized drinks
<i>Norovirus</i>	Virus	Nausea, vomiting, diarrhea, abdominal cramps	12 hours - 2 days	Fresh produce, contaminated drinking water, uncooked foods, improperly reheated cooked foods	Poor personal hygiene food contact with contaminated surfaces	Practice proper hand hygiene, maintain personal hygiene, keep food contact surfaces clean, avoid cross-contaminating food, cook food thoroughly
<i>Rotavirus</i>	Virus	Severe watery diarrhea, vomiting, nausea, abdominal pain, decreased urination, dry mouth, fatigue	2 days	Fresh produce & salads, rotavirus is most often spread through a fecal-oral route	Poor personal hygiene, food contact with contaminated surfaces	Maintain personal hygiene, keep food contact surfaces clean, clean hard surfaces like door knobs and toys with disinfectant, teach children how to properly wash hands
<i>Hepatitis A</i>	Virus	Fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, light-colored stool, jaundice	2 weeks - 7 weeks	Fresh produce, contaminated drinking water, uncooked foods, improperly reheated cooked foods	Poor personal hygiene, sick food workers, contaminated water, shellfish, raw vegetables and fruit (berries), and salads	Wash hands regularly, maintain personal hygiene, wash and sanitize walls and shelves of the fridge, cutting boards, countertops, and utensils -- keep food contact surfaces clean, avoid drinking untreated water