

<b>Viral</b>	<b>Incubation</b>	<b>Duration</b>	<b>Symptoms</b>	<b>Characteristics and Controls</b>
Hepatitis A	15-50 days (may be earlier)	Weeks/months	Mild fever, weakness, nausea, abdominal pain, jaundice, fatigue	<ul style="list-style-type: none"> <li>Fecal/oral transmission</li> <li>In ready to eat foods and shellfish</li> </ul>
Norwalk like viruses	24-48 hours	12-48 hours, sometimes longer	Vomit, diarrhea, headache, mild fever	<ul style="list-style-type: none"> <li>Ready to eat foods, contaminated water, fresh fruits, salads, shellfish, ice</li> </ul>
Rotavirus	1-3 days	3-7 days	May be asymptomatic or may cause watery diarrhea, with fever, vomit. More severe in infants	<ul style="list-style-type: none"> <li>Infects mostly infants, children, with most being infected by age 5 yrs.</li> <li>Spread fecal/oral or by fomites contaminated by stool</li> </ul>
<b>Bacteria</b>	<b>Incubation</b>	<b>Duration</b>	<b>Symptoms</b>	<b>Characteristics and Controls</b>
C. Botulinum*+ (intoxication)	12-72 hours	Days-months	Weakness, vertigo, double vision, difficulty speaking, swallowing, muscle weakness, breathing problems. In infant botulism loss of head control is striking	<ul style="list-style-type: none"> <li>Usually found in foods such as canned foods, sausages, meats, seafood</li> </ul>
Staph Aureus+ (Intoxication)	1-6 hours	24-48 hours	Nausea, vomit, abdominal cramps	<ul style="list-style-type: none"> <li>Usually found in deli salads, cream pastries, milk, dairy, deli meats, sandwich fillings, RTE foods</li> </ul>
B. Cereus (emetic)*+ (Intoxication)	1-6 hours	24 hours	Nausea, vomit, may have diarrhea	<ul style="list-style-type: none"> <li>Found in foods like cooked rice, meats, other starchy cooked foods like potatoes and pasta</li> <li>Must control Time/Temp while cooling, hot holding</li> </ul>
B. Cereus (diarrheal)*+ (toxin mediated)	10-16 hours	24-48 hours	Watery diarrhea, cramps, sometimes nausea	<ul style="list-style-type: none"> <li>Found in meats, stews, gravy, sauce, cooked veges, milk</li> <li>Must control Time/Temp while hot holding, cooling</li> </ul>
Clostridium Perfringens*+ (toxin mediated)	8-16 hours	24-48 hours	Watery diarrhea, cramps, rarely nausea or fever	<ul style="list-style-type: none"> <li>Usually found in meats, poultry, stews, gravy, refried beans</li> <li>Must control time/temp</li> </ul>
Shigella	24-72 hours	4-7 days	Diarrhea, may have blood or pus in it, cramps, stomach pain, fever, vomit	<ul style="list-style-type: none"> <li>Food contaminated with water, like produce, deli salads, shrimp</li> <li>Fecal oral. Can be spread by ill employees.</li> <li>Load is small</li> </ul>
Vibrio parahaemolyticus+ (possibly toxin mediated)	2-48 hours	2-5 days	Diarrhea, cramps, nausea, vomit, headache, fever, chill	<ul style="list-style-type: none"> <li>Found in raw, improperly contaminated fish/shellfish</li> <li>Takes large dose</li> <li>Not all references refer to "toxin"</li> </ul>
Salmonella	1-3 days	4-7 days, varies	Diarrhea, sudden headache, fever, cramps, sometimes N/V	<ul style="list-style-type: none"> <li>Found in poultry, eggs, dairy, produce, peanut butter, sprouts, tofu, contaminated RTE foods</li> <li>Must prevent cross-contamination</li> </ul>
Yersinia Enterocolitica	24-48 hours	1-3 weeks	Fever and abdominal pain are key	<ul style="list-style-type: none"> <li>Found in foods like raw milk, tofu, water,</li> </ul>

			features, mimics appendicitis. Can cause N/V, diarrhea	<ul style="list-style-type: none"> <li>pork, beef, lamb, oysters, fish</li> <li>Usually spread through contaminated food/water, or can be spread fecal/oral</li> </ul>
E. Coli+ (toxin mediated)	1-8 days	5-10 days may vary	Diarrhea, may have blood, severe stomach cramps, pain, can lead to HUS, low grade fever, malaise	<ul style="list-style-type: none"> <li>Associated with ground beef, contaminated produced, unpasteurized products, imported cheese</li> </ul>
Vibrio Cholerae+ (possibly toxin mediated)	1-5 days	3-7 days	Profuse watery diarrhea, vomit, dehydration, fever	<ul style="list-style-type: none"> <li>Associated with raw oysters, shellfish from contaminated water, poor sanitation</li> <li>Not all references describe as toxin mediated</li> </ul>
Campylobacter	2-5 days	2-10 days	Bloody diarrhea, abdominal pain, fever, malaise	<ul style="list-style-type: none"> <li>Associated with raw milk and chicken</li> <li>Pets carry</li> </ul>
Listeria	2-6 weeks	Weeks	Sepsis, meningitis, N/V, backache, spontaneous abortions	<ul style="list-style-type: none"> <li>Deli products, unpasteurized products, cheeses, ice cream, meats, hotdogs</li> </ul>
<b>Parasites</b>	<b>Incubation</b>	<b>Duration</b>	<b>Symptoms</b>	<b>Characteristics and Controls</b>
Cryptosporidium parvum	2-10 day	Weeks/months	Watery diarrhea, abdominal cramps, nausea, weight loss	<ul style="list-style-type: none"> <li>Found in foods from contaminated water, produce</li> </ul>
Cyclospora	1-14 days	Weeks/months	Profuse, watery diarrhea	<ul style="list-style-type: none"> <li>Usually associated with travel</li> <li>Contaminated water</li> </ul>
Giardia	1-2 weeks	1-2 weeks	Diarrhea, foul smelling gas, cramps	<ul style="list-style-type: none"> <li>Contaminated bodies of water</li> <li>Fecal/oral</li> </ul>
Trichinella	1-2 days then weeks	Months	N/V, diarrhea, muscular pain, chills	<ul style="list-style-type: none"> <li>Raw under cooked meats, in particular bears and other carnivorous animals</li> </ul>
Anisakis	2 weeks	Weeks	Tingling in throat, coughing up worms	<ul style="list-style-type: none"> <li>Found in herring, cod, halibut, mackerel, salmon</li> </ul>
Toxoplasmosis	5-23 days	Months	Swollen lymph nodes, body aches, fever, fatigue	<ul style="list-style-type: none"> <li>Found in contaminated pork, lamb, venison, cat litter</li> </ul>
<b>Biological Toxins</b>	<b>Incubation</b>	<b>Duration</b>	<b>Symptoms</b>	<b>Characteristics and Controls</b>
Ciguatera Toxin	1-6 hours	Days/months	Tingling/numbness lips, tongue, throat, sudden onset diarrhea/nausea, reversal of hot/cold sensations	<ul style="list-style-type: none"> <li>Found in predatory tropical reef fish</li> <li>Cooking cannot destroy toxin</li> <li>Toxin is from sea plants, that build up in big fish</li> </ul>
Scromboid Toxin (Histamine)	Minutes	3-6 hours	Metallic taste, intense headache facial redness, swelling, burning/tingling in mouth/throat. Later may have diarrhea/vomit	<ul style="list-style-type: none"> <li>Usually found in tuna, bluefish, mackerel, roundfish, bonito, mahi-mahi</li> <li>Cooking cannot destroy toxin</li> <li>When fish are time/temp abused, bacteria on fish make toxin</li> </ul>
Shellfish Toxin	Minutes-hours	Days	Tingling, dizziness, vomit, diarrhea (varies, depending on type of shellfish toxin)	<ul style="list-style-type: none"> <li>Found in shellfish, especially mussels, clams, oysters, scallops</li> </ul>

**KEY:**

\*Spore Former  
+Toxin Producer

**Intoxication:** Illness resulting from eating the toxin which has been produced by an organism in food prior to eating it

**Toxin Mediated:** Illness resulting from eating harmful organisms, which then produce toxin in the gut