

COMMON ILLNESSES ASSOCIATED WITH FOOD

This is general information. Incubation Periods may vary significantly depending on phage type or other characteristics of the organisms.

NAME	INCUBATION	SIGNS & SYMPTOMS	PERIOD OF COMMUNICABILITY	ASSOCIATED RISK FACTORS
Bacterial Intoxication				
<i>Bacillus cereus</i> (heat-stable toxin) gastroenteritis (Emetic)	1-6 hrs	Nausea Vomiting	not communicable from person to person	Keeping foods at danger zone (5 °C - 59°C) temperatures after cooking. Improper re heating (too long in the danger zone).
<i>Bacillus cereus</i> (heat-labile toxin) Gastroenteritis (Diarrhea)	6-24 hrs	Colic Diarrhea	not communicable from person to person	Keeping foods at danger zone temperatures after cooking &/or inadequate reheating.
Botulism	usually 12-36 hrs (may be several days)	Visual difficulty (blurred or double vision), dysphasia & dry mouth. These symptoms are followed by descending symmetrical flaccid paralysis. Vomiting & constipation or diarrhea may be present initially.	not communicable from person to person	Inadequate heat processing of canned & smoked (low acid) foods (esp. home canned/preserved foods). Inadequate refrigeration of foods such as garlic or herbs in oil
<i>Clostridium perfringens</i> Food intoxication	6-24 hrs usually 10-12 hrs	Sudden onset of colic followed by diarrhea, nausea is common (vomiting & fever usually absent)	not communicable from person to person	Inadequate cooking &/or reheating of meats & meat dishes.
Scombroid (Histamine) Poisoning	Within a few hours of ingestion	Tingling & burning sensations around the mouth, facial flushing, sweating, nausea, vomiting, headache, palpitations, dizziness & rash	not communicable from person to person	Ingestion of fish (tuna, mackerel, skipjack, mahi- mahi, bluefish, salmon) or other foods in which there is a high level of free histamine. This is a result of bacterial decomposition of foods containing high levels of histamine.
<i>Staphylococcal</i> intoxication	½-7 hrs	Severe nausea, cramps, vomiting, prostration, often accompanied by diarrhea	not communicable from person to person	Ingestion of foods contacted by food handlers' hands then kept at danger zone temperatures.
Aeromonad gastroenteritis And Plesiomonas	undefined: probably 12 hrs to several days	Acute diarrhea lasting several days, abdominal pain vomiting, fever (Bloody stool may be present)	self-limiting; organism may persist in GI tract for weeks or months if untreated	Drinking untreated water: recreational activities in fresh or saltwater: consuming undercooked fish or shellfish; contact with reptiles; travel. Plesiomonas is associated with saltwater environment. Aeromonas is associated with both fresh and saltwater.

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Campylobacter enteritis	range 1-10 days usually 2-5 days (dose dependant)	Diarrhea (often bloody & mucoid), abdominal pain, fever, nausea & vomiting	Throughout the course of infection (from several days to several weeks). Untreated individuals may excrete organism for as long as 2-7 weeks.	Ingestion of the organism in undercooked poultry, beef, pork, contaminated food & water, or raw milk; contact with infected pets (esp. puppies & kittens) & farm animals. Infected infants are also a source.
<i>E. coli</i> O157:H7 (and other Enterhaemorrhagic EHEC strains) diarrhea	range 2-10 days usually 3-4 days	Severe abdominal pain, diarrhea (from mild & non-bloody to stools that are virtually all blood), vomiting &/ or mild fever may occur. A few individuals may develop HUS.	Duration of excretion of the pathogen, which is up to 3 weeks in 1/3 of children.	Ingestion of undercooked beef (esp. ground) raw milk, or any other contaminated food (cross-contamination).
Other pathogenic <i>E. coli</i> (Enterotoxogenic ETEC, Enterinvasive EIEC, Enteropathogenic EPEC)	ETEC: 10-12 hrs (range 24-72 hrs) EIEC: 10-18 hrs EPEC: 9-12 hrs	ETEC: profuse watery diarrhea, abdominal cramping, vomiting, acidosis EIEC: severe abdominal cramps, malaise, watery stool, tenesmus & fever EPEC: confined to infants under age 1 watery diarrhea with mucous, fever & dehydration	Duration of excretion of the pathogen, which may be prolonged in ETEC & EPEC strains	ETEC: ingestion of contaminated food & water EIEC: ingestion of contaminated food EPEC: ingestion of contaminated infant formula & weaning foods; in nurseries transmission by fomites & contaminated hands
Listeriosis	Variable Range 3-70 days	In newborns & adults, a sudden onset with fever, intense headache, nausea, vomiting & signs of meningeal irritation and/or septicaemia. Sometimes symptoms may be milder. For pregnant women, although, symptoms may be (acute, mild, febrile illness, sometimes with influenza-like symptoms) abortion can occur.	Mothers of infected newborn infants may shed organism in vaginal discharges & urine for 7-10 days after delivery, rarely longer. Infected individuals may shed organism in their stool for several months.	Ingestion of raw or contaminated milk and soft cheeses, contaminated vegetables, and ready-to-eat meats & other foodborne transmission. Nursery outbreaks associated with contaminated equipment or materials. In neonatal infections, the organism is transmitted in utero or during passage through the birth canal.
Salmonellosis	range 6-72 hrs usually 12-36 hrs	Acute enterocolitis with sudden onset of headache, abdominal pain, diarrhea, nausea & sometimes vomiting. Fever is almost always present.	Throughout the course of infection, usually several days to several weeks. Temporary carrier state occasionally continues for months, esp. in infants. Approx. 1% of adults and 5% of children, aged <5 yrs., may excrete organism for > 1 yr.	Ingestion of the organisms in foods derived from infected food-animals or faecally contaminated by an infected animal of person. Exposure to pet turtles, iguanas and chicks. Ingestion of raw fruits & vegetables contaminated during growth, transportation, or preparation.
Shigellosis	Range 12-96 hrs Usually 1-3 days	Diarrhea (typically with blood & mucus), fever, nausea & sometimes toxemia, vomiting, cramps & tenesmus	During acute infection and until the infectious agent is no longer present in faeces, usually within 4 weeks.	Inadequate handwashing, allowing direct &/or indirect faecal-oral transmission from a patient or carrier (very few, 10-100, organisms required to cause illness).
<i>Vibrio parahaemolyticus</i> enteritis	range 4-30 hrs usually 12-24 hrs	watery diarrhea & abdominal cramps, sometimes with nausea, vomiting, fever & headache	Not communicable from person to person	Ingestion of raw or inadequately cooked seafood, or foods cross-contaminated by handling raw seafood or rinses with contaminated seawater.

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Yersiniosis	probably 3-7 days generally under 10 days	Acute febrile diarrhea (esp. in young children), enterocolitis, acute mesenteric lymphadenitis mimicking appendicitis (esp. in older children & adults), complicated in some cases with erythema nodosum (in about 10% of adults, particularly women). Postinfectious arthritis / other conditions may occur.	Secondary transmission appears to be rare	Ingestion of faecally contaminated food or water or by contact with infected people or animals
Hepatitis A	15-50 days (depending on dose) usually 28-30 days	Abrupt onset with fever, malaise, anorexia, nausea & abdominal discomfort, followed within a few days by jaundice. Many infections are mild or asymptomatic, esp. in children.	Maximum infectivity during the latter half of the incubation period, continuing for a few days after onset of jaundice. Prolonged viral excretion (up to 6 months) in infants born prematurely.	Inadequate handwashing, allowing person to person transmission by the fecal-oral route. Ingestion of ready-to-eat foods: salads, sandwiches & other foods handled by infected persons after cooking. Ingestion of raw or undercooked molluscs harvested from contaminated waters. Ingestion of contaminated produce.
Viral Infections				
Norwalk/Norwalk-like viral gastroenteritis	10-50 hrs usually 24-48 hrs	Nausea, vomiting, diarrhea, abdominal pain, myalgia, headache, low grade fever	During acute stage of disease & up to 48 hrs after Norwalk diarrhea stops.	Inadequate handwashing, cleaning and sanitizing, allowing the transmission by the fecal-oral route. (Contact & airborne transmission from fomites may explain rapid spread in hospitals & institutions.)
Parasitic Infections				
Amoebiasis	variable: few days to several months usually 2-4 wks	From acute of fulminating dysentery with fever, chills, diarrhea (bloody or mucoid) to mild abdominal discomfort with diarrhea (bloody or mucoid) alternating with periods of constipation or remission	During the period of passing cysts of <u>E. histolytica</u> , which may continue for years	Ingestion of faecally contaminated food or water containing amoebic cysts. Travel to locations where contamination to foods may be likely.
Cryptosporidiosis	Not precisely known 1-12 days usually about 7 days	Diarrhea which may be profuse & watery (preceded by anorexia & vomiting in children) with cramping & abdominal pain. General malaise, fever, anorexia, nausea & vomiting occur less often. Symptoms often wax & wane but remit in less than 30 days in healthy people.	Oocysts, the infectious stage, appear in the stool at the onset of symptoms & are infectious immediately upon excretion. Oocysts continue to be excreted in the stool for several weeks after symptoms resolve; outside the body, they may remain infective for 2-6 months in a moist environment.	Exposure to infected persons or animals, waterborne & foodborne transmission. Ingestion of contaminated water (oocysts are highly resistant to chemical disinfectants used to purify drinking water).
Giardiasis	3-25 days median 7-10 days	Abdominal cramps, bloating, frequent loose & pale greasy stools, fatigue, and weight loss. Often asymptomatic.	Entire period of the infection, often months.	Ingestion of cysts in faecally contaminated food or water. May occur person to person by the hand to mouth transfer of cysts from infected individuals (esp. in institutions & day cares).

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Taeniasis (T. solium – port tapeworm T. saginata – beef tapeworm Cysticercosis – pork tapeworm)	T. solium: 8-12 wks T.saginata: 10-14 wks Cysticercosis: few days to > 10 years	Taeniasis: nervousness insomnia, anorexia, weight loss, abdominal pain & digestive disturbances. Many infections are asymptomatic except for segments of the tapeworm emerging from the anus. Cysticercosis: may be fatal.	T solium: may be transmitted from person to person. T. saginata: not directly transmitted from person to person. Eggs of both species re disseminated into the environmental as long as the worm remains in the intestine (>30 yrs); eggs may remain viable in the environmental for months.	T. solium: ingestion of raw or undercooked infected pork. T. saginata ingestion of raw or undercooked beef containing cysticerci. Cysticercosis (T. solium): direct transfer of eggs from the faeces of infected persons to their own or another’s mouth; indirect transfer of eggs via contaminated food or water.
Trichinosis	Varies between 5-45 days Systemic symptoms appear 8-15 days after ingestion (dose dependant). GI symptoms may appear in a few day	Diarrhea, remittent fever (up to 40°C) terminating after 1-6 weeks precede the sudden appearance of muscle soreness & pain together with edema of the upper eyelids.	Not communicable from person to person	Ingestion of raw or inadequately cooked meat of animal containing viable encysted larva (chiefly pork & pork products and beef products adulterated with raw pork).

1. Chin, J., 17th Edition, Control of Communicable Diseases Manual