

BAD BUG IDENTIFIER – BY TYPE OF SYMPTOMS

Approximate time from ingestion to symptoms	Main Symptoms	Infectious or Poisonous Agent/ Origin	Associated Disease / Illness	Main / typical food sources
UPPER GASTROINTESTINAL TRACT SYMPTOMS (NAUSEA, VOMITING) OCCUR FIRST OR PREDOMINATE				
1 – 3 hours	Extreme nausea; (severe) vomiting; diarrhoea.	Phytohaemagglutinin TOXIN	Red kidney bean poisoning	Red kidney beans
1 – 6 hours	Severe vomiting; abdominal cramps	Staphylococcus aureus BACTERIAL	Staphylococcal food poisoning	Foods requiring a lot of handling e.g. cooked meats, poultry products, bakery products with cream fillings, sandwiches
1 – 6 hours	Nausea; vomiting; abdominal cramps	Bacillus cereus (emetic strains) BACTERIAL	Bacillus cereus food poisoning	Starchy and dried foods such as rice and pasta
6 – 15 hours	Extreme abdominal pain; nausea; vomiting; diarrhoea; thirst; collapse; convulsions; coma; (death)	Phalloidine and Amanitine TOXIN	Poisonous mushrooms	Wild mushrooms: Amanita phalloides (death cap mushroom)
4-6 hours – 2 weeks	Violent abdominal pain; nausea; vomiting; (coughing up larvae; fever and bloody stools)	Anasakis simplex and Pseudoterranova decipiens PARASITE	Anisakiasis	Raw or undercooked marine fish e.g. cod, haddock, mackerel, salmon, herring, flounder, monkfish
LOWER GASTROINTESTINAL TRACT SYMPTOMS (ABDOMINAL CRAMPS, DIARRHOEA) OCCUR FIRST OR PREDOMINATE				
6 – 15 hours	Watery diarrhoea; abdominal cramps	Bacillus cereus (diarrhoea strains) BACTERIAL	Bacillus cereus food poisoning	Meats, milk and dairy produce, fish, vegetables
6 – 24 (usually 8 – 12 hours)	Diarrhoea; abdominal pain	Clostridium perfringens BACTERIAL	Clostridium perfringens food poisoning	Meat and poultry (stews, gravies, joints and pies)
7– 36 hours (if foodborne)	Abdominal pain; vomiting; (bloody) diarrhoea; fever.	Shigella species BACTERIAL	Dysentery	Wide variety of faecally-contaminated foods that require a lot of handling e.g. salads, fruit and vegetables, shellfish & seafood, milk and dairy produce.
8 – 24 (ave. 11)	Chills; fever; severe abdominal pains; severe bloody diarrhoea	Enteroinvasive Escherichia coli (EIEC) BACTERIAL	E. coli Food Poisoning	Faecally contaminated foods e.g. vegetables, cheese

8 – 44 hours (ave. 26)	(Sudden) watery diarrhoea; dehydration; shock	Enterotoxigenic Escherichia coli (ETEC) BACTERIAL	Travellers' Diarrhoea	Faecally contaminated foods e.g. meat, and milk/dairy products
9 – 25 hours	Profuse watery diarrhoea; abdominal cramps; nausea (vomiting; fever)	Vibrio parahaemolyticus BACTERIAL	Vibrio parahaemolyticus food poisoning	Fish and shellfish
12 – 48 hours	Diarrhoea and vomiting; abdominal cramps; fever; headache; dehydration	Salmonella species (excluding S. Typhi and Paratyphi) BACTERIAL	Salmonellosis	Meat, poultry, milk and dairy produce, eggs and egg products, seafood, fruit and vegetables
12 hrs – 5 days (usually 1 – 2 days)	(Projectile) vomiting; diarrhoea; abdominal pain; headache; low grade fever	Norovirus VIRUS	Viral gastroenteritis	Oysters, mussels, clams, cockles; soft fruit, particularly berries; salad vegetables; desserts; bakery products; prepared salads; sandwiches
16 – 48 hours	Mild diarrhoea; can lead to septicaemia in certain weakened individuals	Vibrio vulnificus BACTERIAL	Vibrio vulnificus food poisoning	Raw shellfish, most particularly oysters.
18 – 72 hours (ave. 36)	Vomiting; diarrhoea (watery or bloody); fever; malaise	Enteropathogenic Escherichia coli (EPEC) BACTERIAL	Infantile Diarrhoea	Mainly raw or undercooked beef and chicken, but could involve any faecally contaminated food
1 – 11 days (usually 2 – 5 days)	Severe diarrhoea (sticky, watery and may contain blood); headache; fever; abdominal pain	Campylobacter jejuni BACTERIAL	Campylobacteriosis	Undercooked meat, especially poultry; also unpasteurised milk, shellfish.
1 - 14 days (usually 3-4 days)	Severe abdominal cramps; watery and then bloody diarrhoea; HUS; TTP	Verocytotoxin-producing Escherichia coli (VTEC) BACTERIAL	E. coli food poisoning (O157)	Minced beef products (e.g. beef burgers), other meat products, milk, dairy produce, fresh produce, unpasteurised fruit and vegetables juices
2 – 5 days	Profuse watery diarrhoea; rapid dehydration	Vibrio cholerae BACTERIAL	Cholera	Primarily waterborne but has been associated with shellfish and crustaceans.
1 – 14 days (ave. 7)	Nausea; abdominal cramps; diarrhoea (frequent and watery but becoming frothy, greasy and offensive)	Giardia lamblia PARASITE	Giardiasis	Usually waterborne, but foodborne outbreaks have been linked to salads (noodle, fruit), ice and raw sliced vegetables
3 – 7 days	Abdominal pain; diarrhoea; mild fever; vomiting	Yersinia enterocolitica BACTERIAL	Yersiniosis	Pork
3 – 6 months	Sometimes gastroenteritis; insomnia; hunger pains; anorexia; weight loss; abdominal pain	Taenia saginata and Taenia solium PARASITE	Taeniasis	Raw or undercooked beef (<i>T. saginata</i>) or pork (<i>T. solium</i>)

Unknown	Either watery diarrhoea/abdominal pain/nausea, or mild diarrhoea, with blood and mucus	Aeromonas species BACTERIAL	Associated with diarrhoea.	Association with fish and shellfish has been suggested; possibly also red meats and poultry, raw milk and fresh vegetables
NEUROLOGICAL SYMPTOMS (VISUAL DISTURBANCES, VERTIGO, TINGLING, PARALYSIS) OCCUR OR PREDOMINATE				
5 mins - 4 hrs	Tingling and numbness of lips, tongue and throat; muscular aches; dizziness; reversal of sensations of hot and cold; diarrhoea; vomiting	Brevetoxins TOXIN	Neurotoxic Shellfish Poisoning (NSP)	Molluscs such as mussels, clams, oysters and scallops
0.3 – 3 hours	Numbness of lips and tongue; uncoordinated movements, feeling of floating/lightness; headache; stomach pains; nausea; diarrhoea and/or vomiting; paralysis; respiratory distress; convulsions; death	Tetrodotoxin TOXIN	Puffer Fish Poisoning	Pufferfish
0.5 - 2 hours	Nausea; vomiting; diarrhoea; stomach cramps; twitching and drowsiness; sweating; salivation; visual distortions; mood changes; delirium; hallucinations,	Muscarine TOXIN	Poisonous mushrooms	Wild mushrooms: Amanita muscaria (fly mushroom, or fly agaric), and Inocybe and Clitocybe species of mushroom.
0.5 – 2 hours	Tingling around face and extremities; drowsiness; incoherent speech; respiratory paralysis (death)	Saxitoxin TOXIN	Paralytic Shellfish Poisoning (PSP)	Molluscs such as mussels, clams, oysters and scallops
0.5 – 3 hours	Mild gastroenteritis (nausea, vomiting, diarrhoea and abdominal cramps); chills; headache; fever	Okadaic acid TOXIN	Diarrhoeic Shellfish Poisoning (DSP)	Molluscs such as mussels, clams, oysters and scallops
1 - 6 hours	Diarrhoea; vomiting; abdominal pain; reversal of hot and cold sensations; muscular aches; dizziness; anxiety; sweating; numbness and tingling of digits	Ciguatoxin and maitotoxin TOXIN	Ciguatera Fish Poisoning	Marine finfish e.g. snapper, sea bass, grouper, barracuda, mackerel
3 – 18 hours	Chills; headaches; diarrhoea; nausea; vomiting; abdominal cramps	Azaspiracids TOXIN	Azaspiracid Poisoning (AZP)	Mussels (although toxins have also been found to accumulate in oysters, scallops, clams and cockles)
12 – 72 hours	Tiredness; dizziness; headaches; double vision; dryness of skin/mouth/throat; increasing (respiratory) paralysis; heart failure; death	Clostridium botulinum toxin BACTERIAL	Botulism	Wide variety, including dairy products (e.g. yoghurt), vegetables, fishery products (e.g. salmon), meat and meat products, sauces, dressings
24 hours	Nausea; vomiting; abdominal cramps; diarrhoea.	Domoic acid TOXIN	Amnesic Shellfish Poisoning (ASP)	Molluscs such as mussels, clams, oysters and scallops

ALLERGIC SYMPTOMS (FACIAL FLUSHING, ITCHING) OCCUR

5 mins – 3 hrs	Tingling/burning sensation in mouth; flushed face/neck; headaches; itchy skin; (nausea; vomiting; diarrhoea)	Histamine TOXIN	Scombrototoxin Poisoning	Scombroid fish e.g. tuna, mackerel, bonito
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GENERALIZED INFECTION SYMPTOMS (FEVER, CHILLS, MALAISE, PROSTRATION, ACHES, SWOLLEN LYMPH GLANDS) OCCUR

4 – 28 days (ave. 9)	Diarrhoea; abdominal pain; vomiting; swelling around eyes and face; conjunctivitis; fever; muscle soreness; rashes; splinter haemorrhages.	Trichinella spiralis PARASITE	Trichinellosis	Pork
3 – 56 days (usually 12 – 20 days)	Fever; constipation; abdominal tenderness; followed by 'pea soup' diarrhoea (...septicaemia; peritonitis)	Salmonella Typhi and Salmonella Paratyphi BACTERIAL	Typhoid / Paratyphoid Fever	Wide variety of faecally-contaminated foods that require a lot of handling e.g. milk and dairy produce, shellfish, raw fruit & vegetables.
3 – 70 days+	'Flu-like illness followed by septicaemia (with meningitis; encephalitis; abortion/stillbirth)	Listeria monocytogenes BACTERIAL	Listeriosis	Wide range of foods including ready-to-eat delicatessen products (e.g. soft ripened cheeses, paté, coleslaw, cooked meats), milk and dairy products, meat and poultry, seafood.
10 – 13 days	Swollen lymph glands; fatigue; fever; sore throat; muscle aches and pains; aching joints; rashes	Toxoplasma gondii PARASITE	Toxoplasmosis	Raw or undercooked meat, especially pork, lamb, venison.
15 – 50 days	General malaise; mild gastroenteritis (nausea, vomiting, diarrhoea, abdominal pain, fever); jaundice; loss of appetite	Hepatitis A Virus (HAV) VIRUS	Hepatitis	(Salad) vegetables; foods that are extensively handled in their preparation; soft fruits e.g. strawberries and raspberries; mussels and clams
30 days	Fever; general malaise; fatigue; loss of appetite and weight; pain in the liver/intestines	Fasciola hepatica PARASITE	Fascioliasis	Watercress, cress