

FOODBORNE ILLNESSES



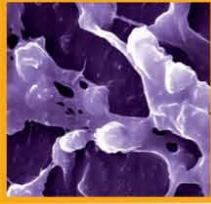
Salmonellosis
Identification – The most common food borne illness caused by many species of bacteria. It causes acute onset of headache, fever, abdominal pain, diarrhea, nausea with occasional vomiting. Dehydration in infants and the elderly can be severe. Incubation period is 6-72 hours usually between 12-36 hours.
Reservoir – Exists in domestic and wild animals including poultry, pigs, cattle, rodents and pets such as baby chicks and ducklings, turtles, iguanas, dogs and cats.
Transmission – Ingestion of the organism in food obtained from infected animals or contaminated by feces from infected animals or people. Epidemics are traced to contaminated vegetables and fruit, eggs, processed meat, undercooked poultry products, raw milk and dairy products and foods prepared by infected food personnel.



Campylobacter Enteritis
Identification – An enteric disease caused by *Campylobacter jejuni* or *C. coli* accompanied by malaise, diarrhea, bloody stools, abdominal pain, fever, nausea, and vomiting. Symptoms may occur 2-5 days after exposure and persist for a week.
Reservoir – Poultry, cattle and other animals such as puppies, kittens, other pets, swine, sheep, rodents and birds. Most raw poultry is contaminated with *Campylobacter*.
Transmission – Ingestion of the organisms in undercooked meat, contaminated water and food, raw milk, farm animals, pets. Infective dose is low. Person to person transmission is possible but not common.



Listeriosis
Identification – A disease which causes meningococcalitis and/or septicemia in newborns and adults that is caused by *L. monocytogenes*. In pregnant women it causes fever and miscarriage or stillbirths. An asymptomatic woman can transmit the disease to the fetus. High risk populations include neonates, elderly, immunocompromised, pregnant women, alcoholics, diabetics.
Reservoir – Soil, silage, forage, and water. Animal reservoirs include infected wild and domestic animals. Up to 10% of the healthy people have *L. monocytogenes* in their feces but do not have symptoms.
Transmission – Ingestion of contaminated foods such as soft cheeses, raw milk, vegetables, ready to eat meats and pates. In neonatal infections, the bacteria is transmitted by the mother in utero or from passage through the birth canal.



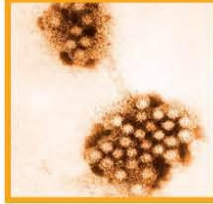
Staphylococcal Food Intoxication
Identification – It is not an infection but is caused by the enterotoxins produced by *Staphylococcus aureus*. The disease is characterized by abrupt (30 minutes to 4 hours) and violent onset of vomiting, severe nausea, cramps, and prostration. Illness lasts a day or two. These enterotoxins are resistant to boiling or thermal processing.
Reservoir – Humans. About 25% of the population carries this bacteria. Occasionally cows with infected udders, dogs and fowl.
Transmission – Ingestion of a food containing the enterotoxin. The food becomes contaminated first with the bacteria via the food handlers' hands. At room temperature, the bacteria multiply and produce the enterotoxin. Can be found in improperly handled or stored salad dressings, custards, sliced meat, meat products, meat sandwiches, unprocessed cheese.



E coli O157:H7
Identification – Causes acute diarrhea with no fever. Incubation period is 2 to 10 days, most commonly 3-4 days. Illness may be mild to severe with blood or almost entirely blood. About 8% of people having diarrhea caused by this organism progress to hemolytic uremic syndrome (HUS). Infectious dose is very low. Children under 5 are at greatest risk for developing HUS.
Reservoir – Cattle are the primary reservoir although it is also found in deer. Humans can serve as the reservoir for person to person transmission.
Transmission – Fecaloral and the ingestion of food contaminated with ruminant feces. Serious outbreaks have been associated with petting zoos, beef hamburger, melons, spinach, lettuce, scallions, apple cider, alfalfa sprouts, and unpasteurized milk. Person to person transmission occurs in families, custodial care facilities, and day care centers. Water borne transmission comes from drinking and recreational water.



Giardiasis
Identification – A protozoan infection that may be either asymptomatic, cause acute self-limiting diarrhea, or chronic, frequent diarrhea with cramps, bloating and incomplete absorption of fats and vitamins eventually leading to fatigue and weight loss. In severe giardiasis there may be reactive arthritis and damage to the duodenal and jejunal mucosal cells. Median incubation is 7-10 days.
Reservoir – Humans and possibly beavers and other wild and domesticated animals.
Transmission – Localized outbreaks occur from the ingestion of food and water contaminated with protozoan cysts. Typical chlorine treatment of drinking water is not enough to destroy the cysts. Unfiltered, contaminated recreational water can be a source. Person to person transmission occurs from transfer of cysts from infected people particularly in day care centers and institutions.



Norovirus
Identification – A viral infection that causes mild to moderate gastrointestinal illness with nausea, vomiting, diarrhea, abdominal pain, headache, malaise, and low grade fever. Usually lasts for 1-3 days.
Reservoir – Humans are the only known reservoir.
Transmission – Fecaloral through ingestion of contaminated food, water or shell fish. Also contact with infected fomites.



Aflatoxin Intoxication
Identification – Liver cancer caused by foods contaminated with certain species of *Aspergillus* fungi. As the fungi grow, they produce aflatoxins and other mycotoxins that contaminate the food. Incubation period for fungal growth may be 2 days to 3 months.
Reservoir – *Aspergillus* fungal species are ubiquitous and exist worldwide particularly in decaying plant material, compost piles, mulch, and leaf piles. Aflatoxin and mycotoxin production is variable and depends upon the type of *Aspergillus* species and environmental conditions.
Transmission – Airborne transmission of spores. Ingestion and possibly inhalation of mycotoxins.



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Source: Council of Communicable Disease Control, 1996 Edition, David A. Henney, M.D., Editor, American Public Health Association, 2004.
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