

# Where's the Beef?

Evaluating the Legitimacy of Food Claims

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Haight

## Websites to Find and Book Mark



Food Safety Homepage: [www.cdc.gov/foodsafety](http://www.cdc.gov/foodsafety)

Foodborne Outbreaks: [www.cdc.gov/foodsafety/outbreaks](http://www.cdc.gov/foodsafety/outbreaks)

Investigating Outbreaks:

[www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks](http://www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks)

Investigation Outbreaks: Guidelines for Confirmation of Foodborne Disease Outbreaks [**Attached to this Guide**]

[www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/confirming\\_diagnosis](http://www.cdc.gov/foodsafety/outbreaks/investigating-outbreaks/confirming_diagnosis)

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Food Homepage: [www.fda.gov/Food](http://www.fda.gov/Food)

Recalls, Market Withdrawals, Safety Alerts:

[www.fda.gov/Safety/Recalls](http://www.fda.gov/Safety/Recalls)

Recalls, Outbreaks, Emergencies:

[www.fda.gov/Food/RecallsOutbreaksEmergencies/Outbreaks](http://www.fda.gov/Food/RecallsOutbreaksEmergencies/Outbreaks)

Foodborne Illnesses: What You Need to Know [**Attached to this Guide**]

[www.fda.gov/food/resourcesforyou/consumers/ucm103263.htm](http://www.fda.gov/food/resourcesforyou/consumers/ucm103263.htm)

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### Prominent Food Safety Attorneys and Blogs

Marler Clark – Located in Seattle, WA and maintain two web-based blog sources. They regularly publish details about new and pending lawsuits of clients they represent. They manage both websites below and update them regularly. Bill Marler is regularly sought out and interviewed by media outlets during active foodborne illness outbreaks. [www.marlerblog.com](http://www.marlerblog.com) | [www.foodsafetynews.com](http://www.foodsafetynews.com)

PritzkerOlsen – Located in Minneapolis, MN and maintain a personal injury blog and more specifically, a food poisoning law blog. They come in second in terms of prestige and national presence as food safety attorneys.

[www.foodpoisoning.pritzkerlaw.com](http://www.foodpoisoning.pritzkerlaw.com)

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## Foodborne Illnesses: What You Need to Know [Source: FDA]

Organism	Common Name of Illness	Onset Time After Ingesting	Signs & Symptoms	Duration	Food Sources
<b><i>Bacillus cereus</i></b>	<i>B. cereus</i> food poisoning	10-16 hrs	Abdominal cramps, watery diarrhea, nausea	24-48 hours	Meats, stews, gravies, vanilla sauce
<b><i>Campylobacter jejuni</i></b>	Campylobacteriosis	2-5 days	Diarrhea, cramps, fever, and vomiting; diarrhea may be bloody	2-10 days	Raw and undercooked poultry, unpasteurized milk, contaminated water
<b><i>Clostridium botulinum</i></b>	Botulism	12-72 hours	Vomiting, diarrhea, blurred vision, double vision, difficulty in swallowing, muscle weakness. Can result in respiratory failure and death	Variable	Improperly canned foods, especially home-canned vegetables, fermented fish, baked potatoes in aluminum foil
<b><i>Clostridium perfringens</i></b>	Perfringens food poisoning	8–16 hours	Intense abdominal cramps, watery diarrhea	Usually 24 hours	Meats, poultry, gravy, dried or precooked foods, time and/or temperature-abused foods
<b><i>Cryptosporidium</i></b>	Intestinal cryptosporidiosis	2-10 days	Diarrhea (usually watery), stomach cramps, upset stomach, slight fever	May be remitting and relapsing over weeks to months	Uncooked food or food contaminated by an ill food handler after cooking, contaminated drinking water
<b><i>Cyclospora cayetanensis</i></b>	Cyclosporiasis	1-14 days, usually at least 1 week	Diarrhea (usually watery), loss of appetite, substantial loss of weight, stomach cramps, nausea, vomiting, fatigue	May be remitting and relapsing over weeks to months	Various types of fresh produce (imported berries, lettuce, basil)
<b><i>E. coli (Escherichia coli) producing toxin</i></b>	<i>E. coli</i> infection (common)	1-3 days	Watery diarrhea, abdominal cramps, some vomiting	3-7 or more days	Water or food contaminated with human feces
<b><i>E. coli</i> O157:H7</b>	Hemorrhagic colitis or <i>E. coli</i> O157:H7 infection	1-8 days	Severe (often bloody) diarrhea, abdominal pain and vomiting. Usually, little or no fever is present. More common in children 4 years or younger. Can lead to kidney failure	5-10 days	Undercooked beef (especially hamburger), unpasteurized milk and juice, raw fruits and vegetables (e.g. sprouts), and contaminated water
<b>Hepatitis A</b>	Hepatitis	28 days average (15-50 days)	Diarrhea, dark urine, jaundice, and flu-like symptoms, i.e., fever, headache, nausea, and abdominal pain	Variable, 2 weeks-3 months	Raw produce, contaminated drinking water, uncooked foods and cooked foods that are not reheated after contact with an infected food handler; shellfish from contaminated waters

## Foodborne Illnesses: What You Need to Know [Source: FDA]

Organism	Common Name of Illness	Onset Time After Ingesting	Signs & Symptoms	Duration	Food Sources
<b>Listeria monocytogenes</b>	Listeriosis	9-48 hrs for gastro- intestinal symptoms, 2-6 weeks for invasive disease	Fever, muscle aches, and nausea or diarrhea. Pregnant women may have mild flu-like illness, and infection can lead to premature delivery or stillbirth. The elderly or immunocompromised patients may develop bacteremia or meningitis	Variable	Unpasteurized milk, soft cheeses made with unpasteurized milk, ready-to-eat deli meats
<b>Noroviruses</b>	Variously called viral gastroenteritis, winter diarrhea, acute non-bacterial gastroenteritis,	12-48 hrs	Nausea, vomiting, abdominal cramping, diarrhea, fever, headache. Diarrhea is more prevalent in adults, vomiting more common in children	12-60 hrs	Raw produce, contaminated drinking water, uncooked foods and cooked foods that are not reheated after contact with an infected food handler; shellfish from contaminated waters
<b>Salmonella</b>	Salmonellosis	6-48 hours	Diarrhea, fever, abdominal cramps, vomiting	4-7 days	Eggs, poultry, meat, unpasteurized milk or juice, cheese, contaminated raw fruits and vegetables
<b>Shigella</b>	Shigellosis or Bacillary dysentery	4-7 days	Abdominal cramps, fever, and diarrhea. Stools may contain blood and mucus	24-48 hrs	Raw produce, contaminated drinking water, uncooked foods and cooked foods that are not reheated after contact with an infected food handler
<b>Staphylococcus aureus</b>	Staphylococcal food poisoning	1-6 hours	Sudden onset of severe nausea and vomiting. Abdominal cramps. Diarrhea and fever may be present	24-48 hours	Unrefrigerated or improperly refrigerated meats, potato and egg salads, cream pastries
<b>Vibrio parahaemolyticus</b>	<i>V. parahaemolyticus</i> infection	4-96 hours	Watery (occasionally bloody) diarrhea, abdominal cramps, nausea, vomiting, fever	2-5 days	Undercooked or raw seafood, such as shellfish
<b>Vibrio vulnificus</b>	<i>V. vulnificus</i> infection	1-7 days	Vomiting, diarrhea, abdominal pain, bloodborne infection. Fever, bleeding within the skin, ulcers requiring surgical removal. Can be fatal to persons with liver disease or weakened immune systems	2-8 days	Undercooked or raw seafood, such as shellfish (especially oysters)

## Guidelines for Confirmation of Foodborne-Disease Outbreaks [Source: CDC]

### BACTERIAL

Etiologic agent	Incubation period	Clinical syndrome	Confirmation
<b><i>Bacillus cereus</i> - Vomiting toxin</b>	1-6 hrs	Vomiting; some patients with diarrhea; fever uncommon	Isolation of organism from stool of two or more ill persons and not from stool of control patients <b>OR</b>  Isolation of 10 <sup>5</sup> organisms/g from epidemiologically implicated food, provided specimen is properly handled
<b><i>Bacillus cereus</i> - Diarrheal toxin</b>	6-24 hrs	Diarrhea, abdominal cramps, and vomiting in some patients; fever uncommon	Isolation of organism from stool of two or more ill persons and not from stool of control patients <b>OR</b>  Isolation of 10 <sup>5</sup> organisms/g from epidemiologically implicated food, provided specimen is properly handled
<b><i>Brucella</i></b>	Several days to several mos; usually >30 days	Weakness, fever, headache, sweats, chills, arthralgia, weight loss, splenomegaly	Two or more ill persons and isolation of organism in culture of blood or bone marrow; greater than fourfold increase in standard agglutination titer (SAT) over several wks, or single SAT 1:160 in person who has compatible clinical symptoms and history of exposure
<b><i>Campylobacter jejuni/coli</i></b>	2-10 days; usually 2-5 days	Diarrhea (often bloody), abdominal pain, fever	Isolation of organism from clinical specimens from two or more ill persons <b>OR</b>  Isolation of organism from epidemiologically implicated food
<b><i>Clostridium botulinum</i></b>	2 hrs-8 days; usually 12-48 hrs	Illness of variable severity; common symptoms are diplopia, blurred vision, and bulbar weakness; paralysis, which is usually descending and bilateral, might progress rapidly	Detection of botulinum toxin in serum, stool, gastric contents, or implicated food <b>OR</b>  Isolation of organism from stool or intestine
<b><i>Clostridium perfringens</i></b>	6-24 hrs	Diarrhea, abdominal cramps; vomiting and fever uncommon	Isolation of 10 <sup>6</sup> organisms/g from stool of two or more ill persons, provided specimen is properly handled. <b>OR</b>  Demonstration of enterotoxin in the stool of two or more ill persons <b>OR</b>  Isolation of 10 <sup>5</sup> organisms/g from epidemiologically implicated food, provided specimen is properly handled
<b><i>Escherichia coli</i> - Enterohemorrhagic (<i>E. coli</i> O157:H7 and others)</b>	1-10 days; usually 3-4 days	Diarrhea (often bloody), abdominal cramps (often severe), little or no fever	Isolation of <i>E. coli</i> O157:H7 or other Shiga-like toxin-producing <i>E. coli</i> from clinical specimen from two or more ill persons <b>OR</b>  Isolation of <i>E. coli</i> O157:H7 or other Shiga-like toxin-producing <i>E. coli</i> from epidemiologically implicated food

## Guidelines for Confirmation of Foodborne-Disease Outbreaks [Source: CDC]

### BACTERIAL

Etiologic agent	Incubation period	Clinical syndrome	Confirmation
<b><i>Escherichia coli</i> - Enterotoxigenic (ETEC)</b>	6-48 hrs	Diarrhea, abdominal cramps, nausea; vomiting and fever less common	Isolation of organism of same serotype, demonstrated to produce heat-stable (ST) and/or heat-labile (LT) enterotoxin, from stool of two or more ill persons
<b><i>Escherichia coli</i> - Enteropathogenic (EPEC)</b>	Variable	Diarrhea, fever, abdominal cramps	Isolation of organism of same enteropathogenic serotype from stool of two or more ill persons
<b><i>Escherichia coli</i> - Enteroinvasive (EIEC)</b>	Variable	Diarrhea (might be bloody), fever, abdominal cramps	Isolation of same enteroinvasive serotype from stool of two or more ill persons
<b><i>Listeria monocytogenes</i> - Invasive disease</b>	2-6 wks	Meningitis, neonatal sepsis, fever	Isolation of organism from normally sterile site
<b><i>Listeria monocytogenes</i> - Diarrheal disease</b>	Unknown	Diarrhea, abdominal cramps, fever	Isolation of organism of same serotype from stool of two or more ill persons exposed to food that is epidemiologically implicated or from which organism of same serotype has been isolated
<b>Nontyphoidal <i>Salmonella</i></b>	6 hrs-10 days; usually 6-48 hrs	Diarrhea, often with fever and abdominal cramps	Isolation of organism of same serotype from clinical specimens from two or more ill persons <b>OR</b> Isolation of organism from epidemiologically implicated food
<b><i>Salmonella</i> Typhi</b>	3-60 days; usually 7-14 days	Fever, anorexia, malaise, headache, and myalgia; sometimes diarrhea or constipation	Isolation of organism from clinical specimens from two or more ill persons <b>OR</b> Isolation of organism from epidemiologically implicated food
<b><i>Shigella</i> spp.</b>	12 hrs-6 days; usually 2-4 days	Diarrhea (often bloody), often accompanied by fever and abdominal cramps	Isolation of organism of same serotype from clinical specimens from two or more ill persons <b>OR</b> Isolation of organism from epidemiologically implicated food
<b><i>Staphylococcus aureus</i></b>	30 min-8 hrs; usually 2-4 hrs	Vomiting, diarrhea	Isolation of organism of same phage type from stool or vomitus of two or more ill persons <b>OR</b> Detection of enterotoxin in epidemiologically implicated food <b>OR</b> Isolation of 10 <sup>5</sup> organisms/g from epidemiologically implicated food, provided specimen is properly handled

## Guidelines for Confirmation of Foodborne-Disease Outbreaks [Source: CDC]

### BACTERIAL

Etiologic agent	Incubation period	Clinical syndrome	Confirmation
<b><i>Streptococcus, group A</i></b>	1-4 days	Fever, pharyngitis, scarlet fever, upper respiratory infection	Isolation of organism of same M- or T-type from throats of two or more ill persons <b>OR</b> Isolation of organism of same M- or T-type from epidemiologically implicated food
<b><i>Vibrio cholerae - O1 or O139</i></b>	1-5 days	Watery diarrhea, often accompanied by vomiting	Isolation of toxigenic organism from stool or vomitus of two or more ill persons <b>OR</b> Significant rise in vibriocidal, bacterial-agglutinating, or antitoxin antibodies in acute- and early convalescent-phase sera among persons not recently immunized <b>OR</b> Isolation of toxigenic organism from epidemiologically implicated food
<b><i>Vibrio cholerae - non-O1 and non-O139</i></b>	1-5 days	Watery diarrhea	Isolation of organism of same serotype from stool of two or more ill persons
<b><i>Vibrio parahaemolyticus</i></b>	4-30 hrs	Diarrhea	Isolation of Kanagawa-positive organism from stool of two or more ill persons <b>OR</b> Isolation of 10 <sup>5</sup> Kanagawa-positive organisms/g from epidemiologically implicated food, provided specimen is properly handled
<b><i>Yersinia enterocolitica</i></b>	1-10 days; usually 4-6 days	Diarrhea, abdominal pain (often severe)	Isolation of organism from clinical specimen from two or more ill persons <b>OR</b> Isolation of pathogenic strain of organism from epidemiologically implicated food

### CHEMICAL

Etiologic Agent	Incubation Period	Clinical Syndrome	Confirmation
<b>Marine toxins - Ciguatoxin</b>	1-48 hrs; usually 2-8 hrs	Usually gastrointestinal symptoms followed by neurologic symptoms (including paresthesia of lips, tongue, throat, or extremities) and reversal of hot and cold sensation	Demonstration of ciguatoxin in epidemiologically implicated fish <b>OR</b> Clinical syndrome among persons who have eaten a type of fish previously associated with ciguatera fish poisoning (e.g., snapper, grouper, or barracuda)

## Guidelines for Confirmation of Foodborne-Disease Outbreaks [Source: CDC]

<b>CHEMICAL</b>			
<b>Etiologic Agent</b>	<b>Incubation Period</b>	<b>Clinical Syndrome</b>	<b>Confirmation</b>
<b>Marine toxins - Scombroid toxin (histamine)</b>	1 min-3 hrs; usually <1 hr	Flushing, dizziness, burning of mouth and throat, headache, gastrointestinal symptoms, urticaria, and generalized pruritis	Demonstration of histamine in epidemiologically implicated fish <b>OR</b>  Clinical syndrome among persons who have eaten a type of fish previously associated with histamine fish poisoning (e.g., mahi-mahi or fish of order Scomboidei)
<b>Marine toxins - Paralytic or neurotoxic shellfish poison</b>	30 min-3 hrs	Paresthesia of lips, mouth or face, and extremities; intestinal symptoms or weakness, including respiratory difficulty	Detection of toxin in epidemiologically implicated food <b>OR</b>  Detection of large numbers of shellfish-poisoning-associated species of dinoflagellates in water from which epidemiologically implicated mollusks are gathered
<b>Marine toxins - Puffer fish, tetrodotoxin</b>	10 min-3 hrs; usually 10-45 min	Paresthesia of lips, tongue, face, or extremities, often following numbness; loss of proprioception or floating sensations	Demonstration of tetrodotoxin in epidemiologically implicated fish <b>OR</b>  Clinical syndrome among persons who have eaten puffer fish
<b>Heavy metals (Antimony, Cadmium, Copper, Iron, Tin, Zinc)</b>	5 min-8 hrs; usually <1 hr	Vomiting, often metallic taste	Demonstration of high concentration of metal in epidemiologically implicated food
<b>Monosodium glutamate (MSG)</b>	3 min-2 hrs; usually <1 hr	Burning sensation in chest, neck, abdomen, or extremities; sensation of lightness and pressure over face or heavy feeling in chest	Clinical syndrome among persons who have eaten food containing MSG (e.g., usually 1.5 g MSG)
<b>Mushroom toxins - Shorter-acting toxins (Muscimol, Muscarine, Psilocybin, <i>Coprinus artrementaris</i>, Ibotenic acid)</b>	2 hrs	Usually vomiting and diarrhea, other symptoms differ with toxin  * Confusion, visual disturbance * Salivation, diaphoresis * Hallucinations * Disulfiram-like reaction * Confusion, visual disturbance	Clinical syndrome among persons who have eaten mushroom identified as toxic type <b>OR</b>  Demonstration of toxin in epidemiologically implicated mushroom or food containing mushroom
<b>Mushroom toxins - Longer-acting toxins (e.g., <i>Amanita</i> spp.)</b>	6-24 hrs	Diarrhea and abdominal cramps for 24 hrs followed by hepatic and renal failure	Clinical syndrome among persons who have eaten mushroom identified as toxic type <b>OR</b>  Demonstration of toxin in epidemiologically implicated mushroom or food containing mushrooms

## Guidelines for Confirmation of Foodborne-Disease Outbreaks [Source: CDC]

### PARASITIC

Etiologic Agent	Incubation Period	Clinical Syndrome	Confirmation
<i>Cryptosporidium</i> spp.	2-28 days; median: 7 days	Diarrhea, nausea, vomiting; fever	Demonstration of oocysts in stool or in small-bowel biopsy of two or more ill persons <b>OR</b>  Demonstration of organism in epidemiologically implicated food
<i>Cyclospora cayentanensis</i>	1-14 days; median: 7 days	Diarrhea, nausea, anorexia, weight loss, cramps, gas, fatigue, low-grade fever; may be relapsing or protracted	Demonstration of the parasite by microscopy or molecular methods in stool or in intestinal aspirate or biopsy specimens from two or more ill persons <b>OR</b>  Demonstration of the parasite in epidemiologically implicated food
<i>Giardia intestinalis</i>	3-25 days; median: 7 days	Diarrhea, gas, cramps, nausea, fatigue	Demonstration of the parasite in stool or small-bowel biopsy specimen of two or more ill persons
<i>Trichinella</i> spp.	1-2 days for intestinal phase; 2-4 wks for systemic phase	Fever, myalgia, periorbital edema, high eosinophil count	Two or more ill persons and positive serologic test or demonstration of larvae in muscle biopsy <b>OR</b>  Demonstration of larvae in epidemiologically implicated meat

### VIRAL

Etiologic Agent	Incubation Period	Clinical Syndrome	Confirmation
<b>Hepatitis A</b>	15-50 days; median: 28 days	Jaundice, dark urine, fatigue, anorexia, nausea	Detection of immunoglobulin M antibody to hepatitis A virus (IgM anti-HAV) in serum from two or more persons who consumed epidemiologically implicated food
<b>Norovirus (NoV)</b>	12-48 hrs (median 33 hours)	Diarrhea, vomiting, nausea, abdominal cramps, low-grade fever	Detection of viral RNA in at least two bulk stool or vomitus specimens by real-time or conventional reverse transcriptase-polymerase chain reaction (RT-PCR) <b>OR</b>  Visualization of viruses (NoV) with characteristic morphology by electron microscopy in at least two or more bulk stool or vomitus specimens <b>OR</b>  Two or more stools positive by commercial enzyme immunoassay (EIA)
<b>Astrovirus</b>	12-48 hrs	Diarrhea, vomiting, nausea, abdominal cramps, low-grade fever	Detection of viral RNA in at least two bulk stool or vomitus specimens by real-time or conventional reverse transcriptase-polymerase chain reaction (RT-PCR) <b>OR</b>  Visualization of viruses (NoV) with characteristic morphology by electron microscopy in at least two or more bulk stool or vomitus specimens <b>OR</b>  Two or more stools positive by commercial enzyme immunoassay (EIA)