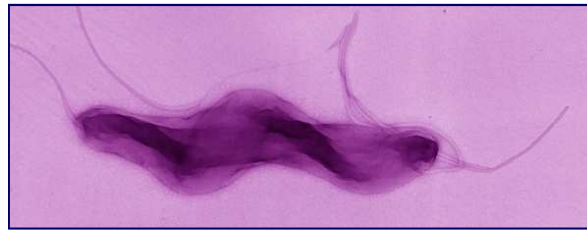


Broward County Health Department Epidemiology Program

Monthly Disease Report

Campylobacteriosis

Campylobacteriosis is an infectious disease caused by bacteria of the genus *Campylobacter*. The *Campylobacter* organism is actually a group of spiral-shaped bacteria that can cause disease in humans and animals. Most human illness is caused by one species, called *Campylobacter jejuni*, but 1% of human *Campylobacter* cases are caused by other species. *Campylobacter jejuni* grows best at the body temperature of a bird, and seems to be well adapted to birds, who carry it without becoming ill. The bacterium is fragile. It cannot tolerate drying and can be killed by oxygen. It grows only if there is less than the atmospheric amount of oxygen present. Freezing reduces the number of *Campylobacter* bacteria present on raw meat. Most people who become ill with campylobacteriosis get diarrhea, cramping, abdominal pain, and fever within 2 to 5 days after exposure to the organism. The diarrhea may be bloody and can be accompanied by nausea and vomiting. The illness typically lasts 1 week. Some persons who are infected with *Campylobacter* don't have any symptoms at all. In persons with compromised immune systems, *Campylobacter* occasionally spreads to the bloodstream and causes a serious life-threatening infection.



Campylobacter jejuni

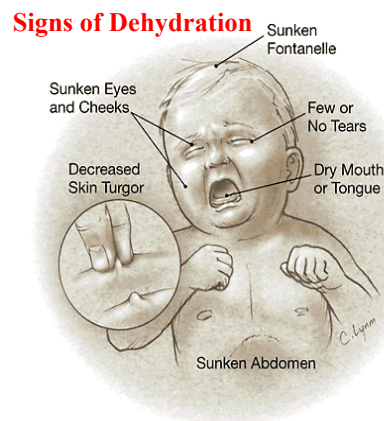
Occurrence

Campylobacter is one of the most common bacterial causes of diarrheal illness in the United States. Virtually all cases occur as isolated, sporadic events, not as a part of large outbreaks. Active surveillance through FoodNet indicates about 15 cases are diagnosed each year for each 100,000 persons in the population. Many more cases go undiagnosed or unreported, and campylobacteriosis is estimated to affect over 1 million persons every year, or 0.5% of the general population. Campylobacteriosis occurs much more frequently in the summer months than in the winter. The organism is isolated from infants and young adults more frequently than from other age groups and from males more frequently than females. Although *Campylobacter* doesn't commonly cause death, it has been estimated that approximately 100 persons with *Campylobacter* infections may die each year.

Signs and Symptoms

The main symptoms of campylobacteriosis are fever, abdominal cramps, and mild to severe diarrhea. Diarrhea can lead to dehydration, which should be closely monitored. Signs of dehydration include: thirst, irritability, restlessness, lethargy, sunken eyes, dry mouth and tongue, dry skin, fewer trips to the bathroom to urinate, and (in infants) a dry diaper for several hours.

In cases of campylobacteriosis, the diarrhea is initially watery, but it may later contain blood and mucus. Sometimes, the abdominal pain appears to be a more significant symptom than the diarrhea. When this happens, the infection may be mistaken for appendicitis or a problem with the pancreas.



BCHD Epidemiology Program Monthly Report

Campylobacteriosis

Contagiousness

Campylobacteriosis usually occurs in single, sporadic cases, but it can also occur in outbreaks, when a number of people become ill at one time. Most cases of campylobacteriosis are associated with handling raw poultry or eating raw or undercooked poultry meat. A very small number of *Campylobacter* organisms (fewer than 500) can cause illness in humans. Even one drop of juice from raw chicken meat can infect a person. One way to become infected is to cut poultry meat on a cutting board, and then use the unwashed cutting board or utensil to prepare vegetables or other raw or lightly cooked foods. The *Campylobacter* organisms from the raw meat can then spread to the other foods. The organism is not usually spread from person to person, but this can happen if the infected person is a small child or is producing a large volume of diarrhea. Larger outbreaks due to *Campylobacter* are not usually associated with raw poultry but are usually related to drinking unpasteurized milk or contaminated water. Animals can also be infected, and some people have acquired their infection from contact with the infected stool of an ill dog or cat.

Many chicken flocks are silently infected with *Campylobacter*; that is, the chickens are infected with the organism but show no signs of illness. *Campylobacter* can be easily spread from bird to bird through a common water source or through contact with infected feces. When an infected bird is slaughtered, *Campylobacter* can be transferred from the intestines to the meat. More than half of the raw chicken in the United States market has *Campylobacter* on it. *Campylobacter* is also present in the giblets, especially the liver.



Unpasteurized milk can become contaminated if the cow has an infection with *Campylobacter* in her udder or the milk is contaminated with manure. Surface water and mountain streams can become contaminated from infected feces from cows or wild birds. This infection is common in the developing world, and travelers to foreign countries are also at risk for becoming infected with *Campylobacter*.

Incubation & Duration

Symptoms generally appear within 1 to 7 days after ingesting the organism. Most people who get campylobacteriosis recover completely within 2 to 5 days, although sometimes recovery can take up to 10 days. Rarely, some long-term consequences can result from a *Campylobacter* infection. Some people may have arthritis following campylobacteriosis; others may develop a rare disease that affects the nerves of the body beginning several weeks after the diarrheal illness. This disease, called Guillain-Barré syndrome, occurs when a person's immune system is "triggered" to attack the body's own nerves, and can lead to paralysis that lasts several weeks and usually requires intensive care. It is estimated that approximately one in every 1,000 reported campylobacteriosis cases leads to Guillain-Barré syndrome. As many as 40% of Guillain-Barré syndrome cases in this country may be triggered by campylobacteriosis.

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Campylobacteriosis

Diagnosis and Treatment

Many different kinds of infections can cause diarrhea and bloody diarrhea. Doctors can look for bacterial causes of diarrhea by asking a laboratory to culture a sample of stool from an ill person.

Diagnosis of *Campylobacter* requires special laboratory culture procedures, which doctors may need to specifically request.

Virtually all persons infected with *Campylobacter* will recover without any specific treatment. Patients should drink plenty of fluids as long as the diarrhea lasts. In more severe cases, antibiotics such as erythromycin or a fluoroquinolone can be used, and can shorten the duration of symptoms if they are given early in the illness. Your doctor will make the decision about whether antibiotics are necessary.

Prevention

Cook all poultry products thoroughly. Make sure that the meat is cooked throughout (no longer pink), any juices run clear, and the inside is cooked to 170oF (77oC) for breast meat, and 180oF (82oC) for thigh meat.

If you are served undercooked poultry in a restaurant, send it back for further cooking.

Wash hands with soap after handling raw foods of animal origin and before touching anything else.

Prevent cross-contamination in the kitchen:

Use separate cutting boards for foods of animal origin and other foods.

Carefully clean all cutting boards, countertops and utensils with soap and hot water after preparing raw food of animal origin.

Avoid consuming unpasteurized milk and untreated surface water.

Make sure that persons with diarrhea, especially children, wash their hands carefully and frequently with soap to reduce the risk of spreading the infection.

Wash hands with soap after having contact with pet feces.



More information on Campylobacteriosis can be found at www.cdc.gov