



Campylobacter Questions and Answers

"Campylobacter" bacteria are the second most frequently reported cause of foodborne illness. A comprehensive farm-to-table approach to food safety is necessary in order to reduce campylobacteriosis. Farmers, industry, food inspectors, retailers, food service workers, and consumers are each critical links in the food safety chain. This document answers common questions about the bacteria "Campylobacter," describes how the Food Safety and Inspection Service (FSIS) of the U.S. Department of Agriculture (USDA) is addressing the problems of "Campylobacter" contamination on meat and poultry products, and offers guidelines for safe food handling to prevent bacteria, such as "Campylobacter," from causing illness.

Q. What is *Campylobacter*?

A. *Campylobacter* [pronounced "kamp-e-lo-back-ter"] is a gram negative, microaerophilic bacterium and is one of the most common bacterial causes of diarrheal illness in the United States. *Campylobacter jejuni*, the strain associated with most reported human infections, may be present in the body without causing noticeable illness.

Campylobacter organisms can be found everywhere and are commonly found in the intestinal tracts of cats, dogs, poultry, cattle, swine, rodents, monkeys, wild birds, and some humans. The bacteria pass through the body in the feces and cycle through the environment. They are also found in untreated water.

Q. What harm can *Campylobacter* bacteria cause?

A. Infection caused by *Campylobacter* bacteria is called campylobacteriosis and is usually caused by consuming unpasteurized milk, raw or undercooked meat or poultry, or other contaminated foods and water, and contact with feces from infected animals. While the bacteria can exist in the intestinal tracts of people and animals without causing any symptoms or illness, studies show that consuming as little as 500 *Campylobacter* cells can cause the illness.

Symptoms of *Campylobacter* infection, which usually occur within 2 to 10 days after the bacteria are ingested, include fever, abdominal cramps, and diarrhea (often bloody). In some cases, physicians prescribe antibiotics when diarrhea is severe. The illness can last about a week.

Complications can include meningitis, urinary tract infections, and possibly reactive arthritis (rare and almost always short-term), and rarely, Guillain-Barre syndrome, an unusual type of paralysis. While most people who contract campylobacteriosis recover completely within 2 to 5 days, some *Campylobacter* infections can be fatal, resulting in an estimated 124 deaths each year.

Q. Are more people becoming ill from campylobacteriosis?

A. The Foodborne Diseases Active Surveillance Network (FoodNet) found a substantial decline in the incidents of infections caused by *Campylobacter* between 1996 and 2004. According to the Centers for Disease Control and Prevention (CDC), campylobacteriosis causes an incidence of about 20 cases per 100,000 population diagnosed in the United States annually. From laboratory-confirmed bacterial infection cases reported from 10 sites in 2004, *Campylobacter* was identified as the second most common bacterial infection reported (42% *Salmonella*, 37% *Campylobacter*, 15% *Shigella*, 2.6% *E. coli* O157:H7, and 3.4% others such as *Yersinia*, *Listeria*, and *Vibrio*).

FoodNet is a collaborative project among CDC, the 10 Emerging Infections Program sites (EPIs), USDA, and the U.S. Food and Drug Administration (FDA). One of the objectives of FoodNet is to measure effectiveness of a variety of preventive measures in reducing the incidence of foodborne illness attributable to the consumption of meat, poultry, and other foods.

Q. Who is most susceptible?

A. Anyone may become ill from *Campylobacter*. However, infants and young children, pregnant women and their unborn babies, and older adults, are at a higher risk for foodborne illness, as are people with weakened immune systems (such as those with HIV/AIDS, cancer, diabetes, kidney disease, and transplant patients).

Q: How can *Campylobacter* be controlled?

A. *Campylobacter* can be stopped at a number of different points in the food production and marketing chain.

On the farm:

- Good sanitary practices on farms, as recommended by USDA, minimize the opportunity for the bacteria to spread among animals and birds.
- Pasteurization of milk and treatment of municipal water supplies eliminate another route of transmission for *Campylobacter* and other bacteria.

In the plant:

- Raw foods are not sterile, and there are no requirements that they be sterile. Food processing companies are accountable for following good, up-to-date manufacturing practices that minimize the opportunity for the spread of *Campylobacter* and other bacteria.

At retail:

- A food recall is a voluntary action by a manufacturer or distributor to protect the public from products that may cause health problems or possible death. FSIS conducts a sufficient number of effectiveness checks to verify the recalling firm has contacted the distributor or retailer.

Q. What is FSIS doing to prevent *Campylobacter* infections?

A. In its commitment to ensure that the public has a safe, wholesome food supply, FSIS is constantly working to improve the level of safety and reduce contaminants in the meat and poultry supply.

In 1998, FSIS began enforcing a combination of Hazard Analysis and Critical Control Points (HACCP) based process control, microbial testing, pathogen reduction performance standards, and sanitation standard operating procedures which significantly reduce contamination of meat and poultry with harmful bacteria and reduce the risk of foodborne illness. Establishments can choose to include *Campylobacter* in their HACCP analysis.

HACCP clarifies the responsibilities of industry and FSIS in the production of safe meat and poultry products. The role of FSIS is to set appropriate food safety standards and maintain vigorous inspection oversight to ensure that those standards are met.

USDA is supporting research to learn more about *Campylobacter* in food and how to control it.

Finally, FSIS conducts extensive safe food handling education programs to help prevent and reduce the risks of foodborne illness.

Q. What is the best way to prevent *Campylobacter* infections?

A. Meat and poultry can contain *Campylobacter*. However, the bacteria can be found in almost all raw poultry because it lives in the intestinal track of healthy birds. Improving safe food handling practices in kitchens will reduce the number of *Campylobacter* illnesses. *Campylobacter* bacteria are extremely fragile and are easily destroyed by cooking to a safe minimum internal temperature. They are also destroyed through typical water treatment systems. Freezing cannot be relied on to destroy the bacteria. Home freezers are generally not cold enough to destroy bacteria.

To destroy *Campylobacter* and minimize the risk of foodborne illnesses:

CLEAN: Wash Hands and Surfaces Often

- Wash your hands with warm soapy water for 20 seconds before and after handling food and after using the bathroom, changing diapers, and handling pets.
- Wash utensils, cutting boards, dishes, and countertops with hot soapy water after preparing each food item and before you go on to the next item.
- Consider using paper towels to clean kitchen surfaces. If you use cloth towels, wash them often in the hot cycle of your washing machine.

SEPARATE: Don't Cross-contaminate

- Separate raw meat, poultry, and seafood from other foods in your grocery shopping cart and in your refrigerator.
- If possible, use one cutting board for fresh produce and a separate one for raw meat, poultry, and seafood.
- Always wash cutting boards, dishes, countertops, and utensils with hot soapy water after they come in contact with raw meat, poultry, and seafood.
- Never place cooked food on a plate which previously held raw meat, poultry, or seafood.

COOK: Cook to Safe Temperatures

Use a clean food thermometer when measuring the internal temperature of meat, poultry, casseroles, and other foods to make sure they have reached a safe minimum internal temperature:

- Beef, veal, and lamb steaks, roasts, and chops to 145 °F.
- All cuts of pork to 160 °F.
- Ground beef, veal and lamb to 160 °F.
- Egg dishes, casseroles to 160 °F.
- All poultry should reach a safe minimum internal temperature of 165 °F.
- Stuffing whole poultry is not recommended. Cook stuffing separately to 165 °F.
- Leftovers to 165 °F.

- Do not eat or drink foods containing raw, unpasteurized milk.
- Fish should reach 145 °F as measured with a food thermometer.
- Bring sauces, soups, and gravy to a boil when reheating.
- Reheat other leftovers thoroughly to at least 165 °F.

CHILL: Refrigerate Promptly

- Keep food safe at home, refrigerate promptly and properly. Refrigerate or freeze perishables, prepared foods, and leftovers within 2 hours (1 hour if the temperature is above 90 °F).
- Freezers should register 0 °F or below and refrigerators 40 °F or below.
- Thaw food in the refrigerator, in cold water, or in the microwave. Foods should not be thawed at room temperature. Foods thawed in the microwave or in cold water must be cooked to a safe minimum internal temperature before refrigerating.
- Marinate foods in the refrigerator.
- Divide large amounts of leftovers into shallow containers for quick cooling in the refrigerator.
- Don't pack the refrigerator. Cool air must circulate to keep food safe.

For more information about *Campylobacter*, see the Centers for Disease Control and Prevention (CDC) website at: www.cdc.gov/ncidod/dbmd/diseaseinfo/campylobacter_g.htm

Food Safety Questions?

Call the USDA Meat & Poultry Hotline

If you have a question about meat, poultry, or egg products, call the USDA Meat and Poultry Hotline toll free at **1-888-MPHotline (1-888-674-6854)**; TTY: 1-800-256-7072.



The hotline is open year-round Monday through Friday from 10 a.m. to 4 p.m. ET (English or Spanish). Recorded food safety messages are available 24 hours a day. Check out the FSIS Web site at www.fsis.usda.gov.

Send E-mail questions to MPHotline.fsis@usda.gov.

Ask Karen!

FSIS' automated response system can provide food safety information 24/7



www.fsis.usda.gov