

Campylobacteriosis

(*Campylobacter* spp)

NOTE: Changes to this chapter include: updated case definition (**highlighted in yellow**).

DISEASE REPORTABLE WITHIN 24 HOURS OF DIAGNOSIS

Per N.J.A.C. 8:57, healthcare providers and administrators shall report by mail or by electronic reporting within 24 hours of diagnosis, confirmed cases of campylobacteriosis to the health officer of the jurisdiction where the ill or infected person lives, or if unknown, wherein the diagnosis is made. A directory of local health departments in New Jersey is available at <http://localhealth.nj.gov>



Campylobacteriosis

1 THE DISEASE AND ITS EPIDEMIOLOGY

A. Etiologic Agent

Campylobacter jejuni is the usual cause of campylobacteriosis, with only 1% of cases caused by other species such as *C. coli*.

B. Clinical Description

The most common symptoms of campylobacteriosis are diarrhea (bloody in 30% of cases), abdominal pain, malaise, fever, nausea, and sometimes vomiting. Infection can cause a spectrum of disease ranging from mild, uncomplicated gastroenteritis to fulminant disease that mimics acute appendicitis. Asymptomatic infections also occur. The illness is usually over within a week but may be prolonged in some individuals and can sometimes relapse. Long-term complications include reactive arthritis and Guillain-Barré syndrome (GBS). It is estimated that approximately one in every 1000 reported campylobacteriosis cases leads to GBS, and as many as 40% of GBS cases in this country are triggered by campylobacteriosis. Systemic infection with *Campylobacter* can lead to sepsis, endocarditis, or meningitis.

C. Reservoirs

Campylobacter bacteria are endemic in animals, notably cattle and poultry, although swine, sheep, and even pets such as birds, kittens, and puppies may be sources of human infection. A very large percentage of raw poultry is contaminated with *C. jejuni*. In 2005, *Campylobacter* was present on 47% of raw chicken breasts tested through the FDA-NARMS Retail Food program.

D. Modes of Transmission

Campylobacter is transmitted via the fecal-oral route. The most common mode of transmission is ingestion of food or water that has been contaminated with human or animal feces. This includes raw and undercooked poultry or pork, inadequately treated drinking water, raw (unpasteurized) milk, and raw milk products; however, any food contaminated with the bacteria can be a source of infection. In addition, farm animals and pets, such as

puppies with diarrhea, can be sources of infection. Person-to-person spread can also occasionally occur, especially among household contacts, preschool children in daycare, the elderly, and developmentally disabled persons living in residential facilities. Transmission can also occur through certain types of sexual contact (e.g., oral-anal contact).

E. Incubation Period

The incubation period can vary from one to 10 days but is usually about two to five days after exposure to the organism.

F. Period of Communicability or Infectious Period

The disease is communicable for as long as infected persons excrete *Campylobacter* bacteria in their stool. This can occur from days to several weeks. People who are not given antibiotics have been known to shed these bacteria for as long as seven weeks.

G. Epidemiology

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 the Centers for Disease Control and Prevention (CDC) FoodNet indicates about 13 cases are diagnosed each year for each 100,000 persons in the 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* does not commonly cause death, it has been estimated that approximately 100 persons with *Campylobacter* infections may die each year. In New Jersey, about 900 cases of campylobacteriosis are reported every year to the New Jersey Department of Health (NJDOH).

2 CASE DEFINITION

A. New Jersey Department of Health (NJDOH) Case Definition

1. Clinical Description

An infection that may result in diarrheal illness of variable severity.

2. Laboratory Criteria for Diagnosis

Confirmed

Isolation of *Campylobacter* species from any clinical specimen.

Probable

Communicable Disease Service Manual

Detection of *Campylobacter* species in a clinical specimen using non-culture based laboratory methods.

3. Case Classification

CONFIRMED

Isolation of *Campylobacter* species from any clinical specimen.

PROBABLE

A clinically compatible case epidemiologically linked to a confirmed or probable case, or

Detection of *Campylobacter* species in a clinical specimen using non-culture based laboratory methods.

B. No Differences from CDC Case Definition

NJDOH's "Possible" case classification is no longer going to be used.

A. Purpose of Surveillance and Reporting

- To identify transmission sources of public health concern (e.g., contaminated food or water) and to stop transmission from such sources.
- To identify whether the patient may be a source of infection for other persons (e.g., daycare worker or attendee, food handler, healthcare provider) and, if so, to prevent further transmission.
- To provide education about reducing the risk of infection.

B. Laboratory Reporting Requirements

The New Jersey Administrative Code (NJAC 8:57-1.6) stipulates that laboratories report (by telephone, by confidential fax, or over the Internet using the Communicable Disease Reporting and Surveillance System [CDRSS]) all cases of campylobacteriosis to the local health officer having jurisdiction over the locality in which the patient lives, or, if unknown, to the health officer in whose jurisdiction the healthcare provider requesting the laboratory examination is located. The report shall contain, at a minimum, the reporting laboratory's name, address, and telephone number; the age, date of birth, gender, race, ethnicity, home address, and telephone number of the person tested; the test performed; the date of testing; the test results; and the healthcare provider's name and address.

C. Healthcare Provider Reporting Requirements

The New Jersey Administrative Code (NJAC 8:57-1.4) stipulates that healthcare providers report (by telephone, by confidential fax, or in writing) all cases of campylobacteriosis to the local health officer having jurisdiction over the locality in which the patient lives, or, if unknown, to the health officer in whose jurisdiction the healthcare provider requesting the laboratory examination is located. The report shall contain the name of the disease; date of illness onset; name, age, date of birth, race, ethnicity, home address, and telephone number of

the person they are reporting. Additionally, the name, address, institution, and telephone number of the reporting official and other information as may be required by NJDOH concerning a specific disease should be reported.

D. Health Officer's Reporting and Follow-Up Responsibilities

The New Jersey Administrative Code (NJAC 8:57-1.7) stipulates that each local health officer must report the occurrence of any case of campylobacteriosis within 24 hours of receiving a report from a laboratory or healthcare provider to the NJDOH, Infectious and Zoonotic Disease Program (IZDP). A report must be filed electronically over the internet using the confidential and secure CDRSS.

3 LABORATORY TESTING AVAILABLE

The NJDOH, Public Health, Environmental and Agricultural Laboratories (PHEAL) does not routinely test clinical and food samples for *Campylobacter* spp. If testing is needed in an outbreak situation, please contact IZDP staff to discuss alternatives.

4 CASE INVESTIGATION

A. Forms

It is the health officer's responsibility to investigate the case by interviewing the patient and others who may be able to provide pertinent information. Much of the information required in CDRSS can be obtained from the patient's healthcare provider or the medical record. To obtain relevant information please use the campylobacteriosis case report worksheet available at: http://www.nj.gov/health/cd/documents/topics/campy/campylo_worksheet.pdf.

- When asking about exposure history (food, travel, activities, and so forth), use the incubation period for *Campylobacter* (one to 10 days). Specifically, focus on the period beginning a minimum of one day before the patient's onset date back to no more than 10 days before onset. If possible, record any restaurants at which the patient ate, including food item(s) and date consumed.
- In a case of an outbreak, immediately notify the NJDOH, IZDP by telephone at 609.826.5964 during business hours and 609.392.2020 after business hours and on weekends and holidays.
- After completing the worksheet, enter the information into the Communicable Disease Reporting and Surveillance System (CDRSS).

B. Other Reporting/Investigation Issues

1. Once LHD completes its investigation and assigns a report status of “LHD CLOSED,” NJDOH will review the case. NJDOH will approve the case by changing the report status to “DHSS APPROVED.” At this time, the case will be submitted to CDC and the case will be locked for editing. If additional information is received after a case has been placed in “DHSS APPROVED,” you will need to contact NJDOH to reopen the case. This should be done only if the additional information changes the case status of the report.

5 CONTROLLING FURTHER SPREAD

A. Isolation and Quarantine Requirements (NJAC 8:57-1.10)

1. Minimum Period of Isolation of Patient

Food handlers with *Campylobacter* are to be excluded from work until 24 hours after diarrhea and vomiting have resolved. In outbreak situations, special precautions such as submission of additional stool specimens before returning to food handling duties may be warranted.

2. Minimum Period of Quarantine of Contacts

Contacts with diarrhea who are food-handling facility employees shall be considered the same as a case-patient and handled in the same fashion. No restrictions otherwise.

NOTE: A food handler is ANY person directly preparing or handling food. This may include patient care providers or childcare providers.

B. Protection of Contacts of a Case

None.

C. Managing Special Situations

1. Daycare/School

Because campylobacteriosis may be transmitted person to person through fecal-oral transmission, it is important to follow cases of campylobacteriosis in a daycare or school setting. General recommendations include the following:

- Children and staff with *Campylobacter* infection should be excluded until they become asymptomatic.
- Children and staff with *Campylobacter* infection that handle food should refrain from food handling duties until 24 hours after diarrhea and vomiting have resolved.

- In outbreak situations, additional precautions may be implemented including exclusion of children and staff who are cases until negative stool specimens are obtained.
- Infection control practices including frequent hand washing should be implemented.

2. Community Residential Programs and Long-Term Care Facilities

Actions taken in response to a case of campylobacteriosis infection in a community residential program will depend on the type of program and the level of functioning of the residents. In outbreak situations, special precautions may be warranted.

In long-term care facilities, residents with campylobacteriosis should be placed on standard (including enteric) precautions until their symptoms subside. Staff members with *campylobacter* infection should not work until they become asymptomatic. Staff should refrain from handling or preparing food until 24 hours after diarrhea and vomiting have resolved.

In residential facilities for the developmentally disabled, staff and clients with campylobacteriosis must refrain from handling or preparing food for other residents until 24 hours after diarrhea and vomiting have resolved.

If an outbreak is detected or suspected in a long-term care facility or community residential program, the facility must report the outbreak to its LHD. Facility management should also report any such outbreak to the Division of Long-Term Care Compliance and Surveillance Program of Department of Health by telephone 800.792.9770 or fax 609-943-4977.

6 OUTBREAK SITUATIONS

If the number of reported cases of campylobacteriosis in a particular setting is higher than usual, or if an outbreak is suspected, investigate to determine the source of infection and mode of transmission. A common vehicle, such as water, food, or association with a daycare center, should be sought and applicable preventive or control measures should be instituted. Consult with the IZDP at 609.826.5964. The Program staff can help determine a course of action to prevent further cases and perform surveillance for cases that may cross several jurisdictions and therefore be difficult to identify at a local level.

A. Preventive Measures

Environmental Measures

Implicated food items must be removed from the environment. A decision about testing implicated food items can be made in consultation with IZDP and the Food and Drug Safety Program (FDSP). FDSP can help coordinate pickup and testing of food samples. If a commercial product is suspected, FDSP will coordinate follow-up with relevant outside agencies.

NOTE: The role of FDSP is to provide policy and technical assistance with the environmental investigation such as interpreting the New Jersey Food Code, conducting a hazardous analysis and critical control points risk assessment, initiating enforcement actions, and collecting food samples.

1. Personal Preventive Measures/Education

To avoid infection with *Campylobacter*, recommend that individuals:

- Always wash their hands thoroughly with soap and water before eating or preparing food, after using the toilet, and after changing diapers.
- After changing diapers, wash the child's hands as well as their own.
- In a daycare setting, dispose of feces in a sanitary manner.
- Scrub their hands with plenty of soap and water after cleaning the bathroom; helping a person use the toilet; or changing diapers, soiled clothes, or soiled sheets when caring for someone with diarrhea.

Additional Information

A "Campylobacteriosis FAQ" can be obtained through the NJDOH Web site at <http://nj.gov/health/cd/topics/campy.shtml>.

Additional information can be obtained from the US Food and Drug Administration's Center for Food Safety and Applied Nutrition Web site at www.cfsan.fda.gov.

References

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