

# Campylobacteriosis

caused by the bacterium *Campylobacter jejuni*

**Neil W. Dyer**

DVM, DACVP

Director, NDSU Diagnostic Laboratory

**Charles L. Stoltenow**

DVM, DACVPM

Extension Veterinarian

*Campylobacter enteritis is a disease in humans caused by bacteria that can also inhabit animals. Onset of the disease is very rapid (acute) with symptoms that include diarrhea, abdominal pain, malaise, fever, nausea and vomiting. Illness frequently lasts two to five days and is usually over in 10 days.*

*The reservoir is animals, most frequently poultry. Puppies, kittens, other pets, swine, sheep, rodents and birds may also be sources of human infection. Most raw poultry is contaminated with Campylobacter.*

*Transmission to humans is usually through ingestion of undercooked or contaminated food and water. Contact with infected animals (especially puppies and kittens), farm animals or infected infants has also been implicated in transmitting the disease.*

*The disease can be prevented by properly preparing and cooking foods, especially poultry. Individuals who work with animals should wear protective clothing, and washing hands after handling animals is essential.*

## The disease in humans

- Many infections do not cause clinical signs
- All age groups affected in all parts of the world
- Important cause of chronic gastrointestinal disease
  - diarrhea, lethargy, fever, nausea, vomiting
  - usually resolves in a few days but may become chronic
- Uncommon complications include: arthritis, Guillain-Barré syndrome (nervous system disorder), meningitis, septicemia
- Poultry, cattle, puppies, kittens, pigs, sheep, rodents and birds can harbor the organism
- Transmission to people is by ingestion of undercooked chicken or pork, contaminated food or water, contact with infected pets, contact with infected farm animals, fecal contamination of milk
- Person to person transmission is uncommon

- Preventive measures
  - Irradiate food, properly cook food, avoid recontamination of cooked foods with uncooked foods
  - Pasteurize milk, chlorinate or boil water supplies
  - Use of biosecurity to prevent the spread of the bacterium on animal production premises
  - Recognize, prevent and control the infection in animals
  - Minimize contact with poultry
- In the event of disease:
  - Report to local health authority
  - Disinfect premises
  - No immunization is available
  - Organism is easily destroyed by heating, drying and exposure to atmosphere

## The disease in sheep

- Abortion
  - May see late-term abortions (last six weeks of gestation), premature births, stillbirths, weak lambs
  - Inflammation of fetal liver, fetal lung and placenta
- Weak lambs and aborting ewes can be carriers
- Bacteria shed in feces contaminate feed and water
- Transmission by ingestion

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- Aborting ewes have immunity and can be retained for breeding
- Ewes may develop uterine infection
- Vaccine available

### **EXPOSURE POINT!**

Humans can become infected with *Campylobacter jejuni* through exposure to aborting ewes, infected fetuses, and infected lambs. Take proper precautions when assisting ewes at lambing times, when handling aborted fetuses and placentas, and when working with sick lambs.

- Wear protective gloves
- Wash hands
- Clean the environment
- Vaccinate sheep when appropriate
- Treat diagnosed cases

## **The disease in cattle**

- Uncommon cause of abortion in cattle
- May see inflammation in fetal lung, fetal liver and placenta
- Can find organism in stomach contents of fetus
- Organism can be cultured from fetal tissues and fluids, and from vaginal discharge of aborting dam
- Calves
  - Thick, mucoid diarrhea with blood flecks

### **EXPOSURE POINT!**

Humans can become infected with *Campylobacter jejuni* through exposure to aborting cows, infected fetuses, and infected calves. Take proper precautions when assisting cows at calving, when handling

aborted fetuses and placentas, and when working with sick calves.

- Wear protective gloves
- Wash hands
- Clean the environment
- Treat diagnosed cases

## **The disease in poultry**

- *C. jejuni* is found in intestines of chickens, turkeys and waterfowl but is generally not disease-causing in mature poultry
- Commercial poultry and free-living birds can harbor the organism
- Poultry litter can be infected
- Infected chicks and poults can shed organism for up to two months
- Not transmitted from hen to chick
- Infection of day-old chicks with disease causing strains results in severe inflammation in the intestine and liver
- Chicks over a week old generally do not develop the infection
- **Contaminated, undercooked poultry is responsible for over 50 percent of human cases of campylobacteriosis**

### **EXPOSURE POINT!**

#### **Pre-harvest prevention of infection**

- Strict biosecurity
- Housing decontamination between flocks
- Exclusion of rodents and birds
- Insect eradication
- Chlorination of drinking water
- All in/all out flock management

### **EXPOSURE POINT!**

#### **Post-harvest carcass contamination**

- Improved washing of carcasses
- Counter-flow scalding
- Elimination of immersion chillers
- Reduction in manual handling
- Chemical disinfectants
- Gamma irradiation
- Thorough cooking (core temperature of 74° C for 1 min)

## **The disease in small animals**

- Most severe in puppies and kittens
- Mucoid, watery, bile-streaked diarrhea; may see blood
- Anorexia, vomiting, fever
- Prolonged infections possible but uncommon
- *Campylobacter* gastrointestinal disease also reported in ferrets, mink, primates, pigs, hamsters, guinea pigs, rats

**Number of human *Campylobacter jejuni* infections in North Dakota since 1984.**  
(North Dakota Department of Health)

1984	23	1992	81
1985	44	1993	74
1986	48	1994	77
1987	51	1995	63
1988	65	1996	75
1989	59	1997	59
1990	61	1998	57
1991	67	1999	64

**Five-year median – 63**

**For more information on this and other topics, see: [www.ag.ndsu.nodak.edu](http://www.ag.ndsu.nodak.edu)**



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