Occupational Health – Zoonotic Disease Fact Sheet

CAMPYLOBACTERIOSIS

KEY FACTS:

- *Campylobacter* infection, or campylobacteriosis, is an infectious disease caused by *Campylobacter* bacteria and was first isolated from nonhuman primates from *Macaca fascicularis* in 1979.
- It is considered to be the most common bacterial cause of human gastroenteritis in the world and causes more than a million foodborne illness in the United States each year.

SPECIES: *Campylobacter* is prevalent in both domestic and wild animals, and can be found in poultry, cattle, pigs, sheep, cats, dogs, birds, and even shellfish. It can also be found in laboratory animals including hamsters, ferrets, and rabbits, among others.

CAUSATIVE AGENT: Currently, there are 17 species and 6 subspecies assigned to the genus Campylobacter, of which the most frequently reported as causing human disease are *C. jejuni* (subspecies *jejuni*) and *C. coli*.

TRANSMISSION: Transmission is thought to occur by the fecal-oral route, through contamination of food or water, or by direct contact with infected fecal material. Most illnesses likely occur due to eating raw or undercooked poultry. Some cases of infection are from contaminated water, contact with animals, or drinking unpasteurized milk. The organism has also been isolated from houseflies. At 40 degrees Celsius the organism is viable for three weeks in feces and milk, four weeks in water, and five weeks in urine. *Campylobacter* is shed in the feces for at least six weeks after infection. Infected children may transmit infection to puppies or kittens, which may then expose other children. Poultry and cattle are the main reservoirs for human infection, which is acquired by ingesting contaminated raw milk, undercooked chicken, or other contaminated food.

DISEASE IN ANIMALS: Campylobacter has been shown to cause hepatitis in poultry, proliferative ileitis in hamsters, and abortion in ruminants. In all animals, it may be associated with diarrhea, especially when acting secondarily to virus infection.

DISEASE IN HUMANS: Symptoms of Campylobacter infection include diarrhea with or without blood, abdominal pain, nausea, vomiting, and fever. It is usually a brief, self-limiting disease and symptoms usually start within 2 to 5 days after exposure and last about a week, however, symptoms can take as long as 10 days before they start. In individuals with weakened immune systems, Campylobacter occasionally spreads to the bloodstream and can cause septicemia, which is a life-threatening condition. Infection with Campylobacter jejuni, which causes diarrhea, is one of the most common risk factors for Guillain-Barré syndrome.

DIAGNOSIS: Diagnosis of campylobacter infection is done through standard laboratory cultures of stool, through a Gram stain of a stool sample, or through a rapid diagnostic test that

detects genetic material of the bacteria. *Please review current literature before prescribing diagnostic testing as recommendations may have changed.*

TREATMENT: In animals, Campylobacter infection does not always cause any illness, and treatment with antibiotics is not always recommended or required. Currently, erythromycin is the drug of choice, but does not eliminate the carrier state. Tetracycline or ciprofloxacin are alternatives. Humans infected with Campylobacter recover with rest and plenty of fluids and do not typically require antibiotics. Antibiotics are needed only for patients who are very ill or at high risk for severe disease, or who have a severely weakened immune system. Antibiotics typically prescribed include azithromycin, levofloxacin, ciprofloxacin, and clindamycin. *Please consult your physician for treatment as recommendations may have changed.*

PREVENTION\CONTROL: Vaccines provide partial protection of short durations and routine use is not recommended. Control is aimed at personal hygiene and cooking food to appropriate temperatures. Thoroughly cook all foodstuffs derived from animal sources, particularly poultry, and do not drink untreated water and unpasteurized milk. When working with animals, always wash hands after contact with farm animals, pets, animal feces, animal tissue, and animal environments. To prevent and control unintended infections, use uninfected animals for research, and isolate any animals used in clinical trials. Additionally, only conduct projects in laboratories with proper engineering controls and train staff members in the proper use of required personal protective equipment when they are in spaces containing live agent.

More information on campylobacter can be found on the Centers for Disease Control and Prevention website at: https://www.cdc.gov/campylobacter/