**CAMPYLOBACTERIOSIS**

<table>
<thead>
<tr>
<th>Animal Group(s) Affected</th>
<th>Transmission</th>
<th>Clinical Signs</th>
<th>Severity</th>
<th>Treatment</th>
<th>Prevention and Control</th>
<th>Zoonotic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mammals, including humans; birds; reptiles; fish; and shellfish</td>
<td>Food- or water-borne; fecal-oral spread; direct contact with contaminated surfaces or contact with infected animals</td>
<td>Host-specific: none to severe; diarrheal disease - watery or bloody; possibly with fever, abdominal cramps, nausea, and vomiting; other illnesses, such as abortion and infertility, and periodontal disease</td>
<td>Mild to life threatening; gastroenteritis, with possible sepsis and disseminated infections; children, immune-compromised individuals and the elderly may be at greater risk. Long-term consequences (such as arthritis or Guillain-Barré) occur rarely in people</td>
<td>Extra fluids to remain hydrated as long as diarrhea persists. Recovery often occurs without antibiotics, although they may be used to shorten the duration of clinical signs if administered early in course of disease.</td>
<td>Practice sanitary food preparation; use good personal and environmental hygiene; wear gloves when working with infected animals or surfaces in contact with their feces; wash hands with soap and water. To reduce venereal transmission, use strict hygiene, artificial insemination and vaccination; tetracycline may prevent abortion in ewes</td>
<td>Yes</td>
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</tbody>
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**Fact Sheet Reviewed by:** Jatinder Singh, Michael R. Cranfield

**Susceptible animal groups:** Mammals, including humans; birds; reptiles, fish, and mollusks

**Causative organism:** *Campylobacter* spp.(various)

**Zoonotic potential:** Yes

**Distribution:** Surfaces (wet cutting boards or utensils) where raw or partially cooked meat (particularly poultry) is prepared; surface waters and mountain streams exposed to feces from cattle and wild birds; surfaces in contact with feces from infected agricultural animals, pets, wild, zoo and lab animals.

**Incubation period:** 2-5 days, and may be up to one week

**Clinical signs:** Clinical signs are host-specific; cross-infection is possible and range from none to severe. Diarrhea tends to be watery or may be bloody; fever, abdominal cramps, nausea, and vomiting may also be present; other illnesses, such as abortion, stillbirths or infertility may occur in cattle and sheep.

**Post mortem, gross, or histologic findings**
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**Enteric campylobacteriosis:** Biopsy specimens from people have shown acute colitis with inflammatory infiltrates of the lamina propria and crypt abscesses. Organisms can stably colonize the small and large intestine, although most animals show cecal and colonic lesions with typhlocolitis; marked inflammation of lamina propria, dominated by neutrophilic polymorphonuclear and mononuclear cells that sometimes extend into submucosa; crypt abscesses and damage to the crypt epithelium is common; a compromised epithelial surface also been observed in most species.

**Bovine and ovine genital campylobacteriosis:** Abortion occurs most frequently in late pregnancy with occasional infertility. Liver shows typical gray, necrotic foci 1-2 cm in diameter; fetuses usually edematous and body cavities contain reddish fluid; fetal membranes edematous and cotyledons pale and necrotic but lesions do vary. Curved bacteria in stains of cotyledon impressions or fetal abomasal fluid. Gram negative organisms found in wet preps of abomasal fluid examined by dark-field or phase-contrast microscopy.

**Diagnosis:** Bacterial culture of fresh feces; darkfield examination of abomasal contents or culture of placenta or abomasal contents or in uterine discharge

**Material required for laboratory analysis:** Fresh fecal samples in enteric transport kit and storage at 4°C

**Relevant diagnostic laboratories:** Laboratories capable of bacteriologic culturing on selective culture media incubated under microaerobic conditions, and temperatures allowing growth of non-thermotolerant species. *Campylobacter* species are difficult to isolate and suboptimal conditions for isolation will yield false-negative results. Variations in laboratory practices have been reported, also suggesting variations in specimen handling and processing, which likely influence recovery and detection of *Campylobacter* species.

**Treatment:** Usually no medical treatment is necessary. Rehydrating levels of fluids should be administered during diarrheal disease. Appropriate antibiotics, such as erythromycin, may be a consideration in some cases. Suspected genital campylobacteriosis should be confirmed by isolation of organisms from herd bulls, selected infertile non-pregnant cows or aborted fetuses or cotyledons.

**Prevention and control:** Raw poultry meat should not be prepared on a cutting board then used unwashed for other food items, especially when not cooked after handling. Appropriate hygiene in food preparation should include separate cutting boards for proteins and produce. Unpasteurized milk and untreated surface water and mountain streams should be avoided. Wash hands using soap and running water after contact with animals, their enclosures, and other surfaces that are in contact with feces from animals. Animals infected with genital campylobacteriosis should not be utilized for breeding.

**Suggested disinfectant for housing facilities:** After cleaning gross contamination, diluted bleach (15ml in one quart of water) applied to dry or wiped dry after 10 minutes. Other disinfectants may be used; check disinfectant label to verify its effectiveness against *Campylobacter* spp.

**Notification:** Report cases to the local health department if zoonotic transmission occurs, depending on the state.

**Measures required under the Animal Disease Surveillance Plan:** Currently none

**Measures required for introducing animals to infected animal:** Maintain infected animal in a quarantine situation until the infection is cleared. Do not house infected animals with immune compromised animals.

**Conditions for restoring disease-free status after an outbreak:** Improvements in personal and environmental hygiene can be directed at animal husbandry and health staff. Education efforts can be directed toward proper food handling techniques, and toward avoiding consumption of potentially contaminated food, milk or water.

**Experts who may be consulted:**
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CAMPYLOBACTERIOSIS

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References: