

Cryptosporidiosis

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Cryptosporidiosis is a parasitic infection of human and animal importance. The organism can affect the epithelial cells of the human and animal gastrointestinal and respiratory tracts. Many different species of animals, including poultry, fish, reptiles, and small and large mammals, can act as reservoirs for and become infected with *Cryptosporidium* spp.

Many different species of *Cryptosporidium* exist as well; some are transmissible to man from animals and some are not. Transmission is fecal-oral, which includes contaminated food and water, animal-to-person and person-to-person routes.

The parasite infects intestinal epithelial cells. Eventually parasite oocysts are shed in the feces and provide a source of infection that can survive under very adverse environmental conditions. The oocysts are very resistant to disinfectants as well.

Cryptosporidiosis can be prevented by using good personal hygiene. Wash hands with soap after using bathroom facilities. Only consume clean or filtered water, and prepare food properly. Individuals who work with animals should wear protective clothing and wash their hands after handling animals.

The Disease in Humans

- Infection of gastrointestinal and respiratory tracts
- Infections without symptoms are common; these are a source of infection to others
- Diarrhea, anorexia, vomiting
 - Usually resolves in one to two weeks in healthy individuals
- Serious, prolonged disease in individuals with compromised immune systems
- Worldwide occurrence, reported in a wide variety of animals
- Can infect all ages
- Outbreaks often associated with contaminated water or beverages
- Infection is through contact with/ingestion of contaminated fecal material
- Prevention
 - Sanitary disposal of human feces
 - Sanitary disposal of animal feces
 - Care in handling animal feces, particularly feces from calves with diarrhea
 - Boil water if necessary
 - Remove infected individual from exposure situations

- Control
 - Report to local health authority
 - Isolate infected individuals
 - Disinfect
 - Investigate source of outbreaks
 - No vaccine available; treatment is variably successful

The Disease in Calves/Lambs/Kids

- One- to four-week-old animals
- Diarrhea, anorexia and weight loss
- Often occurs with other diarrhea-causing bacteria and/or viruses, or in animals that have a compromised immune system
- Re-infection can cause relapses, chronic infection and death
- Infected calves/lambs/kids pass the organism in their fecal material

- Humans can become infected with *Cryptosporidium* spp. through exposure to young ruminants with diarrhea. Take proper precautions when treating calves/lambs/kids with diarrhea.
- Wear protective gloves
- Wash hands
- Clean the environment

The Disease in Birds

- Can cause gastrointestinal and respiratory infections in birds
- Worldwide
- Disease-causing stage of the organism is shed in feces or respiratory secretions of infected birds
- Diarrhea or pneumonia possible
- Can be fatal
- No vaccination, no effective treatment
- Oocysts (infective stage) are resistant to many chemicals and environmental conditions

The Disease in Reptiles

- Can cause gastrointestinal and respiratory disease in reptiles
- Has been associated with stomach infections in snakes

For more information on this and other topics, see www.ag.ndsu.edu

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