Escherichia Coli - Shiga toxin producing (STEC) and O157:H7

Disease in Animals

STEC live in the guts of ruminant animals, including cattle, goats, sheep, deer, and elk. The STEC that cause human illness generally do not make animals sick. Other kinds of animals, including pigs and birds, sometimes pick up STEC from the environment and may spread it.

Reporting: *E. coli* is not a required reportable disease in animals. Voluntary reporting to the local health department (LHD) is encouraged when there is a risk of transmission to humans.

Transmission: Cattle are the major source of the bacteria although it has been isolated from many species including sheep, goats, pigs, deer, dogs, and poultry. Fecal shedding occurs in apparently healthy animals and 0157:H7 persists longer in the environment than other strains of *E. coli*. The duration of shedding may be quite variable and intermittent, making test and removal control programs impossible at this time.

Clinical signs: Usually none

Diagnostics: Culture of the organism.

Case classification:
Probable: a clinically suspect case with laboratory evidence from a screening or unvalidated test.
Confirmed: a case that meets confirmatory testing criteria determined by a state or federal diagnostic laboratory.

Disease in Humans

Reporting: Report by the end of the business day any suspected human illness or positive laboratory result to the LHD where the patient resides. If unknown, report to the LHD of the health provider or laboratory.

Human illness: An infection of variable severity characterized by diarrhea (often bloody) and abdominal cramps. Illness may be complicated by hemolytic uremic syndrome (HUS) or thrombotic thrombocytopenic purpura (TTP). Asymptomatic infections also may occur and the organism may cause extraintestinal infections

Although primarily a foodborne pathogen, direct transmission from animals (especially ruminants) to humans can occur through the fecal-oral route. Insects and birds are potential vectors. Swimming in contaminated waters, caring for infected humans, and eating improperly cooked or unpasteurized foods are also risk factors.

Personal protection: Good hygiene prevents fecal-oral transmission in most cases. E. coli O157:H7 is susceptible to most disinfectants and heating to a minimum temperature of 160°F/71°C.

For More Information

Disease in Animals

Iowa State University Center for Food Security and Public Health Animal Disease Factsheets
AVMA Zoonosis Updates
OSU Extension Fact Sheet

Disease in Humans

ODH Infectious Disease Control Manual
CDC Escherichia coli O157:H7