

CHOLERA FACT SHEET

Agent: *Vibrio cholerae* that produce enterotoxin (serogroup O1 or serogroup O139)

Brief description: An acute bacterial infection of variable severity ranging from asymptomatic infection to profuse watery diarrhea. If severe disease is not treated, rapid dehydration, acidosis, circulatory collapse, hypoglycemia (in children), renal failure, and death can occur. Cholera is very rare in the United States, with an average of 0-5 cases per year; most of these have been linked to eating seafood from the Louisiana and Texas Gulf Coast. Cholera is a major cause of epidemic diarrhea in the developing world.

Reservoir: Humans are the primary reservoir. Environmental reservoirs are likely copepods and other zooplankton in brackish rivers and coastal estuaries.

Mode of Transmission: Ingestion of food or water contaminated with stool or vomitus of infected persons. Also transmitted through eating raw or undercooked seafood that either comes from polluted waters or is naturally contaminated.

Incubation Period: Usually 2-3 days, but ranges from a few hours to five days.

Laboratory Criteria for Diagnosis:

- Isolation of toxigenic (i.e., cholera toxin-producing) *Vibrio cholerae* O1 or O139 from stool or vomitus, OR
- Serologic evidence of recent infection (a fourfold change in vibriocidal antibody titer)

NOTE: Isolation of *Vibrio* in culture requires special selective media, so the laboratory must be informed of the suspicion of cholera infection to assure proper testing of the specimen.

Diagnostic Testing:

A. *Vibrio* spp. culture

1. Specimen: Feces; Food (outbreak only)
2. Outfit: Stool culture; None provided for food
3. Lab Form: 3416 for stool culture; 3450 for food culture
4. Lab Test Performed: Culture of *Vibrio*
5. Lab: Bacteriology Laboratory, Georgia Public Health Laboratory (GPHL) in Decatur.

B. *Vibrio cholerae* typing

1. Specimen: Pure culture
2. Outfit: Culture referral
3. Lab Form: 3410
4. Lab Test Performed: *Vibrio cholerae* typing
5. Lab: Bacteriology Laboratory, GPHL in Decatur.

NOTE: In outbreak situations, collect and refrigerate food specimens for laboratory analysis. The food sample should be sent to the bacteriology lab using Lab Form 3450, through coordination with the Epidemiology Branch (404-657-2588).

Case Classification

- **Confirmed:** A clinically compatible case that is laboratory confirmed

Period of Communicability: For the duration of the stool positive stage, usually only a few days after recovery. Occasionally, the carrier state may persist for several months.

Vaccine: A killed whole cell vaccine given parenterally is available, but it confers only brief and incomplete immunity. It is not recommended for travelers. As of late 1999, two oral vaccines for cholera were not licensed for use in the USA.

Treatment: Immediate rehydration therapy to repair fluid and electrolyte deficits and maintenance therapy to replace ongoing diarrheal losses are central to treating cholera. Patients

can be treated with an oral rehydration solution, a prepackaged mixture of sugar and salts to be mixed with water and drunk in large amounts. Severe cases also require intravenous fluid replacement. Antibiotics (tetracycline, doxycycline, or trimethoprim-sulfamethoxazole) can shorten the course and diminish the severity of the illness, as well as shorten the duration of *Vibrio* excretion.

Investigation: CDC form 52.79, “Cholera and Other *Vibrio* Illness Surveillance Report” will help guide the investigation. Obtain history of travel to and from endemic areas, dates of travel, mode of transportation, and foods consumed. Recent travel to and from cholera-endemic areas is the source for most recent cases occurring in the United States. Explore the possibility of infection from exposure to a contaminated body of water or eating seafood. Conduct surveillance of companions who shared food and drink from the five days prior to illness onset. Determine if case is outbreak-related, and notify the Epidemiology Branch.

Reporting: Report cases **IMMEDIATELY** by phone to the local health department, District Health Office, or the Epidemiology Branch at 404-657-2588. If calling after regular business hours, it is very important to report cases to the Epidemiology Branch answering service. After a verbal report has been made, please transmit the case information electronically through the State Electronic Notifiable Disease Surveillance System (SENDSS) at <http://sendss.state.ga.us>, or complete and mail a GA Notifiable Disease Report Form (#3095). Complete CDC form 52.79, “Cholera and Other *Vibrio* Illness Surveillance Report,” and fax to the Epidemiology Branch at 404-657-7517 as soon as possible. Illnesses due to strains of *V. cholerae* other than toxigenic *V. cholerae* O1 or O139 should be reported as cases of *Vibrio* infection, not as cholera.

Reported Cases of Cholera in Georgia, 1993-1999

Year	Number of Cases
1993	0
1994	0
1995	2
1996	0
1997	0
1998	0
1999	1

References and Further Reading

1. Blake PA. Epidemiology of cholera in the Americas. *Gastroenterol Clin North Am* 1993; 22:639-60.
2. Centers for Disease Control and Prevention. Case Definitions for Infectious Conditions under Public Health Surveillance. *MMWR* 1997; 46(RR10): 1-55.
3. Centers for Disease Control and Prevention. Cholera Associated with Food Transported from El Salvador - Indiana, 1994. *MMWR* 1995; 44(20): 385-386.
4. Chin J, ed. Cholera and Other Vibrioses. In: *Control of Communicable Diseases Manual*. 17th ed. Washington, DC: American Public Health Association, 2000: 100-108.
5. Tauxe RV, Mintz ED, Quick, RE. Epidemic cholera in the new world: translating field epidemiology into new prevention strategies. *Emerging Infectious Diseases*, 1995; 1:141-146.
6. World Health Organization. Guidelines for cholera control. Geneva: World Health Organization, 1993.

Links

- CDC cholera – http://www.cdc.gov/ncidod/dbmd/diseaseinfo/cholera_g.htm
- CDC travel information – <http://www.cdc.gov/travel/>
- WHO cholera – <http://www.who.int/health-topics/cholera.htm>

