CHOLERA

(See also **VIBRIOSIS, NON-CHOLERA**)

1. **Agent**: *Vibrio cholerae* serogroups O1 and O139, gram-negative curved bacilli.

2. **Identification:**

   a. **Symptoms**: An acute intestinal disease characterized by sudden onset, profuse watery ("rice water") stools; occasional vomiting, rapid dehydration, and circulatory collapse. Mild cases with only diarrhea are common, especially in children. Asymptomatic infection is more frequent than clinical illness. In severe, untreated cases, death may occur within a few hours of onset.

   b. **Differential Diagnosis**: Acute febrile enteric disorders characterized by profuse diarrhea and vomiting. Other *Vibrio* species and *V. cholerae* of other serogroups must be considered. "Non-O1 *V. cholerae*" refers to organisms which do not agglutinate *Vibrio* O-group 1 antiserum; these are also referred to as non-agglutinable vibrios (NAG) or non-cholera vibrios (NCV). Follow-up testing may identify serogroups O2 to O139.

   c. **Diagnosis**: Confirmed by culturing *V. cholerae* serogroup O1 or O139 from feces, rectal swabs, or vomitus or by demonstrating a significant (four-fold or greater) rise in titer of vibriocidal or bacterial agglutinating antibodies in acute and convalescent sera.

3. **Incubation**: Few hours to 5 days, usually 2-3 days.

4. **Reservoir**: Humans, environment (contaminated water).

5. **Source**: Feces and vomitus of infected person, brackish waters.

6. **Transmission**: Ingestion of food or water contaminated with feces or vomitus of cases, and occasionally feces of carriers. Consumption of raw or improperly cooked seafood, and other foods contaminated with seawater. Low risk for person-to person transmission.

7. **Communicability**: Usually until 2-3 days after recovery; however, carrier state may persist for months.

8. **Specific Treatment**: Replacement of fluids and electrolytes; tetracycline will decrease the period of communicability. With proper treatment, fatality rate is below 1%.

9. **Immunity**: Antibodies impart resistance to reinfection, which lasts longer against the homologous serotype. Immunity to serotype O1 has not protected against infection by type O139.

REPORTING PROCEDURES

1. Confirmed or suspected cases should be reported by telephone immediately, *California Code of Regulations,* Sections 2500 and 2556.

   a. Call Morbidity Unit during working hours.

   b. Call ACDC; after working hours, contact the Administrative Officer of the Day through the County Operator.

2. **Reporting Form**: **CHOLERA AND OTHER VIBRIO ILLNESS INVESTIGATION REPORT (CDC 52.79, 7/00 fillable).**

   If a prepared commercial food item is the LIKELY source of this infection, a **FOODBORNE INCIDENT REPORT** should be filed. For likelihood determination and filing procedures, see Part 1, Section 7 - Reporting of a Case or Cluster of Cases Associated with a Commercial Food: Filing of Foodborne Incident Reports.

3. **Epidemiologic Data:**

   a. Most cholera is acquired outside the United States, such as by recent travel to and/or visitors from endemic areas. Include dates and specific areas visited. Describe reasons for trip (visit relatives, business, tourism, missionary work, etc.) and lodging arrangements (hotel, camping, with relatives, etc.)

   b. Ingestion of contaminated water, milk, food, or raw seafood, especially oysters and crabs.

   c. Exposure to symptomatic persons.

   d. Inquire concerning water sources (spring, tap, well, bottled, etc.)

   e. Any pre-existing medical conditions or medical treatments (antibiotics, antacids, steroids, etc.) which might increase susceptibility.

CONTROL OF CASE, CONTACTS & CARRIERS

Immediate investigation required. ACDC will supervise investigation and control measures.

CASE:

Precautions: Enteric precautions until clinical recovery.

1. Remove from sensitive situation until asymptomatic and one negative stool.
2. If patient dies, refer to **Part III, MORTICIANS AND CEMETERIES**.

CONTACTS: Household contacts or co-travelers from endemic area.

1. Immediate surveillance of household and intimate contacts. Surveillance should be maintained for 5 days from last exposure.

2. Remove from sensitive situation until asymptomatic and one negative stool, weekly stools until case cleared or contact broken. If symptomatic or stool positive, treat as case.

3. Stool cultures should be obtained on asymptomatic contacts only if source is in doubt.

CARRIER: Consult ACDC.

PREVENTION-EDUCATION

1. Stress food and water precautions while traveling in endemic areas.

2. Dispose of feces, vomitus and fomites properly.

3. Cholera vaccination provides marginal protection for short periods only, and is not routinely recommended for travel; current vaccines are derived from *V. cholerae* O1, and thus do not protect against *V. cholerae* O139. Travel-associated cases are rare. Extremely large inoculum (10 million organisms) is required to cause infection.

DIAGNOSTIC PROCEDURES

Consult with the Bacteriology Section of Public Health Laboratory.