CHOLERA (See also VIBRIOSIS, NON-CHOLERA)

1. **Agent**: *Vibrio cholerae* serogroup O1, 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 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)

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:

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) are required to cause infection.

DIAGNOSTIC PROCEDURES

Consult with the Bacteriology Section of Public Health Laboratory.

COCCIDIOIDOMYCOSIS

(Valley fever, desert fever, desert rheumatism, coccidioidal granuloma.)

1. **Agent**: *Coccidioides immitis*, a dimorphic fungus.

2. **Identification:**

   a. **Symptoms**: A systemic mycosis that begins as a respiratory illness.

      Primary infection: May be asymptomatic or present as an acute respiratory illness with fever, chills, cough and pleural pain. About 5% of clinically recognized infections develop erythema nodosum. Primary infection may heal completely; may leave fibrosis or calcified pulmonary lesions, or a persistent thin walled cavity; or may progress to disseminated disease.

      Disseminated disease (coccidioidal granuloma): A progressive, rare granulomatous disease with high mortality characterized by lung lesions and diffuse single or aggregated abscesses, especially in subcutaneous tissues, skin, bone, peritoneum, testes, thyroid, and central nervous system. Coccidioidal meningitis resembles tuberculous meningitis.

   b. **Differential Diagnosis**: Influenza, viral infections with generalized rashes, other fungal infections, tuberculosis, and conditions associated with erythema multiforme or erythema nodosum.

   c. **Diagnosis**: Microscopic examination of sputum or pus, or by culture. Skin testing (for delayed hypersensitivity) and serologic tests, (immunodiffusion, EIA, complement fixation) are also available.

3. **Incubation**:

   Primary: 1-4 weeks.

   Disseminated disease: Develops insidiously.

4. **Reservoir**: Soil from endemic areas (mostly southwestern United States and northern Mexico). San Fernando and San Joaquin Valleys in southern California.

5. **Source**: Soil and dust.

6. **Transmission**: Inhalation of spores from dust, soil, and in laboratories from cultures of the mold form.

7. **Communicability**: Not directly transmissible from animal or person to person. After 7-10 days, *C. immitis* on dressings may become infectious.

8. **Specific Treatment**: None for uncomplicated respiratory infection. Amphotericin B in disseminated infection. Fluconazole is the agent of choice for meningeal infection

9. **Immunity**: Permanent.

REPORTING PROCEDURES

1. Report within seven calendar days, *California Code of Regulations*, Title 17, Sections 2500 and 2558.

2. **Report Form**: **OUTBREAK / UNUSUAL DISEASE REPORT (DHS 8554)**

3. Indicate whether case is primary or disseminated.

4. **Epidemiologic Data:**

   a. Residence in or travel to endemic areas.

   b. Occupation.

   c. Similar illness in co-workers.

   d. Skin test results.

   e. Obtain any laboratory results and skin tests to confirm diagnosis of coccdioidomycosis (e.g., culture, serology).

   f. Indicate whether case is **primary** or **disseminated.**