

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 or culture of sputum, pus, urine, cerebral spinal fluid, or biopsies of skin lesions or organs. 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 7 calendar days, *California Code of Regulations*, Sections 2500 and 2558.

2. **Report Form:** **OUTBREAK/ UNUSUAL DISEASE REPORT (DHS 8554, 03/00 fillable)**

3. **Epidemiologic Data:**

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

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

k. Determine date of onset.

l. Travel history during incubation period (including dates and places) to endemic areas (see Reservoir section) where cases might have been exposed to dust.

m. Occupational history, especially individuals working outdoors in endemic areas. Give dates of working and job description.

n. Similar illness in co-workers.

o. Outdoor recreational activities during incubation period where cases might have been exposed to dust from endemic areas. Include date, type of activity, and place.

CONTROL OF CASE, CONTACTS, & CARRIERS

Investigate within 7 days.

CASE:

COCCIDIOIDOMYCOSIS

Isolation: None.

Material: CSF.

CONTACTS: No restrictions.

Container: Sterile tube.

PREVENTION-EDUCATION

1. Emphasize dust control in endemic areas. Spores are most prevalent in the top four inches of the soil layer.
2. Disinfect discharges and fomites.
3. Laboratory cultures should be sealed before disposal and technicians should not "sniff" fungus cultures.

Laboratory Form: Test Requisition and Report Form H-3021 or online request if electronically linked to the Public Health Laboratory.

Examination Requested: Coccidioides antibodies.

Amount: 1 ml (minimum 0.2 ml).

Storage: Refrigerate.

DIAGNOSTIC PROCEDURES

1. **Microscopic Identification and Culture of Sputum**

Container: Mycology. Sterile specimen collection cup (50 ml Falcon Conical #2070).

Laboratory Form: Test Requisition and Report Form H-3021 or online request if electronically linked to the Public Health Laboratory.

Examination Requested: Fungus Exam - Clinical Material.

Amount: 2 ml minimum.

Storage: Refrigerate. Specimen must be received within 24 hours of collection.

2. **Microscopic Identification and Culture of Other Specimens:** Call Public Health Laboratory.

3. **Serology**

Material: Whole clotted blood.

Container: Serum Separator Tube (SST).

Laboratory Form: Test Requisition and Report Form H-3021 or online request if electronically linked to the Public Health Laboratory.

Examination Requested: Coccidioides antibodies.

Amount: 8-10 ml.

Storage: Refrigerate.