



## DENGUE

1. **Agent:** Dengue 1, 2, 3, and 4, four serologically related viruses.
2. **Identification:**
  - a. **Symptoms:** Acute onset with fever, headache, body ache and often a maculopapular rash. Illness generally is self-limited and lasts about one week. Minor or severe bleeding manifestations occasionally occur. Dengue hemorrhagic fever, also called dengue shock syndrome, is a distinct clinical entity seen mostly in children with plasma leakage as its major finding. A platelet count < 100,000 and evidence of hemoconcentration are required for the diagnosis. Dengue shock syndrome frequently is fatal unless supportive treatment is given.
  - b. **Differential Diagnosis:** Dengue is easily confused in non-epidemic situations with common viral illnesses, e.g., enterovirus infection, influenza, measles, and rubella. Dengue can also resemble endemic WNV fever and flea-borne murine typhus. Dengue may be confused with chikungunya fever in travelers returning from chikungunya fever-endemic or outbreak areas. Dengue hemorrhagic fever (dengue shock syndrome) may resemble bacterial sepsis, e.g., meningococemia or rickettsial disease.
  - c. **Diagnosis:** Virus may be isolated from acute serum or detected by PCR; demonstration of a 4-fold antibody rise by testing paired sera (EIA hemagglutination inhibition, complement fixation) may also confirm the diagnosis.
3. **Incubation:** Usually 4-7 days, range 3-14 days.
4. **Reservoir:** Humans and mosquitoes, and perhaps monkeys in the jungle of the Malay Peninsula.
5. **Source:** The mosquito becomes infectious 8-12 days after the viremic blood meal and remains so for life.
6. **Transmission:** Dengue virus is transmitted by the bite of infected *Aedes* mosquitoes, principally *A. aegypti*. *A. albopictus*, recently introduced to the U.S. from Asia, has the potential to become an important vector in this hemisphere.
7. **Communicability:** Not directly communicable from person to person. Patients are usually infective for mosquitoes from shortly before to the end of the viremic period, an average of about 3-5 days.
8. **Specific Treatment:** None. Aspirin may exacerbate bleeding symptoms. Patients with dengue shock syndrome should be hospitalized and treated vigorously with fluid support.
9. **Immunity:** Permanent immunity for a specific virus, but infection with other serotypes can occur.

### REPORTING PROCEDURES

1. Report any cases or suspected cases by telephone immediately to ACDC or Morbidity Unit (Title 17, Section 2500, *California Code of Regulations*).
2. **Report Forms:**  
**DENGUE CASE REPORT (CDPH 8670)**
3. **Epidemiologic Data:**
  - a. Place of residence (be specific with regard to address, city and state) and travel history during the 2 weeks prior to onset of illness. A history of travel is important in interpreting results of serologic test.
  - b. History of mosquito bites, noting time of day of bites. (*Aedes* mosquitoes are daytime biters.)
  - c. Additional cases among household members, neighbors, fellow travelers.



- d. Previous dengue infections, and yellow fever and Japanese B encephalitis vaccination status.

### **CONTROL OF CASE, CONTACTS & CARRIERS**

Investigate within 24 hours so that information can be shared with appropriate state or international vector control agencies. Telephone ACDC.

#### **CASE:**

**Precautions:** Patients should be kept in a screened room for at least 5 days after onset.

**CONTACTS:** No specific measures other than case finding and education. No vaccine is presently available.

### **PREVENTION-EDUCATION**

1. Reduce exposure to mosquitoes by using protective clothing, repellents, and avoid outdoor exposure at dawn and dusk.
2. Remove water on a regular basis from potential mosquito larval habitats, e.g., potted plants, old tires and pet watering dishes.

### **DIAGNOSTIC PROCEDURES**

Clinical and epidemiologic history is required to aid the laboratory in test selections.

1. **Serology:** Paired acute and convalescent venous or capillary sera required.

**Collection:** serum separator tube.

#### **Test Requisition and Report Form H-3021**

**Procedure:** Collect first (acute) blood as early as possible, preferably within 7 days after onset of rash. Collect second (convalescent) blood 10-14 days after first blood is drawn. Label all specimens with name of patient.

**Storage:** Refrigerate if necessary. Send each specimen to the Public Health Laboratory as soon as possible.

**Amount:** 8-10 ml.

2. **Virus Identification:** Blood samples collected within the first 5 days of illness must be transported immediately under refrigeration to the Public Health Laboratory for shipment to the State

**Collection:** Red top tube.

#### **Laboratory Form: Test Requisition and Report Form H-3021**

**Storage:** Refrigerate immediately. If unable to deliver within 48 hours, centrifuge and freeze serum (-70°C is preferable). Keep frozen until delivered to Public Health Laboratory.