



# SHIGELLOSIS

(DYSENTERY, BACILLARY DYSENTERY)

1. **Agent:** A gram-negative bacillus, divided into four groups: Group A (*S. dysenteriae*); Group B (*S. flexneri*); Group C (*S. boydii*); and Group D (*S. sonnei*).
2. **Identification:**
  - a. **Symptoms:** Acute gastroenteritis characterized by diarrhea, fever, nausea, vomiting, abdominal cramps or tenderness, and tenesmus. In severe cases the stools may contain blood, mucus, and pus. The disease is usually self-limited; complications are rare; mild and asymptomatic infections occur.
  - b. **Differential Diagnosis:** Other enteric pathogens such as Salmonella or shiga-toxin producing E.coli.
  - c. **Diagnosis:** Culture of organism from feces or rectal swab. Some clinical laboratories are using PCR or EIA tests; these probable cases should be investigated as a confirmed case.
3. **Incubation:** 1 to 7 days; usually 1 to 3 days.
4. **Reservoir:** The only significant reservoir is human.
5. **Source:** Feces of infected persons.
6. **Transmission:** Fecal-oral; person to person or via contact with a contaminated inanimate object, ingestion of contaminated food or water, or certain types of sexual activities. Up to 80% of transmission is person-to-person.
7. **Communicability:** Highly communicable with low infective dose as long as organisms are excreted, usually for no more than 4 weeks after onset. Asymptomatic carriers may transmit infection; rarely the carrier-state may persist for months or longer.
8. **Specific Treatment:** Antibiotics such as trimethoprim/sulfamethoxazole (TMP/SMX), ampicillin and quinolones have been shown to shorten the duration of illness and bacterial shedding. Usage of antibiotics should be based on the clinical status of patient and

sensitivity of organism. Currently circulating strains are resistant to ampicillin or TMP/SMX, or multiply resistant to ampicillin, TMP/SMX, and tetracycline. Cases considered being a public health risk due to sensitive occupation or situation (SOS) should routinely receive antimicrobial therapy.

9. **Immunity:** There is some evidence of serotype-specific immunity of short duration.
10. **Hemolytic Uremic Syndrome (HUS):**  
HUS is characterized by the acute onset of microangiopathic hemolytic anemia, renal injury, thrombotic thrombocytopenic purpura (TTP), and low platelet count. Most cases of HUS (but few cases of TTP) occur after an acute gastrointestinal illness (usually diarrheal).

## REPORTING PROCEDURES

1. **Reportable.** *California Code of Regulations*, Section 2500.
2. **Report Form:**

### CDPH SHIGELLOSIS CASE REPORT

All required pages of the form MUST be submitted. The original form should be submitted as soon as the investigation is complete. Original forms should not be held in the district pending completion of “Sensitive Occupation or Situation” (SOS) clearance. District follow-up for SOS can be continued without the original form.

If a prepared commercial food item is the **LIKELY** source of this infection, a **FOODBORNE INCIDENT REPORT (FBIR)** 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. Source of water, food and milk within incubation period.



- b. Exposure to others with diarrhea in or outside of household.
- c. Attendance at group gatherings where food was served, restaurants, or commercial food establishments within incubation period. Obtain detailed information on date, time and types of foods or beverages ingested and ascertain whether dining companions had similar symptoms.
- d. Travel history within incubation period. Visitors within incubation period.
- e. If a contact to a child care center, developmentally disabled facility, institution, or babysitting group, obtain detailed information on clientele, caretakers and conditions at the facility or residence.
- f. For infants 3 months of age and under, if source is not identified, culture care giver (even if asymptomatic) to identify possible source.
- g. Recreational water contact.
- h. Colonic irrigation.
- i. Sexual contacts within incubation period.
- j. Sanitary conditions in the residence or other location(s) of possible exposure.
- k. If an outbreak of shigellosis is identified while investigating an individual case, discuss with supervisor and advise ACDC by telephone.

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

Contact within 24 hours to determine if sensitive occupation or situation (SOS) involved.

**Sensitive Occupation or Situation:** This includes, but not limited to, food handlers specifically those who prepare or distribute food, healthcare workers and child or adult caregivers. Consult with the AMD or ACDC as indicated to help determine if they should be managed as an SOS.

If the case is not an SOS, investigate within 3 days.

### **CASE:**

**Precautions:** Enteric precautions until bacteriologically cleared as described below.

1. **Sensitive Occupation or Situation:**  
Remove from sensitive work or situation until 2 consecutive negative feces specimens or rectal swabs are obtained, at least 24 hours apart and taken at least 48 hours after cessation of antimicrobial therapy.
2. **Non-sensitive Occupation or Situation:** No restrictions unless symptomatic. If household contact is symptomatic AND an SOS, case will need to submit weekly specimens until BOTH household contact and case have been cleared or contact with case is broken.

### **CONTACTS:**

Public Health Nursing Home Visit Protocol:  
Home visit as necessary – a face to face interview is conducted as necessary.

Refer to “Public Health Nursing Home Visit AS NECESSARY (HVN) Algorithm” ([B-73 Part IV Public Health Nursing Home Visit Protocol](#)).

1. **Sensitive Occupation or Situation:**
  - a. **Symptomatic:** Remove from sensitive work or situation until 2 consecutive negative stool specimens are obtained at least 24 hours apart, taken at least 48 hours after the completion of antimicrobial therapy.
  - b. **Asymptomatic:** Do not remove from sensitive work or situation. No further action needed. Inform these individuals to seek medical care and request testing if they develop shigellosis symptoms.
2. **Non-sensitive Occupation or Situation:**
  - a. **Symptomatic:** . Can return to work or situation 48 hours after developing formed stools.
3. **Presumptive Cases:**



- a. **Definition:** Any person who is epidemiologically linked to a confirmed case, who has diarrhea (more than 2 loose stools in 24 hours) and fever, **or** diarrhea and at least 2 other symptoms, (cramps, vomiting, aches).

Follow up: Actions are the same as for a confirmed case—if SOS exclusion and clearance with 2 negative stools specimens obtained at least 24 hours apart, taken at least 48 hours after the completion of antimicrobial therapy; if not SOS, no restrictions unless household contact is an SOS. Submit a Shigellosis Case Report.

### PREVENTION ANDEDUCATION

1. Emphasize hand washing after defecation and before handling food.
2. Wash raw fruits and vegetables thoroughly.
3. Protect from contamination by proper food handling techniques and sanitary storage.
4. Properly prepare infant formula.
5. Protect drinking water or boil drinking water for 20 minutes if it is suspected to be a source of infection.
6. Control flies by screening of doorways and windows, by eliminating fly breeding areas, and by the proper use of insecticides.
7. Dispose of feces properly.

8. Limit occupancy to meet housing codes and ensure adequate toilet facilities are available in group housing situations.
9. Emphasize safe sexual practices, avoiding direct contact with fecal material.

### DIAGNOSTIC PROCEDURES

#### 1. Culture:

**Container:** Enteric.

**Laboratory Form:** [Test Requisition Form H-3021](#)

**Examination Requested:** *Shigella*

**Material:** Feces. Follow instructions provided with container.

**Storage:** Protect from overheating. Maintain at room temperature.

**Remarks:** Mark "SOS" (sensitive occupation or situation) in red on specimen container, if appropriate.

#### 2. Culture for Identification (CI):

**Container:** Enteric CI.

**Laboratory Form:** [Test Requisition Form H-3021](#)

**Material:** Pure culture on appropriate medium.

**Storage:** Same as above.