

**State of California  
Department of Health Services  
Microbial Diseases Laboratory Section  
2151 Berkeley Way  
Berkeley, California 94704**

**TR-805**

**SPECIMENS FOR BOTULISM EXAMINATION**

Laboratory examinations are an integral part of the investigation of foodborne and wound botulism. The following outlines the basic considerations in collecting and submitting specimens for the detection of botulinal toxin or Clostridium botulinum.

**I. NOTIFICATION**

Cases and suspect cases of botulism must be reported by the local health department to the State Department of Health Services.

If specimens are to be submitted to the Microbial Disease Laboratory Section, it is important that the laboratory be alerted by telephone [(510) 412-3700] of the number and types of specimens to be submitted. The laboratory personnel can offer valuable assistance regarding specimen collection, transport, and other details.

**II. COLLECTION OF SPECIMENS**

**A. Serum Specimens**

1. The blood must be drawn before any C. botulinum antitoxin is administered.
2. Collect 25 ml of blood in a sterile tube, allow the blood to clot, and transfer the serum into a sterile tube. At least 10 ml of serum are needed.
3. Label the tube of serum with:
  - a. Patient's name.
  - b. Date and time of bleeding.
4. Keep the serum refrigerated until shipment.

**B. Fecal Specimens**

1. The specimen may be taken before or after any C. botulinum antitoxin is administered.
2. The specimen should be collected directly in or on a bedpan, wax paper or newspaper. Do Not Pass in Toilet. If an enema is necessary, a sterile water enema is required.

3. Approximately 100 grams of feces should be placed in a clean specimen container without transport media.
4. Label the container with:
  - a. Patient's name.
  - b. Date and time specimen was taken and whether taken before or after antitoxin treatment.
5. Keep the feces refrigerated until shipment.

C. Food Specimens

1. Aseptic technique must be used in collecting specimens. Knives, spatulas, or other instruments used to collect specimens must be sterilized before and after use. The original container should be submitted if at all possible.
2. Foods in small sealed or closed containers should not be removed from the container; the entire container should be sent.
3. Seal the specimen with tape so that the container cannot be opened without breaking the seal. Write the date, time, and name of the specimen collected on the tape if possible.
4. Identify the specimen - include the place and time of collection, type of food, can codes, person taking specimen, temperature if other than ambient, and any other pertinent facts.
5. Submit the original container and lid, if available, for examination.

D. Wound Botulism

Although botulism from wound infection is rare, cases have been reported in California. It should be considered as a cause of botulism in situations where foods cannot be incriminated. To establish the diagnosis, it is necessary to demonstrate the presence of botulinal toxin in the serum of the patient and to isolate C. botulinum from the wound, if possible. Material from the wound should be cultured in cooked meat medium, following the recommendations for isolation and identification of the organism.

E. Infant Botulism

See TR-806, Specimens for Infant Botulism.

III. ACCOMPANYING DATA

Fill out a State Miscellaneous Examination Form (Lab #420) for each specimen or sample. Include as much information as possible on a form such as the "Investigation of Food or Waterborne Outbreak" (Form 262-511, California State Department of Health Services) and send with the specimens.

#### IV. SHIPMENT OF SPECIMENS

##### A. Condition of specimens

1. Perishable specimens that are collected in the non-frozen state must be refrigerated (preferable at 0-4°C.) from the time they are collected until they reach the laboratory.
2. Specimens that are already frozen should be maintained in a frozen state by dry ice until delivered to the laboratory.
3. Serum and stool specimens should be kept refrigerated at 0-4°C.

##### B. Packing of specimens

1. The sealed specimen containers should be packed in an insulated container along with enough refrigerant to last during transit time.
2. Refrigerant must be wrapped or kept away from direct contact with the specimen containers to prevent contamination by water or other materials.
3. Insulated containers made with polystyrene with prepackaged refrigerants, or frozen water in plastic bottles or tin cans, usually provide adequate refrigeration.

##### C. Labeling of the shipping container

Unless the container is hand delivered to the laboratory, it should be prominently labeled:

**State of California Department of Health Services  
Microbial Diseases Laboratory Section  
2151 Berkeley Way  
Berkeley, CA 94704**

**“PLEASE NOTIFY THE MICROBIAL DISEASES LABORATORY SECTION ON ARRIVAL”**

Telephone: (510) 412-3700

##### D. Shipment of container

The container should be sent by the most expedient means of transportation.

- ##### E. Samples should not be submitted to the Food and Drug Branch without first having cleared the need for laboratory analysis by the State laboratory.

F. When submitting a report to the Infectious Disease Section or when submitting a sample to a State Health Department laboratory, the following information should be included with both report and sample wherever possible:

- 1) person or persons involved, their address, and telephone number,
- 2) description of suspected food or foods including code, date and manufacturer,
- 3) where and when the suspect food was obtained,
- 4) the physician in attendance and his diagnosis if this information is available,
- 5) the complaint in general and results of epidemiological investigation, and
- 6) name and address of any retail food establishment involved.

**Note:** The offices of the California Department of Health Services are as follows:

- 1) Infectious Diseases Branch - 2151 Berkeley Way, Berkeley 94704  
(510) 540-2566