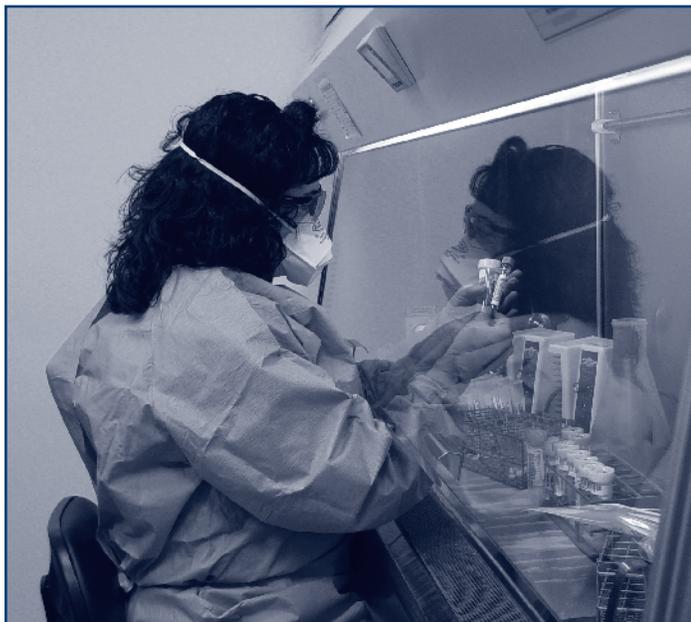


Laboratory Evaluation



Botulism is detected in the laboratory by identifying botulinum neurotoxin, or neurotoxin-producing *Clostridium botulinum* bacteria, in clinical materials or remnants of suspect food consumed.

Suitable specimen types for foodborne outbreak investigation include serum, feces, vomitus, gastric contents, and suspected food; for infants with botulism, feces and serum; and for wound infections, serum, feces, exudates, debrided tissue, or swab samples from wounds (Table 11).

Gastric aspirates and fecal (stool) specimens often yield positive results among persons with laboratory-confirmed botulism. An ileus resulting from botulism intoxication will slow the transit of contaminated food, which may delay the passage of stool. Although it may be some days after serum is collected, submission of stool, once it can be collected from the patient, is highly recommended.

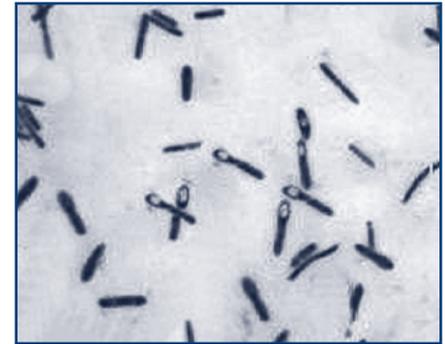
Table 11. Botulism specimen collection guide.

Botulism Type	Specimen	Amount Required	Storage Conditions	Transport Conditions	Special Consideration
Foodborne	Serum	5-10 ml	Refrigerate	Cold-pack	Collect sample <u>before</u> administration of HBAT.
	Gastric contents/vomit	20 ml	Refrigerate	Cold-pack	
	Feces (stool)	10-50 g	Refrigerate	Cold-pack	Rectal swab not acceptable.
	Suspect food	50 g	Refrigerate	Cold-pack	Leave food in original containers if possible, or place in sterile unbreakable, leak-proof containers.
Infant	Feces (stool)	≥ 0.2 g	Refrigerate	Cold-pack	Diapers are acceptable, but not preferred.
	Enema	≥ 5 ml	Refrigerate	Cold-pack	Collect with non-bacteriostatic water; do not use glycerin suppository.
	Serum	≥ 2 ml	Refrigerate	Cold-pack	Only collect by request.
Wound	Serum	5-10 ml	Refrigerate	Cold-pack	Collect sample <u>before</u> administration of HBAT.
	Feces (stool)	10-50 g	Refrigerate	Cold-pack	Rectal swab not acceptable.
	Culture isolate	Anaerobic transport media	Room temp	Ambient	
	Wound exudates/debrided tissue	Anaerobic transport media	Room temp	Ambient	

All samples must be clearly labeled, placed in a leak-proof container or plastic bag, and shipped according to current shipping guidelines. Submission details are available at: http://www.hss.state.ak.us/dph/labs/publications/image/Lab_Svcs_Manual.pdf. Arrangements for testing are handled by the Alaska Division of Public Health, Section of Epidemiology. For consultation and more information about specimen collection and handling, call the Section of Epidemiology at (907) 269-8000, or after-hours (800) 478-0084. Send samples to:

Alaska State Public Health Laboratory
 Special Pathogens Branch
 5455 Dr. Martin Luther King Jr. Ave.
 Anchorage, AK 99507
 Phone 907-334-2100
www.hss.state.ak.us/dph/labs/

Laboratory test methods include analysis of all sample types for the presence of botulinum toxin; non-serum samples are further evaluated for presence of *Clostridium botulinum* organism by culture.



Because preliminary results may not be available for up to 7 days, laboratory testing is not useful for immediate patient care management, but is very helpful in corroborating the diagnosis of botulism.

Laboratory results will include analyses performed and an overall final interpretation (Table 12). Results should be correlated with clinical history to confirm as a case of botulism.

Table 12. Laboratory results interpretation by test method and sample type.

Sample Type	Test Method	Final Result Interpretation Outcomes
Serum	Botulinum toxin	No botulinum neurotoxin identified in sample Positive: Botulinum neurotoxin identified in sample (type specified) Inconclusive for botulinum neurotoxin
Non-serum	Botulinum toxin	Negative for <i>Clostridium botulinum</i> bacteria and botulinum neurotoxin Positive: Botulinum neurotoxin identified in sample (type specified)
	Culture for isolation of <i>C. botulinum</i> bacteria	Positive: <i>Clostridium botulinum</i> neurotoxin-producing bacteria identified in sample (type specified) Confirmed Positive: Both <i>Clostridium botulinum</i> neurotoxin-producing bacteria and botulinum neurotoxin identified in sample (type specified)