



BOTULISM CASE REPORT SUMMARY LOS ANGELES COUNTY, 2016

Botulism is a rare but serious and potentially fatal paralytic illness caused by a nerve toxin produced by the bacterium *Clostridium botulinum*. The bacterial spores that cause botulism are common in both soil and water and produce botulinum toxin when exposed to low oxygen levels and certain temperatures. There are five main kinds of botulism: 1) Foodborne botulism can be triggered by eating foods that have been contaminated with botulinum toxin. Common sources of foodborne botulism are homemade foods that have been improperly canned, preserved, or fermented. Though uncommon, store-bought foods also can be contaminated with botulinum toxin; 2) Wound botulism can be triggered by spores of the bacteria getting into a wound and making toxin. People who inject drugs have a greater chance of getting wound botulism. Wound botulism has also occurred in people after a traumatic injury such as a motorcycle accident or surgery; 3) Infant botulism can be triggered by the spores of the bacteria getting into an infant's intestines. The spores grow and produce the toxin, which causes illness; 4) Adult intestinal toxemia (also known as adult intestinal toxemia) botulism is a very rare kind of botulism that can be triggered by spores of the bacteria getting into an adult's intestines, growing, and producing the toxin (similar to infant botulism). Although we do not know why people get this kind of botulism, people who have serious health conditions that affect the gut may be more likely to get sick; 5) Iatrogenic botulism could occur if too much botulinum toxin is injected for cosmetic reasons such as for wrinkles or medical reasons such as for migraine headaches or cervical dystonia.

Because botulism infections may be fatal, they are considered medical emergencies, and reporting of suspected cases is mandated by the Los Angeles County Department of Public Health (LAC DPH) immediately by telephone. Specialized antitoxin is used to treat botulism, which can only be released when authorized by LAC DPH or the California Department of Public Health (CDPH). Testing for case confirmation by mouse bioassay can be conducted at the LAC DPH Public Health Laboratory and matrix-assisted laser desorption/ionization-time of flight (MALDI-TOF) is conducted by the Centers for Disease Control and Prevention (CDC). Clinically compatible cases with botulinum toxin detected by either mouse bioassay or MALDI-TOF are considered confirmed cases. The CDPH Division of Communicable Disease Control is responsible for the investigation and surveillance of infant botulism cases identified in the county and across the state. LAC DPH is responsible for reporting suspected cases of infant botulism to [CDPH's Infant Botulism Treatment and Prevention Program](#)¹ for their investigation.

The number of confirmed botulism cases (non-infant botulism) in LAC fluctuates from year to year. For the past five years, an average of three cases were confirmed annually. The botulism cases in LAC usually have injection drug use as a risk factor. Foodborne botulism in LAC is rare, in the past 10 years only one instance of foodborne botulism was reported with two associated cases confirmed (2012).

In 2016, seven cases of suspected botulism were reported in LAC. Upon notification and review of case history and symptoms, ACDC physicians authorized the release and use of botulism antitoxin for all seven suspected botulism cases. Ultimately, five were classified as confirmed cases (laboratory-confirmed), and

¹ <https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/InfantBotulism.aspx>



one was classified as a probable (negative testing with clinically compatible findings and history of injection drug use) botulism case. One suspected case was determined not to be botulism based on absence of risk factors, negative botulism testing, and an alternate diagnosis of atypical Guillain-Barre Syndrome with stool positive for *Campylobacter*. All six cases (five confirmed, one probable) had wound botulism. Two had infected wounds upon illness presentation, and all six had a history of injection drug use: three used black tar heroin, three used other injection drugs (e.g., heroin/methamphetamine). Laboratory cases were confirmed as follows: one case had botulinum toxin A detected by both mouse bioassay and MALDI-TOF in serum; two cases had negative mouse bioassay testing in serum but were confirmed positive for botulinum toxin A by MALDI-TOF; two cases were confirmed by mouse bioassay for botulinum toxin A by mouse bioassay (MALDI-TOF not performed).