

BOTULISM: Notes about the Disease

Botulism is a potentially fatal disease caused by either intake of preformed botulinum toxin (usually via improperly preserved food) or release of toxin from *Clostridium botulinum* bacteria that have invaded the body (wound and intestinal botulism).

Two aspects of botulism have increased its significance as a disease of public health importance in North Carolina in the recent past. One is that, despite its continued relative rarity, the majority of reported botulism cases in NC in recent years have been infant botulism cases. The other is that botulinum toxin—the most potent naturally occurring toxin known—is now among the top five potential bioterrorism (BT) agents.

Although historically NC has had occasional cases of foodborne botulism dating back to the beginning of formalized communicable disease surveillance in the late nineteenth century, infant botulism as a separate form of the disease was not recognized until the mid-1970s. Now, because it sometimes occurs in adults as well as infants, it is more properly called intestinal botulism, with infant and adult subtypes.

Wound botulism can occur from contamination of wounds by soil or gravel. Spores enter the open wound and reproduce in an anaerobic environment. Symptoms can take up to 2 weeks to appear.

It behooves staff responsible for communicable disease control to be aware of the public health emergency posed by even a single case of foodborne botulism, since other people may have been exposed to the toxin source either in the immediate geographic vicinity or more broadly. In addition to the need to immediately attempt identification of the toxin source so that additional cases might be prevented, health care professionals attending the case need to be made aware of the necessity for collection of the proper specimens for laboratory confirmation of the case and the availability of botulinum antitoxin for care of the patient. This is true regardless of the type of botulism involved. In NC, both laboratory testing and antitoxin are available from CDC when requested by the State Epidemiologist. For treatment of infant botulism, an investigational botulinum immune globulin preparation is available from the California Department of Health Services.

Botulism toxin is important as a potential BT agent because it is extremely potent in very small quantities, easy to produce, can be disseminated via aerosol or food, and is documented to have already been weaponized by terrorist groups. Consequently, unless the source for even a single case seems obvious, a possible BT source should be kept in mind.