

## **Botulism**

Updated 11/05

Botulism is caused by toxin from the spore-forming anaerobic bacillus bacteria *Clostridium botulinum*. The hardy spore form of the bacteria can be found in soil and sediments worldwide. The bacteria germinate and produce toxin when the pH is low-acid and the oxygen concentration low. There are seven types of botulism toxin designated by the letters A through G; only types A, B, E, and F cause illness in humans. They all affect nerve function resulting in symmetric progressive paralysis. There are four forms of the disease in humans: infant botulism, food-borne botulism, wound botulism, and cases with unknown origin.

### Transmission

- Infants (usually < 1 yr old) become infected with spores through dust or food, particularly honey
- Consumption of toxin produced in improperly prepared home-canned or cured foods that have been stored without refrigeration
- Wounds contaminated with soil or gravel or from improperly treated compound fractures

### Symptoms

- Constipation and other feeding related problems for infants
- Food-borne symptoms, normally visible 12-36 hours after exposure, include visual problems and dysphasia
- Drooping eyelids and slurred speech

### Treatment/Care

- An antitoxin that blocks the action of the bacterial toxin circulating in the blood
- Removal of any toxin still in the gut by way of induced vomiting or enema

### Complications

- Respiratory arrest and death
- May be one of the causes of the sudden infant death syndrome
- Symmetric paralysis

### Prevention

- Follow strict hygienic steps when home canning
- Refrigerate oils containing garlic or herbs
- Consider boiling home-canned food before eating it to destroy any toxin potentially in the food

The CDC considers *Clostridium botulinum* toxin a potential bioterrorist agent as exposure to the toxin, particularly in an aerosolized form, can be fatal. Botulism is a very rare disease in Florida. However, when a case does occur it is considered a public health emergency. There were three confirmed cases of botulism in Florida in 2004, one was infant botulism caused by ingestion of honey. The remaining two cases were from improper cosmetic use of botulinum toxin.

More information

[http://www.cdc.gov/ncidod/dbmd/diseaseinfo/botulism\\_g.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/botulism_g.htm)

<http://www.niaid.nih.gov/factsheets/foodbornedis.htm>

<http://www.who.int/mediacentre/factsheets/fs270/en/index.html>