

January 2008

Botulism

What is botulism?

Botulism is a rare but serious condition caused by a spore-producing bacteria *Clostridium botulinum*. The bacteria produce a toxin which can cause nerve damage.

Botulism occurs in three main forms:

- **Foodborne botulism** is caused by eating or drinking foods that contain the botulism toxin. Foodborne botulism occurs when the harmful bacteria thrives and produces the toxin in conditions with little oxygen (anaerobic), low acidity (pH>4.6), low salt and sugar concentrations and improper temperatures (>4 C). For example, foodborne botulism has occurred when foods are improperly home-canned.
- **Wound botulism** occurs when the bacteria get into a cut and produce the toxin.
- **Intestinal botulism** is also called infant botulism because it is commonest in infants between the ages of 6 weeks and 6 months. It can occur in adults with altered gut flora such as from the use of antibiotics with an underlying intestinal disease. It occurs when food contaminated with the bacteria are consumed and cannot be digested. This causes the bacteria to overgrow and produce the toxin.

All forms of botulism can be fatal and require urgent medical attention.

How can I get foodborne botulism?

You can get foodborne botulism by eating food or drinks contaminated with the botulism toxin. Foodborne botulism occurs when *Clostridium botulinum* bacteria grow and produce toxin in food or drinks that have not been sufficiently heated or cooked to inactivate the toxin. The bacteria thrive in environments with little oxygen and low acidity.

Poisonings have been commonly associated with lightly preserved foods such as fermented, salted or smoked fish and meat products, and inadequately processed canned or bottled low acid vegetables such as carrots, green beans, corn and beets.

What are the symptoms of foodborne botulism?

Early symptoms may include fatigue, weakness, dizziness or headache followed by:

- Vomiting and/or diarrhea
- Double vision or blurred vision
- Drooping of eyelids
- Dry mouth or dry throat
- Difficulty swallowing and speaking
- Difficulty breathing
- Paralysis

If you suspect that you may have botulism seek medical attention right away.

Can I get botulism from another person?

No, there have been no documented cases of person to person spread of botulism.

If I think I have been exposed to foodborne botulism, when would I start to show symptoms?

Symptoms usually appear 12 to 36 hours after ingesting a contaminated food or drink, but could appear as early as 6 hours or as long as 10 days after ingestion.

Can foodborne botulism be treated?

Foodborne botulism can be treated with an antidote (botulism antitoxin) if diagnosed early. The antitoxin can reduce the chances of complications. If you suspect you may have botulism, your doctor, in consultation with public health will determine if you require the botulism antitoxin injection. If food has recently been eaten, sometimes clearing out the digestive system by removing undigested food from the stomach and giving medications to induce bowel movements is recommended.

How can I protect myself and my family from botulism?

To protect yourself and your family:

- Refrigerate all foods labeled “keep refrigerated”.
- Never eat food from cans that are leaking or have bulging ends.
- Do not feed honey (even pasteurized honey) to children under one year old.
- Do not taste food you think is spoiled.
- Do not eat foods past their expiry date.
- Practice safe home canning techniques:
 - Be sure to preserve all low-acid foods (e.g., carrots, green beans) in a pressure canner and follow the manufacturer’s instructions carefully.
 - Keep all work surfaces, food, utensils, equipment and hands clean throughout the canning process.
 - Date and label preserves and canned goods.
 - Keep home-prepared foods stored in oil, such as garlic, in the refrigerator. Discard after one week. Use only fresh ingredients (e.g., herbs and vegetables).
 - To kill the toxin, boil all home-canned, low acid foods for 10 minutes before eating them.
- Drink homemade low acid juices such as carrot juice immediately upon preparation.