



Baked Potatoes and Botulism

What is botulism?

Botulism is a severe type of foodborne illness. It is caused by eating foods that contain the botulinum toxin. There are some cases, particularly in infants, where the toxin is produced in the body. Botulism toxin is produced by a bacterium called *Clostridium botulinum*. While the annual number of botulism cases is low, there is considerable concern with the disease because of its very high mortality (death) rate if not treated immediately. Botulism is commonly associated with improperly processed home canned foods.

What are the symptoms of botulism?

Botulinum toxin causes paralysis by blocking the motor nerve endings. The paralysis progresses downward, usually starting with the eyes and face, then moving to the throat, chest and extremities. Symptoms usually begin 18 to 36 hours after eating the contaminated food, although cases have varied from 4 hours to 8 days. Early symptoms include body weakness and dizziness followed by double vision, difficulty in swallowing and slurred speech. Breathing difficulties, weakness of other muscles, and constipation are also common symptoms. If untreated, when the chest muscles become fully involved, breathing is inhibited and death from asphyxia results.

What is unique about Clostridium botulinum?

Clostridium botulinum is a bacterium that is widely found in nature - in soil, water, plant material, and many fish and mammals. However, it only grows when no oxygen is present. It also forms heat resistant spores which allow it to survive regular cooking temperatures or in foods which have been

improperly processed. If these spores germinate and grow, they can produce botulinum toxin - one of the most powerful poisons known. Botulinum toxin is so powerful that one teaspoon could kill 100,000 people. So even consuming small amounts like from simply tasting a food that contains botulinum toxin can make you sick.

Why the concern with baked potatoes?

Baked potatoes that have been wrapped in foil have been linked to cases of botulism. *Clostridium botulinum* spores can survive the baking process and the foil wrap seals the potato preventing oxygen from being present. In this environment, and at the right temperature, spores on the potato can germinate and grow - producing their deadly toxin.

Several cases of foodborne botulism caused by foil wrapped baked potatoes have occurred including a large outbreak in 1994 in Texas. In that outbreak, 30 people were affected.

How can this be prevented?

After baking foil wrapped potatoes, never leave the potatoes at room temperature or in a warming oven set below 60°C. These are the conditions that will allow the spores to germinate and grow. To prevent this from happening:

- make sure the potatoes are eaten within 2 hours of being cooked, or
- keep the potatoes at 60°C or hotter, or
- refrigerate the potatoes within 2 hours of being cooked.

