



Eating Spoiled Foods: Botulism Facts

Fact Sheet

WHAT IS BOTULISM?

Botulism is a rare but severe illness produced by bacteria called *Clostridium botulism*. These bacteria produce toxins which attack the nerves in the body and can cause paralysis (when muscles get so weak that it is difficult to move). For the First Nations' population, botulism is a common problem because of how some traditional foods are prepared. There are three kinds of botulism and all forms can be fatal so the best thing to do is to prevent getting it.

KINDS OF BOTULISM	CAUSES	HOW TO PREVENT BOTULISM?
FOODBORNE BOTULISM	Home-made canning	<ul style="list-style-type: none"> Follow strict procedures (see box "Information on safe home canning") Boil food from home-made canning 10 minutes before eating it as the toxins are destroyed by high temperatures
	Home-made prepared foods stored in oil (i.e. oils infused with garlic or herbs)	<ul style="list-style-type: none"> Always refrigerate Keep no longer than 10 days
	Oven baked potatoes wrapped in foil	<ul style="list-style-type: none"> Keep hot until served or refrigerate
	Store bought cans	<ul style="list-style-type: none"> Never eat cans that are dented, leaking or have bulging ends
	Fermented traditional food	<p>There are always risks when preparing fermented foods but here are ways to reduce the risks:</p> <ul style="list-style-type: none"> Wash your hands, containers and food before preparing your food Use the proper methods (ask Elders for their knowledge and help) Do not use plastic, glass or sealed plastic bags (these do not allow air to reach the food) Ferment food at cold temperatures (ideally below 2.78 °C or 37 °F) Consider boiling your food before eating the fermented food When in doubt, throw it out! (i.e. if you don't know how it was prepared)
	Dried fish and meat	<ul style="list-style-type: none"> Use the proper methods (ask Elders for their knowledge and help) Use salt to preserve
WOUND BOTULISM	Infection	<ul style="list-style-type: none"> Promptly seek medical care for infected wounds
	Injectable street drugs	<ul style="list-style-type: none"> Do NOT use injectable street drugs
INFANT BOTULISM	Honey	<ul style="list-style-type: none"> Children less than 12 months old should not be fed honey Honey is safe for persons 1 year of age and older



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CLASSIC SYMPTOMS IN THE FORM OF MUSCLE PARALYSIS:

Double vision Blurred vision

Drooping eyelids **Difficulty swallowing**

Dry mouth Muscle weakness **Slurred speech**

INFANT SYMPTOMS:

Lethargic FEEDING POORLY Weak crying

Constipation Poor muscle

IF THESE SYMPTOMS GO
UNTREATED, THEY COULD
PROGRESS TO:

**Paralysis of the arms, legs,
trunk, and respiratory muscles**

Botulism, like all foodborne illnesses, can also cause *nausea, vomiting, stomach cramps and diarrhea*, but not fever. Symptoms usually start 18-36 hours after eating food contaminated with botulism. It could also take as few as 6 hours or as much as 10 days though.

SAFE HOME CANNING HEAT & ACID LEVEL

Low acid foods like most vegetables, meats and seafood, are not resistant to bacteria and must be canned at higher temperatures that only a pressure canner can get to. For high acid foods like berries, a boiling water bath is good enough.

BOILING WATER BATH

This is what most people think of when they think about home canning. It involves dropping a basket of sealed jars into a large pot of rapidly boiling water. This method is not safe for all foods.

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PRESSURE CANNING

A pressure canner is a large, cast-aluminum pot with a locking lid and a pressure gauge. Because it is under pressure, the water reaches higher temperatures than in a boiling water bath (up to 116°C or 240°F). This is needed to destroy botulism for low acid foods.

HERE ARE TIPS TO FOLLOW:

- ❖ Always follow the instructions carefully
- ❖ Ten pounds is the minimum safe pressure
- ❖ Never shorten processing time – depends on food and size of jar
- ❖ Adjust pressure and cooking time if you live more than 1,000 feet above sea level (consult a chart)
- ❖ Keep pressure constant once the right pressure is reached
- ❖ Check gauges regularly for accuracy

WHAT JARS SHOULD BE USED?

- ❖ Use jars made just for home canning. (i.e. "Mason" jars which screw shut with a threaded neck are the most common choice)
- ❖ Do not re-use the lids
- ❖ Jars can be used many times unless there are cracks and scratches

CLEANLINESS

- ❖ Keep all work surfaces clean at all stages of canning
- ❖ Rinse the food before preparing it
- ❖ Sterilize the jars and seals before use (10 minutes for jars, 5 minutes for tops; over 1000 feet elevation, add 1 minute for each extra 1000 feet of elevation)

TREATMENTS

There is an antitoxin available. This is a life-saving medicine that stops the toxin but it does not reverse all the health problems that have already happened. This is why it is important to get medical attention as soon as possible.

WHERE ARE BOTULISM BACTERIA FOUND?

Soil
Water
Fish
Marine animals

ARE THESE BACTERIA HARMFUL?

Not until they find the right growing conditions to produce toxins:

No fresh air and temperatures above 2.78 °C or 37 °F

OTHER FACTS

- ❖ You cannot see botulism, taste it or smell it
- ❖ Botulism is not contagious...you cannot catch it from anyone
- ❖ Traditional knowledge is very important when preparing country foods; remember to ask Elders for their help

FOR MORE INFORMATION

Call us Toll-Free
1-866-960-5223 for more
environmental health resources.

The information given has been adapted from the following sites and documents:

[National Centre for Infectious Diseases](#)
[Centres for Disease Control and Prevention](#)
[Health Canada](#)
[Canadian Food Inspection Agency](#)