

The (Food)borne Identity: Locating Rogue Pathogens in the United States and Canada

Tainted Carrot Juice and Botulism in Toronto

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Communicable Disease Control
Toronto Public Health



Presentation outline

- The Outbreak story
- The IMS model
- Public health control measures
- Communication and media
- Take home messages



Botulism

- Toxin produced by C.botulinum bacteria
- Causes nerve damage
- Foodborne, wound and intestinal botulism
- Incubation period: 12-36 hours (range 6 hours to 10 days)



Botulism

- Early symptoms of fatigue, weakness, dizziness, headache

Followed by:

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



Botulism

- Can be treated with antidote: botulism antitoxin if diagnosed early
- Once paralysis occurs, regeneration of nerves can occur, but takes time
- Risk of death due to complications of paralysis



Botulism Toxin Production

- Conditions deemed necessary for botulism toxin production:
 - Presence of *C.botulinum* spores
 - Low-acid substance
 - Anaerobic environment
 - Temperature above 4 degrees Celsius
 - Eg. home-canned carrots or green beans, garlic stored in oil



Incidence in Toronto

Table 7.1: Summary of rare reportable diseases.
Toronto, 1995 - 2005

Disease	Disease category	Year of last report	Total number of cases for period 1995 - 2005
Botulism	Enteric, food and waterborne	2004	6
Brucellosis	Vectorborne and zoonotic	2005	11
Cholera	Enteric, food and waterborne	1998	3
Cytomegalovirus infection, congenital	Sexually transmitted and bloodborne	2005	19
<i>Haemophilus influenzae</i> b disease, invasive	Preventable by routine vaccination	2004	19
Haemorrhagic fevers	Vectorborne and zoonotic	1997	2
Hepatitis D	Sexually transmitted and bloodborne	2005	31
Herpes, neonatal	Sexually transmitted and bloodborne	2005	13
Leprosy	Direct contact and respiratory	2005	19
Ophthalmia neonatorum	Sexually transmitted and bloodborne	2004	34
Psittacosis/Ornithosis	Vectorborne and zoonotic	1996	3
Q fever	Vectorborne and zoonotic	2004	10
Rubella, congenital syndrome	Preventable by routine vaccination	2004	5
Severe Acute Respiratory Syndrome	Direct contact and respiratory	2003	228
Syphilis, congenital	Sexually transmitted and bloodborne	1999	2
Tetanus	Preventable by routine vaccination	1997	2
Tularemia	Vectorborne and zoonotic	1997	1

Rare reportable diseases not summarized in this section include anthrax, chancroid, diphtheria, hantavirus, iassa fever, plague, poliomyelitis, rabies, smallpox, transmissible spongiform encephalopathies, trichinosis, yellow fever.

The beginning...case 1

- 59 yr F, otherwise healthy
- **Mid-Aug:** mild diarrhea, vomiting, resolved
- **Aug 24:** diarrhea, vomiting
- **Aug 25:** dizziness, weakness, blurry vision, seen in ER; admitted to hospital
- **Aug 26:** tested for WNV is negative
- **Aug 28:** paralysis, intubated, trached and ventilated
- **Aug 30:** diagnosis of fissure variant Guillain-Barre Syndrome



The beginning... Case 2

- 68 yr M, partner of 59 yr F
- **Aug 22-26:** traveled to California on own for business
- **Aug 25:** partner admitted to hospital
- **Sept 12:** diarrhea, general fatigue
- **Sept 13:** blurred vision, difficulty moving tongue, went to ER, sent home
- **Sept 14:** difficulty speaking, difficulty opening eyes, dysphagia, SOB, went to ER; admitted



The beginning... case 2

- **Sept 15:** cannot open eyes or move tongue
- **Sept 16:** paralysis, intubated, trached and ventilated; can squeeze hand
- **Sept 16:** WNV testing negative, diagnosed with Miller Fisher Guillain-Barre Syndrome



The beginning... case 2

- **Sept 26:** Neurologist called TPH to request food sampling for heavy metal testing; aware that partner of 1st case also very ill
- **Sept 29:** WNV testing repeated



Timeline of events

- **Sept 26th:** CFIA recall on gravy chilly sauce for botulism
- **Sept 29th:** FDA recall on carrot juice brands for botulism



http://www.fda.gov/bbs/topics/NEWS/2006/NEW01475.html

FDA News Release

FDA U.S. Food and Drug Administration U.S. Department of Health and Human Services

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FDA News

FOR IMMEDIATE RELEASE
P06-153
September 29, 2006

Media Inquiries: 301-827-6242
Julie Zawisza
julie.zawisza@fda.hhs.gov
Consumer Inquiries:
888-INFO-FDA

FDA Warns Consumers Not To Drink Bolthouse Farms Carrot Juice Due to Botulism Concerns

In response to a fourth case of botulism being linked to Bolthouse Farms, Bakersfield, California brand carrot juice, the Food and Drug Administration (FDA) is warning consumers not to drink Bolthouse Farms Carrot Juice, 450 ml and 1 liter plastic bottles, with "BEST IF USED BY" dates of NOV 11 2006 or earlier. Consumers should discard this product. FDA is also reiterating its advice to consumers to keep carrot juice — including pasteurized carrot juice — refrigerated.

The fourth case of botulism poisoning involves an adult female in Florida who is currently suffering from paralysis. To date, one link between the illness and the consumers appears to be that the juice they drank was not properly refrigerated once it was in the home, which allowed the *Clostridium botulinum* spores to grow and produce toxin. FDA is investigating other possible links.

Clostridium botulinum is a bacterium commonly found in soil. Under certain conditions these bacteria can produce a toxin that if ingested can result in botulism, a disease that may cause paralysis or death. Cases of botulism from processed food are extremely rare in the U.S.

Symptoms of botulism can include: double-vision, droopy eyelids, altered voice, trouble with speaking or swallowing, and paralysis on both sides of the body that progresses from the neck down, possibly followed by difficulty in breathing. Anyone experiencing these symptoms should seek immediate medical attention.

Adequate refrigeration is one of the keys to food safety and is essential to preventing bacterial growth. Refrigerator temperatures should be no higher than 40°F and freezer temperatures no higher than 0°F. Consumers should check the temperatures occasionally with an appliance thermometer.

http://www.fda.gov/bbs/topics/NEWS/2006/NEW01454.html

FDA Consumer Advisory on Refrigeration of Carrot Juice

FDA U.S. Food and Drug Administration U.S. Department of Health and Human Services

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FDA News

FOR IMMEDIATE RELEASE
P06-135
September 17, 2006

Media Inquiries: 301-827-6242
Michael Herndon
michael.herndon@fda.hhs.gov
Consumer Inquiries:
888-SAFEFOOD

FDA Consumer Advisory on Refrigeration of Carrot Juice
Three Cases of Botulism Possibly Caused by Improper Refrigeration

The U.S. Food and Drug Administration (FDA) is advising consumers of the vital importance of keeping carrot juice—including pasteurized carrot juice—refrigerated. There are three cases of botulism in the state of Georgia associated with pasteurized carrot juice that may have been due to the product not being properly refrigerated.

FDA, the Centers for Disease Control and Prevention (CDC), and health authorities in Georgia have been closely monitoring and continue to investigate these three cases of foodborne botulism.

On September 15, 2006, Georgia health authorities issued a press statement, which in part stated the following: "... At this time we believe that these three cases are an isolated incident.... During the investigation, other community members have been identified as having purchased and consumed the same product from the same vendor within the past three weeks. These persons have not become ill or developed any symptoms. The fact that additional cases have not been identified suggests that the toxin was not present before the sale of the product..."

"Because botulism is such a potentially serious illness, we want to remind consumers that it is critical to refrigerate carrot juice for safety. Consumers should not keep carrot juice unrefrigerated," said Dr. Robert Brackett, Director of FDA's Center for Food Safety and Applied Nutrition (CFSAN). Inadequate refrigeration of carrot juice allows botulinum spores to multiply to the level at which they can cause illness.

Botulism is a rare but serious paralytic illness caused by botulinum toxin, a nerve poison that under certain conditions is produced by *Clostridium botulinum*, a bacterium commonly found in soil. Botulism can be fatal and is considered a medical emergency. Symptoms

Timeline of events

- **Sept 30th**: CFIA recall on carrot juice brands



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HEALTH HAZARD ALERT - WARNING TO CONSUMERS...

Canadian Food Inspection Agency Agence canadienne d'inspection des aliments

Notice

archive of previously issued food recalls and allergy alerts is provided for reference and research purposes.

rs should note that the products listed in the archive have been subject to removal from the marketplace or appropriate corrective action. Food recalls or allergy alerts are not an indication of the food safety status of products placed at a later date.

HEALTH HAZARD ALERT

WARNING TO CONSUMERS NOT TO DRINK CERTAIN BRANDS OF CARROT JUICE MADE BY BOLTHOUSE FARMS, CALIFORNIA DUE TO BOTULISM CONCERNS

Related Alerts: [2006-10-07](#) | [2006-09-30](#)

TAWA, September 30, 2006 - The Canadian Food Inspection Agency (CFIA) is warning consumers not to drink certain brands of carrot juice described below due to botulism concerns.

following products are affected by this alert:

- "Bolthouse Farms 100% Carrot Juice", sold in both 1 liter and 450 millilitre sizes
- "Earthbound Farm Organic Carrot Juice", sold in both 1 liter and 450 millilitre sizes
- "President's Choice Organics 100% Pure Carrot Juice" sold in both 1 liter and 450 millilitre sizes.

Products bearing "BEST BY" OR BEST IF USED BY "BIUB" dates of 06NO11 (NOV 11 2006) or earlier are affected.

manufacturer, Wm. Bolthouse Farms Inc., Bakersfield, California is voluntarily recalling the affected brands of carrot juice. These products may have been distributed across Canada.

Consumers should discard these products. There have been no reported illnesses in Canada.

In the USA four cases of botulism poisoning have been reported. It is also reported that one link between the illness and the consumers appears to be that the juice



Botulism Toxin Production in Carrot Juice

- Conditions deemed necessary for botulism toxin production:
 - Presence of *C.botulinum* spores
 - can be common in carrot juice
 - Low-acid substance (high pH)
 - plain carrot juice has a pH of about 6
 - Anaerobic environment
 - present in sealed bottles
 - Temperature above 4 degrees Celsius to allow spores to germinate and produce toxin
- TORONTO**

Timeline of events

- **Oct 2:** Confirmed ability to collect food samples from home; one of the food products (carrot juice) was noted as part of CFIA recall for botulism
- **Oct 3:** Food samples collected; CFIA and Health Canada notified
- **Oct 4:** Urgent Health Alert sent to ER and ID physicians
- **Oct 6:** TPH media release issued
 - Friday of long-weekend



October 6, 2006
Public advised not to drink certain brands of carrot juice

Toronto Public Health is warning the public to avoid drinking certain brands of carrot juice following a product recall issued by the Canadian Food Inspection Agency. These products have been linked to botulism in individuals in the United States.

Toronto Public Health is investigating three suspected cases of botulism in Toronto. Two of the three cases are currently in hospital with serious illness. Test results are pending and, at this point, botulism from carrot juice is suspected.

The products involved in the recall are:

- "Bolthouse Farms 100% Carrot Juice" sold in both 1 litre and 450 millilitre sizes
- "Earthbound Farm Organic Carrot Juice" sold in both 1 litre and 450 millilitre sizes
- "President's Choice Organics 100% Pure Carrot Juice" sold in both 1 litre and 450 millilitre sizes.

Products with a "best by" date up to November 11, 2006 should not be consumed.

"If you have these products at home, throw them out immediately. If you are a retailer, these products should be removed from shelves and should not be sold," said Dr. Barbara Yaffe, Associate Medical Officer of Health. "If you have consumed any of these types of carrot juice, and are feeling ill, see your doctor immediately."

Botulism can lead to serious illness, and must be treated early. Symptoms can include blurred vision, slurred speech, difficulty swallowing, and paralysis. Toronto Public Health sent a surveillance alert to Toronto hospitals notifying them of the suspected cases, and asking them to report any cases of potential botulism.

For more information on the Canadian Food Inspection Agency recall, visit: <http://www.inspection.gc.ca>

Media contact:
Rishma Govani
Toronto Public Health
416-338-7974
After hours: 416-690-2142

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Timeline of events

- **Oct 6:** MMWR article was released (previous promoted postings)



MMWR[™]

Morbidity and Mortality Weekly Report

MMWR Dispatch
Vol. 55 / October 6, 2006

Botulism Associated with Commercial Carrot Juice — Georgia and Florida, September 2006

On September 8, 2006, the Georgia Division of Public Health (GDPH) and CDC were notified of three suspected cases of foodborne botulism in Washington County, Georgia. On September 25, the Florida Department of Health and CDC were notified of an additional suspected case in Tampa, Florida. This report describes the joint investigation and control measures undertaken by state and local health departments, CDC, and the Food and Drug Administration (FDA). On September 8, the three patients from Washington County, Georgia, went to a local hospital with cranial nerve palsies and progressive descending flaccid paralysis resulting in respiratory failure; the patients had shared meals on September 7. On the evening of September 8, physicians suspected foodborne botulism, notified the state health department, and collected clinical specimens for testing at CDC.

departments or to CDC. During this time, FDA launched an investigation of the Bolthouse Farms, Inc., manufacturing plant in Bakersfield, California. FDA and CDC tested bottles of the implicated brand of carrot juice, including bottles from different lots, and all were negative for botulinum toxin. Because botulinum toxin was found only in the bottle of carrot juice consumed by the three patients, a lapse in refrigeration of the carrot-juice bottle during transport or storage was suspected, which would have allowed for growth of *Clostridium botulinum* and subsequent production of botulinum toxin. Based on the CDC test results, on September 17, FDA issued a consumer advisory on the importance of keeping carrot juice refrigerated. However, information obtained from patient interviews regarding storage and transport of the carrot juice did not confirm mishandling by the patients.

Timeline of events (long-weekend)

- **Sat Oct 7:** Carrot juice in refrigerator of cases tested positive for botulism toxin A
- **Sun Oct 8:** Six weeks since onset of symptoms, case 1 still showed clinical specimen samples that were weakly positive for toxin
- Anti-toxin administered after consultation with CDC
- A lot of media interviews over weekend



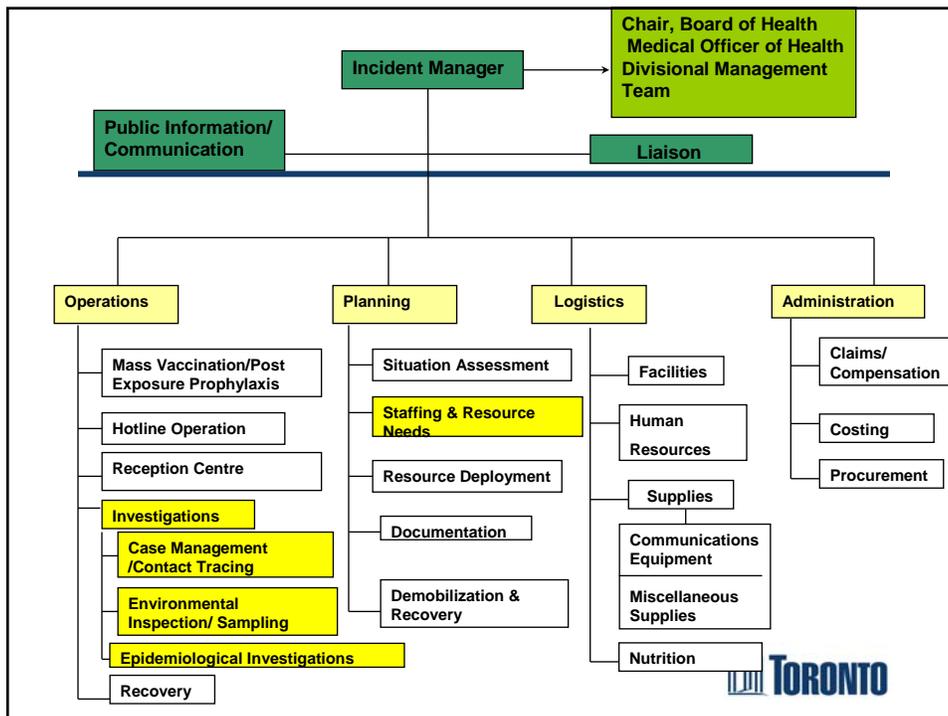
Public Health Measures

- Implement IMS model
- Primary prevention: ensure recalled carrot juice is not available for sale or consumption
- Secondary prevention: case finding and follow up
- Public and health care provider awareness primarily through the media



Incident Management System

- Used by agencies across the City of Toronto to respond to emergencies
- Enhance our ability to communicate, co-operate and respond collectively with other emergency response agencies and internally



Public Health Measures

- Implement IMS model
- **Primary prevention: ensure recalled carrot juice is not available for sale or consumption**
- Secondary prevention: case finding and follow up
- Public and health care provider awareness primarily through the media



Primary Prevention: Food Safety

- **Oct 3:** On a routine food inspection of a food premise, a Healthy Environments inspector of TPH noticed a recalled brand of carrot juice for sale. CFIA was notified.
- **Fri Oct 6:** Aware of 2 cases on Toronto, TPH HE began a blitz to inspect food premises in Toronto to ensure recalled carrot juice not available for sale or consumption
- Blitz occurred on Canadian Thanksgiving long weekend (Oct 7-9)



http://www.inspection.gc.ca/scripts/priimp/priimppage.php?lang=e&ser=www.inspection.gc.ca&ref=/english/corpaffr/recar... Live Search

UPDATE HEALTH HAZARD ALERT - WARNING TO CON...

Canadian Food Inspection Agency Agence canadienne d'inspection des aliments

Notice

archive of previously issued food recalls and allergy alerts is provided for reference and research purposes.

Users should note that the products listed in the archive have been subject to removal from the marketplace or appropriate corrective action. Food recalls or allergy alerts are not an indication of the food safety status of products produced at a later date.

UPDATED HEALTH HAZARD ALERT

WARNING TO CONSUMERS NOT TO DRINK CERTAIN BRANDS OF CARROT JUICE MADE BY BOLTHOUSE FARMS, CALIFORNIA DUE TO BOTULISM CONCERNS

Related Alerts: [2006-10-07](#) | [2006-09-30](#)

TAWA, October 7, 2006 - The [public warning issued on September 30, 2006](#) has been updated to include additional information.

Canadian Food Inspection Agency (CFIA) is warning consumers not to drink certain brands of carrot juice described below due to botulism concerns.

CFIA is also reminding all retailers and food service establishments who sell carrot juice to ensure that the affected products are not for sale.

The distributed codes of the following products are affected by this alert:

- "Bolthouse Farms 100% Carrot Juice", sold in both 1 liter and 450 millilitre sizes
- "Earthbound Farm Organic Carrot Juice", sold in both 1 liter and 450 millilitre sizes
- "President's Choice Organics 100% Pure Carrot Juice" sold in both 1 liter and 450 millilitre sizes.

Consumers should discard these products in closed bottles.

Two botulism cases in Toronto are now confirmed to be associated with consumption of the affected carrot juice. In the USA four cases of botulism poisoning have been reported. The presence of botulinum toxin has been identified in carrot juice remaining in the bottles associated with botulism cases in Canada and USA.

Food Premise Inspections:

- Original CFIA voluntary recall was Sept 30th
- Active inspections by local health departments over long weekend
- 2868 food premises inspected in the City of Toronto; 5628 in Ontario
- 13 premises had recalled juice present or for sale in Toronto (74 bottles of juice)
- Last date of recall juice found was Oct 9th, 10 days after CFIA recall



Public Health Measures

- Implement IMS model
- Primary prevention: ensure recalled carrot juice is not available for sale or consumption
- Secondary prevention: case finding and follow up
- Public and health care provider awareness primarily through the media



Secondary Prevention: Case Finding and Follow-up

- Numerous calls about suspect cases
- Triage function
- Provide information
- Facilitate laboratory testing
- Facilitate anti-toxin administration as deemed necessary



Public Health Measures

- Implement IMS model
- Primary prevention: ensure recalled carrot juice is not available for sale or consumption
- Secondary prevention: case finding and follow up
- Public and health care provider awareness primarily through the media



Communication

- Awareness and education of internal and external stakeholders
- Updating TPH web site
- Media
- Provincial/federal teleconferences
- Promed




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Carrot juice warning


Toronto Public Health is warning the public to avoid drinking certain brands of carrot juice after two people became seriously ill from drinking carrot juice contaminated with botulism. Samples of the carrot juice consumed by the individuals were confirmed for botulism on Saturday, October 7, 2006.

No other cases have been reported.

Toronto Public Health inspectors have visited close to 1300 stores in the past few days to ensure the brands of carrot juice linked to botulism here and in the United States are not being sold. They expect to visit an additional 250-500 stores today (update: Wednesday October 11, 1pm)

- Toronto Public Health News Release (as of Friday October 6, 2006)
- Canadian Food Inspection Agency Carrot Juice Recall
- Canadian Food Inspection Agency Fact Sheet on Botulism

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Media

- Media inquires to Toronto Public Health on Botulism for 2006:
 - Jan to Sept- 0
 - **Oct - 73**
 - Nov - 1
 - Dec - 3



Communication

- Promed
- A good avenue for local, national and international information dissemination



http://www.promedmail.org/pls/promed/f?p=2400:1201:8368424165985787056:::NO

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Reports Matching Search

31-OCT-06	PRO/AH/EDR> Botulism, canned crab - Canada: recall	20061031.3113
21-OCT-06	PRO/EDR> Botulism, carrot juice - North America (USA, Canada) (03)	20061021.3026
16-OCT-06	PRO/EDR> Botulism, carrot juice - North America (USA, Canada) (02)	20061016.2975
12-OCT-06	PRO/EDR> Botulism, carrot juice - North America (USA, Canada)	20061012.2925
	PRO/EDR> Botulism - UK & Ireland ex Poland	20061012.2923
09-OCT-06	PRO/EDR> Botulism, carrot juice - Canada (ON) ex USA	20061009.2899
07-OCT-06	PRO> Botulism, carrot juice - USA (multistate) (02)	20061007.2880
06-OCT-06	PRO/EDR> Botulism, fish - Ukraine (Donetsk)	20061006.2864
30-SEP-06	PRO/EDR> Botulism, carrot juice - USA (multistate); FL	20060930.2808
27-SEP-06	PRO> Botulism, gravy, chili sauce - Canada (02): background	20060927.2760
26-SEP-06	PRO/EDR> Botulism, gravy - chili sauce - Canada: recall	20060926.2748
25-SEP-06	PRO/AH/EDR> Botulism, bovine - UK (England)	20060925.2743
19-SEP-06	PRO/EDR> Botulism - Ireland (County Mayo) ex Poland	20060919.2668
16-SEP-06	PRO/EDR> Botulism, canned food, fish - Russia (Lipetsk)	20060916.2640
	PRO/ALL> Botulism, carrot juice - USA (GA): alert	20060916.2638
02-SEP-06	PRO/EDR> Mushroom poisoning - Ukraine (Rovno)	20060902.2506
	PRO/AH/EDR> Tick paralysis, human - USA (CO)	20060902.2502
01-SEP-06	PRO/EDR> Mushroom poisoning - Ukraine	20060901.2487

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Archive Number 20060916.2638
 Published Date 16-SEP-2006
 Subject PRO/ALL> Botulism, carrot juice - USA (GA): alert

BOTULISM, CARROT JUICE - USA (GEORGIA): ALERT

 A ProMED-mail post
<http://www.promedmail.org>
 ProMED-mail is a program of the International Society for Infectious Diseases
<http://www.isid.org>

Date: Sat, 16 Sep 2006
 From: ProMED-mail <promed@promedmail.org>
 Source: CDC Health Advisory [edited]
<http://www2a.cdc.gov/HAN/ArchiveSys/ViewMsgV.asp?AlertNum=00250>

A commercial beverage has been confirmed as the cause of a cluster of 3 botulism cases in Georgia. The 3 patients had onset of symptoms on Friday, 8 Sep 2006, after consuming a common meal that included commercially produced carrot juice on Thu, 7 Sep 2006. Of 2 bottles of juice consumed, all 3 patients drank from bottle 1; whether all 3 patients drank from bottle 2 is unknown.

Botulinum toxin type A was identified in the serum and stool of all 3 patients by mouse bioassay. Subsequently, botulinum toxin type A was identified from carrot juice remaining in bottle 1 by mouse bioassay. Bottle 2 had been rinsed with water, and the test for toxin was negative.

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Archive Number 20060926.2748
 Published Date 26-SEP-2006
 Subject PRO/EDR> Botulism, gravy - chili sauce - Canada: recall

BOTULISM, GRVY, CHILI SAUCE - CANADA: RECALL

 A ProMED-mail post
<http://www.promedmail.org>
 ProMED-mail is a program of the International Society for Infectious Diseases
<http://www.isid.org>

Date: Tue, 26 Sep 2006
 From: Brent Barrett <salbrent@sbccglobal.net>
 Source: Canadian Food Inspection Agency [edited]
<http://www.inspection.gc.ca/english/corpaffr/recarapp/2006/20060925e.shtml>

The Canadian Food Inspection Agency (CFIA) and Select Food Products Limited are warning the public not to consume certain canned products described below because the products may be contaminated with *Clostridium botulinum*. Toxins produced by this bacterium may cause botulism, a life-threatening illness.

The following canned products are affected by this alert:
 Brand/ Product/ Size /UPC /Lot Codes (on lid)

 Select / Beef Gravy /100 fl oz (2.84 L)/ UPC-0 6360000815/Lot codes -
 Up to and including 2336

Fast Eddie's/ Crazy Chili Sauce / 6 lb 4 oz (2.83 Kg)/ UPC- 0
 6360001698/Lot codes - up to and including 1786

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Archive Number 20060930.2808
Published Date 30-SEP-2006
Subject PRO/EDR> Botulism, carrot juice - USA (multistate): FL

BOTULISM, CARROT JUICE - USA (MULTISTATE): FLORIDA

 A ProMED-mail post
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 International Society for Infectious Diseases
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Date: Fri, 29 Sep 2006
 From: Brent Barrett <salbrent@sbcglobal.net>
 Source: FDA.gov [edited]
<http://www.fda.gov/bbs/topics/NEWS/2006/NEW01475.html>

In response to a 4th case of **botulism** being linked to Bolthouse Farms, Bakersfield, California brand carrot juice, the FDA is warning consumers not to drink Bolthouse Farms Carrot Juice, 450 ml and 1 liter plastic bottles, with "BEST IF USED BY" dates of 11 Nov 2006 or earlier. Consumers should discard this product. FDA is also reiterating its advice to consumers to keep carrot juice -- including pasteurized carrot juice -- refrigerated. [Previous cases were in Georgia residents; see ProMED-mail posting [20060916.2638](#) referenced below.]

The 4th case of **botulism** poisoning involves an adult female in Florida who is currently suffering from paralysis. To date, one link between the illness and the consumers appears to be that the juice they drank was not properly refrigerated once it was in the home, which allowed the *Clostridium botulinum* spores to grow and produce

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Archive Number 20061007.2880
Published Date 07-OCT-2006
Subject PRO> Botulism, carrot juice - USA (multistate) (02)

BOTULISM, CARROT JUICE - USA (MULTISTATE) (02)

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Date: Fri, 6 Oct 2006
 From: ProMED-mail <promed@promedmail.org>
 Source MMWR 2006;55(Dispatch);1-2 [edited]
<http://www.cdc.gov/mmwr/preview/mmwrhtml/mm55d106a1.htm>

On 8 Sep 2006, the Georgia Division of Public Health (GDPH) and CDC were notified of 3 suspected cases of foodborne **botulism** in Washington County, Georgia. On 25 Sep 2006, the Florida Department of Health and CDC were notified of an additional suspected case in Tampa, Florida. This report describes the joint investigation and control measures undertaken by state and local health departments, CDC, and the Food and Drug Administration (FDA).

On 8 Sep 2006, the 3 patients from Washington County, Georgia, went to a local hospital with cranial nerve palsies and progressive descending flaccid paralysis resulting in respiratory failure; the patients had shared meals on 7 Sep 2006. On the evening of 8 Sep 2006, physicians suspected foodborne **botulism**, notified the state health department, and collected clinical specimens for testing at CDC. On the same evening, CDC provided

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ProMED-mail

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Archive Number 20061009.2899
 Published Date 09-OCT-2006
 Subject PRO/EDR> Botulism, carrot juice - Canada (ON) ex USA

BOTULISM, CARROT JUICE - CANADA (ON) ex USA

 A ProMED-mail post
 <<http://www.promedmail.org>>
 ProMED-mail is a program of the
 International Society for Infectious Diseases
 <<http://www.isid.org>>

Date: Mon 9 Oct 2006
 From: ProMED-mail <promed@promedmail.org>
 Source: Canadian Broadcasting Corp. [edited]
 <<http://www.cbc.ca/consumer/story/2006/10/09/botulism.html>>

Two Toronto residents are paralyzed after drinking carrot juice that had been linked to a botulinum toxin, according to the city's public health department.

"There are 2 adults who are severely ill in hospital, and they had a history of drinking the exact same juice that's been part of the carrot juice recall," Dr Elizabeth Rea, an associate medical officer of health, told the Toronto Star on Sun 8 Oct 2006.

The juice, produced by Bolthouse Farms in Bakersfield, California, was ordered off North American store shelves late in September 2006, after 4 cases of **botulism** in the United States were linked to toxic carrot juice.

Toronto Public Health has warned the public to avoid drinking 3 brands of

BOTULISM CARROT JUICE - NORTH AMERICA (USA, CANADA)

Date: Wed 11 Oct 2006
 From: Marianne Hopp <mjhopp12@yahoo.com>
 Source: WHO Outbreak Reports [edited]
 <http://www.who.int/csr/don/2006_10_11a/en/index.html>

As of 11 Oct 2006, 4 cases of **botulism** associated with commercial carrot juice have been reported in the states of Georgia and Florida in the USA, and 2 cases have been reported in Toronto, Canada. All cases had consumed the same brand of carrot juice and no fatalities have been reported to date. The CDC and the Canadian Food Inspection Agency have issued advisory information.

The International Food Safety Authorities Network (INFOSAN) has notified Mexico and Hong Kong SAR where the carrot juice has also been exported.

TORONTO

BOTULISM CARROT JUICE - NORTH AMERICA (USA, CANADA)

***** [2] Date: Wed 11 Oct 2006

From: Vinita Dubey <vdubey@toronto.ca>

The two cases of **botulism** in Toronto are both paralyzed, ventilated and in the ICU [intensive care unit]. The first case first developed mild symptoms of diarrhea and vomiting on 24 August 2006, progressing to weakness and blurry vision by 25 August, and paralysis and ventilation by 28 August that is still ongoing. The second case developed diarrhea and general fatigue on 12 September, progressing to blurred vision, difficulty moving tongue, dysarthria, dysphagia, shortness of breath, and ptosis in the next 24 to 48 hours. By 16 September, this case developed paralysis and was ventilated. Both cases developed **botulism** before the carrot juice recall was issued in Canada. The Canadian Food Inspection Agency (CFIA) issued its recall on 30 September...



BOTULISM CARROT JUICE - NORTH AMERICA (USA, CANADA)

[Many thanks both to Marianne Hopp, for the official WHO report and to Barbara Yaffe and Vinita Dubey for their detailed report from Toronto. - Mod.SH]



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- What is the result of Toronto Public Health's promised posting updating the scientific community on Toronto's botulism cases linked to carrot juice?...



Canadian was first to get botulism poisoning from carrot juice

Page 1 of 2

Canadian was first to get botulism poisoning from carrot juice

Last Updated: Monday, October 23, 2006 | 8:42 PM ET

CBC News

The initial warnings about botulism in carrot juice came from the U.S., but the original case happened in Toronto, CBC News has learned.

Six patients — four in the southeastern U.S. and two in Toronto — remain hospitalized and on ventilators after contracting botulism linked to the juice. Quebec health officials reported another case in Montreal on Friday, and Health Canada says test results expected Tuesday will confirm whether it is botulism.

The first person to drink contaminated carrot juice was one of the latest to actually be diagnosed with botulism. The patient is still at North York General Hospital in Toronto. The hospital was also ground zero for SARS 2, the second set of cases of severe acute respiratory syndrome that happened after the outbreak was thought to be over 3½ years ago.

The timeline of events began on Aug. 24, when the patient came into the hospital with diarrhea, vomiting, blurred vision and a paralysis that began in the face and progressed downward.

In most patients with botulism, the eyes don't move together, there is difficulty swallowing and trouble articulating words, said Dr. Richard Schabas, a medical officer of health in North York. The paralysis then moves down into the shoulders, then down into the limbs. "It's classically from the top down," he said.

Neurologists and infectious disease experts at the North York hospital were puzzled by the case. Their working

The screenshot shows a web browser displaying a ProMED-mail message. The browser's address bar shows the URL: http://www.promedmail.org/pls/promed/f?p=2400:1202:8368424165985787056::NO::F2400_P1202_CHECK_DISPLAY,F240. The page header includes navigation links: [about ISID](#), [membership](#), [programs](#), [publications](#), [resources](#), [12th ICID](#), and [site map](#). The ProMED-mail logo is prominently displayed. Below the logo, there are search options: [Search Criteria](#), [Result List](#), [Display Report](#), and [Search Help](#). The message content includes:

Archive Number 20061021.3026
Published Date 21-OCT-2006
Subject PRO/EDR> Botulism, carrot juice - North America (USA, Canada)(03)

BOTULISM, CARROT JUICE - NORTH AMERICA (USA, CANADA) (03)

 A ProMED-mail post
<http://www.promedmail.org>
 ProMED-mail is a program of the
 International Society for Infectious Diseases
<http://www.isid.org>

Date: Sat, 21 Oct 2006
 From: ProMED-mail <promed@promedmail.org>
 Source: Globe and Mail [edited]
<http://www.theglobeandmail.com/servlet/story/LAC.20061021.BOTULISM21/TPStory/National>

A Quebec resident has contracted **botulism** after drinking carrot juice, public health officials said in a news release yesterday, 20 Oct 2006. The provincial Agriculture and Health departments urged the public not to drink certain brands of the juice they may have in their homes.

Two cases of **botulism** associated with carrot juice have been identified in Ontario; 4 others have taken place in the USA.

The products subject to the Quebec notice that are sold in 1 liter and 450 mL bottles are: Bolthouse Farms 100 percent Carrot Juice; Earthbound Farm Organic Carrot Juice; President's Choice Organics 100 percent Carrot Juice.

All of the products have already been removed from store shelves, the

The story continues...

- Where to lay the blame?

Botulism Toxin Production in Carrot Juice

- Conditions deemed necessary for botulism toxin production:
 - Presence of *C.botulinum* spores
 - can be common in carrot juice
 - Low-acid substance
 - plain carrot juice has a pH of about 6
 - Anaerobic environment
 - present in sealed bottles
 - Temperature above 4 degrees Celsius to allow spores to germinate and produce toxin



The story continues...

- Where to lay the blame?
 - Consumer: lack of refrigeration
 - Manufacturer: food processing
 - Point of sale: break in cold chain



http://www.fda.gov/oc/topics/NEWS/2006/NEW01454.html

FDA Consumer Advisory on Refrigeration of Carrot Juice

FDA U.S. Food and Drug Administration U.S. Department of Health and Human Services

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FDA News

FOR IMMEDIATE RELEASE
P06-135
September 17, 2006

Media Inquiries: 301-827-6242
Michael Herndon
michael.herndon@fda.hhs.gov
Consumer Inquiries:
888-SAFEFOOD

FDA Consumer Advisory on Refrigeration of Carrot Juice
Three Cases of Botulism Possibly Caused by Improper Refrigeration

The U.S. Food and Drug Administration (FDA) is advising consumers of the vital importance of keeping carrot juice—including pasteurized carrot juice—refrigerated. There are three cases of botulism in the state of Georgia associated with pasteurized carrot juice that may have been due to the product not being properly refrigerated.

FDA, the Centers for Disease Control and Prevention (CDC), and health authorities in Georgia have been closely monitoring and continue to investigate these three cases of foodborne botulism.

On September 15, 2006, Georgia health authorities issued a press statement, which in part stated the following: "...At this time we believe that these three cases are an isolated incident.... During the investigation, other community members have been identified as having purchased and consumed the same product from the same vendor within the past three weeks. These persons have not become ill or developed any symptoms. The fact that additional cases have not been identified suggests that the toxin was not present before the sale of the product..."

"Because botulism is such a potentially serious illness, we want to remind consumers that it is critical to refrigerate carrot juice for safety. Consumers should not keep carrot juice unrefrigerated," said Dr. Robert Brackett, Director of FDA's Center for Food Safety and Applied Nutrition (CFSAN). Inadequate refrigeration of carrot juice allows botulinum spores to multiply to the level at which they can cause illness.

Botulism is a rare but serious paralytic illness caused by botulinum toxin, a nerve poison that under certain conditions is produced by *Clostridium botulinum*, a bacteria commonly found in soil. Botulism can be fatal and is considered a medical emergency. Symptoms...

<http://www.cbc.ca/canada/toronto/story/2006/10/13/carrot-botulism.html>

Canadian botulism victims did properly store carrot juice: officials

Last Updated: Friday, October 13, 2006 | 10:00 AM ET

CBC News

Public health officials are saying that two Toronto residents, who were poisoned after they consumed tainted carrot juice, did indeed properly refrigerate the product.

The maker of the recalled juice, California-based Bolthouse Farms, said earlier this week that consumers in the U.S. were sickened after they had failed to keep the product refrigerated.

However, tests in Canada have shown that the juice consumed by the Toronto residents was handled and stored properly. The two patients, who live in the same household, are in intensive care. Both are paralyzed and on ventilators.

Meanwhile, public health officials are continuing to monitor the recall of the product and plan to inspect shelves at another 1,250 stores over the coming days. Public Health inspectors have already surveyed 2,700 stores. After discovering bottles of the recalled juice still on the shelves in 11 of those, they removed them.

The CFIA issued a voluntary recall of the product on Sept. 30 after four cases of botulism in the U.S. were linked to the toxic carrot juice. The federal regulator followed up with a second alert on Oct. 7 to ensure public awareness.

All containers with a "best before" date of up to Nov. 11 are involved in the recall.

Three brands have been linked to the botulism outbreak:

- Bolthouse Farms 100 per cent Carrot Juice
- Earthbound Farm Organic Carrot Juice
- President's Choice Organics 100 per cent Pure Carrot Juice

A Florida woman has been in hospital and unresponsive since mid-September. Three people in Georgia suffered respiratory failure and are on ventilators since drinking carrot juice a month ago.

Botulism can lead to serious illness or death, and must be treated early. Symptoms can include blurred vision, slurred speech, difficulty swallowing, and paralysis. In severe cases, the paralysis can restrict breathing, forcing patients on to ventilators.

Rishma Govani

Where to lay the blame?

- The batch of carrot juice consumed by the Toronto cases is the same as that from the 4 cases in the USA.
- Bolthouse Farms had decided to stop production of its 100% Carrot Juice
- Carrot juice added to an acidic juice (such as apple) is safer



Outbreak summary

- What is the role of public health to investigate the differential diagnosis of rare diseases?
- Media attention of general food recalls are important
- Unanticipated media attention can be draining
- After hours and holiday response to outbreaks



Outbreak summary

Coordination with local, provincial, national and international public health

- Media
- Laboratory capacity
- Communication
- Investigation of cases
- Voluntary vs active recall



2006's TOP 10 LESSONS in COMMUNICATION

Post Dec 8/06 #3

By KATIE ROOK

Politicians, sports stars and Paul McCartney dominated this year's headlines more often than some of their handlers may have liked. Even those who spend their days communicating managed several missteps. Kitchin Public Relations/Canada has, for a third consecutive year, compiled a list of 10 notable communicators — good and bad — among 2006's top newsmakers. Some are to be lauded for their candour and forthrightness, while others' comments seem inexplicable. Gleaning lessons from their public missteps, Geoffrey Rowan, Kitchin's managing director, says the best communicators are those who know how to be engaging. The worst utterances come from those who are defensive and glib. "Everything in life to me is storytelling. When you think about who your best teachers were, who your best friends are, who are the people who can tell great stories that really capture your imagination?" he said. "I saved the big one for last — because of [Stephen Harper's] public profile and because of his role, that gave him extra weighting, that would be the worst offender."



TIM WARNER

Spokesman for *Boltmans*, U.S. maker of vegetable and fruit juices

Situation Two Canadians are poisoned with botulism after drinking Boltmans brand carrot juice

Quote "It appears that it was consumers that did not take the good counsel to keep the product refrigerated."

Effect Looks heartless

Lesson Have a little sympathy for the people you make horribly ill.



MICHAEL 'PINBALL' CLEMONS

Head coach of the Toronto Argonauts

Situation Pinball relies on a grotesque analogy while launching the Challenge Fund, a program aimed at reducing youth violence.

Quote "Not instituted properly, the Challenge Fund is simply a Bush-Aid over a gaping cut and the blood will continue to rush through. Done properly, it is stitches that are meticulously and compassionately woven through to heal a wound that was once rushing with blood."

Effect Distraction

Lesson Don't bleed every last drop of blood out of that tortured metaphor.



ROBERT PRICHARD

Chief Executive Officer of *TorStar*

Situation The ousting of Toronto Star publisher Michael Goldbloom and Editor-In-Chief Giles Gieseron

Quote "We are grateful for the many contributions Michael and Giles have made together to advance the Star. They have inspired important innovations in the newspaper, both in print and online, and the new leadership team will build further on the foundation they have laid. Michael and Giles have been fine leaders and colleagues, and we wish them every success in the future."

Effect Vacuous

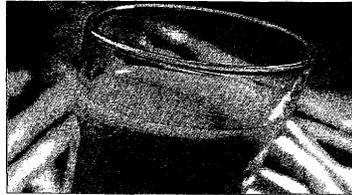
Lesson If you were that happy with them, they wouldn't have been fired. Don't try to pretend otherwise.

in COMMUNIC

Post Dec 8/06 A3

BY KATIE ROOK

Politicians, sports stars and Paul McCartney dominated this year's headlines more often than some of their handlers may have liked. Even those who spend their days communicating managed several missteps. Ketchum Public Relations Canada has, for a third consecutive year, compiled a list of 10 notable communicators — good and bad — among 2006's top newsmakers. Some are to be lauded for their candour and forthrightness, while others' comments seem inexplicable. Gleaning lessons from their public missteps, Geoffrey Rowan, Ketchum's managing director, says the best communicators are those who know how to be engaging. The worst utterances come from those who are defensive and glib. "Everything in life to me is storytelling. When you think about who your best teachers were, who your best friends are, who are the people who can tell great stories that really capture your imagination?" he said. "I saved the big one for last ...because of [Stephen Harper's] public profile and because of his role, that gives him extra weighting, that would be the worst offender."



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Head coach of the Chicago Bulls

Situation Pinball relies on a metaphor while launching the Bulls' new strategy aimed at reducing youth unemployment.

Quote "Not instituted properly, Fund, is simply a Band-Aid. The blood will continue to flow. If it is stitched together properly, it is stitches that are compassionately woven together that was once rushing with blood."

Effect Distraction

Lesson Don't bleed even when you're metaphorical.

-
- Thank you!