



Fact Sheet

FOOD SAFETY FACTS ON PARALYTIC SHELLFISH POISONING (PSP)

Bivalve shellfish (also known as molluscs) are an excellent source of protein and are high in essential minerals, and low in calories, fat and cholesterol. However, consumers should be aware of some potential food safety issues associated with bivalve shellfish.

Bivalve shellfish are highly sensitive to the quality of their marine environment. They eat microscopic plants that produce marine biotoxins, which build up in their tissues. There are different biotoxins of concern in Canadian waters: domoic acid, which is associated with Amnesic Shellfish Poisoning (ASP); toxins which cause Diarrhetic Shellfish Poisoning (DSP); and saxatoxin, which is linked to Paralytic Shellfish Poisoning (PSP). Eating these toxins can lead to serious and potentially fatal illness.

What are bivalve shellfish?

Bivalve shellfish have a hinged two-part shell and include oysters, clams, scallops, mussels and cockles. Non-bivalve shellfish, such as whelks, can also accumulate PSP toxins.

What is PSP?

- PSP is an illness caused by marine biotoxins that are naturally produced by certain types of microscopic algae.
- PSP toxins can accumulate in bivalve shellfish, such as oysters, clams, scallops, mussels and cockles; in non-bivalve shellfish such as whelks; and in crustaceans such as crabs and lobsters.
- PSP was first documented in Canada in 1793, when four cases occurred in Western Canada. The source was traced to bivalve shellfish off the coast of British Columbia.

What are the symptoms of PSP?

- Symptoms of PSP could begin within a few minutes and up to 10 hrs after consumption, with a tingling sensation or numbness around the lips. This gradually spreads to the face and neck. Other symptoms include a prickly sensation in the fingertips and toes, headache and dizziness.
- In moderate to severe cases one may also experience incoherent speech, a prickly sensation in the arms and legs, stiffness and non-co-ordination of limbs, weakness and a rapid pulse. Respiratory difficulty, salivation, temporary blindness, nausea and vomiting may also occur.

- In extreme cases, paralysis of respiratory muscles may lead to respiratory arrest and death within two to 12 hours after consumption.
- There is no known cure for PSP.
- Seriously affected persons must be hospitalized and placed under respiratory care.

Where could I come into contact with PSP?

- Illness from PSP is linked to the consumption of contaminated bivalve shellfish, such as oysters, clams, scallops, mussels and cockles, and in crustaceans, such as crabs and lobsters, containing high levels of PSP toxins.
- PSP can be present in recreationally harvested bivalve shellfish, from closed areas along the Atlantic and Pacific coasts and the St. Lawrence River, during the summer months.

What can I do to protect myself and my family?

- Be cautious when harvesting bivalve shellfish. It is **your** responsibility to call your nearest Fisheries and Oceans Canada (DFO) office (listed in the local telephone directory) to find out which areas are assigned as “open” for bivalve shellfish harvesting. (“Open” areas are regions where bivalve shellfish harvesting is allowed. When an area is officially “closed,” it is **illegal** to harvest bivalve shellfish in that area for any purpose, unless a special licence is issued.)
- Updates on the opening and closing of harvesting areas are communicated to the public through local media, notices posted in closed areas, and information provided by local DFO offices.
- Only purchase bivalve shellfish from suppliers you trust and only harvest from open areas that are approved by Fisheries and Oceans Canada.
- Bivalve shellfish should be refrigerated or frozen until consumption.
- Note that properly cooked bivalve shellfish can still be toxic since PSP toxins are not destroyed by cooking.
- Anyone who feels ill after eating bivalve shellfish should immediately seek medical attention.
- PSP can also occur in other countries. Tourists should be cautious when consuming bivalve shellfish abroad.

What is the federal government doing to enhance the safety of bivalve shellfish for human consumption?

- The federal government established the Canadian Shellfish Sanitation Program (CSSP) to ensure that bivalve shellfish harvested in Canada are safe to eat. Three federal government agencies work together to deliver this program:
 - Environment Canada analyzes water quality in bivalve shellfish harvesting areas and identifies waters that do not meet sanitary standards.
 - The Canadian Food Inspection Agency (CFIA) monitors for biotoxins in bivalve shellfish in harvesting areas and is responsible for registering and inspecting fish and shellfish processing plants.
 - DFO patrols and closes harvest areas, and bans the harvesting of bivalve shellfish whenever bacteria or toxin levels exceed safety standards.

- Health Canada establishes all food safety guidelines for bacteria, toxins and other contaminants in foods.
- Under this program, bivalve shellfish samples are taken directly from shellfish growing areas and are regularly analyzed for ASP, DSP and PSP toxins. Hundreds of sites in Atlantic Canada, Quebec and British Columbia are regularly tested for these toxins.

Click [here](#) for more information on ASP, DSP and harvesting bivalve shellfish in Canada. Visit the CFIA's website at www.inspection.gc.ca to learn more about foodborne illness and safe food handling practices.

To find out which bivalve shellfish harvesting areas are open, call your nearest DFO office listed in local telephone directories.

Canada 