

SHELLFISH

safety notes



Shellfish Advice for Consumers

Shellfish are animals living in the sea that have shells. Shellfish are generally edible but are not actually fish. Bivalve shellfish have two hinged shells and include oysters, clams, scallops, mussels and cockles.



Photo Source: BC Shellfish Growers Association

Recommendations for purchasing shellfish

- Buy shellfish from trustworthy sources such as well-known stores, licensed vendors and restaurants. All inspected and approved shellfish will have tags that are issued after inspection at legally registered facilities.
- Shellfish are highly perishable. Do not purchase shellfish with strong or rotten odours – this is a sign the shellfish have not been stored properly and are decomposing.
- Keep shellfish cold (less than 4°C), and refrigerate immediately after purchasing. Use an ice pack and cooler to keep shellfish cold until they can be refrigerated.
- When you purchase whole shellfish (unshucked), they should be alive, with the shells closed. If the shells are open, tap the shellfish – if the shell closes the shellfish is still alive. Throw out any shellfish with shells remaining open.



Shelf-life and recommendations for storing shellfish

FRESH IN SHELL OR SHUCKED

- Store live shellfish in an open container, and keep chilled (0 to 4°C).
- Do not put live shellfish in a closed container or into fresh water (the shellfish will suffocate and die).

- Place live shellfish on the lowest shelf in the refrigerator, and cover with a damp towel. Do not allow any juices or liquids to leak onto other food items.
- Store shucked shellfish (meaning without the shell) in a closed plastic or glass container, or a leak-proof bag.



Photo Source: BC Shellfish Growers Association

FROZEN SHELLFISH

- For optimum quality, commercially frozen seafood can be stored in the freezer for up to 6 months; at home, store frozen seafood for 3 – 4 months.
- Thaw shellfish either in the refrigerator overnight; **or** in cold water for approximately one hour; **or** microwave on the defrost setting until the shellfish are softened but still icy.

FRESHLY COOKED SHELLFISH

- Store cooked shellfish refrigerated in containers for 1 – 4 days.
- Store cooked whole crab and lobster in sealed containers for 2 – 3 days, and crab, shrimp and lobster meats for 3 – 4 days.

Shelf-life for fresh shellfish: don't store past the periods given below.

	Fresh in Shell	Fresh Shucked
Oysters	7 – 10 days	5 – 7 days
Clams & Mussels	2 – 3 days	1 – 2 days
Shrimp	1 – 2 days	2 – 3 days
Crab & Lobster	Use same day purchased	
Scallops		2 – 3 days
Squid		1 – 2 days

This document was prepared in collaboration with the following agencies:



BC Centre for Disease Control
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Recommendations for cooking shellfish

- During preparation keep raw shellfish separated from cooked foods and follow good hygiene practices:
 - wash hands before preparing foods
 - wash hands after handling raw shellfish
 - keep counters and utensils clean and sanitized.
- Use only drinking-quality water for rinsing.
- Scrub shells of clams, mussels and oysters with a stiff brush (under running water) before cooking.
- Bacterial and viral infections can be avoided by thoroughly cooking the shellfish to an internal temperature of 90°C for 90 sec. The following instructions should be followed for cooking bivalve shellfish (clams, mussels and oysters):

Boil: add shellfish in the shell to water that is already boiling. Boil for 3 to 5 minutes after the shells are open.

Steam: for 4 to 9 minutes. Throw out any shellfish with unopened shells.

Fry: for at least 3 minutes at 190°C (375°F).

Bake: for at least 10 minutes at 230°C (450°F).

- Avoid direct contact between raw shellfish and other cooked ready-to-eat foods.
- Remember...

Cooking does not destroy toxins!



Photo Source: BC Shellfish Growers Association

British Columbia programs that monitor shellfish quality and safety

The Canadian Shellfish Sanitation Program (CSSP) classifies harvesting areas and controls the commercial and recreational harvesting and processing of shellfish for the consumer market. The CSSP is run by three (3) federal government agencies:

- Environment Canada (EC)
 - monitors water quality in shellfish areas.
- Canadian Food Inspection Agency (CFIA)
 - monitors for marine toxins in shellfish areas.
 - registers and inspects shellfish processing plants.
- Fisheries and Oceans Canada (DFO)
 - opens and closes harvest areas.
 - prohibits shellfish harvesting when bacteriological or toxin levels are unsafe.

In BC, all commercially harvested bivalve shellfish are processed and inspected in federally registered plants that check for toxins and check that shellfish are harvested from approved areas. Bivalve shellfish tags are required to be kept for three months by all businesses purchasing bivalve shellfish.

The shellfish industry is organized under the BC Shellfish Growers Association. The industry participates with CSSP and other provincial and federal government agencies in monitoring and managing bivalve shellfish. Shellfish harvesters and processing plants manage risks by following strict time/temperature guidelines to safely harvest and transport shellfish.

A shellfish sampling program ensures that *Vibrio parahaemolyticus* levels during warm summer months are within Health Canada guidelines. These control measures work together to reduce the risk of illness to the consumer.

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Why does eating shellfish sometimes cause illness?

Shellfish naturally ingest organisms such as bacteria, viruses, and plankton toxins that are in ocean water. These organisms and toxins can build up in the shellfish and can make people sick when they consume the contaminated shellfish.

Vibrio parahaemolyticus, **Hepatitis A** and **Norovirus** infections are associated with eating raw shellfish.

Vibrio is a bacterium naturally found in the ocean. During warm summer months the levels of bacteria increase in the water and bivalve shellfish (especially raw oysters) can become contaminated.

Shellfish contaminated with viruses (like **Hepatitis A** and **Norovirus**) are likely a result of sewage contamination.

Eating raw shellfish increases the risk of infection.

Cooking shellfish will destroy these organisms and prevent illness.

Can Tide Color tell you when to harvest Shellfish safely?

Photo Source: Department of Fisheries and Oceans



Tides near Sidney BC

No. In fact shellfish under normal coloured tides may also be contaminated with deadly toxin – that's because toxin producing plankton do not always turn the ocean a red color.

Paralytic Shellfish Poisoning (PSP), **Amnesic Shellfish Poisoning (ASP)** and **Diarrhetic Shellfish Poisoning (DSP)** can be the result of eating shellfish contaminated with toxins from plankton (sometimes but not always seen in red tides).

Cooking shellfish does not destroy these toxins.

Severe disease is rare. However, people with underlying medical conditions such as liver disease may be at increased risk of serious complications.

How do I avoid getting ill?

There is sometimes no way to know if shellfish are contaminated; there may be no change in the sight, smell or taste. Follow the purchasing and cooking instructions above.

Allergic Reactions can result in some persons when they contact seafood (fish, crustaceans and shellfish), considered one of the nine most common food allergens by Health Canada.

What should I do if I get sick after eating shellfish?

- See your doctor for testing, advice and treatment.
- Contact your local public health department to report your illness.
- Keep track of where you purchased the shellfish and any other foods.

Web-sites

[BC Shellfish Growers Association](#)

[CFIA Red Tides and Marine Toxins in Bivalve Shellfish](#)

[Health Canada – Shellfish Safety](#)

[Health Canada – Seafood allergens](#)

[BCCDC Fish and Shellfish Safety Notes](#)

[BCCDC Diseases and Conditions](#)

For further information please contact your Shellfish Safety Officer at 604.707.2458 or contact your local Health Authority

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What are the symptoms associated with shellfish illnesses?

	<u>Vibrio parahaemolyticus</u>	<u>Hepatitis A</u>	<u>Norovirus</u>	<u>Paralytic Shellfish Poisoning</u>	<u>Amnesic Shellfish Poisoning</u>	<u>Diarrhetic Shellfish Poisoning</u>
Diarrhea	✓		✓		✓	✓
Abdominal discomfort	✓	✓	✓		✓	✓
Nausea	✓	✓	✓	✓		✓
Fatigue		✓	✓			
Fever	✓	✓	✓			
Dizziness				✓	✓	
Vomiting	✓		✓		✓	✓
Headache	✓			✓		
Other		<ul style="list-style-type: none"> Jaundice, persons with liver conditions at risk for serious illness 		<ul style="list-style-type: none"> Numbness/tingling in mouth, face, arms or legs Loss of coordination In serious cases: <ul style="list-style-type: none"> Paralysis Difficulty breathing Death 	<ul style="list-style-type: none"> Muscle weakness Disorientation Memory loss In serious cases: <ul style="list-style-type: none"> Death 	<ul style="list-style-type: none"> Chills
Onset of Symptoms after exposure	Within 24 hrs	within 15-50 days (usually 28-30 days)	within 12-48 hrs (usually 36 hrs)	within 15 min to 10 hrs (usually 2 hrs)	Within 24 hrs	Within 30 min to 12 hrs
Duration of Symptoms	1-7 days	1-2 weeks (mild) to 1 year	2-3 days	Few hrs to days	Few hrs to days	2-3 days

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