

# Diarrhetic Shellfish Poisoning

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## What is Diarrhetic Shellfish Poison?

Diarrhetic Shellfish Poison (DSP) is a marine biotoxin toxin produced by the dinoflagellate *Dinophysis*, which is a type of naturally occurring microscopic algae. Shellfish eat these algae and can retain the toxin. People can become ill from eating shellfish contaminated with DSP.

## How do shellfish become contaminated with Diarrhetic Shellfish Poison?

Shellfish are filter feeders. They pump water through their systems, filtering out and eating algae and other food particles. When shellfish eat biotoxin producing algae, the biotoxin can accumulate in their tissue.

## What types of shellfish are affected?

Bivalve molluscan shellfish such as clams, mussels, oysters, geoduck, and scallops can accumulate DSP.

## What causes unsafe levels of Diarrhetic Shellfish Poison?

It's normal for biotoxin-producing algae to be present in marine water. They are usually in low numbers that cause no problems. But when the algae "blooms," the amount of biotoxin-producing algae can increase. The increased algae becomes a greater food source for shellfish. The more algae the shellfish eat, the more biotoxin they accumulate. Biotoxins don't harm shellfish, so the level in their tissue will rise until the bloom subsides. When the number of toxin producing algal cells returns to normal low levels, the shellfish eventually flush the toxin from their bodies. It can be several days to several months or longer before they're safe to eat again.

The algae that produces DSP toxin has been detected in Washington's marine waters for some time, but has not produced toxin at unsafe levels until recently. In June 2011, three people became ill after eating recreationally harvested mussels from Sequim Bay. Testing confirmed the shellfish were contaminated with DSP toxin.

## What causes Diarrhetic Shellfish Poison blooms?

When water conditions are favorable, the algae "blooms" and reproduces. Continuing research has pointed to certain cause and effect situations, but the exact combination of conditions that cause blooms is not yet known. Learn more by searching "harmful algae" at [www.nwfsc.noaa.gov](http://www.nwfsc.noaa.gov).

## Can I tell if the shellfish are toxic by the way they look?

No. Shellfish containing toxic levels of DSP don't look or taste any different from shellfish that are safe to eat. Laboratory testing of shellfish meat is the only known method of detecting DSP.

## Does cooking the shellfish make it safe to eat?

No, DSP toxin isn't destroyed by cooking or freezing.

## What are the symptoms of Diarrhetic Shellfish Poisoning?

DSP causes nausea, vomiting, abdominal pain, and diarrhea. Diarrhea is the most commonly reported symptom.

## Who is most at risk?

Anyone who eats DSP contaminated shellfish is at risk for illness. The DSP toxin is non-lethal to humans.

## What should I do if I think I have Diarrhetic Shellfish Poisoning?

If symptoms are mild, call your health care provider and your local public health agency ([www.doh.wa.gov/localhealth](http://www.doh.wa.gov/localhealth)). If symptoms are severe, call 911 or have someone take you to your family doctor.

## How can I protect myself from Diarrhetic Shellfish Poisoning?

- Check the Shellfish Safety Map at [www.doh.wa.gov/shellfishsafety](http://www.doh.wa.gov/shellfishsafety) for beach closures and advisories on the day you plan to harvest shellfish.
- Recorded Hotline for Biotoxin Closures: 1-800-562-5632
- Questions? Call us at 360-236-3330 or the local county health department ([www.doh.wa.gov/localhealth](http://www.doh.wa.gov/localhealth)) during weekday business hours.



We regularly test shellfish for biotoxins and close areas when unsafe levels are detected. Beaches are sometimes posted with warning signs. Don't assume a beach is safe if there are no signs – beach closure signs sometimes "disappear."

## Are there any other illnesses associated with shellfish?

Yes. Other types of biotoxins found in the northwest can cause paralytic shellfish poisoning and amnesic shellfish poisoning. Harmful bacteria can cause vibriosis. Raw sewage contamination can cause norovirus illness. Some people can have an allergic reaction to shellfish.

## What about shellfish offered by restaurants, stores, and farmers' markets?

Shellfish harvested commercially and sold to the public come from licensed, certified growers. Commercial harvest operations must meet stringent state and federal health standards, and the shellfish they harvest are regularly tested for biotoxins.

## More Resources

[www.doh.wa.gov/shellfish](http://www.doh.wa.gov/shellfish) – Learn more about shellfish-related illnesses and how to prevent them.

[www.doh.wa.gov/shellfishsafety](http://www.doh.wa.gov/shellfishsafety) – Check for beach closures and advisories using our interactive map.

For people with disabilities, this document is available on request in other formats. To submit a request, please call 1-800-525-0127 (TDD/TTY call 711).