

A variety of seafood can cause poisoning through ingestion of toxins. Symptoms and treatment vary depending on the type of toxin.

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What is seafood poisoning?

There are three main types of seafood poisoning

- Ciguatera poisoning
- Scombroid, also known as histamine poisoning
- Shellfish poisoning

Ciguatera poisoning is a form of food poisoning. It is caused by eating warm water ocean finfish that carry ciguatera poison (a toxin). This poison is produced by a very tiny organism called a dinoflagellate, which attaches itself to algae growing in warm ocean water reef areas. Small plant-eating fish eat these toxic algae and in turn are eaten by larger predatory fish which are eaten by humans. Fish that feed in warm ocean waters are potential carriers of ciguatera toxin.

Scombroid fish poisoning results from eating fish with high levels of histamine. Histamine is produced by bacteria in fish. When fish are not quickly chilled after capture, or have not been stored at correct temperature prior to consumption, the bacteria can multiply and produce high amounts of histamine. It can occur in many species of fish, including skipjack, mackerel, tuna, sardines, anchovy, marlin, and bonito.

Shellfish can carry a variety of naturally occurring seafood toxins that cause poisoning in humans including: paralytic shellfish poisoning, amnesic shellfish poisoning, neurotoxic shellfish poisoning and diarrhoeic shellfish poisoning.

What are the symptoms?

The symptoms of **ciguatera poisoning** start between 1 and 24 hours after eating a toxic fish and include:

- tingling and numbness in fingers, toes, around lips, tongue, mouth and throat
- burning sensation or pain on contact with cold water
- joint and muscle pains with muscular weakness
- nausea, vomiting, diarrhoea and/or abdominal cramps
- headache, fatigue and fainting
- extreme itchiness, often worsened by drinking alcohol
- difficulty breathing in severe cases.

Scombroid fish poisoning occurs very quickly after eating the fish, usually within 30 minutes, but may be up to several hours later. Common symptoms include:

- a peppery or metallic taste
- flushing of the upper body,
- itching
- headache and dizziness
- vomiting, diarrhoea and abdominal cramps

In severe cases difficulty with breathing and low blood pressure may occur.

Paralytic shellfish poisoning – a very serious, potentially fatal disease affecting the nervous system. Symptoms can occur within half an hour to two hours after consuming the affected shellfish and include numbness and tingling of the lips and extremities and gastrointestinal symptoms.

Amnesic shellfish poisoning – another serious illness that can potentially cause death or coma. It affects the nervous system and the gut and symptoms usually appear within a day of eating the affected shellfish.

Neurotoxic shellfish poisoning – has symptoms similar to ciguatera poisoning (see above) but less severe, usually only lasting a few days.

Diarrhoetic shellfish poisoning – symptoms including diarrhoea and vomiting, usually appear approximately half an hour after consuming affected fish but lasts only a few days.

Who is at risk?

Anyone who eats contaminated fish or shellfish may be affected.

How is it prevented?

Toxins are not removed by cooking or freezing. Avoid eating large warm water ocean fish such as coral trout, Spanish mackerel, red emperor, wrasse, reef cod, sturgeon fish, trevally and kingfish. Avoid eating the head, roe, liver or other viscera of warm water ocean fish. Ciguatera toxin is concentrated in these parts.

Histamine is not destroyed by cooking. The best way to keep histamine in fish at a minimum is to keep it on ice or under refrigeration (less than 5°C); refrigerate immediately after purchase; and if purchased frozen, thaw under refrigeration. Freshly caught fish should be chilled immediately.

The NSW Food Authority manages the NSW Shellfish Program that regulates safe shellfish production.

How is it diagnosed?

There is no specific test for seafood poisoning. The diagnosis is usually made based on the symptoms and a history of recent seafood consumption.

How is it treated?

Treatment is directed towards managing the symptoms at presentation.

What is the public health response?

Foodborne illness is a notifiable condition. Suspected foodborne illness in two or more related cases is to be confidentially notified to public health units within 24 hours of diagnosis by doctors, hospitals or the Food Authority. Further investigations may be undertaken by the public health unit in conjunction with NSW Food Authority to identify and control the source.

NSW Food Authority phone 1300 552 406 (local call Australia-wide)
<http://www.foodauthority.nsw.gov.au/>