

Fish Poisoning

There are four main types of poisoning that can result from eating fish.

Ciguatera fish poisoning

Ciguatera poisoning is a form of food poisoning caused by eating warm water ocean fish that have ciguatera poison (toxin). The toxin is produced by a small organism called a dinoflagellate, which attaches to algae in warm ocean water reef areas. Small plant eating fish eat this algae and the toxin then accumulates and is concentrated in larger predatory fish. Many species of fish have been known to cause ciguatera poisoning in humans.

The toxin does not affect the appearance, odour or taste of the fish and is not destroyed by cooking, refrigeration or freezing.

Symptoms usually occur within 1 to 24 hours of eating a toxic fish and include:

- > vomiting
- > diarrhoea and/or abdominal (stomach) cramps
- > headaches, fatigue and fainting
- > joint and muscle pain
- > tingling around the mouth, fingers and toes
- > burning sensation or skin pain on contact with cold water
- > extreme itchiness
- > coma in severe cases.

Diagnosis is confirmed by the detection of ciguatoxin in fish linked to the case of poisoning.

Medical attention should be sought at the onset of symptoms. People recovering from ciguatera fish poisoning should avoid eating warm water ocean fish for at least 6 months, and avoid alcohol for at least 3 months.

Scombroid fish poisoning (histamine poisoning)

This is caused by scombroid fish containing high levels of the biochemical histadine. Scombroid fish include mackerel, tuna, bonito, sardines, marlin and butterfly kingfish. If fish are caught in warm areas and are not refrigerated properly, this chemical can breakdown to histamine which causes symptoms within a few hours of eating the fish.

Symptoms include:

- > tingling and burning around the mouth
- > facial flushing and sweating
- > nausea, vomiting and diarrhea
- > headache
- > palpitations and dizziness
- > rash.

These symptoms usually resolve within 12 hours with no long term effects.

Diagnosis is confirmed by detection of histamine in fish linked to the case of poisoning. In severe cases treatment with antihistamines may be effective.

Shellfish poisoning (paralytic, neurotoxic and amnesic shellfish poisoning)

Some organisms present in seawater and ingested by shellfish may produce a toxin. These organisms are particularly numerous during algal blooms or 'red tides'. Symptoms occur within minutes to hours after eating the shellfish.

Paralytic shellfish poisoning can be very serious and can sometimes cause death. Symptoms may occur within half an hour to two hours after consuming the affected shellfish, and may begin with tingling around the mouth, face, fingers and toes. Symptoms usually settle within a few days, but in severe cases, affected people may stagger and may not be able to talk, swallow, move or breathe.

Neurotoxic shellfish poisoning has similar symptoms to ciguatera poisoning, but less severe and lasts only a few days.

Amnesic shellfish poisoning can be serious, causing vomiting, abdominal cramps and diarrhoea, usually within a day of eating the affected shellfish. Confusion, amnesia (loss of memory) and coma may follow in severe cases. The amnesia may be permanent.

Diagnosis is confirmed by detection of toxins in implicated shellfish.

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Rudderfish / Escolar diarrhoea

This is caused by eating fish belonging to the escolar and rudderfish groups. Escolar is also sold as "rudderfish" and "butterfish". These fish have a high wax ester (oil) content. In humans, these wax esters cannot be digested and may accumulate in the bowel causing oily diarrhoea.

Symptoms normally include the sudden onset of watery and oily diarrhoea with abdominal cramps. Nausea, headache and vomiting have also been reported. The average incubation period is about 2 to 2½ hours, but can range from one to 90 hours. The illness lasts for an average of 22 to 24 hours, with a range from 5 to 78 hours.

Diagnosis is made by testing the implicated fish for oil types, concentration, and by identification of the type of fish.

Useful websites

- > Queensland Health Fact Sheet: Naturally occurring seafood toxins
<http://www.health.qld.gov.au/ph/Documents/ehu/19397.pdf>

Control of spread

- > Avoid eating large warm water fish, especially the head, roe, liver and other internal organs where ciguatera toxin is more concentrated.
- > Fish should be chilled and properly refrigerated as soon as possible after being caught to prevent histamine formation (scombroid fish poisoning).
- > Fish caught during algal blooms or during warnings not to fish should not be eaten.
- > Seafood retailers have been advised to display signs advising that rudderfish might cause symptoms.



Food poisoning is a notifiable disease

- > Preventing food poisoning at home
- > Food poisoning