

Ciguatera fish poisoning

What is ciguatera?

Ciguatera poisoning is a type of food poisoning caused by eating certain types of reef fish found in warm tropical waters. The fish are contaminated with toxins (ciguatoxins) which are produced by a particular type of algae (*Gambierdiscus toxicus*) that grows in coral reefs. These algae are eaten by small fish which are then eaten by larger fish and the toxin is then passed up the food chain concentrating in the larger reef fish. It is therefore large fish which are most likely to be contaminated with ciguatoxins. About 150 cases of ciguatera poisoning occur per year in Australia.

Where is it found?

The fish associated with ciguatera are found in most tropical and sub-tropical waters especially around coral reefs. Areas of the Northern Territory (NT) known to have fish that cause ciguatera poisoning are in the Gove and Groote Eylandt area. Fish suspected of causing ciguatera have been caught at the south end of Bremer Island, East Bremer islets, Bonner Rocks, Miles Island, the Cape Arnhem Area, Nhulunbuy (Gove) and Connexion Island off Groote Eylandt. However fish capable of causing ciguatera poisoning could be present in other NT waters.

What fish types are associated with ciguatera?

More than 300 species of fish have been suspected of causing ciguatera poisoning. The list includes: Chinamanfish, Tripletail Maori Wrasse, Humphead Maori Wrasse, Red Bass, Paddletail, Giant Moray, Pickhandle Barracuda, Coral Rockcod, Coral Trout, Kingfish, Mackerel (various including Spanish Mackerel), Giant Queenfish, Red Emperor, Reef Cods, Lined Bristletooth (Surgeon Fish), Spangled emperor, Trevally, Tuskfish. The toxin cannot be removed by cleaning or cooking the fish.

What are the symptoms?

The symptoms usually appear within 3 – 6 hours of eating affected fish (but can be up to 30 hours) and may be non-specific such as:

- tiredness and lethargy
- nausea and vomiting
- diarrhoea
- stomach cramps
- Symptoms might be those more classically associated with ciguatera poisoning such as:
- joint and muscle pain with muscle weakness

- tingling or numbness around the lips, in the hands or feet
- severe itching, often worsened by drinking alcohol
- headache and feeling that teeth are loose or aching
- reversal of temperature sensation (e.g. hot water feels freezing cold or cold drinks feel hot)
- palpitations and irregularity in blood pressure and pulse (mainly low blood pressure, and slow pulse)
- difficulty in breathing in severe cases.

Some of the classical symptoms can last up to 3 months and in some cases several years and may be exacerbated by stress or excessive alcohol consumption. Deaths due to ciguatera fish poisoning are rare and occur mainly in severe cases from respiratory paralysis or cardiovascular shock. One bout of ciguatera poisoning does not give you immunity. In fact, people may even have increased sensitivity to the toxin in the future.

How is it diagnosed?

The diagnosis is mainly based on symptoms and food history. There is no laboratory diagnostic test for ciguatera. Remains of the fish are often sent to reference laboratories for research purposes, but the results of these tests take time and are not relevant for immediate diagnosis.

What is the treatment?

At the onset of the symptoms the patient should see the nearest health centre. Treatment is mainly supportive and based on symptoms. People who have had vomiting and diarrhoea may need intravenous fluid.

How do you protect yourself?

Ciguatera toxic fish cannot be detected by appearance, odour, texture or taste. Do not catch and eat fish from known ciguatera areas. It is best to suspect that any fish named in this fact sheet can cause ciguatera poisoning, especially if it weighs more than 2.5kg. If eating warm water ocean fish, eat small portions no bigger than 200 grams. If symptoms develop do not let others eat the fish and seek medical advice immediately. Avoid eating the head, roe, liver or other viscera (guts) of warm water ocean fish as the toxin is concentrated in these parts. Remember also that spoilage can cause you to suffer general food poisoning (not caused by ciguatera) from any fish that has not been cleaned and stored properly.

Contact

For more information contact your nearest [Centre for Disease Control](#).

Location	Phone
Darwin (Top End Region)	(08) 8922 8044 or 1800 008 002
Katherine (Big Rivers Region)	(08) 8973 9049
Tennant Creek (Central Australia Region)	(08) 8962 4259
Alice Springs (Central Australia Region)	(08) 8951 7540
Nhulunbuy (East Arnhem Region)	(08) 8987 0357