

Ciguatera Fish Poisoning

Ciguatera fish poisoning occurs when fish is eaten that contain toxins produced by a dinoflagellate microalgae called *Gambierdiscus toxicus*. The toxin accumulates in fish that feed on algae. These small fish are the major food source for larger fish, the toxin becoming more concentrated in the fatty tissue, flesh and viscera in the larger fish. The fish most commonly involved in poisonings include barracuda, red snapper, amberjack, grouper, surgeon fish, sea bass, parrot fish, hogfish, kingfish, sturgeon, and dolphin. In the U.S., poisonings occur most frequently in the warm waters of Hawaii, Florida, Puerto Rico, U.S. Virgin Islands and other tropical territories; however, some fish migrate as far as South Carolina and Texas where cases have been reported. Scientists theorize that with increasing water temperatures and changes in fish migration patterns, the presence of *G. toxicus* will possibly increase in the Gulf of Mexico and southern Atlantic coastline. Cases reported in Maryland are usually people returning from visits to endemic areas. Fish shipped from southern waters to other areas have also resulted in poisonings. The appearance, taste and smell of contaminated fish are not altered. The toxin is not diminished by cooking or freezing.

In a series of 12,890 cases, the onset of clinical effects was within 24 hours in 96% of patients, within 12 hours in 77%, and within 6 hours in 52%. Paresthesias and myalgias of the mouth, tongue and extremities, as well as abdominal pain, nausea, vomiting, and profuse watery diarrhea are characteristic of ciguatera poisoning. Other effects may include muscle weakness, diaphoresis, pruritus, headache, watery eyes, blurred vision, metallic taste and chills. The sensation of burning when in contact with cold objects has been described. Bradycardia, hypotension, hypothermia and respiratory depression may develop in severe cases; however, ciguatera has a very low mortality rate (<0.5%). Gastrointestinal symptoms usually subside within 24-48 hours but neurologic and cardiovascular symptoms persist for days to weeks.

Treatment consists of supportive care. Activated charcoal may be beneficial in the rare case when a patient presents very early after the ingestion, but most patients do not realize that they have eaten contaminated fish until symptoms develop. Patients should be counseled to avoid alcohol and exercising for several months as they may exacerbate the neurologic symptoms.

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DID YOU KNOW THAT... The FDA and CDC request that poison centers report illnesses suggestive of ciguatera?

The FDA and CDC want to develop a clearer picture of the incidence of ciguatera fish poisonings in the U.S. All suspected cases should be reported to the regional poison center. Poison center staff will give instructions on how to report the case to the FDA and what to do to have fish samples analyzed by the FDA at no cost. All shipping materials will be provided. The FDA will notify the patient and/or health care provider of the results of the analysis.



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If you do not wish to receive faxes or emails from the Maryland Poison Center, call 410.706.7604 or circle your fax number and fax this back to 410.706.7184. Supported by Maryland Department of Health and Mental Hygiene

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