Scombroid poisoning is a type of foodborne illness caused by the consumption of scombroid and scombroid-like marine fish species that have begun to spoil with the growth of particular types of bacteria. Fish most commonly involved are members of the scombridae family (tunas and mackerels) and a few non-scombridae relatives (bluefish, dolphin or mahi-mahi, and amberjack). A few additional species have been implicated, but they are of less concern because they are not commonly eaten.

The suspect toxin is an elevated level of histamine generated by bacterial breakdown of substances in the muscle protein. This natural spoilage process is thought to release additional by-products, which cause the toxic effect. Freezing, cooking, smoking, curing or canning does not destroy the potential toxins.

What Should You do to Avoid Scombroid Poisoning?
Scombroid poisoning cannot be detected by appearance or taste. Proper handling of fish is the best safeguard. Studies have demonstrated that toxic histamine levels can be generated within less than six to 12 hours exposure without ice or refrigeration.

Potential scombrotoxic fish belong to a particular group of species that have been allowed to spoil.

These species always should receive special care in handling and washing and proper icing, refrigeration or immediate freezing to prevent bacterial growth and spoilage.

This problem is of particular concern immediately after catch aboard a commercial or recreational boat. Likewise, the recreational catch lying on a warm dock or beach is prone to histamine production in certain species. The adverse consequence may not be severe, but they are discomfiting and alarming enough to warrant somewhat extra care. Prevention is simple and preferable to treatment, which is similar to that used for allergic reactions. Common advice from physicians includes treatments with antihistamines.

What are the Symptoms of Scombroid Poisoning?
Symptoms of scombroid poisoning can become evident within just minutes to two hours following consumption. This rapid onset is one reason scombroid poisoning may be reported more often than many other food poisonings that react much slower. Initial signs suggest an allergic response with facial flushing and sweating, burning-peppery taste sensations about the mouth and throat, dizziness, nausea, and headache. These initial symptoms can advance to facial rash, hives, edema, short-term diarrhea and abdominal cramps. Severe cases may blur vision and cause respiratory stress and swelling of the tongue. Symptoms usually last for approximately four to six hours and rarely exceed one to two days.

Symptoms for scombroid poisoning can easily be confused with an allergy or other form of food poisoning, and vise versa. For example, some symptoms for scombroid poisoning are similar to...
ciguatera, another form of marine fish poisoning. Distinguishing these illnesses can be complicated, particularly around warm water regions.

What if You Suspect Scombroid Poisoning?

- Consult a physician, explaining your concerns, types and amount of food eaten, and when the symptoms began.
- Try to obtain portions of the meal, particularly the suspected fish. These portions must be carefully handled, packaged and frozen to prevent any deterioration.
- Try to verify the species and size of the suspect fish and how it was cooked and handled prior to cooking. Inquire where the fish came from. Knowledge of species, source and prior handling could implicate other forms of food poisoning. Realize that local names for fish and menu listings can be misleading.
- Consult with other professionals in the fields of public health, food safety regulation or academic research, who can better advise your physician. Many physicians are not familiar with scombroid poisoning.

Source:

This information has been reviewed and adapted for use in South Carolina by D.C. Smith, Seafood Industry Specialist; P.H. Schmutz, HGIC Food Safety Specialist; and E.H. Hoyle, Extension Food Safety Specialist, Clemson University. (New 08/99.)