

Learn more about Seafood Safety and Hygiene



Hong Kong people consume a large quantity of seafood such as shrimps, crabs, oysters, clams, mussels and marine fishes every year. While seafood is tasty and nutritious, it may be contaminated by bacteria, viruses and toxins in the sea. Raw or undercooked seafood is generally linked to the infection of *Vibrio* pathogens, hepatitis A virus and norovirus. Consumption of fish with ciguatoxin or histamine may result in ciguatera poisoning and scombroid poisoning. Eating shellfish containing biotoxins may lead to shellfish poisoning.

Common Food-borne Pathogens in Seafood

Vibrio parahaemolyticus

In Hong Kong, *V. parahaemolyticus* is one of the pathogens frequently involved in foodborne illnesses. The natural habitat of *V. parahaemolyticus* is the marine environment. The bacteria are mainly associated with seafood and cause gastroenteritis accompanied by symptoms like diarrhea, abdominal cramp, nausea, vomiting and headache.

Hepatitis A Virus

People can be infected with hepatitis A after consumption of contaminated shellfish. The virus multiplies in the intestinal epithelium of the patient before spreading into the liver. Clinical features include fatigue, poor appetite, nausea, vomiting, diarrhea, abdominal discomfort, jaundice and tea-coloured urine.



Norovirus

Shellfish in fecal polluted water are susceptible to norovirus contamination. In Hong Kong, oysters are identified as the main food source causing noroviral infection. Those who are infected may suffer from gastroenteritis characterised by nausea, vomiting, diarrhea and abdominal pain.





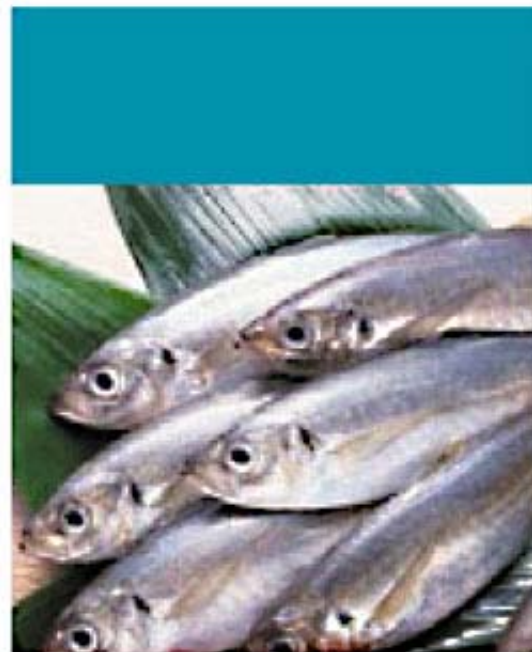
Fish and Shellfish Poisoning

Ciguatera Poisoning

Ciguatera poisoning originates from ciguatoxin-containing algae. Fish that feed on these algae may become carriers and the toxin will pass onto human beings through the food chain. As the toxin may not be harmful to coral fish including giant grouper, flower cod, moray eel, hump head wrasse, etc., ciguatoxic fish cannot be identified by appearance. The seriousness of poisoning depends on the intake. Major symptoms include numbness of extremities, mouths and lips; reversal of cold and hot sensation as well as muscle and joint aches. The toxin cannot be destroyed under normal cooking temperature.

Scombroid Poisoning

Scombroid poisoning is mainly caused by ingestion of certain types of fish with a high level of histamine produced as a result of improper storage temperature control after the fish are caught. Fishes known to be capable of producing such toxin include tunas, sardines and mackerels. Those infected may feel a strong metallic or peppery taste. They may also suffer from severe headache, nausea, vomiting, facial swelling and burning throat. Cooking cannot destroy the toxin.





Shellfish Poisoning

Illnesses resulting from eating contaminated shellfish include paralytic shellfish poisoning, diarrhetic shellfish poisoning, neurotoxic shellfish poisoning and amnesic shellfish poisoning. Bivalve shellfish such as oysters, clams, mussels and scallops, accumulate toxins in their bodies through filter-feeding mechanism after feeding on toxin-containing micro-organisms. The toxins will pass onto human beings via the food chain. If there is a red tide in water caused by a kind of toxic algal blooms, the shellfish habitat and the fishes in the vicinity will be affected. Consumption of such toxic seafood may cause intoxication leading to gastrointestinal and / or neurological problems. Gastrointestinal symptoms include abdominal pain, diarrhea and nausea. Some may even suffer neurological discomfort like tingling and numbness.

While handling or eating seafood, good hygiene practices (particularly the following advice) must be strictly observed in order to avoid food poisoning. Elderly people, children and the sick, who are vulnerable to infection, should avoid eating raw or undercooked fish and shellfish.

Advice to the Public

Purchase

- Choose fresh fish. Their eyes should be clear and bulge a little. Scales and gills of the fish should be attached, look shiny and be free of slime, while the flesh should be firm and elastic.
- Pick only fresh shellfish with intact shells and without unpleasant smell. Live shellfish close their shells tightly when tapped.
- Check if the container and water for keeping seafood are clean and hygienic.
- Do not buy from illegal hawkers as their sources of supply are unreliable.

Storage

- Put fresh seafood in refrigerator immediately after returning home and consume them within one or two days.



- Store ready-to-eat food on the upper shelf of refrigerator and place covered or wrapped seafood on the bottom shelf to avoid cross-contamination.

Preparation

- Wash hands before and after handling seafood.
- Shellfish with broken shells should be discarded.
- Scrub and clean shellfish in clean water.
- Besides washing, fish should be eviscerated including the removal of roes and gonads.

Cooking

- Cook fish and shellfish thoroughly before consumption.
- For shellfish, remove the shells where possible before cooking to facilitate heat penetration so that it is easier for the shellfish to be thoroughly cooked.

Consumption

- Avoid eating the viscera of fish and shellfish, particularly the liver and gonad of coral fish.
- Consume in moderation at a time.

Seek medical advice and treatment immediately if you have the above symptoms after eating seafood.