

# Oyster and Food Safety



## Oysters and Food Safety

Oysters farmed in Hong Kong are usually bottom cultured (i.e. spat collected by laying rock, concrete tile or post as cultch on the mud flat) or raft cultured (i.e. placing and fattening medium-size oysters in baskets suspended in rafts). Oysters feed on large volume of water, if they are grown and harvested from water containing pathogens, chemical contaminants or natural toxins, these substances may accumulate in oysters and pose significant health risks to consumers.

| Risks         | Types   | Common symptoms  |
|---------------|---|--|
| Pathogens     | <i>Vibrio parahaemolyticus</i> ,<br><i>Vibrio cholerae</i> (O1 and O139),<br><i>Vibrio vulnificus</i> | Gastroenteritis characterised by diarrhoea, vomiting, etc. People with liver disease, diabetes or suppressed immune system are more at risk for its severe complications like septicaemia.               |
|               | Norovirus   | Gastroenteritis characterised by diarrhoea, vomiting, nausea and abdominal cramps as well as headache and low-grade fever.   |
|               | Hepatitis A & E viruses   | An abrupt onset of fever, malaise, anorexia, nausea, abdominal pain, dark urine and jaundice. Severe disease in susceptible populations.   |
| Natural Toxin | Marine biotoxins  | Intoxication including diarrhoeic, paralytic and neurotoxic shellfish poisoning which cause gastrointestinal and/or neurological problems such as abdominal pain, diarrhoea, tingling and numbness, etc. |

|                       |                                      |   |
|-----------------------|--------------------------------------|---|
| Chemical Contaminants | Persistent Organic Pollutants (POPs) | Adverse effects depend on the nature of individual POP, amount and duration of exposure. Possible health effects include potentially disrupting immune and reproductive systems and diminishing intelligence. |
|                       | Heavy metals (e.g. Cadmium)          | Acute toxicity of cadmium due to dietary exposure is very unlikely. However, kidney functions may be affected with chronic intake.  |
| Physical              | Broken shells when opening oysters   | Injuries  |

## Oysters in Shells and Shucked Oysters

Raw oysters are found in shells and shucked in the market.



Whichever form of oyster is purchased, consumers should always observe the following steps in choosing, storing, preparing, cooking and consuming them to ensure food safety.

## Steps for Enjoying Oysters Safely

### Choose

Shop from reliable sources, and choose fresh oysters with intact shells and without abnormal odour. When the shell is tapped, it should close tightly. Check the expiry date of prepackaged shucked oysters, and ensure they are stored properly at 4°C or below for chilled products, or at -18°C or below for frozen products.

### Store

Head home immediately after making purchases to minimise the time of exposing oysters to room temperature, which favours the growth of pathogens. Once arrived at home, cook the oysters as soon as possible, or store the shucked chilled and frozen ones properly at or below 4°C and -18°C respectively. For chilled oysters, consume them within one to two days. Oysters in shell should be placed in containers with cover to prevent cross-contamination in the refrigerator.

### Prepare

To prevent cross-contamination between raw oysters and cooked or ready-to-eat food, wash hands thoroughly with soap and running water for 20 seconds before and after handling raw oysters.

Also, use different cutting boards and utensils to handle raw oysters and cooked or ready-to-eat food separately. Thaw frozen oysters properly under running water, in the refrigerator or microwave oven. Wash shucked oysters thoroughly before cooking. For oysters in shells, scrub the shells under water.



### Cook

It is best to cook oysters thoroughly to minimise the risk of foodborne diseases. For better heat penetration, remove the shell carefully and preferably with a specially designed oyster knife with short and stout blade. To avoid uneven heating, cook the oysters in small pots with small portions each time. Cook molluscan shellfish (including oysters) to an internal temperature of 90°C for 90 seconds to minimise

the risk of bacterial and viral infections. The following are some tips on cooking duration for in preparing oysters:

- Boil : for 3-5 minutes
- Fry: for at least 3 minutes
- Steam: for 4-9 minutes
- Bake: for at least 10 minutes at 230°C

Oyster is also popular in hotpot cooking. Use two different sets of chopsticks and eating ware to handle raw and cooked food separately. Add food of the same type at a time, as different foods require different cooking temperatures and duration. After topping up with water, wait for reboiling before adding more food.

### Consume

For oysters intended for consumption after cooking, never eat them raw. Eat moderately and maintain a balanced diet for minimising the excessive exposure of chemical contaminants or natural toxins from a small range of food items.

## Eating Raw Oysters

Eating raw oysters with hot sauce, lemon juice, vinegar or alcohol does not kill the pathogens - only thorough cooking can destroy them. If you choose to eat raw oysters anyway, you should observe good personal hygiene and follow the steps mentioned above in choosing, storing and preparing the oysters and consume them as soon as possible and in moderation.



### Important Note

Eating raw oyster instead of cooked ones increases the chance of food poisoning. Susceptible groups of individuals (e.g. pregnant women, children, elderly and persons with compromised immune systems or liver diseases) should avoid consuming raw or partially cooked oysters.