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### What is the concern about eating raw oysters and clams?

Every year millions of Americans eat molluscan shellfish, especially oysters and clams. While many people can enjoy these foods in either raw or cooked form, certain people are at risk of illness from eating them raw and need to be sure to eat these foods only if they are cooked properly. This fact sheet describes who is at highest risk from eating these foods raw, the illnesses of concern, and steps that can be taken to reduce the risk of illness.

Shellfish might be harvested from water that naturally contains bacteria that can make people ill or water that has been contaminated by bacteria, parasites, or viruses from the feces (stool) of people or animals. The shellfish can be contaminated by the water or by someone handling them with unclean hands. Cooking the food kills harmful organisms and makes the food safer to eat.

### Who is at risk from eating raw oysters and clams?

Eating raw or undercooked oysters or clams can lead to serious illness or death in people with the following health conditions:

- Liver disease.
- Excessive alcohol intake.
- Diabetes.
- HIV infection.
- Chronic bowel and stomach diseases
- Cancer (including lymphoma, leukemia, Hodgkin's disease).
- Hemochromatosis/hemosiderosis (abnormal iron metabolism).
- Steroid dependency (as used for conditions such as emphysema, chronic obstructive pulmonary disease, etc.).
- Achlorhydria (a condition in which the normal acidity of the stomach is reduced or absent).
- Any illness or medical treatment that results in a weakened immune system.

Older adults are more likely to have one or more of the above conditions and should be aware of their health status before eating raw oysters or clams.

**Persons with the above health conditions are advised to eat oysters or clams only if they are thoroughly cooked, never raw.** Putting hot sauce or lemon juice on raw oysters or clams or eating them while drinking alcohol does not kill these organisms or protect your health.

### What are the symptoms of illnesses that can result from eating contaminated raw oysters or clams?

The illnesses of most concern from eating raw or undercooked oysters or clams are *Vibrio* infection, norovirus infection, and hepatitis A. See fact sheets for those diseases for more details.

Symptoms can include vomiting, diarrhea, nausea, stomach pains, severe weakness. *Vibrio* infections can also cause skin rashes and blisters, shaking chills, and high fever. Hepatitis A can cause yellowing of the skin or whites of the eyes. Some of the illnesses can be quite serious and require quick medical attention.

### **How soon after exposure do symptoms appear?**

How quickly symptoms appear depends on what organism has contaminated the shellfish. For the most serious form of *Vibrio* infection, symptoms usually develop within 12 to 72 hours after eating raw or undercooked seafood. Symptoms of norovirus infection start 10-50 hours after exposure. For hepatitis A, illness might not start until 15-50 days after eating the contaminated food.

### **What is the treatment for eating contaminated raw oysters and clams?**

Persons with diarrhea should drink plenty of liquids to replace lost fluids. Those with serious skin infections or fever should see a healthcare provider for proper diagnosis and treatment.

### **How can you prevent the risks of eating raw oysters and clams?**

To limit exposure to bacteria, viruses and parasites found in raw oysters and clams, especially if you have any of the health conditions listed above:

- **NEVER** eat raw shellfish (oysters or clams).
- **ALWAYS** choose cooked oysters and clams when eating these foods while dining out.
- **ALWAYS** cook oysters and clams thoroughly following the tips below.

### **For oysters and clams in the shell:**

- Do not cook too many oysters or clams in the same pot because the ones in the middle might not get fully cooked.
- Cook live oysters or clams in boiling water for four to five minutes after shells open.
- Steam live oysters or clams four to nine minutes in a steamer that is already steaming.
- Discard any oysters or clams that do not open during cooking.

### **For shucked oysters and clams:**

- Boil or simmer for at least three minutes or until edges curl.
- Fry in oil for at least three minutes at 375°F.
- Broil three inches from heat for three minutes.
- Bake for 10 minutes at 450°F.

## How can I learn more about the risk of eating raw oysters and clams?

- If you have concerns about the risk of eating raw oysters and clams, contact your healthcare provider or call the FDA seafood hotline at 1-800-332-4010.
- Call your local health department. A directory of local health departments is located at the [VDH Local Health Districts page](#).
- Visit the Centers for Disease Control and Prevention website at [the CDC page on Vibrio in oysters](#).
- Visit the [Interstate Shellfish Sanitation Conference webpage on raw oysters and clams](#).

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