



## Carlos' Tragic and Mysterious Illness

*How Carlos almost died by eating  
contaminated raw oysters.*

Published March 2003



U.S. Food and Drug Administration  
5100 Paint Branch Parkway  
College Park, MD 20740

For questions regarding this publication please contact:



**Carlos:** “I’m looking forward to relaxing this evening. I’ve been working hard all week.”

**Juan:** “Me too. Let’s have some beers.”

**Carlos:** “Ok, let’s go to my house and we can pick up some raw oysters for dinner. We can stop by the local seafood market on the way home.”

3



**Rosa:** “I don’t know why you like raw oysters so much. They don’t appeal to me.”

**Carlos:** “Oh woman. We’ve grown up eating raw oysters with our fathers and friends. It’s our tradition.”



4

*The next morning Carlos starts to feel stomach cramps and suffers from diarrhea. He tells his wife about his symptoms. She gives him an over the counter medication for an upset stomach.*



**Carlos:** “Rosa, I’m starting to feel very warm and my muscles are aching. What could be wrong with me?”

**Rosa:** “You have a high fever. We’d better take you to the hospital.”



*Rosa tells a nurse about Carlos' symptoms. Carlos feels worse and the nurse calls a doctor.*

5



**Dr. Sanchez:** “Carlos, I’ve reviewed the results from your blood tests and I’ve found a bacteria in your blood. Have you eaten raw oysters recently?”

**Carlos:** “Yes, I ate some raw oysters two nights ago.”



**Dr. Sanchez:**

“Well Carlos, let me tell you about the dangers of eating raw oysters contaminated with *Vibrio vulnificus*. *Vibrio* bacteria live in the water where some oysters come from. You can not tell from sight or smell if an oyster is contaminated. If you’re healthy and eat contaminated oysters your body can fight off the bacteria but if you are a person who has a weak immune system you can die.”

“Carlos, because you’re so sick I’d like to run some more tests to see if you have any other health conditions you don’t know about.”

*A few hours later...*



7

**Dr. Sanchez:**

“Carlos, our tests have found that you have liver disease. It’s not uncommon for your liver to be weakened long before you experience any symptoms. Your liver is making your body’s immune system weak and making it difficult for you to fight the effects of the bacteria from the oysters you ate. People with underlying health conditions should never eat raw oysters. I’ll need to give you antibiotics to fight the bacteria.”

*The next day, Carlos' condition gradually improves...*



**Dr. Sanchez:** “Carlos is very lucky. Many people die from eating raw oysters contaminated with this bacteria. From now on if Carlos really wants to eat oysters they should be cooked – never raw!”

8

*After a few more days in the hospital, Carlos is well enough to go home with his family.*



**Carlos:** “Rosa, I feel so lucky that my life was saved. I will never eat raw oysters again and I’ll share what happened to me with all my friends. People should know that if you have an illness and eat raw oysters that you are putting your life at risk.”

**Rosa:** “Yes, I’m going to tell all of my friends about this, so they can be watchful and try to get the guys to eat their oysters cooked.”

*As family and friends gather to celebrate Carlos' return to health...*



9

**Carlos:** “Friends, I know we have all grown up enjoying raw oysters. But you need to be aware of the risks. I ate raw oysters and almost died because of bacteria in the oysters combined with the fact that I did not know I had liver disease. I invite you to join me in eating some wonderfully cooked oysters that Rosa has prepared. I’m sure you’ll enjoy them just the same.”

**Rosa:** “We’ve tried some of these new recipes and Carlos loves them.”

**Carlos:** “See, we can continue our tradition and enjoy each others company along with it. To cooked oysters and better health!”

---

If you or someone you know experience any of the following symptoms when eating raw oysters, immediately go to the nearest emergency room. Waste no time - it could be fatal. Make sure to tell the nurses and doctors on staff that you have been eating raw oysters and let them know of any other medical conditions that you may have:

**Symptoms:**

- Diarrhea
- High fever
- Skin rash
- Nausea/Vomiting

### **Did You Know?**

- People who drink alcoholic beverages (including beer and wine) regularly may be at risk for liver disease, and, as a result, at risk for serious illness or death from consuming raw oysters.
- Even drinking two to three drinks daily can contribute to the development of liver disease, which may occur without symptoms.
- Alcoholism and infections from Hepatitis can injure the liver and impair its function years before an individual begins to experience symptoms. Liver disease puts people at risk for *Vibrio vulnificus* infection from raw oysters. The risk of death is almost 200 times greater in those with liver disease than those without liver disease.

## **OYSTER FACTS**

- Oysters are sometimes contaminated with the naturally occurring bacteria *Vibrio vulnificus*.
- Oysters contaminated with *Vibrio vulnificus* can't be detected by smell or sight; they look like other oysters.
- Eating raw oysters containing *Vibrio vulnificus* is very dangerous for those with pre-existing medical conditions such as liver disease, diabetes, hepatitis, cancer and HIV.
- Symptoms of *Vibrio vulnificus* contamination include: diarrhea, fever, nausea, vomiting, and skin lesions.
- 50 percent of people who are infected with *Vibrio vulnificus* as a result of eating raw contaminated oysters die.
- Eating raw oysters with hot sauce or while drinking alcohol does not kill the bacteria.
- Only heat can destroy the bacteria. In order to prevent contamination, and kill the bacteria, the oysters should be thoroughly cooked.

## COOKING OYSTERS

The presence of *Vibrio vulnificus* bacteria is not a result of pollution, so although oysters should always be obtained from reputable sources, eating oysters from “clean” waters or in restaurants with high turnover does not provide protection. Eating raw oysters with hot sauce or while drinking alcohol does not kill the bacteria, either. Only heat can destroy the bacteria.

Since thoroughly cooking oysters will destroy the bacteria, oysters can continue to be enjoyed in many cooked preparations by following this advice.

### **At Restaurants:**

- Order oysters fully cooked.

11

### **Cooking at Home:**

- When you purchase oysters the shells should be closed. Throw away any oysters with shells already opened.
- In the shell: After the shells open, boil live oysters for another 3-5 minutes. (Use small pots to boil or steam oysters. Do not cook too many oysters in the same pot because the ones in the middle may not get fully cooked. Discard any oysters that do not open during cooking).
- In a steamer: Add oysters to water that is already steaming and cook live oysters for another 4-9 minutes.

### **Shucked Oysters:**

- Boil or simmer shucked oysters for at least 3 minutes or until the edges curl.
- Fry at 375 degrees for at least 3 minutes.
- Broil 3 inches from heat for 3 minutes.
- Bake at 450 degrees for 10 minutes.

## RAW OYSTER MYTHS

*Raw oysters contaminated with *Vibrio vulnificus* can be life threatening, even fatal when eaten by someone with liver disease, diabetes or a weakened immune system. However, there are myths that encourage people to eat raw oysters in spite of these dangers. Some of these myths, and the true facts behind them, include:*

**MYTH:** Eating raw oysters is safe if you drown them in hot sauce, which kills everything.

**FACT:** Hot sauce will not destroy the harmful bacteria, in fact the active ingredients in hot sauce have no more effect on bacteria than plain water. Nothing but prolonged exposure to heat at a high enough temperature will kill bacteria.

**MYTH:** Avoid oysters from polluted waters and you'll be fine.

**FACT:** *Vibrio vulnificus* in oysters has nothing to do with pollution. Rather these bacteria thrive naturally in warm coastal areas (such as the Gulf of Mexico).

**MYTH:** An experienced oyster lover can tell a good oyster from a bad one.

**FACT:** *Vibrio vulnificus* can't be seen, smelled, or even tasted. Don't rely on your senses to determine if an oyster is safe.

**MYTH:** Alcohol kills harmful bacteria.

**FACT:** Alcohol doesn't destroy harmful bacteria but it can impair your good judgment.

**MYTH:** Just a few oysters can't hurt you.

**FACT:** Roberta Hammond, PhD, the Food and Waterborne Disease Coordinator for Florida, cites a case where a fatality caused by *Vibrio vulnificus* occurred after eating only three oysters. The seriousness of any case depends on many factors, including how much bacteria are ingested and the person's underlying health conditions.

**MYTH:** Avoid raw oysters in months without the letter "R" and you'll be safe.

**FACT:** While presence of *Vibrio vulnificus* bacteria is higher in warmer months, it can still be present in all but the coldest winter months.

**MYTH:** Raw oysters are an aphrodisiac and will cure a hangover.

**FACT:** There is no scientific evidence that either of these commonly held beliefs is true.

For further information contact:

FDA Food Safety Hotline (English only) 1-888-SAFEFOOD

FDA Web site: [www.cfsan.fda.gov](http://www.cfsan.fda.gov)