FACT SHEET
for Food & Health Educators

Vibrio vulnificus

Infection from Raw Shellfish

What Food & Health Educators Should Know to Protect Consumers

For many people, raw oysters are a delicacy to be enjoyed regularly or savored on special occasions like birthdays, holidays, or trips to the coast. However, raw or undercooked seafood, meat, or poultry can cause foodborne illness, especially in consumers with weak immune systems or certain health problems.

Raw or undercooked shellfish, particularly oysters, may contain *Vibrio* bacteria, which naturally occur in marine waters. Shellfish from the Gulf of Mexico and South Atlantic are especially vulnerable to these bacteria in warmer weather, from April through November. *Vibrio vulnificus* bacteria may cause severe, life-threatening illness in people with compromised immune systems who eat raw shellfish or expose open wounds or sores to seawater (*e.g.*, by swimming, wading, or fishing).

In the U.S., an average of 95 cases of *Vibrio vulnificus* infection is reported each year. Approximately 50% of these cases come from eating raw or undercooked seafood, primarily oysters, and 50% come from wound infection. According to the Centers for Disease Control and Prevention, the overall mortality rate for *Vibrio vulnificus* infection is 40%. **However, the mortality rate for food infections is approximately 50% and is even higher for people with alcoholism (61%) and liver disease (60%).**

Susceptibility of Consumers to *Vibrio vulnificus* Infection

Most people are not at risk for serious *V. vulnificus* infection. If healthy people become infected, they may experience mild gastroenteritis (nausea, stomach pain, vomiting, and/or diarrhea) after eating raw shellfish or acquire cellulitis (spreading skin infection) from exposing a wound to seawater.

However, people with weak immunity or with one or more "high-risk" conditions (see list below) are much more likely to develop a life-threatening *V. vulnificus* infection. In addition, the infection and severity of symptoms usually progresses very rapidly in these people. **Death may occur in as few as 24 to 48 hours.** In some cases, amputation of limbs is necessary to prevent death.

Health Conditions that Increase Risk of Serious Infection

- **Alcohol abuse**
- **Liver disease (from hepatitis, cirrhosis or cancer)**
- **Diabetes**
- **Cancer (including lymphoma, leukemia, Hodgkin's disease)**
- **AIDS/HIV**
- **Stomach disorders (surgery or taking antacids)**
- **Kidney disease or disorders**
- **Iron overload disease (hemochromatosis)**
- **Other conditions, diseases, or medical treatments that suppress or weaken the immune system, including chemotherapy**

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Educate, Don't Frighten Consumers

Seafood is an important part of a healthy diet because it is a good source of high-quality protein, is generally low in calories and fat, and has Omega-3 fatty acids that have many positive health benefits. The American Heart Association recommends eating at least two servings of seafood each week. However, some consumers hear negative information about one type or species of seafood and avoid all seafood. In addition, food safety messages for certain "at-risk" groups are frequently misunderstood or followed by consumers who are not at risk. Therefore, keep your message simple and remind consumers that eating any raw animal food is risky, but cooking and effective post-cooking handling reduces the risk of foodborne illness.

Additional Educator Resources:

1. For cooked oyster recipes, educator tools, consumer information in English, Spanish, & Vietnamese, or to download this publication from the Internet, visit SafeOysters.org

2. To locate your state or regional chapter of the American Liver Foundation and local liver support groups, phone 1-800-GoLiver (1-800-465-4837) or visit www.liverfoundation.org, select "Chapter," then "Support Groups."

3. U.S. Food & Drug Administration *Vibrio vulnificus* Education Kit for Outreach to the Hispanic Community: www.cfsan.fda.gov/~dms/vv-toc.html

Prevention

Your job responsibilities, food safety outreach activities, and audience will dictate when and how you can educate consumers about the risk of *Vibrio vulnificus* infection. However, some ideas for consumer education are:

- **Target groups of consumers with weakened immunity** (diabetics, dialysis patients, and local support groups for liver disease, cancer, and AIDS), since they are the most susceptible to *Vibrio* (and other foodborne) infections, and advise them to eat only thoroughly cooked seafood and avoid consuming raw seafood, especially oysters.
- **Tell consumers to seek immediate medical treatment** if they have any symptoms of *Vibrio* infection or suspect exposure to the bacteria.
- **Include information about the risk of *V. vulnificus* infection** in any general food safety education activities, especially to consumers who live near the Gulf or South Atlantic coasts or in adjacent states.
- **Stress that thorough cooking kills harmful bacteria** and viruses in seafood, meat, and poultry. Demonstrate the proper cooking of shellfish and/or provide cooked oyster recipes.
- **Obtain free consumer brochures** from the Interstate Shellfish Sanitation Conference (www.issc.org) and distribute them to consumers at health, agricultural, or food fairs, seafood or coast festivals, fundraisers, exhibitions, or other events.
- **Ask physicians and other health care professionals** to place ISSC consumer brochures in their waiting rooms and inform high-risk patients about their risk of *Vibrio* infection. Provide ISSC *Vibrio vulnificus* Fact Sheets (available free from www.issc.org) to medical professionals. Refer them to SafeOysters.org for more information.

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