

# **VIBRIO VULNIFICUS**

*An Advisory Note*

# VIBRIO VULNIFICUS

(Vib-'re-o vul-nif'-ə-kus)

This information is meant for certain individuals who are at a higher risk for infections from a bacterium of public health significance in our coastal waters. The bacterium, *Vibrio vulnificus* has probably always been a part of our marine environment, but increasing scientific investigations and medical knowledge have raised concerns for its occurrence in coastal waters and certain raw foods.

## What is *Vibrio vulnificus*?

*Vibrio vulnificus* is a bacterium that can be found in warm coastal waters most common about the Gulf of Mexico, but it also has been found in water samples from both the Atlantic and Pacific coasts. It occurs naturally, rather than as a result of pollution. Thus *Vibrio vulnificus* is often present in clean waters, including those that are approved for the harvest of oysters and clams. Little else is known about the organism, but reports of illnesses and infections associated with this bacterium are most prevalent during warm months of the year, primarily April through October, leading scientists to believe there might be a correlation between the bacterium's presence and seawater temperatures.

Concern for *Vibrio vulnificus* exists because certain people who eat raw molluscan shellfish or expose open wounds to warm seawater can develop a severe and potentially fatal infection. Most people's immune systems are able to ward off these infections; however, certain conditions do put some individuals in a "high risk" category. People in the high risk category must consider diet modifications and general changes in life style in order to maintain good health.

## Conditions for "high risk" category

- Liver disease including cirrhosis and hemochromatosis
- Chronic alcohol use
- Cancer (especially if taking anti-cancer drugs or radiation treatment)
- Lymphoma, Leukemia, AIDS, Hodgkin's disease
- Diabetes mellitus
- Chronic kidney disease
- Inflammatory bowel disease (or any person receiving immunosuppressive drugs)
- Steroid dependency (as used for conditions such as chronic obstructive pulmonary disease, etc.)
- Achlorhydria (a condition in which the normal acidity of the stomach is reduced or absent)
- Medicines that reduce stomach acid

## How can people in this "high risk" category avoid *Vibrio vulnificus*?

*Vibrio vulnificus* infections are either transmitted to humans through open wounds in contact with seawater or through consumption of certain improperly cooked or raw shellfish. Studies have shown that *Vibrio vulnificus* is most likely to be present during warm months (April-October).

1. Avoid exposure of recent or healing wounds, cuts, punctures, burns, etc. to warm seawater. When swimming or wading, temporarily cover the wound with a water tight wrap. The *Vibrio vulnificus* lives naturally in warm seawater, can enter a person's wound and, in some cases, extend to the bloodstream and cause a potentially fatal illness. The highly invasive nature of this bacterium is cause for special concern.

2. Consumers in high risk categories should avoid consumption of raw shellfish, particularly oysters. Oysters are filter feeding animals that can concentrate *Vibrio* bacteria from the water into their system. This concern exists for any raw oysters regardless of harvest from approved or questionable waters.
3. When eating shellfish, particularly oysters, be sure that they are properly and thoroughly cooked. Thorough cooking kills the *Vibrio* bacteria and markedly reduces the risk of becoming ill. Steaming to open the oyster shells or blanching the shellfish does not always provide enough heat to kill all the *Vibrio* bacteria. Additional heating is necessary to impart a noticeable cooked appearance.
4. Avoid cross-contamination of previously cooked shellfish with raw shellfish. A common cause of cross-contamination is storing cooked shellfish in the original container used for raw shellfish, or storing raw and cooked shellfish in the same area.

## What are the chances for an infection?

Rare! Most healthy individuals are not troubled by *Vibrio vulnificus* infections from water or food. Also, extensive federal and state regulatory programs monitor the production and marketing of raw shellfish to assure product safety. Thus, the *Vibrio vulnificus* problem is primarily restricted to individuals in the risk categories. These individuals should restrict consumption of raw shellfish.

This text was a collaborative effort of the following professionals who can be reached for more advice.

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