



Are You Fishing for Trouble? Information for Commercial & Recreational Fishermen about *Vibrio* Infections

What is *Vibrio*? If you make a living by harvesting seafood, eat raw seafood, or simply enjoy fishing as a hobby, you may be at risk for infections from *Vibrio* bacteria. *Vibrio* bacteria are natural inhabitants of marine water and increase in numbers during warm weather, usually April to October. Although the highest concentrations of *Vibrio* in the U.S. are found in coastal waters of the Gulf of Mexico, the bacteria have been detected in lower concentrations in every coastal region of the U.S. including Alaska and during all seasons throughout the year.

Am I At Risk for Serious *Vibrio* Infection? The Centers for Disease Control and Prevention estimate 8,000 *Vibrio* infections and 60 deaths occur annually in the U.S. Many of these infections are not reported and usually do not cause serious or life-threatening illness in healthy people, although they may cause gastroenteritis (nausea, abdominal pain, vomiting, and/or diarrhea) or cellulitis (skin infection). However, people with weakened immune systems, chronic diseases or conditions, or undergoing certain medical treatments (see list below) are more susceptible to *Vibrio vulnificus* infections and are also more likely to become seriously ill or die from them. The fatality rate may be as high as 61% for *Vibrio vulnificus* infections in people that have been diagnosed with one or more of the following health conditions:

- Liver disease (from cirrhosis, hepatitis, or cancer)
- Diabetes
- Alcoholism
- Kidney disease or failure
- Cancer (includes lymphoma, leukemia, and Hodgkin's disease)
- HIV/AIDS
- Stomach disorders including surgery or taking antacids
- Hemochromatosis (iron overload disease)

How Do I Get an Infection? *Vibrio* infection typically occurs in two ways: from wounds that are exposed to seawater (50% of U.S. *Vibrio vulnificus* cases) or from eating raw seafood, like oysters, clams, or mussels harvested from seawater that naturally contains the bacteria (50% of U.S. *Vibrio vulnificus* cases).

Wound infection can occur when a previously obtained wound, sore, scratch, or burn is exposed to seawater or when a wound is obtained while fishing, such as a puncture from a hook or fish teeth, cuts or scratches from shells or finfish, or cuts and scrapes from crab traps or other fishing gear. Also, people who do not use protective eyewear while shucking oysters may obtain ocular infection from shell pieces that lodge in their eye.

Vibrio infection may also occur from consumption of raw or undercooked seafood, especially Gulf oysters, or from eating cooked seafood that has been contaminated with seawater or juices from raw seafood.

What are the Symptoms of *Vibrio vulnificus* Infection?

Wound infection symptoms may develop within 3 to 24 hours and include:

- Rapid swelling, pain, and reddening of skin around wound (present in 100% of infections)
- Large blisters, die-off of tissue around wound (30 – 50% of infections)
- Gangrene (<10%)

Symptoms of infection due to consumption of raw or undercooked seafood may occur in 12 to 48 hours and include:

- Fever/chills
- Nausea/stomach pain/vomiting
- Diarrhea

If *Vibrio vulnificus* infections are left untreated in people at risk for serious infection (see previous list), symptoms may quickly increase in severity and include:

- Fluid accumulation, especially in legs
- Blood-filled large blisters, mainly on extremities
- Septicemia (bacteria enter and spread through blood stream)
- Shock (rapid drop in blood pressure)
- Death

Amputation of appendages and/or surgical removal of dead tissue may be required to prevent death.

How Do I Avoid *Vibrio* Infection?

- Eliminate or minimize exposure to seawater, especially from April to October in the Gulf of Mexico and South Atlantic.
- Protect wounds from direct contact with seawater (use water-proof bandages, gloves, shoes, and clothing) and avoid punctures, scrapes, or cuts while fishing, harvesting, or handling raw seafood.
- Wear protective eyewear when shucking oysters.
- Avoid eating raw or undercooked seafood, especially oysters; thoroughly cooked seafood is safe because heat kills the bacteria.
- Do not feed raw or undercooked seafood to young children because their immune systems are not fully developed and they are more susceptible to illness.
- Prevent cooked seafood from being contaminated by seawater or juices from raw seafood.
- Seek immediate medical treatment if you develop any symptoms of *Vibrio* infection.

For more information about the risk of *Vibrio vulnificus* infection, visit the web site **www.SafeOysters.org** on the Internet.