

What is *Vibrio vulnificus*?

Vibrio vulnificus is naturally occurring bacterium in marine and estuarine waters throughout the world. It is a bacterium that is a rare cause of illness in the United States. The illness is very different from cholera, which is caused by different bacteria, called *Vibrio cholerae*.

V. vulnificus infections do not spread directly from one person to another, and are a serious health threat predominantly to persons with underlying illness, such as liver disease or a compromised immune system. The organism is natural inhabitant of warm coastal waters. Infection can occur after a wound is exposed to warm coastal waters where the *V. vulnificus* organism is growing. Infection may also be acquired by eating raw or undercooked seafood from those waters. The Center for Disease Control and Prevention receives reports of over 400 *Vibrio* illnesses each year. Of those, about 90 per year are due to *V. vulnificus*. Most *Vibrio vulnificus* illness occurs during warm weather months.

What are the symptoms of *Vibrio vulnificus*?

Vibrio vulnificus usually causes fever, chills, swelling and redness of the skin on arms or legs, with blood-tinged blisters, and low blood pressure and shock. If exposed by contamination of an open wound, increasing swelling, redness, and pain will occur at the site of the wound. Illness typically begins within one to three days of exposure, but begins as late as seven days after exposure for a small percentage of cases.

How do people become infected with *Vibrio vulnificus*?

V. vulnificus is found in oysters and other shellfish in warm coastal waters during the summer months. Since it is naturally found in warm marine waters, people with open wounds can be exposed to *V. vulnificus* through direct contact with seawater, shellfish, and marine wildlife. There is no evidence for person-to-person transmission of *V. vulnificus*. Persons who have immunocompromising conditions, and, especially those with chronic liver disease, are particularly at risk for *V. vulnificus* infection when they eat raw or undercooked seafood, particularly shellfish harvested from the Gulf of Mexico, or if they bathe a cut or scrape in marine waters. About three-quarters of patients with *Vibrio vulnificus* infections have known underlying hepatic disease or other immunocompromising illness. Otherwise healthy persons are at much lower risk of *Vibrio vulnificus* infection.

What are the concerns in hurricane-affected areas?

Persons with immunocompromising conditions and especially those with chronic liver disease should avoid exposure of open wounds or broken skin to warm salt or brackish water, and avoid consuming undercooked shellfish harvested from such waters. More information on caring for wounds may be found in the CDC document Emergency Wound Management for Hurricane Professionals. After a coastal flood disaster, large numbers of persons with illnesses that affect their resistance to infection may be exposed to seawater. Injury prevention is especially important in high risk persons. Wounds exposed to seawater should be washed with soap and water as soon as possible, infected wounds should be evaluated by a doctor, and clinicians should aggressively monitor these wounds.

What should you do if you get a cut or wound in the water?

If you get cut or wounded in these waters, be sure to clean the wound. Soap and water is fine. Also you can use a disinfectant such as hydrogen peroxide. Cleaning the wound is most important. If you notice signs of infection such as redness, swelling or warmth, see your doctor.

How is *Vibrio vulnificus* diagnosed?

V. vulnificus infection is diagnosed by microbiologic culture of the wound, by blood or by stool cultures in the case of patients who consumed raw or undercooked seafood.

What is the treatment for *Vibrio vulnificus*?

V. vulnificus infection is treated with antibiotics. When this infection is suspected, treatment with a combination of a third-generation cephalosporin (e.g., ceftazidime) and doxycycline is recommended. *V. vulnificus* wound infections should be treated with aggressive attention to the wound site; amputation of the affected limb is sometimes necessary. *V. vulnificus* infection is an acute illness, and those who recover should not expect long-term consequences.

OSDH 09/05

