

Facts about *Vibrio vulnificus*, *Vibrio parahaemolyticus*, and Shellfish

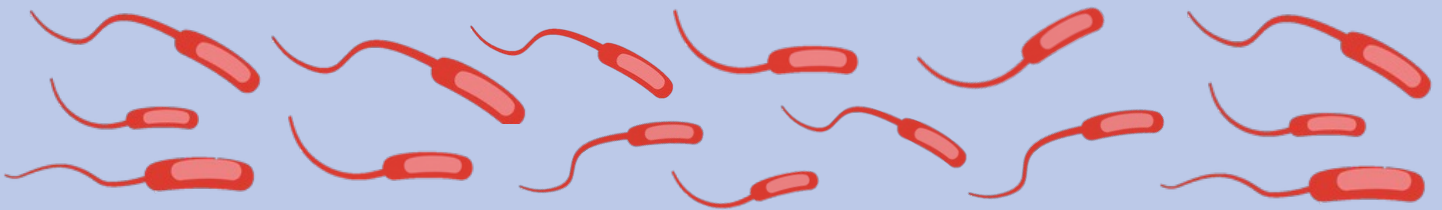
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What is *Vibrio*?

Flesh-eating bacterial infections recently reported in the press (August 2023) are associated with exposure to *Vibrio* bacteria. *Vibrio* infections are an important public health issue. Most *Vibrio* species are benign, but some can cause serious illness in people, particularly if they are predisposed to infection from other health risks. Depending on the bacterial species and an individual's risk factors, *Vibrio* infections can be deadly. Other *Vibrio* species are less lethal, but can still cause serious illness.

Where is *Vibrio* found?

Vibrio are naturally occurring bacteria that exist in warm, saltwater and brackish environments around the world. Brackish environments are places where freshwater mixes with ocean water and include bays and estuaries. They are most abundant between May and October. *Vibrio* are often associated with shellfish since many species break-down the shells of crustaceans (e.g., crabs, shrimp, lobster). Since *Vibrio* float freely in seawater, they can become concentrated inside filter-feeding shellfish, like oysters.



How is *Vibrio* controlled?

Eating raw or undercooked shellfish can cause *Vibrio* infections. However, seafood consumers should know that shellfish harvests are very carefully regulated by state, interstate, and federal agencies to protect public health. Since all bacteria can multiply in shellfish after they are harvested from the water, proper post-harvest handling is absolutely critical. Strict regulations are in place to ensure shellfish are properly handled by harvesters, distributors, wholesalers, and retailers.

Is *Vibrio* on the rise?

It's hard to say. More *Vibrio* cases have been reported in recent years. Several factors contribute to the observed increase in *Vibrio* infections, including increased surveillance, more sensitive diagnostic tools, and better reporting by state health agencies. Other factors may also be playing a role, including increased water-based recreation, shifting demographics and diet patterns, and rising sea temperatures from climate change.

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Symptoms, Risk Factors, & Prevention

Shellfish should always be iced or refrigerated and maintained at a temperature below 45°F.

When shellfish are handled properly, the risk of contracting *Vibrio* is very low for most people.

Vibrio can cause gastroenteritis, with symptoms such as watery diarrhea, stomach cramps, nausea, vomiting, fever, and chills. Wounds infected with *Vibrio* can become red, swollen, and blistered. *Vibrio* can also cause blood poisoning (septicemia). Some species can also cause necrotizing fasciitis, which may lead to limb amputations.

Vibrio tends to affect people with compromised immune systems or other health issues. High-risk individuals include:

- People with diabetes, cancer, chronic liver and kidney disease, hepatitis, and HIV/AIDS.
- People with other illnesses that weaken the immune system.
- People taking medicines that lower immune system activity, such as certain types of arthritis and cancer treatments.

If you have these risk factors, here's how you can reduce your exposure risk:

- Avoid handling or eating raw or undercooked shellfish. Consume only cooked shellfish.
- If you have an open wound (including from a recent surgery, piercing, or tattoo), avoid coming in contact with brackish water or saltwater.
- If you engage in activities that might expose your wound to brackish water, saltwater, or raw/undercooked shellfish, cover the wound in a waterproof bandage.
- If your wound makes contact with brackish water, saltwater, or raw/undercooked shellfish, thoroughly wash the wound with soap and water.

Individuals that develop a rapidly progressing infection 12–24 hours after exposure to brackish water, saltwater, or raw/undercooked shellfish, should seek immediate medical care. These individuals should tell medical professionals that they have recently come in contact with saltwater and should request testing for *Vibrio*.

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Vibrio vulnificus

Vibrio vulnificus infections are very rare, but very serious. Annually, less than 200 cases are reported in the US each year, fewer than the number of Americans who are struck by lightning. When *Vibrio vulnificus* cases do occur, they typically arise when an open wound comes in direct contact with water that contains the bacteria (60% of cases).

Only about 16% of cases are associated with consumption of raw or undercooked seafood. According to the Centers for Disease Control and Prevention (CDC), about one in five people who contract a *Vibrio vulnificus* infection die.

Vibrio parahaemolyticus

Vibrio parahaemolyticus infections are rare, but serious. Annually, about 600 cases are reported in the US each year, and the CDC estimates that only 1% of *Vibrio parahaemolyticus* infections are lethal. Most *Vibrio* infections associated with the consumption of raw or undercooked shellfish are caused by *Vibrio parahaemolyticus*.

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