

# *epi*TRENDS

A Monthly Bulletin on Epidemiology and Public Health Practice in Washington

## Vibriosis Investigation: Tips and Tools

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### Background

Vibriosis is caused by infection with pathogenic species of the family *Vibrionaceae*. Excluded are infections with toxigenic *Vibrio cholerae*, which causes the illness cholera which is reported separately. Shellfish are a common route of exposure to *Vibrio*, and a careful public health investigation is important for a case of vibriosis.



07.15

### Vibriosis

The most common cause of vibriosis in Washington State is *Vibrio parahaemolyticus*, which results in an enteric illness characterized by sudden onset of watery diarrhea often accompanied by abdominal cramping. Bloody diarrhea (<15% of cases), vomiting, headache, and low grade fever also can occur. The second most common cause of vibriosis in Washington is *V. alginolyticus*, which commonly causes cellulitis or acute otitis media or externa. Less common *Vibrio* species that cause diarrheal illnesses in Washington State are *Grimontia hollisae* (formerly *V. hollisae*), *V. fluvialis*, and nontoxicogenic (non-O1, non-O139) *V. cholerae*.

*V. vulnificus* is a virulent organism that most commonly causes soft tissue infections and septicemia in persons with immunocompromising conditions, liver disease and other chronic illnesses. Such infections can occur after ingesting the organism in undercooked shellfish or exposure of a fresh wound to seawater containing the organism. *V. vulnificus* is responsible for almost all the seafood-related deaths in the United States; the case fatality rate is approximately 25 percent. In 2013, *V. vulnificus* was identified, through routine sampling, in Washington State oysters. The US Food and Drug Administration (FDA) characterized the organism as within a group considered to be of low virulence and, to date, there have been no cases of people acquiring *V. vulnificus* infections in association with either consuming Washington oysters or from exposure to



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Washington marine waters. Prior *V. vulnificus* infections among Washington residents have been associated with travel to the Gulf Coast states where *V. vulnificus* commonly occurs at high concentrations. Nonetheless, it is important that healthcare providers be aware of the possibility of *V. vulnificus* infections in Washington residents.

*Vibrio* species naturally inhabit coastal waters and are present in higher concentrations during warm weather. More than 90 percent of vibriosis cases in Washington occur during the summer months. The number of reported vibriosis cases varies by year, based upon environmental conditions. Since 2010, the state's case counts per year have ranged from 45 to 90 confirmed cases. In 2014, there were 88 confirmed vibriosis cases reported in Washington.

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### **Vibrio Illness Investigation**

Because vibriosis is typically reported seasonally, with a peak during the summer, it can be difficult at the start of each season to remember just how to go about an illness investigation, especially if there has been staff turnover at a local health jurisdiction. In light of this challenge, the Office of Communicable Disease Epidemiology (OCDE) has updated the [disease investigation guidelines for Vibriosis](#) and has created a set of tools to help during the investigation.

In addition, there has been developed a [Washington State specific, fillable-COVIS \(Cholera and other Vibrio Illness Surveillance Report\) form](#) which has the following features (if filled out electronically):

1. Once the PHIMS ID is entered into the "State Epi No" field, that number is automatically copied onto every subsequent page.
2. When the state, age and sex are entered on the first page, these are copied to the top of every subsequent page.
3. Once the *Vibrio* species is entered at the top of the second page, it is copied onto pages 3 and 4.

Other investigation tools for local health jurisdictions with vibriosis cases include a Vibriosis Investigation Checklist, Shellfish Interviewing Tips for Vibriosis Cases and Vibriosis Season Contacts for use by local health jurisdictions.

The checklist provides a quick overview of the steps in a vibriosis case investigation:

### **Vibriosis Investigation Checklist**

- Enter the case into PHIMS (Public Health Issues Management System)
- Interview the case using **both** the PHIMS Vibriosis case report form and the COVIS (Cholera and other Vibrio Illness Surveillance Report)
- Fax the completed COVIS form (all 4 pages) to OCDE at 206-418-5515.
- If the case ate shellfish during the exposure period, conduct a foodborne illness investigation; the local jurisdiction's environmental health staff should promptly collect shellfish tags from the restaurant. Note: If case ate shellfish in another Washington jurisdiction, conduct the interview and request that environmental health staff in the other jurisdiction (see below for contact numbers) collect tags and conduct a restaurant foodborne illness inspection.
- Any jurisdiction obtaining environmental information should fax page 4 of the COVIS form plus the implicated shellfish tags to the Washington State Shellfish Program at 360-236-2257 (or email as an attachment to [sf.illness@doh.wa.gov](mailto:sf.illness@doh.wa.gov))

When interviewing a case of vibriosis, it is essential to get the most detailed information possible about the shellfish consumed. Based on that information, it may be possible to identify and restrict a specific growing area, preventing additional cases. Local health jurisdictions are key to identifying and removing threats to the public health. These tips may assist with the interview:

#### **Shellfish Interview Tips For Vibriosis Cases**

For raw oysters eaten in a restaurant:

1. Get detailed information about the exact shellfish eaten. **It is helpful to review the restaurant on the internet during the interview.** Here are some sample questions:
  - a. What time did the case eat?
  - b. From which menu (e.g., lunch, dinner, happy hour) did they order?
  - c. Did they order off a special oyster list (usually printed out daily by the restaurant) or did they order off the regular menu?
  - d. Did they order a specific type of oyster (and do they remember the type) or did they order a "sampler" or "chef's special" plate? If they can't remember, it can be helpful to ask what size the oysters were.
  - e. How many different types of oysters did they eat?
  - f. How many oysters did they eat (this is important but often left blank on a COVIS form)?
  - g. Were the raw oysters served on the half shell or in a shot glass (sometimes called oyster shooters)?
  - h. Do they still have the receipt? Some restaurants print the name of the oysters ordered onto the receipt. If they can't find the receipt, consider asking the case's permission to ask the restaurant to look up the order by the name on the credit card receipt.

For oysters purchased at a shellfish stand or grocery store:

1. What day and time did they purchase the oysters?
2. What day and time did they eat them?
3. How did they store the oysters (temperature) between purchase and consumption?
4. Do they have the receipt? If so, it may list the type of oysters.
5. Were oysters purchased:
  - a. In the shell
  - b. Already shucked in a jar (if so, what brand, what size jar and do they still have it?)

| <b><u>Vibriosis Season Contacts</u></b>  |  |                                       |  |
|--|--|---------------------------------------|--|
| <a href="#">DOH CD/Epi</a>   | 206-418-5500 (main number)<br>206-418-5567 (Laurie Stewart)<br><a href="mailto:laurie.stewart@doh.wa.gov">laurie.stewart@doh.wa.gov</a><br>206-418-5586 (Vivian Hawkins)<br><a href="mailto:vivian.hawkins@doh.wa.gov">vivian.hawkins@doh.wa.gov</a> | <a href="#">DOH Shellfish Program</a> | 360-236-3314 (Clara Hard)<br>Seafood Illnesses<br><a href="mailto:sf.illness@doh.wa.gov">sf.illness@doh.wa.gov</a> |
| <b>LHJ Environmental Health Contacts (when requesting shellfish tags and foodborne disease investigations for seafood consumed in other jurisdictions)</b> |  |                                       |  |
| <a href="#">Adams</a>  | 509-659-3315 Ritzville<br>509-488-2031 Othello   | <a href="#">Lewis</a>                 | 360-740-1222   |
| <a href="#">Asotin</a>   | 509-758-3344   | <a href="#">Lincoln</a>               | 509-725-2501   |
| <a href="#">Benton-Franklin</a>  | 509-582-7761   | <a href="#">Mason</a>                 | 360-427-9670 ext.361   |
| <a href="#">Chelan-Douglas</a>   | 509-886-6450   | <a href="#">Northeast Tri-County</a>  | 509-684-2262 (Ferry, Pend Oreille, and Steven)   |
| <a href="#">Clallam</a>  | 360-417-2258   | <a href="#">Okanogan</a>              | 509-422-7140   |
| <a href="#">Clark</a>  | 360-397-8215   | <a href="#">Pacific</a>               | 360-875-9356 South Bend<br>360-642-9382 Long Beach   |
| <a href="#">Columbia</a>   | 509-382-2181   | <a href="#">Pierce</a>                | 253-798-6460   |
| <a href="#">Cowlitz</a>  | 360-414-5599   | <a href="#">San Juan</a>              | 360-378-4474   |
| <a href="#">Garfield</a>   | 509-843-3412   | <a href="#">Skagit</a>                | 360-416-1555   |
| <a href="#">Grant</a>  | 509-754-6060 Ephrata<br>509-766-7960 Moses Lake  | <a href="#">Skamania</a>              | 509-427-3850   |
| <a href="#">Grays Harbor</a>   | 360-249-4222   | <a href="#">Snohomish</a>             | 425-339-5250   |
| <a href="#">Island</a>   | 360-679-7350 Coupeville<br>360-240-5554 ext.43 Oak Harbor  | <a href="#">Spokane</a>               | 509-324-1560   |
| <a href="#">Jefferson</a>  | 360-385-9444   | <a href="#">Thurston</a>              | 360-867-2667   |
| <a href="#">King</a>   | 206-296-4632 Seattle<br>206-296-9791 Bellevue - North and East King County   | <a href="#">Wahkiakum</a>             | 360-795-6207   |
| <a href="#">Kitsap</a>   | 360-337-5235   | <a href="#">Walla Walla</a>           | 509-524-2662   |
| <a href="#">Kittitas</a>   | 509-962-7515   | <a href="#">Whatcom</a>               | 360-676-6724   |
| <a href="#">Klickitat</a>  | 509-773-4565 Goldendale<br>509-493-1558 White Salmon   | <a href="#">Whitman</a>               | 509-397-6280   |