

VIBRIO SPECIES

Disease Overview

Sporadic cases of gastroenteritis illness have been associated with infection of non 01/0139 *Vibrio cholerae* serogroups, *V. parahaemolyticus*, *V. vulnificus*, and other *Vibrio* species. For infection with *V. cholerae* 01/0139 see Cholera guideline.

Symptoms

Infection with other Vibrios, including non 01/0139 *Vibrio cholerae* serogroups, cause mild to severe gastroenteritis.

V. parahaemolyticus causes watery diarrhea and abdominal cramps, usually with nausea, vomiting and headache. About 25% experience bloody diarrhea.

Infection with *V. vulnificus* typically results in septicemia in persons with chronic liver disease, chronic alcoholism, hemochromatosis, or immunosuppressed. Gastrointestinal infection is rare.

Reservoir

Marine coastal environments are the natural habitat for *Vibrio* species.

Mode of Transmission

Non 01/0139 *Vibrio cholerae* and other vibrios are transmitted by ingestion of raw or inadequately cooked seafood or contaminated waters.

V. parahaemolyticus is transmitted by ingestion of raw or inadequately cooked seafood, or any food contaminated by handling raw seafood, or by rinsing with contaminated water.

V. vulnificus is transmitted by ingestion of raw or inadequately cooked seafood, after exposure of wounds to estuarine water, or from occupational wounds (in oyster fishermen).

Incubation Period

Non 01/0139 *Vibrio cholerae* and other vibrios are usually 12-24 hours.

V. parahaemolyticus is usually between 12 and 24 hours, but can range from 9 to 36 hours.

V. vulnificus is usually 12 to 72 hours after ingestion.

Period of Communicability

Not normally spread person to person but can be through fecal oral route.

Risk Factors

Increased risk for persons acquiring and/or severe illness:

- Eating raw or undercooked shellfish
- Immunocompromising conditions
- Chronic alcoholism

Surveillance Case Definition

Confirmed case

Laboratory confirmation, with or without clinical illness:

- Isolation of *Vibrio* spp. Or nontoxigenic *Vibrio cholerae* from an appropriate clinical specimen (e.g., stool, blood, wound, vomit, rectal swab).

Probable case

Clinical illness in a person who is epidemiologically linked to a confirmed case

OR

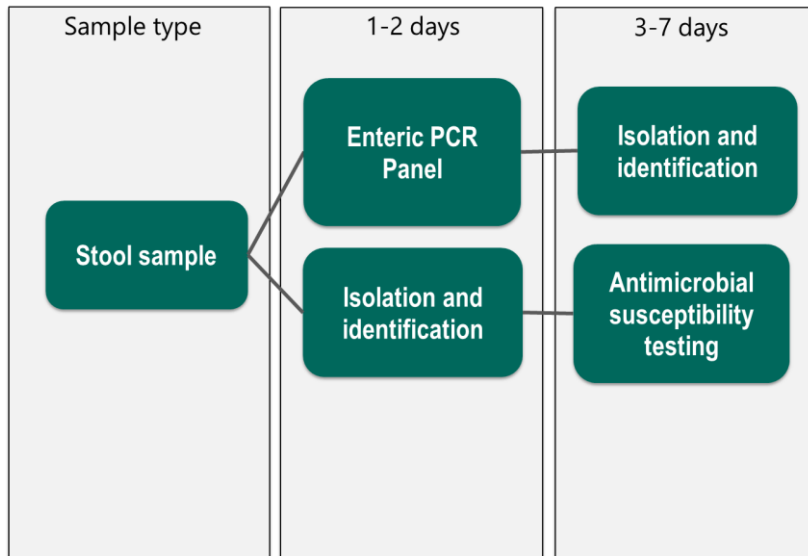
Detection of *Vibrio* spp. nucleic acid (other than *Vibrio cholerae*) with or without clinical illness, in an appropriate clinical specimen (dependent on the test used) using a nucleic acid test (NAT), such as a polymerase chain reaction (PCR).

Diagnosis and Laboratory Guidelines

Isolation of organism from stool, blood or other clinical specimens.

The enteric PCR panel can detect *Vibrio* sp. DNA directly from the stool sample. Reflex culture is usually done on positive results, although labs will report the positive panel result by itself first. A positive bacterial culture is still required for a confirmed case.

Figure 1: Testing timelines:



Reporting

Per Policy 2.2 Disease and Event notification to OCMOHE and section 3 Disease and Event Reporting

- Routine Surveillance (RDSS) for all confirmed cases
- Access databases for all confirmed cases and for probable cases that are NAT or PCR positive. Database extracts are submitted to OCMOHE on a weekly basis.

Case Management

Education

Case or relevant caregiver should be informed about:

- Nature of infection, length of communicable period, mode of transmission and disease ecology
- Hand washing
- Safe water source
- Food Safety and risks of eating raw or undercooked seafood

Investigation

Trace source of contamination and prevent exposure to others.

Consider commercial or private harvesting of seafood. Inquire about availability of food sample for testing.

Exclusion/Social Distancing

Follow exclusion period guidelines for non 01/0139 *Vibrio cholera* cases under investigation (cases and symptomatic contacts) identified in high-risk individuals (food handlers, caregivers, and individuals in daycare centres and kindergartens).

Treatment

Hospitalization, adequate rehydration and appropriate antimicrobial agents.

Immunization

Not applicable

Contact Management

Education

Per case management

Investigation

Per case management

Exclusion/Social Distancing

Not applicable

Prophylaxis

Not applicable

Outbreak Management

Activate the local outbreak plan when an outbreak is declared.