Cholera

Disease Category: Enteric

Timeframe to follow-up: Immediately

Signs and Symptoms (1)	Watery diarrhea, vomiting, thirst, leg cramps, restlessness, irritability. Cases may exhibit no symptoms or only have mild presentation.
Incubation (2)	Typically, 2-3 days, however it ranges from a few hours to five days.
Case Classification (3)	Clinical criteria: An illness characterized by diarrhea and/or vomiting; severity is variable.
	Laboratory Criteria for Diagnosis: • Isolation of toxigenic (i.e., cholera toxin-producing) *Vibrio cholerae* O1 or O139 from stool or vomitus, OR • Serologic evidence of recent infection
	Case Classification: Confirmed: A clinically compatible illness that is laboratory confirmed.
	Comments: Illnesses caused by strains of *V. cholerae* other than toxigenic *V. cholerae* O1 or O139 should not be reported as cases of cholera. The etiologic agent of a case of cholera should be reported as either *V. cholerae* O1 or *V. cholerae* O139. Only confirmed cases should be reported to National Notifiable Diseases Surveillance System (NNDSS) by state health departments. In addition to reporting through the National Notifiable Diseases Surveillance System (NNDSS), CDC requests that states collect and report the information on the standard form for Cholera and Other *Vibrio* Illness Surveillance (COVIS), available at: https://www.cdc.gov/nationalsurveillance/cholera-vibrio-surveillance.html. CDC intends to integrate the COVIS form into the National Electronic Diseases Surveillance System (NEDSS) in the future. Reporting sites should use the COVIS reporting form until the integration is successfully implemented. CDC requests that all *Vibrio* isolates be forwarded to the Enteric Diseases Laboratory Branch (EDLB) for characterization. EDLB (specifically the Epidemic Investigations Laboratory) requests that state public health labs immediately forward all suspect *V. cholerae* isolates for serogrouping and cholera toxin testing as well as biotype and antimicrobial susceptibility testing. The 1996 case definition appearing on this page was re-published in the 2009 CSTE position statement 09-ID-03. Thus, the 1996 and 2010 versions of the case definition are identical.
Differential Diagnosis (4)	Other bacterial, viral, and parasitic enteric conditions that cause diarrhea.

Treatment (5)	Oral rehydration therapy, antibiotics for severe cases. Zinc supplementation, when available, is indicated for children ages 6 months to 5 years with suspected cholera.
Duration (1)	With treatment, symptoms can persist for up to a week; without treatment, symptoms can kill within a few hours.
Exposure (6)	Contact with human feces through contaminated food (including bare hand contact, shellfish) or water during travel (particularly Africa, South Asia, Southeast Asia), contact with individuals who have recently arrived from travel abroad.
Laboratory Testing	Local Health Authority can arrange testing if an outbreak is suspected OR for contacts: • If *Vibrio cholerae* O1 or O139 is isolated by culture, samples must be forwarded on to Nevada State Public Health Laboratory (NSPHL) and to the CDC for cholera toxin testing.
Control of Contacts	If in a sensitive occupation, exclude, regardless if symptomatic, until diarrhea has stopped for ≥ 24 hours, and one stool specimen fails to show *Vibrio cholerae* organisms
Key areas of focus during investigation	Travel history, food history (seafood), water exposure, occupation
Public Health Actions	Reports of Cholera cases must be made to the Local Health Authority within 24 hours following the identification of the case. Local Health Authority to notify Office of State Epidemiology (dpbhepi@health.nv.gov) or call 775-684-5911/775-400-0333 (after hours) if outbreak suspected. For individual confirmed or probable cases: • Confirm diagnosis, if possible • Identify potential exposures • If case or contacts are in a sensitive occupation, exclude from work and arrange follow up testing. • Prepare a case report and submit to the Chief Medical Officer (through OSE) within 7 days after completing the case investigation • Identify potential outbreaks from common sources • Provide education about how to prevent transmission and avoid contamination To the best of the local health authority's ability, each step of the investigation should be completed within one working day or in alignment with NAC 441A.
Key Partner Agencies	• Local health authorities (CCHHS, CNHD, NNPH, SNHD) • Environmental Health • Nevada State Public Health Laboratory

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CHOLERA

I. DISEASE REPORTING

A. Legal Reporting Requirements

A report to the health authority may be made by telephone; telecopy (in the form prescribed by the health authority); or any form of electronic communication identified by the health authority, following the specified format and procedure. (7)

1. Health Care Providers and Health Care Facilities

Health providers and facilities must notify the health authority where provider is located within the first working day after identifying the case. (7) (8) (9)

2. *Laboratories*

Laboratories must notify the health authority within the first working day after identifying the case. (7) If the lab is located outside of Nevada, notify the Nevada Chief Medical Officer through the Office of State Epidemiology (OSE) within the same timeframe. (7) (10)

3. Local Health Authority (LHA)

LHA's must notify the Office of State Epidemiology (OSE) within 7 days after completing the case investigation. (11)

II. THE DISEASE AND ITS EPIDEMIOLOGY (3) (12)

A. Background

Cholera is an infection of the intestines caused by the bacterium *Vibrio cholerae.* It is spread through contaminated water and food, and can cause severe diarrhea, dehydration, and even death without treatment. People living in areas with unsafe drinking water, poor sanitation, and inadequate hygiene are at the highest risk, and U.S. residents can get cholera while traveling abroad and become ill after returning home. Cholera is not likely to spread from person to person or from casual contact.

B. Etiologic Agent

Cholera is caused by toxigenic strains of *Vibrio cholerae* that belong to serogroups O1 and O139.

C. Description of Illness

Cholera is characterized by voluminous watery diarrhea and rapid onset of life-threatening dehydration. The onset is often sudden, and stools are usually painless and profuse. Hypovolemic shock may occur within hours of the onset of diarrhea. Stools have a characteristic rice-water appearance, are white-tinged with small flecks of mucus, and contain high concentrations of sodium potassium, chloride, and bicarbonate. Vomiting is a

common feature of cholera. Fever and abdominal cramps are usually absent. In addition to dehydration and hypovolemia, common complications of cholera include hypokalemia, metabolic acidosis, and hypoglycemia, particularly in children. If left untreated, severe cholera is characterized by profuse diarrhea and rapid dehydration and can lead to death within a few hours. However, people infected with toxigenic Vibrio cholerae O1 may have either no symptoms or mild to moderate diarrhea lasting 3 to 7 days. With proper and timely rehydration, case fatality rates may be less than 1%.

D. Disease Burden in Nevada

Cholera is extremely rare in the United States, with fewer than 20 U.S. cases a year, most of which are related to travel to countries where cholera is prevalent. Cholera in the United States | Cholera | CDC

Nevada has not had any reported cases of Cholera in the past 10 years. See the Nevada Office of State Epidemiology Communicable Disease Dashboard for Nevada specific data on Cholera (Enteric section).

E. Reservoirs

Reservoirs include both humans and the environment. Observations in Australia, Bangladesh, and the USA have found environmental reservoirs for toxigenic V. cholerae O1, primarily in association with copepods or other zooplankton in brackish water or estuaries.

F. Modes of Transmission

Ingestion of food or water contaminated directly or indirectly with feces or vomitus of infected persons (e.g., sewage). Large epidemics often related to fecal contamination of water supplies or street vended foods. Eating raw or undercooked shellfish that are naturally contaminated can result in transmission. Wound infections from exposure to warm seawater can also be a source of transmission.

G. Incubation Period

The incubation period for Cholera ranges 2 hours to 5 days; most commonly, 2-3 days.

H. Period of Communicability

Cholera is communicable usually until a few days after recovery, but atypical longer-term shedding has been observed to occasionally persist for after recovery.

I. Testing

If additional testing is needed for contacts or for the case, contact the Nevada State Public Health Laboratory for guidance such as sample collection instructions.

J. Treatment

Treatment for cholera is primarily oral rehydration therapy. Zinc supplementation, when available, is indicated for children ages 6 months to 5 years with suspected cholera.

Provide most current treatment guidelines from Red Book to the healthcare provider or refer case to physician for proper treatment for Cholera.

III. EPIDEMIOLOGIC CASE INVESTIGATION

The public health authority should begin investigating the case of cholera, step by step, within one working day of notification or in alignment with NAC 441A.

A. Step 1: Review relevant information about the disease.

1. Review scientific information in Control of Communicable Diseases Manual, most recent edition.

2. Review Cholera most recent case definition (1996 CDC).

B. Step 2: Begin investigating the case.

1. Contact Reporting Source and/or Reported Case

Upon receiving an initial case report, review lab test results and available clinical details and epidemiologic factors. Please make three attempts to contact the case (text and phone calls) on separate days, at different times of the day (morning, afternoon, late afternoon). Document all attempts to contact a reporting source and/or reported case, preferably in the "Encounters" tab of EpiTrax. Please use case report forms (CRF) to gather accurate information about the case. Focus on the key data elements listed above. Filling out an electronic version of the CRF in EpiTrax (called a Confidential Morbidity Report (CMR) in EpiTrax) is preferred. If used, the completed PDF version should be attached to the CMR in EpiTrax. The CRF should be completed within 7 days of completing the investigation of the case. (11)

C. Step 3: Identify potential sources of infection

The investigation focuses on exposures in the 7 days before onset. Ask about any risk factors for infection such as foreign travel, seafood, street-vendors, or interaction with persons with cholera-like illness. If foreign travel is indicated, inquire on education received to prevent cholera prior to travel, receipt of cholera vaccine, and the reason for travel.

D. Step 4: Initiate control measures for case and/or for contacts (see Section IV – Section VI below).

E. Step 5: Provide Education and Prevention messaging to the case and/or contacts (see Section IX below).

IV. CONTROL OF CASE (6) (13)

All cases should be educated regarding the need and proper method of hand washing after defecation.

1. Management/Exclusions for Specific Groups or Settings

Case Type	Management or Exclusions
Sensitive Occupation*	Exclude from work until two negative stool specimens collected 24 hours apart and not sooner than 48 hours after the last dose of antibiotics, if antibiotics were given
Childcare/School Attendee	Exclude from school until two negative stool specimens collected 24 hours apart and not sooner than 48 hours after the last dose of antibiotics, if antibiotics were given
Case in a Medical Facility	Hospitalization with enteric precautions is desirable for severely ill patients; strict isolation is not necessary. Less severe cases can be managed on an outpatient basis with oral rehydration. Antimicrobials are clinically indicated for patients who are severely dehydrated or who are moderately dehydrated but with continued profuse volume loss in whom rehydration needs would be difficult to meet. Cholera wards can function well even when crowded, without hazard to staff and visitors, provided standard precautions are observed for handwashing and cleanliness and for the circulation of staff and visitors. Contact precautions should be used for diapered or incontinent persons for the duration of the illness.
General Population	Advise not to prepare food for others while symptomatic with diarrhea.

* Includes but not limited to employment as a food and beverage handler, employment in a healthcare facility, employment in a school or employment in a childcare facility

2. Exclusion Notifications

Cases working in a sensitive occupation or childcare/school attendees should be notified by phone and by letter to explain exclusion criteria and authorization to return to work criteria.

V. CONTROL OF CONTACTS (6) (13)

Identify travel companions if applicable as well as close contacts. Investigate symptomatic contacts in the same manner as a case.

1. Management/Exclusions for Specific Groups or Settings

Contact Type	Exclusions
Sensitive Occupation*	Exclude, regardless if symptomatic, until diarrhea has stopped for ≥24 hours, and one stool specimen is negative. If laboratory positive, report as a confirmed case.

General Population	No exclusion, no testing needed. If laboratory positive, report as a confirmed case.

* Includes but not limited to employment as a food and beverage handler, employment in a healthcare facility, employment in a school or employment in a childcare facility

2. Exclusion Notifications

Cases working in a sensitive occupation or childcare/school attendees should be notified by phone and by letter to explain exclusion criteria and authorization to return to work criteria

VI. CONTROL OF CARRIERS

A carrier state has not been documented for cholera and thus no carrier-specific control measures are needed."

VII. MANAGEMENT OF SPECIAL SITUATIONS/OUTBREAK CONTROL (14)

Coordinate with senior epidemiology staff to determine if an outbreak is occurring. If so, notify DPBH Environmental Health, local health authorities, or infection control, as appropriate.

A. Possible Foodborne or Waterborne Outbreaks

For outbreaks, or cases that occur in a state licensed facility (i.e., daycares, schools, hospitals) the case shall fall under the jurisdiction of the Office of State Epidemiology. In this case, refer to the outbreak investigations protocol.

B. Case Resides at a Health Care or Residential Care Facility

Work with Nevada DPBH Office of State Epidemiology (OSE) Healthcare Associated Infections (HAI) Prevention and Control Program to determine if there has been increased incidence of diarrheal illness at the facility within the past month.

Nevada DPBH OSE HAI staff will investigate these reports to identify possible common-source outbreaks or continuing sources of exposure.

Nevada DPBH OSE HAI staff will notify Nevada Health Authority Health Care Quality and Compliance (HCQC) for awareness and to determine if an inspection of the facility is indicated.

VIII. PREVENTION (15)

The investigator should reference the most recent disease specific public educational materials from the CDC. The Nevada OSE website also provides information about cholera.

- Be sure you drink and use safe water.
    - Use bottled water to brush your teeth, wash and prepare food, and make ice or beverages.

    - If bottled water is not available, use water that has been properly boiled, chlorinated, or filtered using a filter that can remove bacteria.
    - Use bottled water with unbroken seals.
- Wash your hands often with soap and safe water.
    - Before, during, and after preparing food.
    - Before and after eating food or feeding your children.
    - After using the toilet.
    - After taking care of someone who is sick with diarrhea.
- Use Toilets. If you don't have access to a toilet:
    - Poop at least 30 meters (98 feet) away from any body of water (including wells) and then bury your poop.
    - Dispose of plastic bags containing poop in latrines or at collection points if available or bury it in the ground.
    - Do not put plastic bags in chemical toilets.
    - Dig new latrines or temporary pit toilets at least a half meter (1.6 feet) deep and at least 30 meters (100 feet) away from any body of water.
- Cook food well, keep it covered, eat it hot, and peel fruits and vegetables.
    - Eat foods that have been thoroughly cooked and are still hot and steaming. Be sure to cook seafood, especially shellfish, until it is very hot all the way through.
    - Wash raw vegetables and fruits that cannot be peeled with treated water.
- Clean up safely.
    - Clean food preparation areas and kitchenware with soap and treated water and let dry completely before reuse.
    - Bathe and wash clothes or diapers 30 meters (100 feet) away from drinking water sources.
    - Clean and disinfect toilets and surfaces contaminated with poop: clean the surface with a soap solution to remove solids; then disinfect using a solution of 1 part household bleach to 9 parts water.
    - When finished cleaning, safely dispose of soapy water and dirty rags. Wash hands again with soap and safe water after cleaning and disinfecting.

IX. REFERENCES

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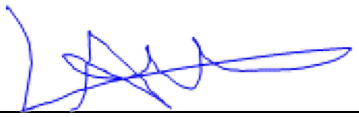
X. ACKNOWLEDGEMENTS

This document was developed based on the content and format of the disease investigation guidelines of several state and local health jurisdictions:

- Oregon Health Authority Investigative Guidelines
- Washington State Department of Health Reporting and Surveillance Guidelines
- Washoe County Health District Epidemiology and Communicable Disease Program Investigation of Communicable Disease Manual

The Nevada Office of State Epidemiology would like to acknowledge the work of these great partners.

XI. UPDATE LOG



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9/16/25

Chief Medical Officer Approval Date