CONDITION

Cholera

Learn how cholera spreads, how severe dehydration is recognized and treated, and when watery diarrhea needs urgent medical care.

WHAT IT IS
Intestinal bacterial infection

BODY SYSTEM
Digestive

MAIN SYMPTOMS
Sudden watery diarrhea, vomiting, extreme thirst, muscle cramps

WHAT CAUSES IT
Bacterial infection from contaminated food or water

HOW IT IS DIAGNOSED
Stool culture or molecular stool test

MAIN TREATMENT
Rapid fluid and electrolyte replacement

CAN IT BE CURED?
Yes, prompt rehydration is highly effective

IS IT AN EMERGENCY?
Sometimes, with little or no urine

LONG-TERM OUTLOOK
Usually good with prompt rehydration but potentially fatal untreated

Overview

Cholera is an intestinal infection caused by certain strains of the bacterium Vibrio cholerae . People usually become infected by consuming water or food contaminated with the bacteria. Cholera is most common where access to safe water, sanitation, and hygiene is limited.

The bacteria produce a toxin in the small intestine. This toxin causes the intestine to release large amounts of water and salts, known as electrolytes. The result can be sudden, profuse watery diarrhea.

Many infected people have no symptoms or only mild diarrhea. However, severe cholera can cause life-threatening dehydration within hours. Prompt replacement of fluids and electrolytes is the main treatment and is highly effective when started early.

Cholera can also cause outbreaks because bacteria from an infected person's stool may contaminate water or food. Public health measures-including safe drinking water, sanitation, food safety, and oral cholera vaccines-help control its spread.

Symptoms

Symptoms can begin within about 12 hours to five days after exposure. A person may still pass the bacteria in their stool even if symptoms are mild or absent.

The main symptom is sudden watery diarrhea. In severe cases, stool may be pale and cloudy, sometimes described as "rice-water" stool because it contains flecks of mucus. This description is not enough to confirm cholera because other infections can also cause watery diarrhea.

Other possible symptoms include:

Fever is not a typical feature of cholera. Blood in the stool is also unusual. A high fever or bloody diarrhea may point to a different or additional infection and should be medically assessed.

Signs of severe dehydration

Severe dehydration is a medical emergency. Warning signs may include:

Seek emergency care immediately if these symptoms occur. An infant or young child with repeated watery diarrhea, poor drinking, unusual sleepiness, or fewer wet diapers also needs urgent evaluation.

Contact a healthcare professional promptly for frequent watery diarrhea after travel to or residence in an area with cholera, even before severe dehydration develops. Early treatment can prevent complications.

- Nausea or vomiting, especially early in the illness
- Thirst and dry mouth
- Muscle or leg cramps from fluid and salt loss
- Weakness, dizziness, or unusual tiredness
- Passing less urine than usual
- Extreme thirst or inability to drink
- Very little or no urine
- Sunken eyes or markedly dry mouth

- Rapid heartbeat or breathing
- Confusion, unusual sleepiness, or difficulty waking
- Fainting, severe weakness, or inability to stand
- Cool skin, weak pulse, or other signs of shock

Causes and risk factors

Cholera is caused mainly by toxin-producing strains of Vibrio cholerae in the O1 or O139 groups. These are the strains associated with outbreaks.

Transmission occurs through the fecal-oral route. This means that bacteria from human stool enter another person's mouth, usually through contaminated water or food. Cholera is not commonly spread through ordinary casual contact, but poor hand hygiene can contribute to contamination.

Situations that increase exposure include:

People with reduced stomach acid may be more likely to become ill after exposure because stomach acid helps kill swallowed bacteria. Severe illness can affect people of any age, but dehydration may develop especially quickly in young children, older adults, and people who are already undernourished or medically vulnerable.

A previous cholera infection may provide some protection, but it does not guarantee lasting immunity. Vaccination also does not replace safe water and food practices.

- Drinking untreated water or using it to make ice
- Eating food washed or prepared with unsafe water
- Eating raw or undercooked seafood, particularly shellfish from contaminated water
- Eating food that has been handled unsafely or left at an unsafe temperature
- Living in or visiting a place with disrupted water and sanitation systems
- Staying in crowded settings where safe toilets and handwashing facilities are limited
- Living in an area affected by conflict, displacement, flooding, or another emergency that damages water systems

Diagnosis

A clinician may suspect cholera when someone has acute, severe watery diarrhea and a

relevant exposure. Important details include recent travel, local outbreaks, water sources, food history, and whether other people nearby have similar symptoms.

Treatment for dehydration should not be delayed while waiting for testing.

Cholera can be confirmed by finding Vibrio cholerae in a stool sample. A laboratory may use a stool culture, which grows the bacteria, or a molecular test that detects bacterial genetic material. Culture can also help public health teams study antibiotic resistance.

Rapid diagnostic tests can provide quicker preliminary results in some settings. However, their accuracy varies, and positive samples may need confirmation by culture or another laboratory method.

Testing also helps distinguish cholera from other causes of watery diarrhea, such as other bacterial infections, viruses, parasites, or noninfectious illnesses. Depending on the situation, clinicians may check blood glucose, kidney function, and electrolyte levels to assess the effects of dehydration.

Suspected or confirmed cholera is generally reported to public health authorities according to local requirements. This allows officials to identify contaminated water or food, monitor an outbreak, and protect the community.

Treatment and management

The central treatment for cholera is rapid fluid and electrolyte replacement. The approach depends on how dehydrated the person is and whether they can drink safely.

Oral rehydration

Most people with mild or moderate dehydration can be treated with oral rehydration solution, often called ORS. This is not the same as plain water. ORS contains a specific balance of water, glucose, and salts that helps the intestine absorb fluid.

Packaged ORS should be mixed with exactly the amount of safe water stated on the label. Using too little or too much water can make the solution unsafe or less effective. Small, frequent sips may be easier to tolerate during vomiting. Breastfeeding should continue for infants.

Sports drinks, soft drinks, fruit juice, and very sweet beverages do not have the correct electrolyte balance for treating significant dehydration. If proper ORS is unavailable, seek medical or public health guidance rather than relying on these drinks alone.

Intravenous fluids

Severe dehydration requires immediate treatment in a medical setting. Fluids are given

through a vein, often using a balanced electrolyte solution. Healthcare teams monitor pulse, blood pressure, urine output, mental alertness, and ongoing stool losses. ORS is added as soon as the person can drink.

Antibiotics and other care

A clinician may use an antibiotic like amoxicillin or doxycycline for severe cholera and in some other selected cases. Antibiotics can shorten the illness and reduce fluid losses, but the choice depends on local resistance patterns and individual factors. They do not replace rehydration and should not be taken without medical guidance.

Zinc supplementation may reduce the duration and severity of diarrhea in children. A healthcare professional should recommend the appropriate product and amount.

Food should usually resume once vomiting improves and the person can eat. Children need continued age-appropriate feeding to support recovery.

Do not use anti-diarrheal medicines to slow the bowel without professional advice, especially for a child or when fever or bloody stool is present. These medicines do not correct dehydration and may be inappropriate in some infections.

Preventing spread

During illness and recovery:

Oral cholera vaccines are available for use in some outbreak, endemic, and travel situations. Vaccine recommendations depend on destination, age, local transmission, and the product available. A travel clinic or public health service can provide current advice. Vaccination does not provide complete protection, so careful food and water practices remain necessary.

- Wash hands thoroughly with soap and safe water after using the toilet and before preparing or eating food.
- Use a safe toilet or latrine, and dispose of diapers carefully.
- Avoid preparing food for other people while ill.
- Drink treated or bottled water from a reliable source.
- Cook food thoroughly and eat it while hot.
- Peel fruits and vegetables yourself when water safety is uncertain.

Complications

The main complication is severe dehydration. Large fluid losses can reduce blood flow to vital organs and lead to shock.

Electrolyte disturbances may affect muscles, heart rhythm, and alertness. Potassium loss can cause weakness or abnormal heart rhythms. Children may develop dangerously low blood glucose, particularly if they are not eating.

Reduced blood flow can also cause acute kidney injury, meaning the kidneys suddenly cannot filter blood normally. Urine output may fall sharply. With rapid rehydration, kidney function often improves, but severe injury may require additional treatment.

Untreated severe cholera can be fatal. The risk falls greatly when appropriate rehydration is available quickly.

Follow up

A person who improves with treatment should continue replacing fluid losses until diarrhea stops. Normal feeding should restart as tolerated. Weakness and thirst should steadily improve, and urine should become more regular.

Routine follow-up may include reviewing hydration, nutrition, kidney function, or electrolyte levels, especially after severe illness or hospitalization. A clinician may also discuss when it is safe to return to food handling, healthcare, childcare, or other work covered by local public health rules.

Seek prompt medical reassessment if diarrhea continues, vomiting prevents drinking, urine remains reduced, or symptoms return after initial improvement.

Emergency care is needed for fainting, confusion, inability to drink, severe weakness, little or no urine, rapid breathing, or other signs of severe dehydration or shock.

Household members do not usually need preventive antibiotics. They should watch for diarrhea, follow careful hand hygiene, and use safe food and water. Public health officials may recommend additional measures during an outbreak.

Sources

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