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# Cholera

## Frequently Asked Questions

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### What is cholera?

Cholera is an acute diarrhoeal disease caused by the bacterium *Vibrio cholerae*. There are approximately 206 serogroups of *V. cholerae* that have been identified to date, but only serogroups O1 and O139 are associated with disease and have pandemic potential. There are two biotypes of *V. cholerae* O1 namely, Classic and El Tor. At present, *V. cholerae* O1 El Tor is responsible for the majority of cholera cases and outbreaks worldwide (including Africa).

### Who can get cholera?

Persons most at risk of contracting cholera are those who do not have access to safe water and adequate, proper sanitation in areas where cholera is endemic, or during an outbreak.

### Is cholera common in South Africa (SA)?

South Africa experienced an outbreak of cholera which affected all nine provinces and lasted for several months from November 2008 to June 2009. There have been reports of cholera in neighbouring countries (including Zimbabwe and Mozambique) where cholera is endemic. The risk of imported cholera causing outbreaks is an ever-present.

### How is cholera transmitted?

*V. cholerae* lives in aquatic environments— typically salt water such as in river estuaries. From the aquatic environment, *V. cholerae* is introduced to humans through contamination of water sources and food. Once humans are infected, very high attack rates may occur, especially in previously non-exposed populations. Person-to-person transmission is less likely because a large inoculum is necessary to transmit the disease.

### What are the signs and symptoms of cholera?

The incubation period of cholera ranges from a few hours to 5 days (usually 2 - 3 days). Most cholera infections are asymptomatic (up to 75%) or mild, but severe and life-threatening disease can occur ('cholera gravis'). The organism produces 'cholera toxin' which leads to a massive outpouring of fluid and electrolytes into the bowel. Cholera typically presents as follows:

- Sudden onset of profuse, painless and watery diarrhoea, with flecks of mucus in the stool, with the appearance of 'rice water';
- Vomiting may occur, usually early in the illness;
- A majority of patients (95%) are afebrile, although children are more often febrile than adults;
- Life-threatening dehydration occurring within a matter of hours is associated with 'cholera gravis', with up to 1000ml/hour of diarrhoea.

Complications secondary to the loss of fluids and electrolytes in stool lead to muscle cramps, acidosis renal and circulatory failure. Arrhythmias and death may occur if treatment, specifically rehydration is not given. With proper treatment, the case fatality rate from cholera should be <1%.

## **How is cholera diagnosed?**

Cholera is diagnosed through culture of the organism from stool specimens. Stool specimens or rectal swabs should be collected using appropriate infection control measures. Specimens should be clearly labelled 'stool for MC&S, and cholera'. Specimens should be processed by the laboratory immediately. If more than a two hour delay is anticipated before the specimen can reach the lab, the swab should be placed in the stool specimen, and then into a bottle of Carey-Blair transport media. The transport media should be refrigerated until transport, and processed within 48 hours. Special transport should be arranged to ensure rapid turnaround times for results.

## **How is cholera treated?**

Treatment for cholera cases is aggressive rehydration therapy. The South African cholera guidelines are available on the NICD web site and include details on assessment of dehydration and rehydration interventions. Antibiotic have not been shown to alter mortality, but may decrease the volume of diarrhoea. Ciprofloxacin may be prescribed for persons who are severely dehydrated.

## **What is the recommended public health response in SA to a case of cholera?**

Cholera is a notifiable disease. All suspected cases should be notified immediately to the local Department of Health to be investigated. Every case of cholera reported to the Department of Health is investigated to assess for possible sources of infection and epidemiologically linked cases.

## **How can cholera be prevented?**

Prevention of spread in the community requires provision of potable, safe water and adequate sanitation. Hand washing is vital in all community and health facility settings. Attention should be given to sanitary human waste disposal and particularly the protection of water sources from faecal contamination. Communities should be advised to chlorinate or boil water and store it in clean containers. Attention to food safety is an essential preventive measure in order to prevent faecal contamination of food by food handlers. Street vendors and communal food sources will require particular attention through health education, since they pose a special risk.

Two WHO prequalified cholera vaccines are available. WHO recommends that these are used in vulnerable populations in areas under threat of cholera outbreaks, but should not be used routinely. Use of vaccination should never replace other public health measures to prevent epidemics from spreading.

- Dukoral - available commercially in South Africa
- SHANCHOL - not licensed in most African countries, but WHO maintains stockpile. Protection against travellers' diarrhoea by these vaccines is extremely limited.

## **Where can I find out more information?**

**For more information:** contact the Outbreak Response Unit (011-555-0542) or the Centre for Enteric Diseases at the NICD (011-555-0334 /6235). For medical or clinical related queries for healthcare professionals only contact the NICD Hotline at 082 883 9920.