



GLOBAL TASK FORCE ON
CHOLERA CONTROL

GTFCC recommendations

INTRODUCTION TO CHOLERA AND TESTING FOR CHOLERA

V1.0 November 2024





Learning objectives

- Describe what cholera is and what causes cholera

- Define what is a cholera suspect case

- Describe the circumstances in which testing for cholera is recommended and why

- Identify the types of methods used for testing for cholera

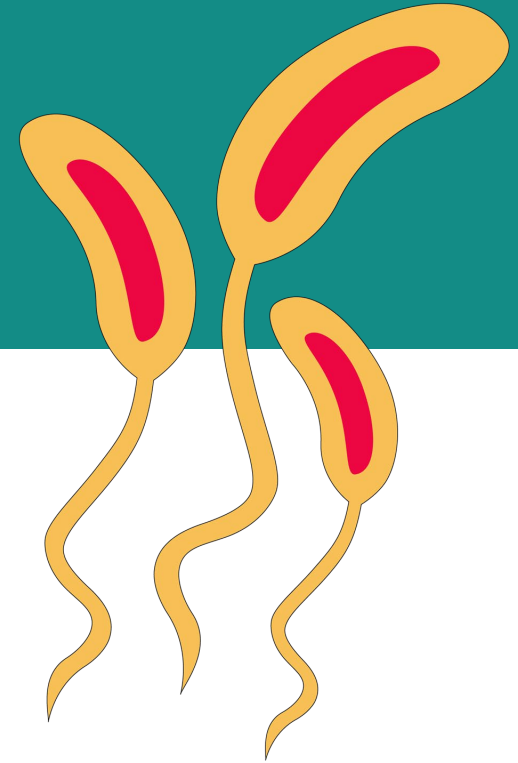


Outline

- 1 Introduction
- 2 Introduction to testing for cholera
- 3 End of module assessment



INTRODUCTION TO CHOLERA





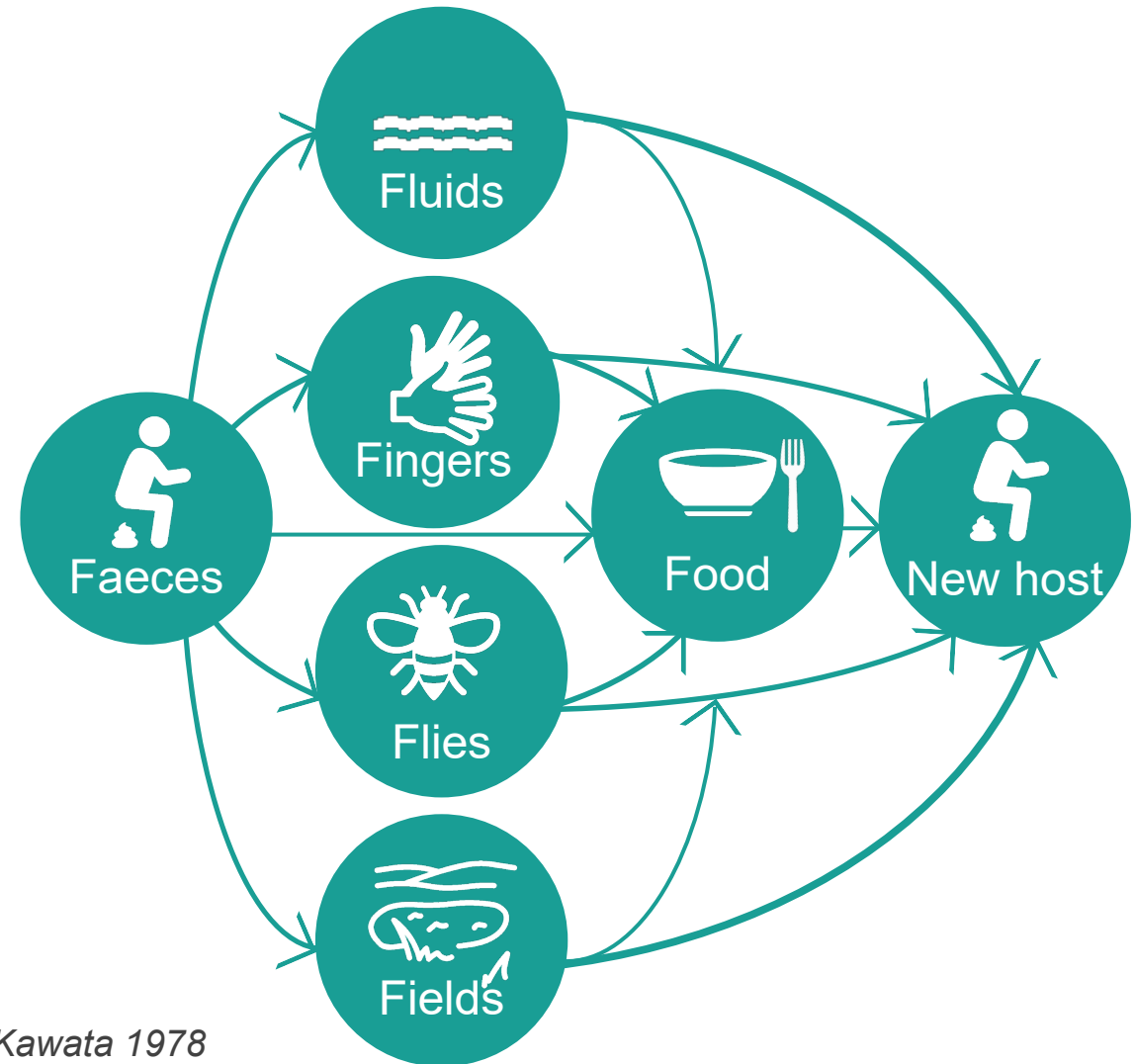
Cholera, the disease

- Is an **acute diarrheal disease**. It is caused by bacterium that is ingested through contaminated water or food.
- **Spreads rapidly** in the community.
- Can infect **both children and adults**.
- Can lead to **severe dehydration and death** in patients with severe forms of the disease; if left untreated, a patient with a severe form may have up to a 50% risk of dying from cholera and this can happen in a few hours.



Cholera transmission

Faeco-oral route



Adapted from Kawata 1978

Introduction to *Vibrio cholerae*

The bacterium

Cholera is caused by bacteria

- Genus -> ***Vibrio***
- Species - > ***cholerae***

Vibrio cholerae is a bacterial species which includes more than 200 serogroups described so far

Only toxigenic strains of serogroups **O1** and **O139** can cause cholera outbreaks

Obtaining a proper laboratory diagnosis on a first suspected case is critical to know whether you are facing a strain that can cause an outbreak of cholera or not!

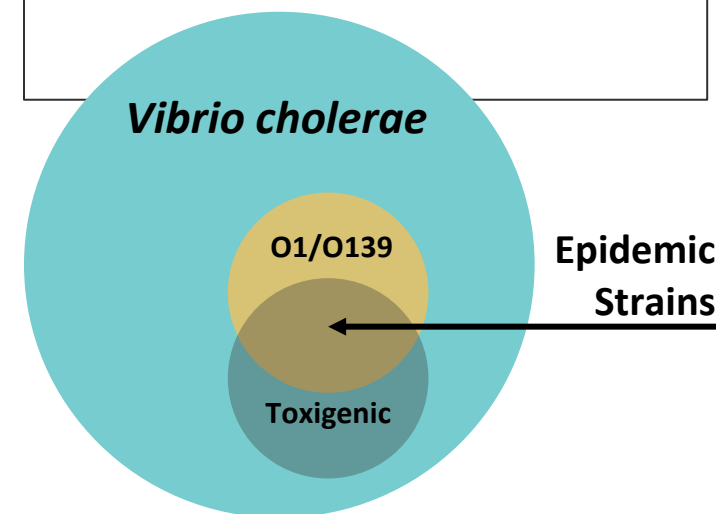


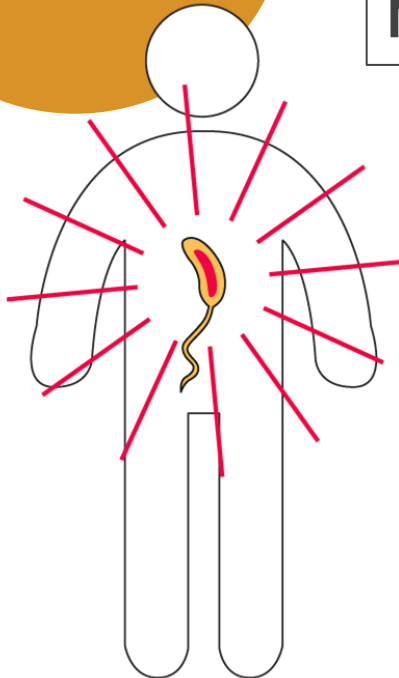


Image of *Vibrio cholerae* bacterium

Symptoms of cholera

There is no difference in the disease or the symptoms when cholera is caused by VC 01 or VC 0139.

Incubation
period short:
2 hours - 5 days



80%
No symptoms

20% Symptoms

80%
Mild form
With no or some
signs of
dehydration

20%
Severe form
With severe dehydration that
may lead to hypovolemic
shock and death

Acute watery diarrhoea



Acute Watery Diarrhoea

Acute watery diarrhoea (AWD) is an illness in which:



acute =
lasting <
7 days

+



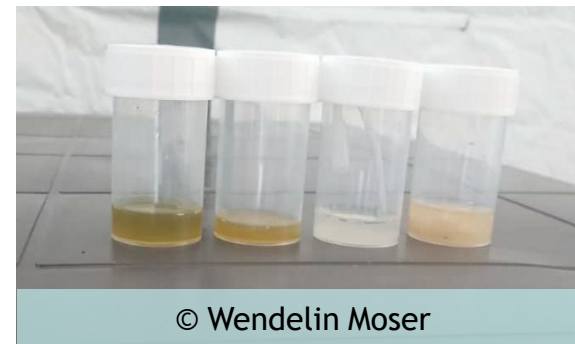
watery =
non-bloody
liquid stools

+

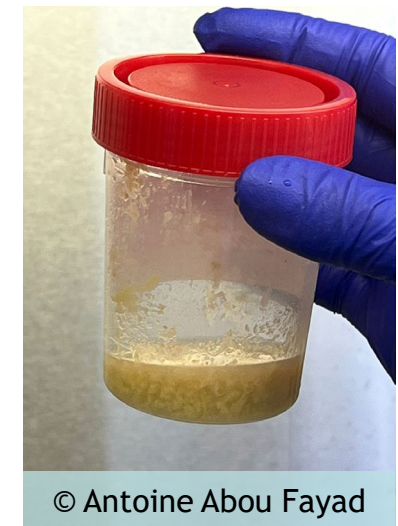


diarrhoea =
≥ 3 loose
stools in 24
hours

Acute watery diarrhea (non-bloody stool)
with or without vomiting



© Wendelin Moser



© Antoine Abou Fayad



Severe dehydration



Severe Dehydration

One or more danger signs:

- Lethargic or unconscious
- Absent or weak pulse
- Respiratory distress

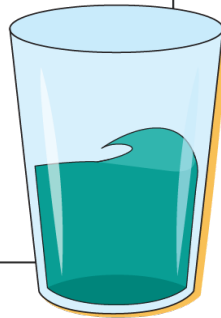
OR at least two of the following:

- Sunken eyes
- Not able to drink or drinks poorly
- Skin pinch goes back very slowly

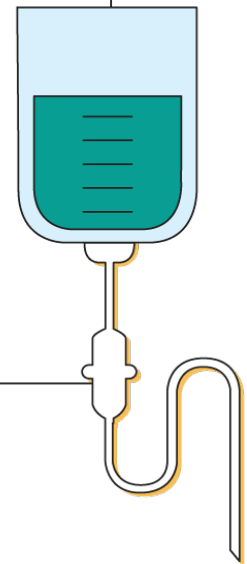
Treatment of cholera

Cholera, the disease, is treatable.

▼
The first line of treatment is rehydration with oral rehydration solution (ORS).

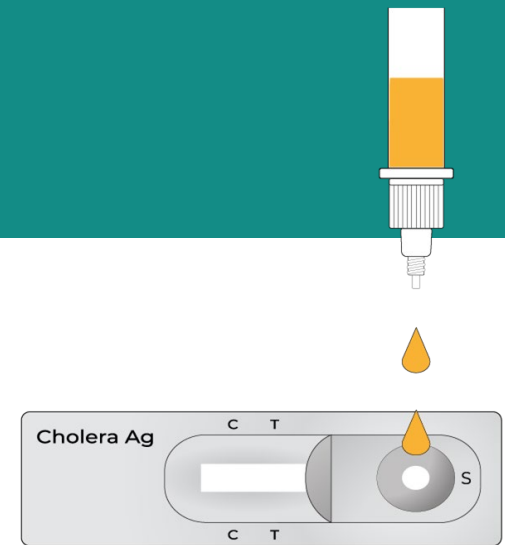


▼
Patients with severe dehydration require IV fluids and antibiotics.





INTRODUCTION TO TESTING FOR CHOLERA





The recommendations expressed hereafter were developed by the Global Task Force on Cholera Control (GTFCC) and are described in “Public Health Surveillance for Cholera”.

The testing strategies applied in your country may differ, make sure to verify these with your local health authorities.

Why test for cholera?

- 1 Treat the patient
- 2 Identify a cholera suspect case
- 3 Test for cholera
- 4 Document and report

Tests are not performed to inform clinical case management
i.e. positive /negative results do not change treatment protocol

Treatment should not depend on cholera lab result.

Treatment should depend on the level of dehydration of the patient.

Why test

Testing for surveillance and not for clinical management

Different objectives for different epidemiological situations

NO confirmed NO probable outbreak

- Find the first case as early as possible
- Confirm cases, detect probable cholera outbreaks and declare an outbreak
- Intervene early to stop the spread (OCV, WASH etc)

CONFIRMED or probable outbreak

- Monitor trends and the spread of the outbreak
- Guide interventions and allocation of resources
- Monitor possible changes in the strain



Strategy adapted to epidemiological situation

1 Treat the patient

2 Identify a cholera suspect case

3 Test for cholera

4 Document and report

Depends on whether or not there is a confirmed ongoing cholera outbreak in the area.



How to identify a cholera suspect case



Most cases of cholera will show no or little signs and symptoms. In the cholera treatment centers or health facilities you will see the subset of cholera cases that develop more severe symptoms.



There are specific definitions of cholera suspect cases.



The definitions of a cholera suspect case are different according to whether or not there is a confirmed ongoing cholera outbreak in the area.

Cholera suspect case definitions

NO confirmed NO probable outbreak

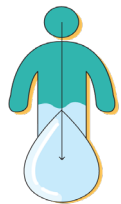
Where there is **NO** probable or confirmed cholera outbreak:

Suspected cholera case

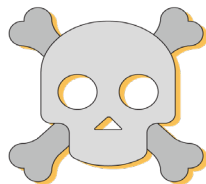
Person aged ≥ 2 years:



AND



OR



with acute
watery diarrhoea
(AWD)

severe
dehydration

who died
from AWD

CONFIRMED or probable outbreak

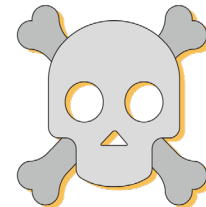
Where there **IS** a probable or confirmed cholera outbreak:

Suspected cholera case

A person of **ANY** age



OR



with acute watery
diarrhoea (AWD)

who died
from AWD

Test according to epidemiological situation

NO confirmed
NO probable outbreak

Test ALL suspected
cholera cases

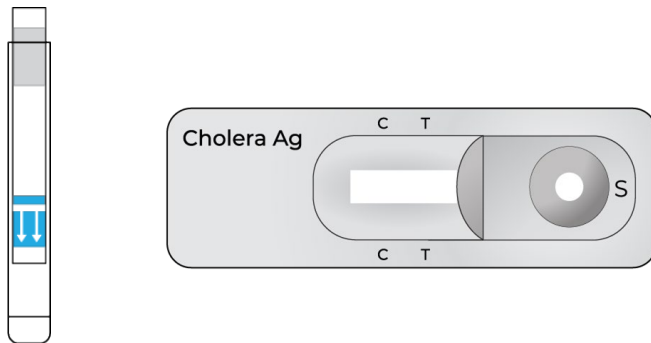
CONFIRMED
or probable outbreak

Test A SUBSET of suspected
cholera cases

Cholera laboratory diagnosis

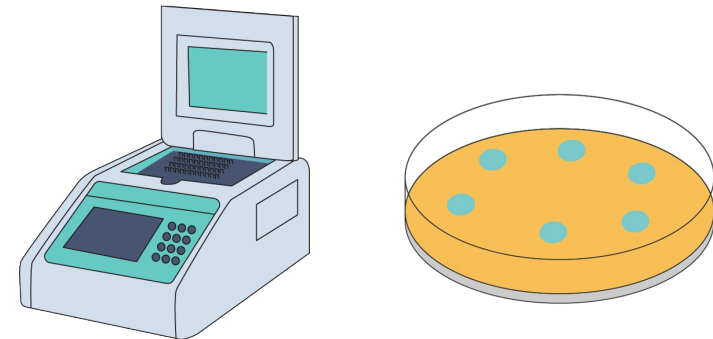
Screening tools:

- Rapid diagnostic tests
- To identify suspected and probable outbreaks or to monitor ongoing outbreaks
- Performed close to the patient



Laboratory confirmatory tests:

- Culture / polymerase chain reaction (PCR)
- Confirm cholera
- Performed in a laboratory



Test according to epidemiological situation

RDT not available

**NO confirmed
NO probable outbreak**

**Test ALL suspected
cholera cases**

- Collect sample from all suspect cases to send to a laboratory for confirmation

**CONFIRMED
or probable outbreak**

**Test A SUBSET of suspected
cholera cases**

- Collect samples from a subset of suspect cases every week to send to a laboratory for confirmation (the first 3 suspected cases, per week per facility)

Test according to epidemiological situation

RDT available

**NO confirmed
No probable outbreak**

**Test ALL suspected
cholera cases**

- Perform RDT on all suspect cases of cholera
- Collect sample from all RDT reactive cases to send to a laboratory for confirmation

**CONFIRMED
or probable outbreak**

**Test A SUBSET of suspected
cholera cases**

- Test a subset of suspect cases every day (first 3) with RDT
- Collect a sample from a subset of RDT reactive cases every week to send to a laboratory for confirmation (up to 3, per area)



Report according to epidemiological situation

NO confirmed NO probable outbreak

- Record immediately in results register
- Report suspect cases and reactive RDT+ results daily to local health authorities

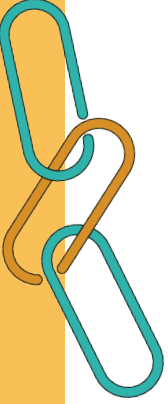
CONFIRMED or probable outbreak

- Record immediately in results register
- Report suspect cases and all RDT results weekly to local health authorities



Summary

	No outbreak	Outbreak
1 Treat the patient	Treat all, rehydration protocols (ATB)	
2 Identify a cholera suspect case	≥ 2 yo, with AWD and severe dehydration, or died from AWD	Any age, with AWD or died from AWD
3 Test for cholera	RDT on all suspect cases Collect and send sample from all RDT+ to laboratory	RDT on first 3 suspected cases of the day Collect and send 3 RDT+ samples per week from the area to laboratory
4 Document and report	Record immediately Report daily on RDT+	Record immediately Report weekly



Links to GTFCC support material

The next two modules of this course will focus on:

- Sample Collection, Preparation and Transport for Cholera (Module 2)
- Cholera Rapid Diagnostic Tests (RDTs) (Module 3)

For more information:

- About cholera [OpenWHO course “Cholera: Introduction”](#)
- About the treatment of cholera patients [GTFCC Clinical job aids](#)
- About the surveillance and surveillance strategies
 - Recommendations for [“Public Health Surveillance for Cholera”](#) : <https://www.gtfcc.org/resources/public-health-surveillance-for-cholera/>
 - Course [“Cholera Surveillance for Health Care Workers”](#)



END OF MODULE ASSESSMENT



Assessment

1. Only serogroups O1 and O139 of the bacteria called *Vibrio cholerae* can cause cholera outbreaks.

True or False

2. A patient who is suffering from constipation is likely to have cholera.

True or False

3. Only patients with a positive result for cholera RDT should be treated using rehydration protocols.

True or False

4. Every cholera suspect case must be tested with RDT, if there is an outbreak in the area or not.

True or False

Assessment Answers

1. Only serogroups O1 and O139 of the bacteria called *Vibrio cholerae* can cause cholera outbreaks.

True to refresh your memory go to slide 7

2. A patient who is suffering from constipation is likely to have cholera.

False to refresh your memory go to slide 10

3. Only patients with a positive result for cholera RDT should be treated using rehydration protocols.

False to refresh your memory go to slide 15

4. Every cholera suspect case must be tested with RDT, if there is an outbreak in the area or not.

False to refresh your memory go to slide 23