

Agent's Biosafety Level: BSL2
Epidemic Potential: High

Last Update: 21 September 2018

Cholera [\[LINK\]](#)
Managing Epidemics Handbook [\[LINK\]](#)

SURVEILLANCE	Sample Collection	Diagnosis		
The usual approach for patient diagnosis and surveillance of cholera is based on clinical examination of suspected cholera cases, with confirmation by positive culture of stool specimens in reference laboratories. Culture is very specific and is considered the reference-standard method in most countries.	Stool or rectal swab	Rapid Diagnostic Test (RDT)	Polymerase Chain Reaction (PCR)	Culture
		Several tests Non-prequalified (NPQ)	Several RT-PCR Non-prequalified (NPQ)	Antiserum and AMS required

Note: Many diagnostics supplies are also used for Case Management purposes, but have been included only in Surveillance.

PREVENTION & CONTROL	Vaccine	WASH	Safe and dignified burial
Provision of safe water, proper sanitation, and food safety are critical for preventing the occurrence and spread of cholera. Mass chemoprophylaxis is not recommended because it has no demonstrated effect on the spread of cholera, can have adverse effects by increasing antimicrobial resistance and provides a false sense of security.	Oral Cholera Vaccines (OCV) available through the ICG mechanism or direct procurement to manufacturers	Safety of water sources (chlorination, filtration, etc.); household water treatment	Personal Protective Equipment (PPE) + Disinfection supplies (for Infection Protection & Control)

CASE MANAGEMENT	Treatment		Isolation of patients
	Aetiological	Supportive	Treatment Units & Centres
Proper case management calls for prompt rehydration via oral rehydration salts (ORS) or IV fluids , depending on the severity of cases. Up to 80% of patients can be treated effectively with ORS. Severe cases need to receive antibiotic treatment.	Doxycycline + Zinc for pediatrics	Oral Rehydration Salts (ORS), IV Fluids critical, Pain & Fever, cholera beds	See Revised Cholera Kit <a href="#">[LINK]</a>

Key outbreak control activities considered for material supply
<ul style="list-style-type: none"> <li><b>Aetiological treatment</b> to reduce mortality</li> <li><b>Supportive treatment</b> (hydration) to reduce mortality</li> <li><b>Provision of safe water</b> to reduce transmission</li> </ul>

Note: Products for Surveillance, Prevention & Control, and Case Management are undergoing rapid and continous development and refinement. For greater clarity, please refer to most recent applicable WHO technical guidance.

INTERVENTION	COMMODITY	TECHNICAL DESCRIPTION	
SURVEILLANCE	Sample Collection	Swabs	CultureSwab, Cary-Blair Agar, single swab
		Faeces collection container	125ml with screw cup
	Diagnostics	Criteria for selection of specific diagnostic tests may include historical efficacy, adherence to any existing Target Product Profiles, ease of use, necessary throughput, distribution and logistics requirements, and manufacturer production capacity. For some pathogens, consideration may need to be given to the presence of mutations in targeted gene sequences or proteins. WHO can advise on the selection of tests on a case by case basis as determined by a specific event.	
	Culture	Please see "Manual for the laboratory identification and antimicrobial susceptibility testing of bacterial pathogens of public health importance in the developing world" <a href="#">[LINK]</a>	
	Vaccine	Evichol	Inactivated oral cholera vaccine, 1 dose vial
		Dukoral	Inactivated oral cholera vaccine, cholera toxin B subunit (recombinat), 1 dose vial + buffer sachet
		Shanchol/mORCVAX	Inactivated oral cholera vaccine, 1 dose vial
	WASH	Safe Water Module	<ul style="list-style-type: none"> <li>Kit water tank, 5 m3, flexible 1 acc.2" DIN50</li> <li>Water distribution module, 2 ramps x 6 taps</li> <li>Hoses module, 2" DIN 50 + coupling</li> <li>Tester, pool tester</li> <li>Chlorine test tablets DPD1</li> <li>Chlorine test tablets DPD3</li> <li>Phenol red tablets for cholrine testing</li> <li>NaDCC, granules, 1kg, 65 to 70% + dossage spoon (contingent upon necessary concentration levels)</li> </ul>
	IPC	Chlorine	NaDCC, granules, 1kg, 65 to 70% + dossage spoon
		Alcohol-based hand rub	bottle of 100ml
		Bar soap	
		Gloves, heavy duty	Covering forearm. Fabric: cotton or polyester, rubber coating, waterproof, and acid resistant, minimum cuff length 150mm <ul style="list-style-type: none"> <li>EU standard directive 89/686/EEC Category III,</li> <li>EN 374 (AS/NZS 2161.10.1.2005) chemical resistance for AKL</li> <li>EN 374 (AS/NZS 2161.10.1.2005) for biohazards Level 3 performance, or above</li> <li>EN 388 (AS/NZS 2161.10.3.2005) 3111 for abrasion, blade cut, tear and puncture, or above</li> <li>EN 420:2004+A1:2009 or equivalent, or above</li> </ul>



Burial Teams	Face mask, particulate respirator, grade N95 or higher	Fluid resistant particulate respirator. Surgical N95 respirator or higher High fluid resistance, Good breathability, Internal and external faces should be clearly identified, Structured design that does not collapse against the mouth (e.g. duckbill, cup-shaped)	"Surgical N95 respirator" cleared by the US FDA and NIOSH, or equivalent • Fluid resistant surgical N95 respirator with minimum 80 mm Hg pressure based on ASTM F1862, ISO 22609 , or equivalent
	Goggles, protective	Good seal with the skin of the face, Flexible PVC frame to easily fit with all face contours with even pressure, Enclose eyes and the surrounding areas, Accomodate wearers with prescription glasses, Clear plastic lens with fog and scratch resistant treatments, Adjustable band to secure firmly so as not to become loose during clinical activity, Indirect venting to avoid fogging, May be re-usable (provided appropriate arrangements for decontamination are in place) or disposable.	• EU standard directive 86/686/EEC, EN 166/2002, • ANSI/ISEA Z87.1-2010, or equivalent
	Coverall	Single use, light colours preferable to better detect possible contamination, thumb/finger loops to anchor sleeves in place, good freedom of movement. Sizes: M, L, XL	• Option 1: blood and body fluid penetration resistant: meets or exceeds ISO 16603 class 3 or above exposure pressure, or equivalent • Option 2: blood-borne pathogens penetration resistant:meets or exceeds ISO 16604 class 2 or above exposure pressure, or equivalent
	Scrubs, tops	Tunic/tops, woven, scrubs, reusable or single use, short sleeved (tunic/tops), worn underneath the coveralls or gown.	
	Scrubs, pants	Trouser/pants, woven, scrubs, reusable or single use, short sleeved (tunic/tops), worn underneath the coveralls or gown	
	Apron, heavy duty, non-woven	Straight apron with bib, Fabric: 100% polyester with PVC coating, or 100% PVC, or 100% rubber, or other fluid resistant material, Waterproof, Sewn strap for neck and back fastening Minimum basis weight: 300g/m2 covering size: 70-90 cm (width) X 120-150cm (height) Reusable (provided appropriate arrangements for decontamination are in place)	May comply with • EN ISO 13688:2013 • EN 14126-B and partial body protection (EN 13034 or EN 14605) or equivalent
	Boot, rubber	Non-slip sole pattern, PVC or polyurethane sole which is completely sealed and waterproof, Knee-high in order be higher than the bottom edge of the gown, Range of sizes available to improve comfort and avoid trauma to the feet, Materials of construction include rubber, PVC, neoprene, nitrile, polyurethane, Favor light colours to better identify possible contaminations.	
	Bio-hazardous bag	Disposal bag for bio-hazardous waste, 30x50cm, with "Bio Hazard" print, autoclavable polypropylene. 50 or 70 micron thickness	
CASE MANAGEMENT	Aetiological Treatment	Body bag	Made of linear enforced, U-shape zipper and 2 zipper pulls with tie ribs. adult size 250x120cm Protector Body Bag specifications: • 6 handles • Impermeable, linear reinforced LLDPE, LDPE, EVA, PEVA, (avoid PVC), minimum thickness 400 microns; • Should be able to hold 100-125 kilos (200-250 lbs), • Should contain no chlorides: burning of chlorides pollute the environment and can cause damage to retort chambers. Body bags should be non carcinogenic to health of funeral workers when used for cremations. • At least 6 handles included in the body bag to allow burial team to hand carry it safely • Heat-sealed: insure superior strength and safety, • Provide full containment of blood borne pathogens • Cracking point of 25 - 32 degrees below zero • Shelf life: minimum 10 years • Bag and hands should be white color
		Doxycycline	Doxycycline, single dose, 100mg tablets
	Supportive Treatment	Zinc sulfate	Zinc sulfate, 20mg, dispersible tablets
		Compound Sodium Lactate Solution	Compound solution of sodium lactate (Ringer's lactate), injection solution, w/o IV set and needle, 1000ml
		Infusion giving set	Infusion giving set, with airinlet and needle, sterile, single-use
		ORS	ORS (oral rehydration salts), low osmolarity 20.5g, sachet for 1 litre
		Paracetamol	Paracetamol, 500mg, tablets
		Cholera beds	• Cot weight: 31 lbs (14 kgs) • Weight tolerance: 350 lbs (159 kgs) • Outer dimensions: 82" (208 cm) L x 43.5" (82.5 cm) W x 20.5" (52 cm) H • Sleep area: 79" (201 cm) L x 28 " (70 cm) W • Height of cot: 16" (41 cm) • Bag dimensions: 32" (81.5 cm) L x 20" (42 cm) W x 4" (11 cm) H • Silver, powder coated, anti-rust steel frame • White, double-sided 18oz vinyl coated polyester, with welded hole • CPSIA compliant • Mat features 8" (20cm) diameter cut out hole with impermeable welded seam • Mat is impermeable with ultrasonically welded construction, no threads or sew lines