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Accessed Oct. 5, 2023.Pathological, often painful, involuntary muscle contractionFor other uses, see Cramp (disambiguation).Not to be confused with seizure or spasm.Medical conditionCrampSymptomssudden muscle pain and a paralysis-like immobilityTreatmentquinine, stretching, massage, and drinking liquidsA cramp is a sudden, involuntary, painful skeletal muscle contraction[1][2] or overshortening associated with electrical activity.[3] While generally temporary and non-damaging, they can cause significant pain and a paralysis-like immobility of the affected muscle. A cramp usually goes away on its own over several seconds or (sometimes) minutes.[4] Cramps are common and tend to occur at rest, usually at night (nocturnal leg cramps).[2][5] They are also often associated with pregnancy, physical exercise or overexertion, and age (common in older adults); in such cases, cramps are called idiopathic because there is no underlying pathology. In addition to those benign conditions cramps are also associated with many pathological conditions.[2][6]Cramp definition is narrower than the definition of muscle spasm: spasms include any involuntary abnormal muscle contractions, while cramps are sustained and painful.[1][7] True cramps can be distinguished from other cramp-like conditions. Cramps are different from muscle contracture, which is also painful and involuntary, but which is electrically silent. The main distinguishing features of cramps from dystonia are suddenness with acute onset of pain, involvement of only one muscle, and spontaneous resolution of cramps or their resolution after stretching the affected muscle.[2] Restless leg syndrome is not considered the same as muscle cramps and should not be confused with rest cramps.[6]Skeletal muscle cramps may be caused by muscle fatigue or a lack of electrolytes[citation needed] such as sodium (a condition called hyponatremia), potassium (called hypokalemia), or magnesium (called hypomagnesemia[8]). Some skeletal muscle cramps do not have a known cause.[6] Motor neuron disorders (e.g., amyotrophic lateral sclerosis), metabolic disorders (e.g., liver failure), some medications (e.g., diuretics and inhaled betaagonists), and haemodialysis may also cause muscle cramps.[6]Causes of cramping include[9] hyperflexion, hypoxia, exposure to large changes in temperature, dehydration, or low blood salt. Muscle cramps can also be a symptom or complication of pregnancy; kidney disease; thyroid disease; hypokalemia, hypomagnesemia, or hypocalcaemia (as conditions); restless legs syndrome; varicose veins;[10] and multiple sclerosis.[11]As early as 1965, researchers observed that leg cramps and restless legs syndrome can result from excess insulin, sometimes called hyperinsulinemia.[12]See also: Exercise-associated muscle crampsUnder normal circumstances, skeletal muscles can be voluntarily controlled. Skeletal muscles that cramp the most often are the calves, thighs, and arches of the foot, and in North America are sometimes called a "Charley horse" or a "corky". Such cramping is associated with strenuous physical activity and can be intensely painful; however, it can occur while inactive and relaxed. Around 40% of people who experience skeletal cramps are likely to endure extreme muscle pain and may be unable to use the entire limb that contains the "locked-up" muscle group. It may take up to a week for the muscle to return to a pain-free state, depending on the person's fitness level, age, and several other factors.[citation needed]See also: Charley horseNocturnal leg cramps are involuntary muscle contractions that occur in the calves, soles of the feet, or other muscles in the body during the night or (less commonly) while resting. The duration of nocturnal leg cramps is variable, with cramps lasting anywhere from a few seconds to several minutes. Muscle soreness may remain after the cramp itself ends. These cramps are more common in older people.[13] They happen quite frequently in teenagers and some people while exercising at night. Besides being painful, a nocturnal leg cramp can cause much distress and anxiety.[14] The precise cause of these cramps is unclear. Potential contributing factors include dehydration, low levels of certain minerals (magnesium, potassium, calcium, and sodium, although the evidence has been mixed),[15][16][17] and reduced blood flow through muscles attendant in prolonged sitting or lying down. Nocturnal leg cramps (almost exclusively calf cramps) are considered "normal" during the late stages of pregnancy.[18]A lactic acid buildup around muscles can trigger cramps; however, they happen during anaerobic respiration when a person is exercising or engaging in an activity where the heartbeat rises. Medical conditions associated with leg cramps are cardiovascular disease, hemodialysis, cirrhosis, pregnancy, and lumbar canal stenosis. Differential diagnoses include restless legs syndrome, claudication, myositis, and peripheral neuropathy. All of them can be differentiated through careful history and physical examination.[17]Gentle stretching and massage, putting some pressure on the affected leg by walking or standing, or taking a warm bath or shower may help to end the cramp.[19] If the cramp is in the calf muscle, dorsiflexing the foot (lifting the toes back toward the shins) will stretch the muscle and provide almost immediate relief. There is limited evidence supporting the use of magnesium, calcium channel blockers, carisoprodol, and vitamin B12.[17]Quinine is no longer recommended for the treatment of nocturnal leg cramps due to potential fatal hypersensitivity reactions and thrombocytopenia. Arrhythmias, cinchonism, and hemolytic uremic syndrome can also occur at higher dosages.[17]Various medications may cause nocturnal leg cramps:[17][20]Diuretics, especially potassium-sparingIntravenous (IV) iron sucroseConjugated estrogensTeriparatideNaproxenRaloxifeneLong-acting adrenergic beta-agonists (LABAs)Hydroxymethylglutaryl-coenzyme A reductase inhibitors (HMG-CoA inhibitors or statins)Statins may sometimes cause myalgia and cramps among other possible side effects. Raloxifene (Evista) is a medication associated with a high incidence of leg cramps. Additional factors, that increase the probability of these side effects, are physical exercise, age, history of cramps, and hypothyroidism. Up to 80% of athletes using statins experience significant adverse muscular effects, including cramps;[21] the rate appears to be approximately 1025% in a typical statin-using population.[22][23] In some cases, adverse effects disappear after switching to a different statin; however, they should not be ignored if they persist, as they can, in rare cases, develop into more serious problems. Coenzyme Q10 supplementation can help avoid some statin-related adverse effects, but currently, there is not enough evidence to prove its effectiveness in avoiding myopathy or myalgia.[24]Stretching, massage, and drinking plenty of liquids may help treat simple muscle cramps.[25]The antimalarial drug quinine is a traditional treatment that may be slightly effective for reducing the number of cramps, the intensity of cramps, and the number of days a person experiences cramps. Quinine has not been shown to reduce the duration (length) of a muscle cramp.[6] Quinine treatment may lead to hematologic and cardiac toxicity. Due to its low effectiveness and negative side effects, its use as a medication for treating muscle cramps is not recommended by the FDA.[26]Magnesium is commonly used to treat muscle cramps. Moderate-quality evidence indicates that magnesium is not effective for treating or preventing cramps in older adults.[6] It is not known if magnesium helps with cramps due to pregnancy, liver cirrhosis, other medical conditions, or exercise.[6] Oral magnesium treatment does not appear to have significant major side effects, however, it may be associated with diarrhea and nausea in 1137% of people who use this medicine.[6]With exertional heat cramps due to electrolyte abnormalities (primarily potassium loss and not calcium, magnesium, and sodium), appropriate fluids and sufficient potassium improve symptoms.[27] Vitamin B complex, naftidrofuryl, lidocaine, and calcium channel blockers may be effective for muscle cramps.[26]Adequate conditioning, stretching, mental preparation, hydration, and electrolyte balance are likely helpful in preventing muscle cramps.[25]Spasm^ a b Minetto, Marco Alessandro; Holobar, Ale; Botter, Alberto; Farina, Dario (Jan 2013). 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Muscle Cramps (of Skeletal Muscles)Retrieved from " Share copy and redistribute the material in any medium or format for any purpose, even commercially. Adapt remix, transform, and build upon the material for any purpose, even commercially. The licensor cannot revoke these freedoms as long as you follow the license terms. Attribution You must give appropriate credit , provide a link to the license, and indicate if changes were made . You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use. ShareAlike If you remix, transform, or build upon the material, you must distribute your contributions under the same license as the original. No additional restrictions You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits. You do not have to comply with the license for elements of the material in the public domain or where your use is permitted by an applicable exception or limitation . No warranties are given. The license may not give you all of the permissions necessary for your intended use. For example, other rights such as publicity, privacy, or moral rights may limit how you use the material.
Editor-In-Chief: C. Michael Gibson, M.S., M.D. [1]; Associate Editors-In-Chief: Priyamvada Singh, MBBS [2], Aysha Anwar, M.B.B.S[3]OverviewLaboratory tests are not mandatory for diagnosis and treatment of cholera. In endemic areas when suspected, treatment should be started as early as possible with fluid replacement and antibiotics. In areas where cholera is uncommon, performing lab tests are worthwhile.Tests used for identification of organisms are: Direct microscopic examination of organism, dark field examination, gram staining, culture, antigen, polymerase chain reaction, and serotype tests.[1][2][3][4][5][6][7]Laboratory FindingsLaboratory tests that may be helpful in diagnosing cholera infection include:[1][2][3][4][5][6][7][8]Stool ExaminationDirect microscopic examination of organism (wet film)Dark field examination (helps visualize the motility of the organism)Gram stainingStool CultueStool culture is the gold standard for Vibrio cholerae serotypes O1 and O139. A number of special media have been employed for the cultivation for Cholera vibrios. They are classified as follows:Holding or Transport MediaCary-Blair medium: This the most popular carrying media. This is a buffered solution of sodium chloride, sodium thioglycollate, disodium phosphate and calcium chloride at pH 8.4.Venkataraman-ramakrishnan (VR) mediumEnrichment MediaAlkaline peptone water at pH 8.6Monsur's taurocholate tellurite peptone water at pH 9.2Plating MediaAlkaline bile salt agar: The colonies are very similar to those on Nutrient Agar.Monsur's gelatin Tauro cholate trypticase tellurite agar (GTTA) medium: Cholera vibrios produce small translucent colonies with a greyish black centre.TCBS medium: This the mostly widely used medium. This medium contains thiosulphate, citrate, bile salts and sucrose. Also in oysters and lobster in some cases. Cholera vibrios produce flat 2-3 mm in diameter, yellow nucleated colonies.Rapid testsRapid tests which may help diagnose V. cholera infection in endemic areas with limited resources include Crystal VC dipstick rapid test.[1]Used for screening patients with suspected infection.Low sensitivity and specificity.Confirmation by culture required.Antigen and Antibody TestsAntigen, polymerase chain reactionSerotype testsQuick methodUseful in epidemiological studiesClassic and El Tor both can be identified by using same methodHemogramElevated serum specific gravity, protein, and hematocrit occurs due to dehydration caused by excessive fluid loss.Serum Electrolytes Gallery References 1.0 1.1 1.2 Accessed on October 7, 2016 2.0 2.1 Alam M, Hasan NA, Sultana M, Nair GB, Sadique A, Faruque AS; et al. (2010). "Diagnostic limitations to accurate diagnosis of cholera". J Clin Microbiol. 48 (11): 391822. doi:10.1128/JCM.00616-10. PMC3020846. 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Lancet. 379 (9835): 246676. doi:10.1016/S0140-6736(12)60436-X. PMC3761070. PMID22748592. Shirai H, Nishibuchi M, Ramamurthy T, Bhattacharya SK, Pal SC, Takeda Y (1991). "Polymerase chain reaction for detection of the cholera enterotoxin operon of Vibrio cholerae". J Clin Microbiol. 29 (11): 251721. PMC270365. PMID1774258. 9.0 9.1 9.2 9.3 9.4 "Public Health Image Library (PHIL)".GastroenterologyTemplate:WikiDoc Sources Background: Cholera is an acute diarrheal disease caused by Vibrio cholerae O1 or O139. Cholera rapid diagnostic tests (RDTs) are widely used to screen for cholera cases. However, their accuracy has not been systematically reviewed. Objectives: To evaluate the diagnostic accuracy of cholera RDTs. Methods: Systematic review and meta-analysis. Data sources: Medline, EMBASE and Web of science through to November 2020; references of included studies and a technical guidance on cholera RDTs. This review is registered with PROSPERO (CRD42021233124). Study eligibility criteria: Cross-sectional studies comparing the performance of cholera RDTs either to stool culture or PCR. Participants: Individuals with clinically suspected cholera. Data extraction: Two authors independently extracted data and assessed the quality using Quality Assessment of Diagnostic Accuracy Studies 2 (QUADAS-2) criteria. Results: Eighteen studies were included in the systematic review of which 17 were used for meta-analysis. Crystal VC was the most frequently used RDT (13 studies), followed by Cholkit and Institut Pasteur cholera dipstick (three studies each), SD Bioline (two studies), Artron (one study) and Smart (one study). Using direct testing (n = 12 627 specimens), the bivariate random-effects model yielded a pooled sensitivity and specificity of 91% (95% CI 87%-94%) and 80% (95% CI 74%-84%), respectively. However, through alkaline peptone water (APW) enrichment (n = 3403 specimens), the pooled sensitivity and specificity were 89% (95% CI 79%-95%) and 98% (95% CI 95%-99%), respectively. Conclusion: Cholera RDTs, especially when enriched with APW, have moderate sensitivity and specificity. Although less useful for clinical management, the current generation of RDTs have clear utility for surveillance efforts if used in a principled manner. Enrichment of stool specimens in APW before using cholera RDTs reduces the possibility of obtaining false-positive results, despite the few cholera cases that go undetected. It is noteworthy that APW-enriched cholera RDTs are not necessarily rapid tests, and are not listed in the Global Task Force on Cholera Control/WHO target product profile. Keywords: Accuracy; Cholera; Rapid test; Sensitivity; Specificity. Search by name, specialty, location and more. Find a doctor Find any of our 300+ locations. Get directions Get the in person or virtual care you need. Schedule now We dont just care for your health conditions. We care about you. That means our providers take the time to listen to whats important to you before recommending next steps. Cleveland Clinic is recognized in the U.S. and throughout the world for its expertise and care. Youll get care from board-certified and fellowship trained experts who work together to create a treatment plan just for you. Only the highest standards ensure excellent outcomes. Were focused on today and tomorrow. Our focus on research and offering the latest options means you can find a wide range of clinical trials and other care that you cant find elsewhere. Explore a curated collection of helpful resources and tools for medical professionals Whether youre just graduating from nursing school or have years of experience, you can build an exceptional career in nursing at Cleveland Clinic.As one of the nations and the worlds leading academic medical centers, you can grow in a setting where youll make a difference. Find your career at Cleveland Clinic.We welcome the opportunity to partner with you in caring for your patients. Our dedicated Referring Physician team is available from 7 a.m. to 7 p.m. EST every day for you and your patients.View our full list of resources for medical professionals, including our Alumni Association, DrConnect, and MyPractice. Cholera is a disease caused by the water-borne, gram-negative bacterium Vibrio cholerae. Characterized by severe watery diarrhea (sometimes referred to as rice-water stool) and vomiting leading to dehydration of the host, cholera can be fatal if left untreated. Because it is spread through contaminated water, good public sanitation is the key to keeping this disease in check. Despite improvements in public sanitation and hygiene, the World Health Organization estimates that there are still 1.3 to 4.0 million cases of cholera each year, and V. cholerae is estimated to cause hundreds of thousands of deaths annually worldwide. Cholera has long been a killer, and it took the ingenuity of some truly remarkable scientists to figure out that the causes were dirty water, intestinal disease, and a curved bacterium called Vibrio cholerae. John Snow and the Game of Wells Unlike the Game of Thrones character, the real John Snow knew a little more than nothing. John Snow lived in the 19th century and was a famous anesthesiologist known for linking the disease cholera with contaminated water sources. This story takes us to London, England in 1854, before modern plumbing and public sanitation were in use. Sewage and rotting food flowed readily through the city, often mixing with water sources and flowing into public drinking wells and the Thames River. The stench of the city at that time was unbearable by todays standards, and the smells of feces and rotting food were pervasive. During this time, popular belief was that miasma, an unpleasant or unhealthy vapor, caused the spread of disease including cholera. In September 1854 there was yet another cholera outbreak in the Soho district of London. This was very close to John Snows home, and it spurred him to document the cases of cholera in an effort to identify a pattern. By mapping all the known cholera deaths and other public landmarks, including 13 public wells in the area, Snow was able to pinpoint one particular water pump, the Broad Street pump, around which all the deaths seemed to cluster. Upon further examination of the water in the Broad Street well using a microscope, Snow observed white, flocculent particles, which no doubt were Vibrio species. These particles were not found in other wells farther from the cholera outbreak. The only seemingly immune location near the Broad Street pump was a brewery one block east of the pump. None of the workers or patrons at the brewery fell ill: they could drink as much beer as they wanted without getting the disease. Though a mystery at the time, we now know this anomaly in Snows mapping is because the fermentation of beer killed the pathogen. Snows incredible identification of a drinking well as the cause of the Soho cholera outbreak was an important step in identification of cholera as a disease caused by a waterborne pathogen. At the time, however, Snow was unable to prove that the outbreak was caused by a bacterium, and his water theory was discarded in favor of the more popular miasma theory of disease. Several decades later, Snow's ideas were found to hold up to further testing, and today, Snow is widely considered the founder of the field of epidemiology. Pacini Discovers the Cause of Cholera Figure 3. Curved Vibrio cholera bacteria or Pacinis vibrions under the microscope. Source: pixnio.com. While Snow was mapping wells in London, Filippo Pacini was in Florence, Italy, dealing with another devastating cholera outbreak. Pacini was an anatomist and often used a microscope to study the human body. During the summer of 1854, Pacini performed autopsies of the patients and wash women, those that washed the soiled bed linens in hospitals, who died in the public hospital of Santa Maria Nuova. He found many similarities in specimens from both the patients and workers who died within the hospital. Under the microscope, he observed tiny curved objects he called vibrions within their feces and intestines. Pacini also observed that the intestines of these patients were missing their villi and were corroded. Pacini was able to isolate the vibrions as the agent responsible for the disease and classified them as an organic, living substance, of a parasitic nature, communicating, reproducing, and then producing a disease of special character. He also medically characterized the disease as causing fatal dehydration as a result of this agent residing in the intestines. Though Pacini identified and isolated the vibrion, his data were also ignored in favor of the airborne theory of transmission propagated by the very influential scientist Max von Pettenkoffer. 30 years later, Louis Pasteur proved that the bacterium Vibrio cholerae was the true cause of disease by applying Robert Kochs postulates that links germs with disease. How Cholera Colonizes Today, cholera is still a devastating disease, with epidemics arising in areas with poor water infrastructure such as Yemen and Haiti. Current research aims to identify how V. cholerae colonizes the human intestinal tract. In the small intestine, V. cholerae produces two virulence factors, the type IV toxin coregulated pilus (TCP) and the cholera toxin. TCP is required for colonization and formation of microcolonies within the small intestine, while cholera toxin causes the intestinal epithelium to leak chloride ions along with water, causing severe diarrhea. TCP and cholera toxin are controlled by a regulatory cascade known as the ToxR regulon, which is also responsible for expression of another virulence factor, the Type VI secretion system (T6SS). The T6SS is important for cytotoxic interactions with macrophages as well as inhibitory inter- and intra-bacterial interactions, allowing Vibrio to maintain its niche in the human gut. Scientists dont fully understand how this Type VI secretion system is able to simultaneously increase infectivity by reducing host immune response while also increase inter-bacteria toxicity for other commensal and pathogenic microbes present within the intestine. However, thanks to the investigations by Snow and Pacini, we now know the source and cause of cholera. Molecular studies have demonstrated how quickly a pathogenic V. cholerae strain can bloom to dangerous levels, giving public health officials the ability to monitor water safety. But the disease maintains its foothold in low-resource regions and where conditions prevent NGO workers from distributing an oral cholera vaccine. While the vaccine can complement traditional control measures, it is not 100% effective, emphasizing the importance of research into the molecular mechanisms of pathogenicity. Stay tuned for Wells and Wellness II: Pathogenicity of Cholera coming to Microbial Sciences soon! Suggested Reading: Get an email whenever there is new content on Microbial Sciences and never miss a post. Take the Survey Skip to main content To treat 100 cases at different level of care or perform laboratory analysis of 100 samples. For several years, agencies supporting preparedness and response to cholera outbreaks have supplied medicines and medical devices through the Interagency Diarrhoeal Disease Kits (IDDK).In an effort to better align the presentation and content of the kits to field needs, the composition of the cholera kits has been reviewed by WHO and its partners in 2015 and again in 2020. The content of all modules have been slightly revised with no changes except for the cholera laboratory check list.The revised cholera kits 2020 are designed to help prepare for a potential cholera outbreak and to support the first month of the initial response for 100 cases. The overall package consists of six different kits, each divided in several modules. KMEDCHOKA1---A1 KIT, CHOLERA CENTRAL REFERENCE (1), complete 2020 KMEDCHOMA11--A1 (kit cholera central) MODULE, DRUGS (1.1) KMEDCHOMA12--A1 (kit cholera central) MODULE, RENEWABLE SUPPLIES (1.2) KMEDCHOMA13--A1 (kit cholera central) MODULE, EQUIPMENT (1.3) KMEDCHOMA14--A1 (kit cholera central) MODULE, LOGISTIC (1.4) KMEDCHOKA2---A1 KIT, CHOLERA PERIPHERY (2), complete 2020 KMEDCHOMA21--A1 (kit cholera periphery) MODULE, DRUGS (2.1) KMEDCHOMA22--A1 (kit cholera periphery) MODULE, RENEWABLE SUPPLIES (2.2) KMEDCHOMA23--A1 (kit cholera periphery) MODULE, EQUIPMENT (2.3) KMEDCHOMA24--A1 (kit cholera periphery) MODULE, LOGISTIC (2.4) KMEDCHOKA3---A1 KIT, CHOLERA COMMUNITY (3), complete 2020 KMEDCHOMA31--A1 (kit cholera community) MODULE, DRUGS (3.1) KMEDCHOMA32--A1 (kit cholera community) MODULE, ORP COMMUNITY BASED CARE (3.2) KMEDMGLU300TLA1MODULE, GLUCOMETER, 300 test & lancets*KMEDCHOKA420-A1KIT, CHOLERA LABORATORY (4), 100 samples, complete (2020)*KMEDCHOKA5---A1 KIT, CHOLERA INVESTIGATION (5), complete 2020 KMEDCHOKA6---A1 KIT, CHOLERA HARDWARE (6), complete 2020 KMEDCHOMA61--A1(kit cholera hardware) MODULE, SHELTER (6.1) KMEDCHOMA62--A1(kit cholera hardware) MODULE, WATER (6.2) KMEDCHOMA63--A1(kit cholera hardware) MODULE, SANITATION (6.3) KMEDCHOMA64--A1(kit cholera hardware) MODULE, SUPPORT (6.4) KMEDCHOMA65--A1(kit cholera hardware) MODULE, FENCING (6.5) KMEDCHOMA66--A1(kit cholera hardware) MODULE, MOTOR PUMP (6.6)*KMEDCHOMA67--A1(kit cholera hardware) MODULE, WATER TOOL BOX, BASIC (6.7)** the modules 2020 with changes /new modulesNote the difference in treating 100 cases between the central, peripheral and community kitsKits Number of cases treated Sever cases Mild cases KIT, CHOLERA CENTRAL REFERENCE 100 8020KIT, CHOLERA PERIPHERY 100 60 40 KIT, CHOLERA COMMUNITY 100 0100Download the content list for the revised CHOLERA kits 2020 As of September 2022, it will no longer be possible to order complete kits (central, peripheral and community) in one click. Requesters need to choose modules separately, according to their needs. The quantity of modules needed may vary within the same kit. This tool provides a quick and simple way to calculate and subsequently order the new cholera kits and modules.The tool is best suited to estimate needs relating to cholera preparedness.The tool uses pre-defined scenarios based on available population data, pre-defined attack rates as well as the number of health care facilities available. It will help to calculate the number of mandatory essential kits for a cholera response; the number of complementary modules if necessary, including the number of cholera beds as well as estimations on costs for goods and freight from supplier till the port of entry in a particular country.An introductory section will guide you through the new Cholera Kit Calculation tool. WHO programmes and Regional Offices, Country Programmes, UNAIDS: the cholera kits can be ordered using a catalogue GSM requisitionNon-WHO entities:please contact WHO Procurement Services atprocurement@who.int, stating Cholera kits in the subject of the message. WHO Procurement Services will provide guidance for a direct procurement. Cholera is a bacterial infection that causes severe diarrhea and dehydration. Symptoms include watery diarrhea, vomiting, and cramps. Cholera can lead to severe dehydration and even death if left untreated. A Cholera diagnosis test is crucial for prompt treatment and prevention of complications. 6 Cholera Diagnosis Test Cholera Tests include stool culture, rapid diagnostic tests, and blood tests. Early cholera diagnosis test and treatment can significantly increase the chances of full recovery. Here's a list of different cholera diagnosis test: Stool Culture Polymerase Chain Reaction (PCR) Rapid Diagnostic Kits Rapid Antigen Test Serological Tests Dark-Field Microscopy 1. Stool Culture Isolates and identifies Vibrio cholera bacteria. Confirms the presence of the bacterium in the digestive system. The gold standard for cholera diagnosis test. Stool Culture Details Also Known As Bacterial culture Purpose To identify the presence of cholera bacteria Sample Stool sample Preparation None required Procedure Stool culture incubation for bacteria Test Timing 2-3 days Test Price (INR) 500-3000 Result Value Positive or negative for cholera bacteria Normal Value Negative for cholera bacteria Accuracy Highly accurate Interpretation The presence of Vibrio cholerae bacteria confirmed or ruled out Stool culture test is the gold standard for cholera diagnosis test. This test helps healthcare providers identify the specific bacteria in a stool sample with high accuracy. 2. Polymerase Chain Reaction (PCR) Molecular technique amplifies DNA to detect Vibrio cholerae. Highly sensitive and specific for rapid and accurate cholera diagnosis test. Enables detection of the genetic material of the bacterium. Polymerase Chain Reaction Details Also known As PCR test Purpose To detect cholera bacteria Sample Stool sample Preparation None Procedure Polymerase chain reaction Test Timing Within a few hours Test Price(INR) 2,500-5,000 Result Value Positive or negative Normal Value Negative Accuracy Highly sensitive & specific Interpretation Detects Vibrio cholerae DNA for accurate cholera diagnosis The PCR test for cholera is a highly sensitive and specific diagnostic tool that can detect cholera bacteria in a patient's stool sample within a few hours. It has a high accuracy rate and requires no special preparation. 3. Rapid Diagnostic Kits Quick and convenient cholera diagnosis test for cholera infection. Utilize immunochromatographic or immunofluorescence techniques. Variable sensitivity and specificity should be used in conjunction with other methods. Rapid Diagnostic Kits Details Also Known As Cholera dipstick test Purpose To detect cholera bacteria Sample Stool or rectal swab sample Preparation None required Procedure Rapid test strip for detection Test Timing 15-30 minutes Test Price in India 100-1000 Result Value Positive or negative Normal Value Negative Accuracy Highly accurate Interpretation The presence of V. cholerae antigen/antibody indicates cholera infection Rapid diagnostic tests are accurate, cost-effective, and simple to use for detecting cholera bacteria within minutes. They are ideal for use in low-resource settings and can quickly detect outbreaks. 4. Rapid Antigen Test Quick and efficient cholera diagnosis test. Detects specific antigens produced by Vibrio cholerae. Provides results within minutes for immediate action. Rapid Antigen Test Details Also Known As Rapid Diagnostic Test Purpose Rapid detection of cholera antigens in stool samples Sample Stool Preparation A simple collection of a stool sample Procedure Immunochromatographic assay to detect specific antigens Test Timing Results within minutes Test Price (in INR) Range: 200-500 rupees Result Value Positive or negative for cholera antigens Normal Value Negative for cholera antigens Accuracy Varies; sensitivity and specificity depend on the test kit used Interpretation A positive result indicates the presence of cholera antigens Rapid Antigen Test is a quick cholera antigen detection in stool samples, providing results within minutes. 5. Serological Tests Detect antibodies against Vibrio cholerae. Indicate past or recent cholera infection. Provide immune response information for cholera diagnosis test. Serological Tests Details Also Known As Antibody test Purpose Measures antibodies in the blood Sample Blood Preparation None Procedure Blood is drawn from the arm Test Timing A few hours Test Price (INR) 1,000-2,000 Result Value Positive or negative for antibodies Normal Value Negative Accuracy High Interpretation Detects cholera antibodies indicating past or recent infection Serology test measures antibodies in the blood to identify past or current cholera infection. The test is not commonly used as the primary diagnostic tool but can be helpful in certain situations. 6. Dark-Field Microscopy Direct visualization of Vibrio cholerae bacteria. Identifies distinctive darting motion of the bacteria. Useful in resource-limited settings for cholera diagnosis test. Dark-Field Microscopy Details Also Known As - Purpose Direct visualization of Vibrio cholerae bacteria Sample Stool Preparation Stool sample collection Procedure Microscopic examination of the sample using dark-field illumination Test Timing Within hours Test Price in India (Rupees) Range: Varies by facility Result Value Presence or absence of Vibrio cholerae Normal Value Absence of Vibrio cholerae Accuracy Moderate Interpretation Detects the presence or absence of Vibrio cholerae bacteria in stool samples Dark-Field Microscopy is a procedure used to directly visualize Vibrio cholerae bacteria in stool samples using dark-field illumination. It helps in detecting the presence or absence of the bacteria, aiding in the cholera diagnosis test. Cholera Diagnosis Tests Overview Test Name Stool Culture Polymerase Chain Reaction Rapid Diagnostic Kits Also Known As Bacterial culture PCR, Molecular test Rapid tests, Lateral flow assays Purpose Identifying Vibrio cholerae bacteria in stool Detecting Vibrio cholerae DNA in a sample Detecting cholera-specific antigens or antibodies Sample Stool sample Stool, rectal swab Stool, serum, or blood Preparation None None None Procedure Culture growth of bacteria in lab DNA amplification and detection Immunoassay using specific antibodies Test Timing 2-3 days Few hours Few minutes Test Price (INR) Range 300-1500 1500-5000 200-800 Result Value Presence of bac