

Category 3: Written or electronic notification within 7 days of diagnosing by private and public health laboratories.

CEFTRIAXONE –RESISTANT NEISSERIA GONORRHOEA

Disease epidemiology	Who must notify	Confirmed case definition
<p>Gonorrhoea is a sexually transmitted infection caused by the bacterium <i>Neisseria gonorrhoeae</i>. The organism can infect the urogenital tract causing urethritis in men, and cervicitis or abnormal vaginal discharge in women. In South Africa, <i>N. gonorrhoeae</i> is the commonest cause of Male Urethritis Syndrome (in approximately 80% of cases). A significant proportion of infections, particularly in women, may be asymptomatic. A small proportion of infected persons will develop disseminated gonococcal infection by haematogenous spread, manifesting as an arthritis-dermatitis syndrome. <i>Neisseria gonorrhoeae</i> has the capacity to evolve and rapidly develop resistance to all first-line antimicrobials used in treatment. For this reason, it has been designated a high priority pathogen by the WHO. The currently recommended treatment for urogenital gonorrhoea is dual ceftriaxone 250mg stat IM + azithromycin 1g stat PO. Ceftriaxone, which is an extended-spectrum cephalosporin, is the mainstay of therapy for <i>N. gonorrhoeae</i> and it is essential to monitor for resistance to this agent, particularly in cases of suspected treatment failure (i.e. non-resolving/ persistent urogenital infection).</p> <p><i>N. gonorrhoeae</i> may be cultured from persons who are symptomatic or asymptomatic for gonorrhoea. Specimens for culture include dacron or nylon flocced swabs of urogenital tract/ pharynx/ rectum/ ocular discharge; and sterile sites specimens (blood, synovial fluid).</p>	<p>Ceftriaxone-resistant gonorrhoea will be <u>notified</u> by public or private health laboratories following culture isolation of <i>N. gonorrhoeae</i> and antimicrobial susceptibility testing.</p> <p>Isolate should be referred to STI Reference laboratory at NICD for confirmation of ceftriaxone resistance and further testing.</p> <p><u>Confirmation</u> of ceftriaxone resistance will be done by STI reference laboratory at NICD.</p>	<p><i>Neisseria gonorrhoeae</i> culture isolate with Ceftriaxone E-test MIC \geq 0.25 μg/ml</p>

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DENGUE FEVER VIRUS (OTHER IMPORTED ARBOVIRUSES OF MEDICAL IMPORTANCE)

Disease epidemiology	Who must notify	Confirmed case definition
<p>Dengue is the most-widespread mosquito-transmitted viral disease, which is found in travellers that returned from urban areas in Africa, Caribbean, Latin America, Middle East, India, southeastern Asia and the Pacific islands especially during the rainy seasons. Dengue fever is caused by one of four serotypes: Dengue virus 1, 2, 3, and 4. For this reason, a person can be infected with a dengue virus as many as four times in his or her lifetime.</p> <p>Dengue fever may occur in various forms. Leukopenia and thrombocytopenia are common. The majority of cases with dengue fever have characterised by high fever, severe headache, pain behind eyes, body aches/ joint pains, nausea/vomiting and a characteristic rash (looks like sun burn). In some instances, Dengue fever can lead to Dengue haemorrhagic fever (DHF) or Dengue shock syndrome (DSS), which manifest similar to dengue fever plus in DHF: severe and continuous pain in abdomen, bleeding from the nose, mouth, gums or skin bruising, frequent vomiting with or without blood, black stools, excessive thirst (dry mouth), pale, cold skin, restlessness, or sleepiness or with DSS: weak rapid pulse, narrow pulse pressure, cold, clammy skin and restless. 5% of severe Dengue cases (DHF and DSS) result in death.</p>	<ul style="list-style-type: none"> ✓ Health care practitioner (nurse or doctor receiving the laboratory result) ✓ Laboratory detecting the virus <p>NB: Only confirmed cases should be notified.</p>	<p>A confirmed case is a person with laboratory evidence of virus detection by</p> <ul style="list-style-type: none"> • PCR positive and virus isolation from the patient's first (single) specimen; OR • PCR positive and IgM positive result on patient's first (single) specimen; OR • PCR positive on two separate specimens from the same patient collected at least one day apart; OR • PCR positive but IgM/IgG negative result in patient's first specimen and PCR negative but IgM/IgG positive result in patient's second specimen collected at least one day apart; OR <p>Four-fold increase in IgM/IgG titres between acute and convalescent specimens.</p>

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WEST NILE VIRUS, SINDBIS VIRUS, CHIKUNGUNYA VIRUS

Disease epidemiology	Who must notify	Confirmed case definition
<p>West Nile, sindbis and chikungunya fever are viral diseases that are transmitted to people by mosquitoes of <i>Culex</i> species (West Nile virus and sindbis virus) which mainly bite at night and <i>Aedes</i> species (Chikungunya virus), which bite during the day. In a very small number of cases, West Nile virus has also been spread through blood transfusions, organ transplants, breastfeeding and in pregnancy from mother to baby. Both West Nile and sindbis virus are maintained in bird-mosquito cycle, whereas chikungunya virus in non-human primates.</p> <p>West Nile virus occurs worldwide, except for few countries such as Australia. West Nile fever is often asymptomatic or symptoms include headache, low-grade fever, rash, joint and body pains. Encephalitis and meningitis are rare complications of West Nile virus infection, except for the USA. Horses also get incidentally infected and can develop encephalitis.</p> <p>Sindbis virus is widely distributed, being found in Africa, Europe, Asia and Australia.</p> <p>Sindbis fever can cause mild fever with joint pain, nausea, general malaise, headache, muscle pain and a unique maculopapular rash circled with pale halos, often accompanied with an itchy exanthema over the trunk and the limbs.</p> <p>Chikungunya virus is endemic in northeastern South Africa and occurs in travellers that returned from urban outbreak areas in sub-Saharan Africa, Latin-America, southern USA, Italy and France, Saudi Arabia, Yemen, India, south and south-East Asia.</p> <p>Chikungunya fever is characterised by fever and severe debilitating joint pains, often in the hands and feet and may include headache, muscle pain, joint swelling or rash.</p> <p>No vaccines and therapeutics are currently available for prevention and treatment.</p>	<ul style="list-style-type: none"> ✓ Health care practitioner (nurse or doctor receiving the laboratory result) ✓ Laboratory detecting the virus <p>NB: Only confirmed cases should be notified.</p>	<p>A confirmed case is a person with laboratory evidence of virus detection by</p> <ul style="list-style-type: none"> • PCR positive and virus isolation from the patient's first (single) specimen; OR • PCR positive and IgM positive result on patient's first (single) specimen; OR • PCR positive on two separate specimens from the same patient collected at least one day apart; OR • PCR positive but IgM/IgG negative result in patient's first specimen and PCR negative but IgM/IgG positive result in patient's second specimen collected at least one day apart; OR • Four-fold increase in IgM/IgG titres between acute and convalescent specimens.

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RUBELLA VIRUS

Disease epidemiology	Who must notify	Confirmed case definition
<p>Rubella is a mild clinical illness that presents with fever and a maculo-papular rash. Rubella in a pregnant woman can lead to congenital rubella infection in her infant.</p> <p>Congenital rubella is a symptom complex and is also notifiable in South Africa as a category 2 condition.</p> <p>Rubella is preventable by vaccination.</p> <p>Rubella is targeted for elimination by the WHO. South Africa has not yet included rubella vaccine in our EPI programme, however, most countries in the world include it with the measles vaccine.</p>	<p>Any clinician who suspects a rubellacase should notify the case immediately.</p>	<p>A laboratory-confirmed case is a suspected case with a positive blood test for rubella-specific IgM. The blood specimen should be obtained within 28 days after the onset of rash.</p>
<p>Additional notes</p> <ul style="list-style-type: none"> • The WHO also defines a suspected rubella case as any patient of any age in whom a health worker suspects rubella. A health worker should suspect rubella when a patient presents with fever, maculopapular rash; and cervical, suboccipital or postauricular adenopathy or arthralgia/arthritis. • Rubella is not distinguishable from measles on the basis of clinical symptoms alone. It may be advisable to request measles serology in addition to rubella serology on everyone who presents with symptoms of rubella, especially if there is no history of measles vaccination. See case definition for measles (Category 1). When blood for rubella testing is submitted to the NICD, it is routinely also tested for measles antibodies 		
<p>Additional resources</p> <ul style="list-style-type: none"> • The WHO standard for rubella surveillance may be found at https://www.who.int/immunization/monitoring_surveillance/burden/vpd/surveillance_type/active/rubella_standards/en/ 		

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SAMONELLA spp. OTHER THAN S.TYPHI AND S. PARATYPHI

Disease epidemiology	Who must notify	Confirmed case definition
<p><i>Salmonella</i> is one of the most frequently isolated foodborne pathogens and is a major global public health concern.</p> <p>All <i>Salmonella</i> spp. other than <i>S. Typhi</i>, <i>S. Paratyphi A</i>, <i>S. Paratyphi B</i> and <i>S. Paratyphi C</i> are collectively known as nontyphoidal <i>Salmonella</i>. Nontyphoidal <i>Salmonella</i> are widely distributed in domestic and wild animals.</p> <p>Nontyphoidal salmonellosis in humans is generally contracted through the consumption of contaminated food of animal origin (mainly eggs, meat, poultry, and milk), although other foods have been implicated in its transmission. Person-to-person transmission can also occur through the faecal-oral route, and contact with infected animals, including pets, can result in human cases.</p>	<p>All private and public health laboratories</p>	<p>Isolation of <i>Salmonella</i> (other than <i>S. Typhi</i> or <i>S. Paratyphi A</i>, <i>B</i> or <i>C</i>) in a clinical specimen</p> <p>OR</p> <p>Detection of <i>Salmonella</i> (other than <i>S. Typhi</i> or <i>S. Paratyphi A</i>, <i>B</i> or <i>C</i>) in a clinical specimen using a culture-independent diagnostic testing (CIDT), for example PCR</p>

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SHIGA TOXIN-PRODUCING ESCHERICHIA COLI

Disease epidemiology	Who must notify	Confirmed case definition
<p>Shiga toxin-producing <i>E. coli</i> (STEC) can cause severe foodborne disease. STEC is transmitted to humans primarily through consumption of contaminated foods, such as raw or undercooked ground meat products, raw milk, and contaminated raw vegetables and sprouts. In the majority of cases, the illness is self-limiting, but it may lead to a life-threatening disease including haemolytic uraemic syndrome (HUS), especially in young children and the elderly.</p> <p><i>E. coli</i> O157:H7 is the most important STEC serotype in relation to public health; however, other serotypes have frequently been involved in sporadic cases and outbreaks.</p>	<p>All private and public health laboratories</p>	<p>Isolation of <i>E.coli</i> O157:H7 from a clinical specimen</p> <p>OR</p> <p>Detection of <i>E.coli</i> O157 in a clinical specimen using a culture-independent diagnostic test (CIDT) for example PCR</p> <p>OR</p> <p>Detection of Shiga toxin or Shiga toxin genes in a clinical specimen using PCR</p>

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SHIGELLA spp.

Disease epidemiology	Who must notify	Confirmed case definition
<p>Shigellosis is endemic worldwide; in low- and middle-income countries it occurs predominantly in children aged 1-4 years, but other risk groups for shigellosis include travellers to endemic areas, children in daycare with subsequent household transmission and men having sex with men.</p> <p>Humans are the only natural host for <i>Shigella</i> spp. Person-to-person spread is the commonest mode of transmission, but infection can also be caused by contaminated food or water.</p>	<p>All private and public health laboratories</p>	<p>Isolation of <i>Shigella</i> spp. from a clinical specimen</p> <p>OR</p> <p>Detection of <i>Shigella</i> spp. or <i>Shigella</i>/enteroinvasive <i>E.coli</i> (EIEC) in a clinical specimen using a culture-independent diagnostic testing (CIDT), for example PCR</p>