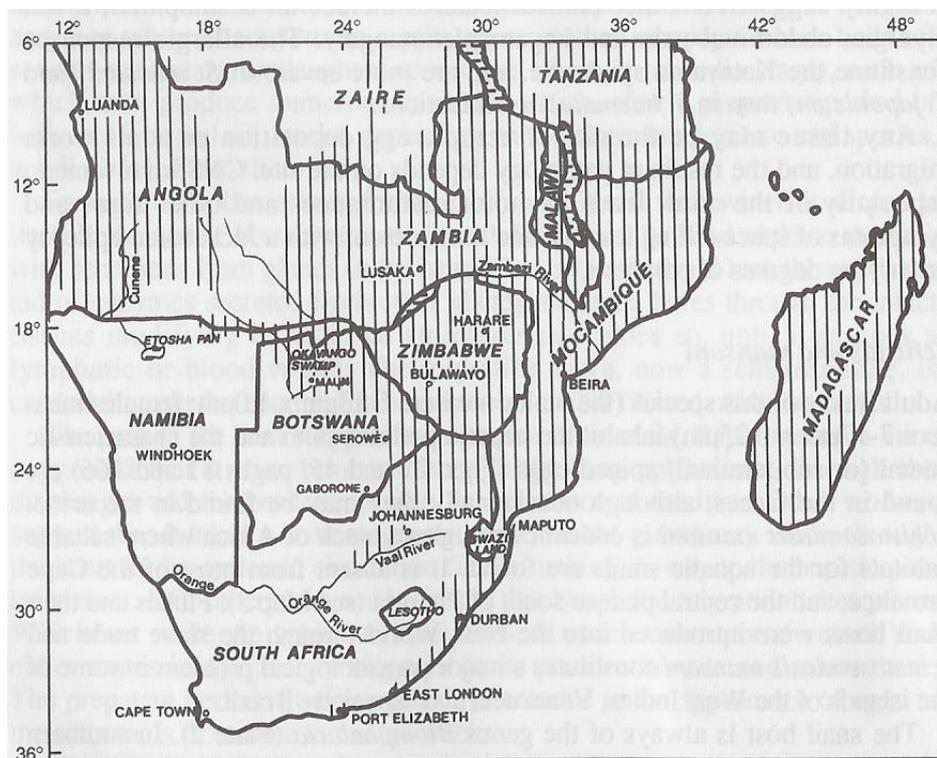


Schistosomiasis (bilharzia): Frequently Asked Questions

What is schistosomiasis and how do you get it?

Schistosomiasis is a disease caused by parasitic worms (called flukes) that live in the blood vessels of the bladder and reproductive organs, and the large intestine. There are two forms of the disease: genitourinary schisto, caused by *Schistosoma haematobium*, and intestinal schisto, caused by *S. mansoni*. You get the infection by swimming or wading in water containing the infective cercarial stages, which are released from infected water snails. The snails become infected from humans with schisto, who have contaminated soil and water with urine and faeces containing eggs; these hatch in contact with water and release a larval stage that targets the snails.



General schisto geographic distribution in southern Africa (by kind permission of Prof Peter Fripp). At local level, risk is determined by the presence of suitable snails, infected populations, and their contact with water (particularly children swimming in rivers and dams).

Where does it occur in Africa?

Schisto is a major public health problem in South Africa; there are about 4 million people, mainly children, infected or at risk. The map shows the geographic distribution in South Africa; all other sub-Saharan African countries are affected to

various extents, and visitors should assume all rivers, lakes and dams are infected. Malawi is a particularly common infection risk area for tourists, because of the major attraction of the lake and water-related recreation.

Water cannot be tested for presence of schisto; a snail specialist needs to collect and identify the host snails and test them for infection, a service that is not readily available. If schisto is prevalent in local residents, you should assume that all river, reservoir or dam water used for recreation, irrigation, washing, etc, is potentially infected.

What are the signs and symptoms of schistosomiasis?

The female flukes lay eggs that cause inflammatory damage to internal organs – mainly lower colon and rectum, bladder and liver, but also sometimes the lungs, reproductive organs, and occasionally the brain and spinal cord. The amount of tissue damage is related to the intensity of infection. Visitors exposed to heavy infections for the first time are more likely to get an itchy skin rash followed a few weeks later by an acute, sometimes severe, feverish illness called ‘Katayama fever’. This is uncommon, and most patients only seek medical advice many weeks or months after exposure. Light infections may produce no illness at all. Early symptoms are often non-specific and may only be a general sense of unwellness, fatigue, or fever, but passing blood in urine is the classic sign of genitourinary schisto, and there may be a vaginal discharge or bleeding. Heavy intestinal infection may present with diarrhoea and less commonly, bloody stools. Long-term complications of schisto (after years or decades of infection) include kidney and liver disease, bladder cancer, and infertility.

How is schistosomiasis diagnosed?

The earliest sign (three to six weeks after infection) is usually a raised number of certain white blood cells, called eosinophils, followed by the appearance of antibodies (around 4 weeks); finally eggs appear five to fifteen weeks after exposure, accompanied by blood, which may not be visible to the eye and only be detectable by urine dipstick or microscopy. The ‘first prize’ in the diagnosis of schisto is finding eggs in urine or faeces, but they are often not found in early and/or light infections; tissue biopsies are more sensitive, but not often done. There is a rapid urine antigen test, but the present commercial version is not very sensitive for urinary schisto; a better type is in development and in future will greatly simplify the diagnosis.

What about routinely checking returning travellers for infection?

Infections are often asymptomatic, so if there has been water exposure in a schisto risk area, it may be sensible to do an antibody test 3 months later, and look for eggs if it is positive. If a person has been diagnosed and treated previously, then blood tests are of little use. Symptomatic patients may require repeated lab tests until the diagnosis is confirmed or an alternative explanation for illness is found.

How is schistosomiasis treated?

The treatment for schisto is praziquantel (Biltricide®, Bayer). It is effective against both types of schisto. The side effects of praziquantel are usually mild (nausea, abdominal discomfort, headache, dizziness), and minimised by taking it with food. Praziquantel is about 70% to 90% effective when taken in the early stage of infection and therefore some patients will require re-treatment.

How do you know you are cured of schistosomiasis?

Eggs may be excreted for a while even after successful treatment, so their mere presence does not necessarily indicate treatment failure; a laboratory report on the viability of eggs is required. Serology should not be used to monitor response to treatment, as the antibodies remain detectable for long periods afterwards.

FAQs compiled by PRL/CEZPD, National Institute for Communicable Diseases, Johannesburg, South Africa (May 2018). This is general information about the disease, and some or all of it may not apply to specific individuals or situations. Consult your doctor or qualified healthcare provider if you have concerns about your own possible exposure, symptoms, or laboratory test results.