

Yellow fever

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Key facts

- **Yellow fever is an acute viral haemorrhagic disease transmitted by infected mosquitoes. The "yellow" in the name refers to the jaundice that affects some patients.**
 - **Symptoms of yellow fever include fever, headache, jaundice, muscle pain, nausea, vomiting and fatigue.**
 - **A small proportion of patients who contract the virus develop severe symptoms and approximately half of those die within 7 to 10 days.**
 - **The virus is endemic in tropical areas of Africa and Central and South America.**
 - **Large epidemics of yellow fever occur when infected people introduce the virus into heavily populated areas with high mosquito density and where most people have little or no immunity, due to lack of vaccination. In these conditions, infected mosquitoes of the *Aedes aegypti* specie transmit the virus from person to person.**
 - **Yellow fever is prevented by an extremely effective vaccine, which is safe and affordable. A single dose of yellow fever vaccine is sufficient to confer sustained immunity and life-long protection against yellow fever disease. A booster dose of the vaccine is not needed. The vaccine provides effective immunity within 10 days for 80-100% of people vaccinated, and within 30 days for more than 99% of people vaccinated.**
 - **Good supportive treatment in hospitals improves survival rates. There is currently no specific anti-viral drug for yellow fever.**
 - **The Eliminate Yellow fever Epidemics (EYE) Strategy launched in 2017 is an unprecedented initiative. With more than 50 partners involved, the EYE partnership supports 40 at-risk countries in Africa and the Americas to prevent, detect, and respond to yellow fever suspected cases and outbreaks. The partnership aims at protecting at-risk populations, preventing international spread, and containing outbreaks rapidly. By 2026, it is expected that more than 1 billion people will be protected against the disease.**
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Signs and symptoms

Once contracted, the yellow fever virus incubates in the body for 3 to 6 days. Many people do not experience symptoms, but when these do occur, the most common are fever, muscle pain with prominent backache, headache, loss of appetite, and nausea or vomiting. In most cases, symptoms disappear after 3 to 4 days.

A small percentage of patients, however, enter a second, more toxic phase within 24 hours of recovering from initial symptoms. High fever returns and several body systems are affected, usually the liver and the kidneys. In this phase people are likely to develop jaundice (yellowing of the skin and eyes, hence the name 'yellow fever'), dark urine and abdominal pain with vomiting. Bleeding can occur from the mouth, nose, eyes or stomach. Half of the patients who enter the toxic phase die within 7 - 10 days.

Diagnosis

Yellow fever is difficult to diagnose, especially during the early stages. A more severe case can be confused with severe malaria, leptospirosis, viral hepatitis (especially fulminant forms), other haemorrhagic fevers, infection with other flaviviruses (such as dengue haemorrhagic fever), and poisoning.

Polymerase chain reaction (PCR) testing in blood and urine can sometimes detect the virus in early stages of the disease. In later stages, testing to identify antibodies is needed (ELISA and PRNT).

Populations at risk

Forty seven countries in Africa (34) and Central and South America (13) are either endemic for, or have regions that are endemic for, yellow fever. A modelling study based on African data sources estimated the burden of yellow fever during 2013 was 84 000–170 000 severe cases and 29 000–60 000 deaths.

Occasionally travellers who visit yellow fever endemic countries may bring the disease to countries free from yellow fever. In order to prevent such importation of the disease, many countries require proof of vaccination against yellow fever before they will issue a visa, particularly if travellers come from, or have visited yellow fever endemic areas.