

# Yellow Fever

**Y**ou cannot get a visa to enter a certain country if you do not have your yellow card,' a travel agent will frequently tell prospective travellers. Many tales have also been told of problems encountered at border control posts due to the absence of this yellow card and sometimes it is as important as a valid passport! The yellow card or the yellow book is in effect the International Certificate of Vaccination or Prophylaxis, and is issued in accordance within the ambit of the World Health Organisation's (WHO) International Health Regulations (IHR) of 2005. Currently yellow fever is the only disease specifically designated in the IHR for which proof of vaccination or prophylaxis may be required as a condition of entry to a particular country.

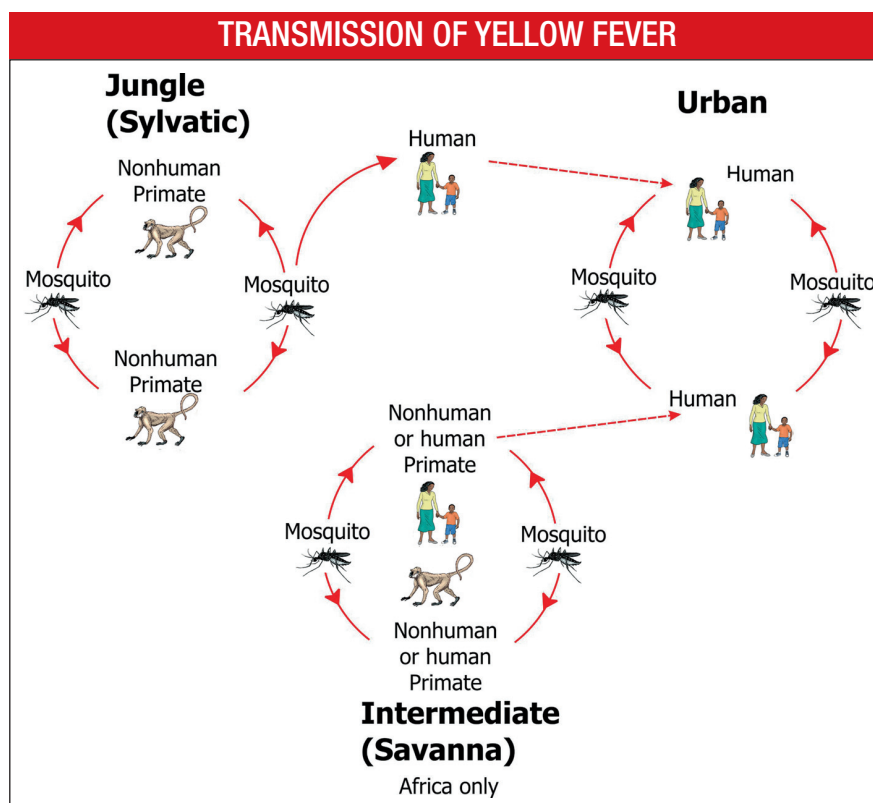
Yellow Fever (YF) is a zoonotic disease in that it can spread from animals to humans via infected Aedes mosquitoes species in Africa, and Haemagogus species in South America. The disease is endemic in tropical South America and sub-Saharan Africa. It is a viral infection caused by RNA viruses

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belonging to the Flavivirus genus. Transmission by the mosquitoes occur in the jungle areas between non-human primates such as monkeys and this is known as the sylvatic cycle. Occasionally humans enter these areas and get infected. In the intermediate or savannah cycle of Africa, the infection is transmitted to humans via mosquitoes that bite infected monkeys or other humans living or working in

jungle border areas. When such a viraemic person goes to an urban area, there is the potential for a mosquito there to feed on such a person and infect others in this area, starting an urban cycle. There have been a number of these large urban and city outbreaks lately, such as those in Angola and the DRC which started in November 2015 and required 30 million susceptible inhabitants to be vaccinated in a mass co-ordinated campaign involving more than 41 000 volunteers and 8 000 vaccination teams. In early 2017 there was an outbreak in certain areas of Brazil.

YF is not found in Asia and has been eliminated from North America. There is also no YF in South Africa. However the mosquito vectors are found virtually worldwide. The potential exists that an



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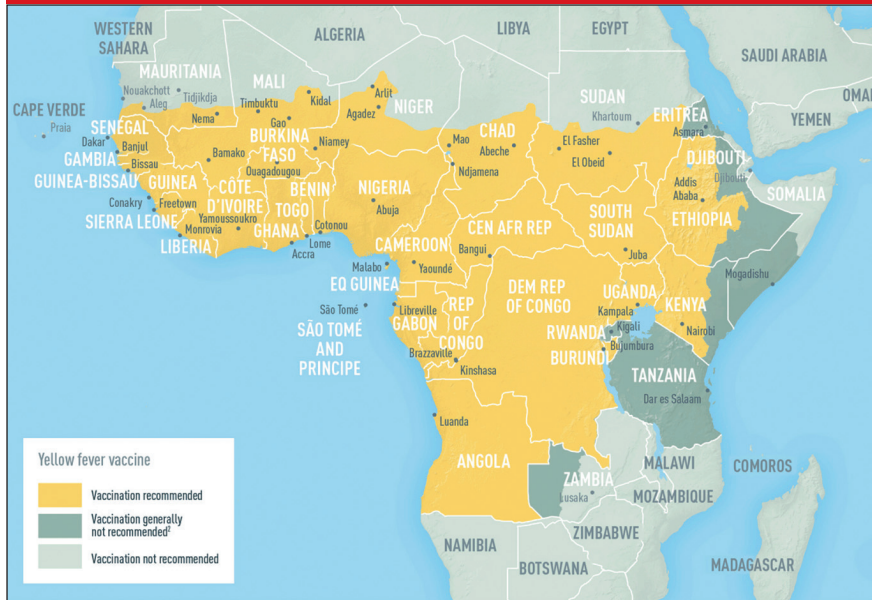




## YELLOW FEVER VACCINE RECOMMENDATIONS IN AFRICA<sup>1</sup>

<sup>1</sup> Current as of September 2016. This map, which aligns with recommendations also published by the World Health Organization (WHO), is an updated version of the 2010 map created by the Informal WHO Working Group on the Geographic Risk of Yellow Fever.

<sup>2</sup> Yellow fever (YF) vaccination is generally not recommended in areas where there is low potential for YF virus exposure. However, vaccination might be considered for a small subset of travelers to these areas who are at increased risk for exposure to YF virus because of prolonged travel, heavy exposure to mosquitoes, or inability to avoid mosquito bites. Consideration for vaccination of any traveler must take into account the traveler's risk of being infected with YF virus, country entry requirements, and individual risk factors for serious vaccine-associated adverse events (e.g., age, immune status).



infected but asymptomatic viraemic traveller could arrive from an endemic country and get bitten by a mosquito in his native very densely populated country such as India or China (or even South Africa). The involved mosquito can then start an urban cycle putting millions and possibly billions at risk. This is the reason why certain countries use the IHR to ensure that anyone arriving from

an endemic country, even if they only transited through it, shows proof of vaccination against this deadly disease.

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## TRAVEL MEDICINE

quickly recover. The incubation period for the disease is 3-6 days and a few will develop symptoms that resembles influenza. These include the sudden onset of fever, chills, severe headache, back pain, general body aches, nausea and vomiting, fatigue, and weakness. Most persons improve after the initial presentation but weakness and fatigue can persist for months in a few. However about 15%, after a brief remission that ranges from a few hours to a day, develop a more severe form of the disease. This is characterised by high fever, jaundice, bleeding, and eventually shock and multi-organ failure. The mortality is between 20% and 50% in these severe cases. It is important to ensure that those suspected of having the active disease use proper mosquito protection measures for about a week as

an urban cycle can be initiated if they are bitten. There is no specific treatment for YF. Supportive care and close observation in hospital is normally indicated for severe cases. The risk of acquiring yellow fever during travel to an

### THE YELLOW FEVER SECTION

INTERNATIONAL CERTIFICATE OF VACCINATION OR PROPHYLAXIS					
This is to certify that (name) .....					
date of birth .....					
nationality <u>SOUTH AFRICAN</u> sex .....					
national identification document, if applicable .....					
whose signature follows .....					
has on the date indicated been vaccinated or received prophylaxis against: (name of disease or condition) .....					
in accordance with the International Health Regulations.					
Vaccine or prophylaxis	Date	Signature and professional status of supervising clinician	Manufacturer and batch no. of vaccine or prophylaxis	Certificate valid from: until:	Official stamp of administering centre
<u>Yellow Fever</u>		<u>DR. S. PARKER</u>	<u>Aventis Pasteur STAMARIL</u>		<u>DR. S. PARKER</u>
			<u>Batch No. M51612V</u>		<u>Auth. No. YF00004W</u>

### THE INTERNATIONAL CERTIFICATE OF VACCINATION OR PROPHYLAXIS

G.P.S. 160-9003 GW 17/8

International Certificate of Vaccination or Prophylaxis

International Health Regulations (2005)

Reglement sanitaire international (2005)

Issued to / Délivré à

Passport number or travel document number  
Numéro du passeport ou du document de voyage



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endemic area is difficult to predict because of the number of different factors that affect virus transmission. A two week stay in West Africa has a 50 per 100 000 risk of contracting the disease and a 10 per 100 000 chance of dying of it. The comparative figures for South America are 5 per 100,000 and 1 per 100,000, respectively. The risk during an outbreak is considered to be much higher. The risks vary according to various local factors as well as factors such as mosquito bite prevention measures taken by travellers.

A very effective vaccine exists to prevent YF infection. It is a live-attenuated vaccine and is recommended for people aged  $\geq 9$  months who are traveling to or living in areas with risk for YF transmission in South America and Africa. It is also used in instances where countries require proof of vaccination for visa purposes or as an entry requirement. Though it is generally considered to be a safe vaccine, rare but serious side-effects have been documented and certain groups are especially at risk. The vaccine should not be used in children under the age of six months, HIV positive patients with low CD4 counts, those allergic to eggs and those with altered immune statuses. These include people with thymic disorders, neoplasms or on immunosuppressive drugs.

Severe side-effects occur more frequently in the older population groups but the vaccine is not absolutely contra-indicated in those older than 60, nor in pregnant or breastfeeding ladies. It is imperative to consult a travel medicine practitioner who will do a risk-benefit analysis weighing up the real risk of an individual traveller acquiring a potentially fatal disease against the risk of the side-effects. A waiver is issued to those who may not receive the vaccine but it has to be noted that such a waiver does not necessarily guarantee entry

into all countries. Only practitioners who have a YF licence who administer the vaccine. Currently, in order to be eligible to obtain this licence in South Africa, the course offered by SASTM has to be successfully completed.

The WHO has recently indicated that the YF vaccine is valid for life, except in certain conditions such as HIV and when travelling to outbreak areas. In such

cases boosters are indicated every 10 years. Again not all countries abide by the life-time validity and SASTM's current recommendation is a booster after every 10 years. No serious side-effects have been noted on boosting. Consulting a travel medicine practitioner is the best way to navigate the minefield that sometimes is associated with the uncertainties regarding YF vaccination. **1**

## YELLOW FEVER VACCINE RECOMMENDATIONS IN THE AMERICAS<sup>1</sup>

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