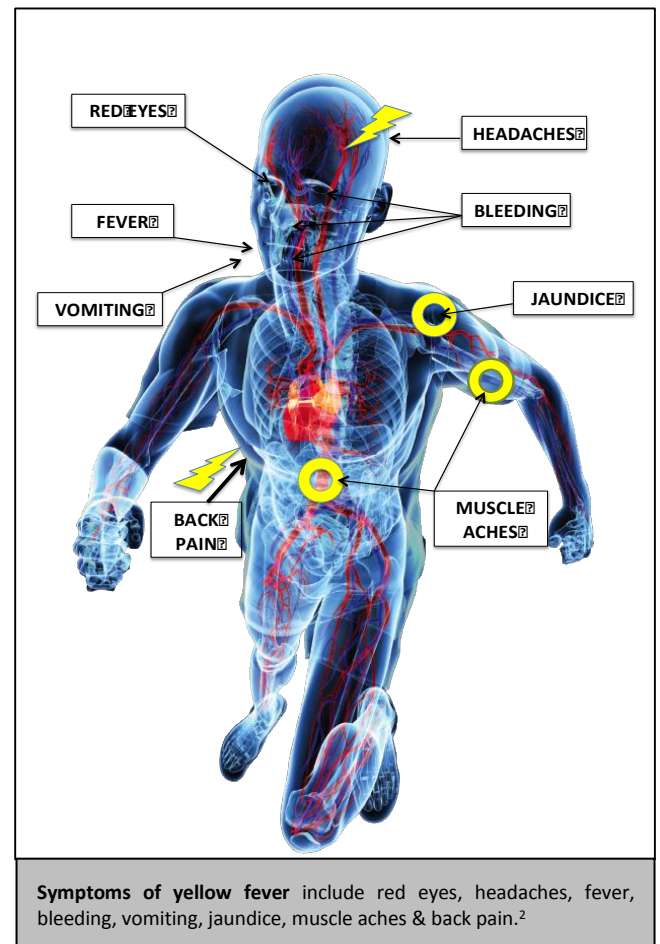


About yellow fever

About yellow fever

- Yellow fever is transmitted to humans by infected daytime biting mosquitoes. The disease is common in Latin America and sub-Saharan Africa.¹
- Yellow fever draws its name from serious cases during which the skin turns yellow.
- One-in-two untreated people severely affected by yellow fever will die from the disease.²
- Supportive care is the only treatment available once infected with yellow fever.²
- The World Health Organization (WHO) estimates 200,000 people are infected each year with yellow fever, of which 30,000 will die.²
- The illness develops within six days of being bitten by an infected mosquito.²
- Symptoms include fever, severe headaches, back pain, general body aches, nausea, vomiting and fatigue.²
- Around 15 per cent of patients enter a second, more toxic phase of the disease, when jaundice and kidney failure can occur.²
- Visible bleeding, jaundice, kidney and liver failure can all occur as a result of yellow fever.²
- Like many mosquito-borne diseases, yellow fever is a

hemorrhagic virus that is transmitted by the *Aedes* species of biting mosquitoes and can also be passed on to mosquito offspring by infected eggs.²



Current situation

- Yellow fever, a potentially fatal disease spread by infected mosquitoes, is re-emerging in parts of Brazil where it had been dormant for several decades.^{3,4,5,6,7,8}
- Over the past 20 years the number of cases have increased due to declining population immunity to infection, deforestation, urbanisation, population movements and climate change.^{2,5}
- An effective yellow fever vaccine has been available for more than half a century, but the number of people infected globally has re-emerged as a major public health concern.²
- The number of reported deaths from yellow fever among travellers over the past decade has increased, and may continue to rise unless yellow fever vaccine is appropriately used.^{9,10}
- Although Brazil successfully controlled urban transmission of yellow fever in the 1940s through vector control and vaccination, re-establishment of the *Aedes aegypti* species of biting mosquito in urban areas has resulted in recurrent epidemics of dengue fever, and poses a risk of outbreaks of urban yellow fever.^{11,12,13}
- Since February 2008, the state of Sao Paulo has reported 25 yellow fever cases, including nine deaths. To contain the outbreak, yellow fever vaccination has been increased among travellers.¹⁴

Risk groups

- Overseas travellers have up to a 50 per cent chance of experiencing a travel-related disease, including infectious but vaccine-preventable diseases like yellow fever, rabies, Japanese encephalitis, meningitis and more.¹⁰
- Those travelling to Brazil for the 2014 FIFA World Cup are at risk of contracting yellow fever if proper precautions, including vaccination are not heeded.
- A risk of contracting yellow fever exists in several Brazilian cities hosting the FIFA World

Cup, including Belo Horizonte, Brasilia, Manaus, Cuiaba and Porto Alegre.^{10,15}

- Many Western travellers, including Australians, do not consult a health professional before travelling and may be unaware of their need to protect themselves from infectious diseases.¹⁶
- The risk of an Australian traveller acquiring a disease depends on the country or countries they plan to visit, the local prevalence of that disease and several other factors including age, immunisation status, current state of health, travel duration, style of travel and travel itinerary.¹⁷
- People at increased risk of some travel-related illnesses may include:
 - Pregnant women;
 - Children;
 - People with impaired immunity; and
 - Recent immigrants when returning to their country-of-origin to visit family and friends.¹⁸

Prevention

- Vaccination is the most important preventative measure against yellow fever.²
- Only approved travel health clinics can administer the compulsory yellow fever vaccine, which must be given at least 10 days prior to travelling.¹
- With few exceptions, vaccination is recommended to all travellers to countries or areas where there is a risk of yellow fever transmission.¹
- A yellow fever vaccination certificate is valid for 10 years and takes effect 10 days after vaccination.¹⁹
- Exemption certificates are available from a travel doctor for those unable to have the vaccination for medical reasons, including infants, pregnant-women and the immuno-compromised.¹

ends#



Brazil yellow fever endemic areas. Source: Centers for Disease Control and Prevention (CDC)

For more information about yellow fever or other travel-related diseases, please contact Kirsten Bruce or Ruby Archis from VIVA! Communications on 0401 717 566 / 0413 834 906.

References

1. Department of Health. Yellow fever – general fact sheet. ‘Australia’s yellow fever declared places (from 1 November 2012)’. Australian Government, Canberra, 2014. <http://www.health.gov.au/yellowfever#7>
2. Department of Foreign Affairs and Trade. 2014 FIFA World Cup in Brazil. Australian Government, Canberra, 2014. <http://www.who.int/mediacentre/factsheets/fs100/en/>
3. Gardner CL, Ryman KD. Yellow fever: a reemerging threat. *Clin Lab Med*. Mar 2010;30(1):237-60.
4. Vasconcelos PF (2010) Yellow fever in Brazil: thoughts and hypotheses on the emergence in previously free areas. *Rev Saude Publica* 44: 1144–1149.
5. Cardoso JC, Almeida MAB, Santos E, Fonseca DF, Sallum MAM, et al. (2010) Yellow fever virus in *Haemagogus leucocelaenus* and *Aedes serratus* mosquitoes, southern Brazil, 2008. *Emerg Infect Dis* 16: 1918–1924.
6. Carmo E, Martins E, Pelucci H, Maia M, Duzzi R, et al. (2002) Brote de febre amarela selvática em Minas Gerais. *Boletín Informativo PAI Organización Pan-Americana de Salud* 24: 5–6.
7. De Souza RP, Foster PG, Sallum MA, Coimbra TL, Maeda AY, et al. (2010) Detection of a new yellow fever virus lineage within the South American genotype I in Brazil. *J Med Virol* 82: 175–185.
8. Vasconcelos PF, Costa ZG, Travassos Da Rosa ES, Luna E, Rodrigues SG, et al. (2001) Epidemic of jungle yellow fever in Brazil, 2000: implications of climatic alterations in disease spread. *J Med Virol* 65: 598–604.
9. Cennimo, DJ, Shoff, WH, Hinfey, PB, Behrman AJ, et al. Pediatric Yellow Fever. March 31, 2014.
10. Wilson ME, Chen LH, Han, PV, Keystone JS, Cramer JP, Segurado A, Hale D, Jensenius M, Schwartz E, von Sonnenburg F, Leder K. Illness in Returned Travelers from Brazil: The Geosentinel Experience and Implications for the 2014 FIFA World Cup and the 2016 Summer Olympics. *Clinical Infectious Diseases*. 2014; 58(8):1-10.
11. Massad E, Burattini MN, Coutinho FA, Lopez LF (2003) Dengue and the risk of urban yellow fever reintroduction in Sao Paulo State, Brazil. *Rev Saude Publica* 37: 477–484. <http://www.ncbi.nlm.nih.gov/pubmed/12937709>
12. Massad E, Coutinho FA, Burattini MN, Lopez LF (2001) The risk of yellow fever in a dengue-infested area. *Trans R Soc Trop Med Hyg* 95: 370–374. <http://www.ncbi.nlm.nih.gov/pubmed/11579875>
13. World Health Organization (2008) Outbreak news. Yellow fever, Paraguay. *Wkly Epidemiol Rec* 83: 105. <http://www.ncbi.nlm.nih.gov/pubmed/18350685>
14. State Government of Victoria. Better Health. Travel health tips. Last reviewed January 2012. Available at http://www.betterhealth.vic.gov.au/bhcv2/bhcarticles.nsf/pages/Travel_health_tips [last accessed July 27, 2012].
15. Romano APM, Ramos DG, Araújo FAA, Siqueira GAM, Ribeiro MPD, et al. Febre amarela no Brasil: recomendações para vigilância, prevenção e controle. *Epidemiol Serv Saúde*. 2011; 20:101-106.
16. Heywood et al. A cross-sectional study of pre-travel health-seeking practices among travellers departing Sydney and Bangkok airports *BMC Public Health* 2012, 12:321.
17. World Health Organization (WHO). International travel and health. 2012; Chapter 6: Vaccine-preventable diseases and vaccines.
18. National Health and Medical Research Council (NHMRC). The Australian Immunisation Handbook, 9th Edition. 2008.
19. Department of Health. Yellow fever – general fact sheet. ‘Will I be allowed to enter Australia, if I do not have a yellow fever vaccination certificate?’ Australia’s yellow fever declared places (from 1 November 2012). Australian Government, Canberra, 2014. <http://www.health.gov.au/yellowfever#12>