**Yellow Fever and Yellow Fever Vaccination**

**What is Yellow Fever?**

Yellow Fever (YF) is a virus, spread by the bite of an infected mosquito, found in tropical and subtropical areas of Africa and South America.

**Yellow Fever: Fast Facts**

**Incubation period** (time from infection to illness): 3-6 days

**Disease**: ranges from mild febrile illness to severe manifestations, including jaundice, bleeding and organ failure.

**Initial symptoms**: fever, chills, headache, back pain, nausea and vomiting, generalised aches and fatigue

**Severe cases**: may involve jaundice, high fever, bleeding, shock and organ failure. 15% of cases may become severe. 20-50% of people with severe illness may die.

**Diagnosis**: based on clinical symptoms and blood tests that look for antibodies that the body produces to combat the infection.

**Treatment**: there is no specific treatment for yellow fever. Management is supportive: rest, fluids, pain relief and close monitoring in hospital

**Yellow Fever in Travellers**

* Yellow Fever is a rare, but important cause of illness in travellers.
* Risk of contracting YF is determined by multiple factors: immunisation status, mosquito bite avoidance, location of travel, duration of exposure, occupational and recreational activities and local rate of virus transmission at time of travel
* In both Africa and South America, transmission is seasonal; greatest during the rainy season, but the virus can be transmitted all year round.

**How to prevent Yellow Fever**

1. **Prevention of mosquito bites**

* Use a good insect repellent on all exposed areas of skin; deet-containing repellents are recommended.
* Be aware of when insects are biting. Many mosquitoes bite between the hours of dusk and dawn. The *Aedes aegypti* mosquito that most commonly transmits YF, mainly feeds during the daytime.
* Wear clothing to reduce likelihood of insect bites. Weather-permitting, wear long-sleeved garments and trousers when outdoors; permethrin-impregnated clothing is a sensible option; be aware that mosquitos may bite through thin clothing.
* Use mosquito nets or stay in accommodation with screened or air-conditioned rooms

1. **Vaccination**

**Yellow Fever – Why do we vaccinate?**

Yellow fever vaccination is carried out for two reasons:

1. **To protect individuals against yellow fever**.

* As YF is a potentially fatal disease in unvaccinated individuals, vaccination is recommended for all people over the age of 9 months (with a few exceptions) travelling to, or living in, areas where there is risk of YF transmission.

1. **To meet certain international border requirements**.

* Under International Health Regulations, certain countries require proof of vaccination on entry. The countries that require proof of vaccination are those which have the ecological potential for yellow fever to propagate and where importation of the virus could result in long-term risk to the population.
* Border requirements are variable: some countries require *all travellers* to carry a vaccine certificate; most often, proof of vaccination is required from *travellers who have come from an area of yellow fever transmission;* this may include transit, depending on the country.
* Border requirements may change, so it is very important to check carefully prior to travel (the World Health Organisation and US Centre for Disease Control have updated lists, to which your healthcare provider will refer).

**Vaccine Information**

* The YF vaccine is a safe and effective live vaccine, using an attenuated (weakened) version of the virus.
* The vaccine currently available is New Zealand is **Stamaril ®**.
* The vaccine must be prescribed and administered in an *approved YF vaccination centre*, in order for an International Certificate of Vaccination to be issued. The certificate is valid from the 10th day after vaccination. Certificates are now valid for the life of the person vaccinated.
* Current evidence suggests that a single dose of the vaccine provides lifelong protection. However, boosters are sometimes recommended for individuals at high risk of exposure, or during an outbreak situation. If it has been more than 10 years since your first vaccination or if you have an old vaccine certificate (prior to 2016), which carries a 10-year duration of protection, see your travel doctor before any significant trip.
* If you are unable to have the vaccine for medical reasons, you may be issued with a *waiver* certificate. However, unvaccinated travellers are advised not to travel to high risk areas and countries reserve the right to deny entry or place people in quarantine if unvaccinated.

**Vaccine safety**

* Adverse reactions to YF vaccine are usually mild, including headache, low grade fever, muscle aches and local injection site discomfort.
* Serious adverse events are rare, but may include *anaphylaxis* / severe hypersensitivity reaction, *vaccine-related ‘viscerotropic’ disease*, which mimics YF itself and can cause organ failure and *vaccine-related neurological disease*, such as meningitis or encephalitis.
* These potential reactions are severe and there are certain individuals for whom YF vaccination is not appropriate.
* Certain people may have an increased risk of a vaccine reaction, but may still benefit from vaccination. These may include: babies between 6 and 9 months; pregnant or breastfeeding women and people over the age of 60. If in doubt, talk to your healthcare provider.

**Pregnancy**

Ideally, pregnant women should not travel to areas of yellow fever transmission. However, if travel is unavoidable, talk to your doctor about vaccination. Live vaccines are not usually given in pregnancy; however vaccination may be given with caution, depending on individual circumstances.

**You should not have the YF vaccine if**:

* You are allergic to egg or any of the vaccine components
* You are under 6 months of age
* You have a poor or weakened immune system for any reason, such as illness or medication such as corticosteroids
* You have HIV with low immunity (talk to your doctor about whether you are eligible)
* You have a history of problems with your thymus gland

**Before you go…**

* Once you have been vaccinated (or issued with a waiver), don’t forget to carry your International Certificate of Vaccination (Yellow Card) with you when travelling.
* If you lose your certificate, you may be able to pay for a replacement, depending on the policy of the issuing health provider.

**Further information / Useful web resources**

<https://wwwnc.cdc.gov/travel/page/avoid-bug-bites> <http://www.who.int/csr/disease/yellowfev/en/>

<http://www.fitfortravel.nhs.uk/advice/disease-prevention-advice/yellow-fever>

<https://www.cdc.gov/yellowfever/> and <https://www.cdc.gov/yellowfever/vaccine/index.html>

<https://nathnacyfzone.org.uk/factsheet/63/yellow-fever-information-for-travellers-leaflet>