

## India



Capital City : "New Delhi" Official Language: "Hindi, English" Monetary Unit: "Indian rupee "

# **General information**

## See also:

Andaman and Nicobar Islands

The information on these pages should be used to research health risks and to inform the pre-travel consultation. For advice regarding safety and security please check the UK Foreign and Commonwealth Office (FCO) website.

Travellers should ideally arrange an appointment with their health professional at least four to six weeks before travel. However, even if time is short, an appointment is still worthwhile. This appointment provides an opportunity to assess health risks taking into account a number of factors including destination, medical history, and planned activities. For those with pre-existing health problems, an earlier appointment is recommended.

While most travellers have a healthy and safe trip, there are some risks that are relevant to travellers regardless of destination. These may for example include road traffic and other accidents, diseases transmitted by insects or ticks, diseases transmitted by contaminated food and water, sexually transmitted infections, or health issues related to the heat or cold.

All travellers should ensure they have adequate travel health insurance.



A list of useful resources including advice on how to reduce the risk of certain health problems is available below.

## Resources

- Food and water hygiene
- Insect and tick bite avoidance
- Personal safety
- Sexually transmitted infections
- Sun protection

# Vaccine recommendations

Details of vaccination recommendations and requirements are provided below.

## **All Travellers**

Travellers should be up to date with routine vaccination courses and boosters as recommended in the UK. These vaccinations include for example measles-mumps-rubella (MMR) vaccine and diphtheria-tetanus-polio vaccine. Country specific diphtheria recommendations are not provided here. Diphtheria tetanus and polio are combined in a single vaccine in the UK. Therefore, when a tetanus booster is recommended for travellers, diphtheria vaccine is also given. Should there be an outbreak of diphtheria in a country, diphtheria vaccination guidance will be provided.

Those who may be at increased risk of an infectious disease due to their work, lifestyle choice, or certain underlying health problems should be up to date with additional recommended vaccines. See the individual chapters of the 'Green Book' Immunisation against infectious disease for further details.

## **Certificate Requirements**

Please read the information below carefully, as certificate requirements may be relevant to certain travellers only. For travellers further details, if required, should be sought from their healthcare professional.

- There is **no risk of yellow fever** in India, however, there is a certificate requirement.
- Under International Health Regulations, a yellow fever vaccination certificate is required from travellers over 6 months of age arriving within 6 days of departure from an area with risk of yellow fever transmission.
- Anyone (except infants up to the age of 6 months) arriving by air or sea without a yellow fever vaccination certificate is detained in isolation for up to 6 days if that person (i) arrives within 6 days of departure from an area with risk of yellow fever transmission, or (ii) has been in such an area in transit (except those passengers and members of the crew who, while in transit through an airport situated in an area with risk of yellow fever transmission, remained within the airport premises during the period of their entire stay and the Health Officer agrees to such exemption), or (iii) arrives on a ship that started from or touched at any port in an area with risk of yellow fever transmission up to 30 days before its arrival in India, unless such a ship has been disinsected in accordance with the procedure laid down by WHO, or (iv) arrives on an aircraft that has been in an area with risk of yellow fever transmission and has not been disinsected in accordance with the provisions laid down in



the Indian Aircraft Public Health Rules, 1954, or as recommended by WHO.

- Countries and areas regarded as having risk of yellow fever transmission are: Africa: Angola, Benin, Burkina Faso, Burundi, Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Democratic Republic of the Congo, Equatorial Guinea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Liberia, Mali, Mauritania, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, Sudan, South Sudan, Togo and Uganda. America: Argentina, Bolivia, Brazil, Colombia, Ecuador, French Guiana, Guyana, Panama, Paraguay, Peru, Suriname, Trinidad (Trinidad only), and Venezuela (Bolivarian Republic of).
- Infants from 6 months may be vaccinated when the risk of yellow fever is high (expert opinion should be sought in these situations).
- Note: When a case of yellow fever is reported from any country, that country is regarded by the Government of India as a country with risk of yellow fever transmission and is added to the above list.
- According to World Health Organization (WHO), from 11 July 2016 (for all countries), the vellow fever certificate will be valid for the duration of the life of the person vaccinated. As a consequence, a valid certificate, presented by arriving travellers, cannot be rejected on the grounds that more than ten years have passed since the date vaccination became effective as stated on the certificate; and that boosters or revaccination cannot be required. See WHO Q&A.
- View the WHO list of countries with risk of vellow fever transmission.

#### Most Travellers

The vaccines in this section are recommended for most travellers visiting this country. Information on these vaccines can be found by clicking on the blue arrow. Vaccines are listed alphabetically.

#### **Hepatitis A**

Hepatitis A is a viral infection transmitted through contaminated food and water or by direct contact with an infectious person. Symptoms are often mild or absent in young children, but the disease becomes more serious with advancing age. Recovery can vary from weeks to months. Following hepatitis A illness, immunity is lifelong.

Those at increased risk include travellers visiting friends and relatives, long stay travellers, and those visiting areas of poor sanitation.

## Prevention

All travellers should take care with personal, food and water hygiene.

## Hepatitis A vaccination

As hepatitis A vaccine is well tolerated and affords long-lasting protection, it is recommended for all previously unvaccinated travellers.

Hepatitis A in brief

#### Tetanus



Tetanus is caused by a toxin released from Clostridium tetani and occurs worldwide. Tetanus bacteria are present in soil and manure and may be introduced through open wounds such as a puncture wound, burn or scratch.

## Prevention

Travellers should thoroughly clean all wounds and seek appropriate medical attention.

#### **Tetanus vaccination**

- Travellers should have completed a primary vaccination course according to the UK schedule.
- If travelling to a country where medical facilities may be limited, a booster dose of a tetanuscontaining vaccine is recommended if the last dose was more than ten years ago even if five doses of vaccine have been given previously.

Country specific information on medical facilities may be found in the 'health' section of the FCO foreign travel advice website.

Tetanus in brief

## Typhoid

Typhoid is a bacterial infection transmitted through contaminated food and water. Previous typhoid illness may only partially protect against re-infection.

Those at increased risk include travellers visiting friends and relatives, those in contact with an infected person, young children, long-term travellers, and those visiting areas of poor sanitation.

## Prevention

All travellers should take care with personal, food and water hygiene.

## **Typhoid vaccination**

- Both oral and injectable typhoid vaccinations are available and are recommended for those at increased risk
- Vaccination could be considered for other travellers

Typhoid in brief

## Some Travellers

The vaccines in this section are recommended for some travellers visiting this country. Information on when these vaccines should be considered can be found by clicking on the arrow. Vaccines are listed alphabetically.

#### Cholera



Cholera is a bacterial infection transmitted by contaminated food and water. Cholera can cause severe watery diarrhoea although mild infections are common. Most travellers are at low risk.

## Prevention

All travellers should take care with personal, food and water hygiene.

#### **Cholera vaccination**

This oral vaccine is recommended for those whose activities or medical history put them at increased risk. This includes:

- aid workers
- those going to areas of cholera outbreaks who have limited access to safe water and medical care.
- those for whom vaccination is considered potentially beneficial.

Cholera in brief

#### Hepatitis B

Hepatitis B is a viral infection; it is transmitted by exposure to infected blood or body fluids. This mostly occurs during sexual contact or as a result of blood-to-blood contact (for example from contaminated equipment during medical and dental procedures, tattooing or body piercing procedures, and sharing of intravenous needles). Mothers with the virus can also transmit the infection to their baby during childbirth.

## Hepatitis B in India

2% or more of the population are known or thought to be persistently infected with the hepatitis B virus (intermediate/high prevalence).

## Prevention

Travellers should avoid contact with blood or body fluids. This includes:

- avoiding unprotected sexual intercourse.
- avoiding tattooing, piercing, public shaving, and acupuncture (unless sterile equipment is used).
- not sharing needles or other injection equipment.
- following universal precautions if working in a medical/dental/high risk setting.

A sterile medical equipment kit may be helpful when travelling to resource poor areas.

## Hepatitis B vaccination

Vaccination could be considered for all travellers, and is recommended for those whose activities or medical history put them at increased risk including:

• those who may have unprotected sex.



- those who may be exposed to contaminated needles through injecting drug use.
- those who may be exposed to blood or body fluids through their work (e.g. health workers).
- those who may be exposed to contaminated needles as a result of having medical or dental care e.g. those with pre-existing medical conditions and those travelling for medical care abroad including those intending to receive renal dialysis overseas.
- long-stay travellers
- those who are participating in contact sports.
- families adopting children from this country.

Hepatitis B in brief

#### Japanese Encephalitis (JE)

JE is a viral infection transmitted to humans from animals (mainly pigs and birds) by mosquitoes which typically breed in rice paddy fields, swamps and marshes, and predominantly feed between dusk and dawn.

Those at increased risk include travellers who are staying for a month or longer during the transmission season, especially if travel will include rural areas with rice fields and marshland.

Travellers on shorter trips (typically less than a month), or trips that take place outside the peak transmission season and those who restrict their visits to urban areas are usually considered to be at very low risk.

#### Japanese encephalitis in India

JE occurs in this country. The affected areas include all states except Arunachal Pradesh, Dadra and Nagar Haveli, Daman and Diu, Gujarat, Himachal Pradesh, Jammu and Kashmir, Meghalaya, Orissa, Punjab, Rajasthan and Sikkim, and Lakshadweep islands. Urban cases have been reported. The transmission seasons are typically:

- Goa: May to October
- Tamil Nadu: October to January
- Karnataka: August to December. A second peak occurs April to June in the Mandya District
- Andhra Pradesh: September to December
- North India: July to December

Rarely cases in travellers are reported outside these months.

## Prevention

All travellers should avoid mosquito bites particularly between dusk and dawn.

#### Japanese encephalitis vaccination

- Vaccination is recommended for those whose activities put them at increased risk (see above).
- Vaccination could be considered for those on shorter trips if the risk is considered to be sufficient e.g. those spending time in areas where the mosquito breeds such as rice fields or marshlands, or pig farming areas.



Japanese encephalitis in brief

#### Rabies

Rabies is a viral infection which is usually transmitted following contact with the saliva of an infected animal most often via a bite, scratch or lick to an open wound or mucous membrane (such as on the eye, nose or mouth). Although many different animals can transmit the virus, most cases follow a bite or scratch from an infected dog. In some parts of the world, bats are an important source of infection.

Rabies symptoms can take some time to develop, but when they do, the condition is almost always fatal.

The risk of exposure is increased by certain activities and length of stay (see below). Children are at increased risk as they are less likely to avoid contact with animals and to report a bite, scratch or lick.

## **Rabies in India**

Rabies has been reported in domestic and wild animals in this country. Bats may also carry rabieslike viruses.

## Prevention

- Travellers should avoid contact with all animals. Rabies is preventable with prompt postexposure treatment.
- Following a possible exposure, wounds should be thoroughly cleansed and an urgent local medical assessment sought, even if the wound appears trivial.
- Post-exposure treatment and advice should be in accordance with national guidelines.

## **Rabies vaccination**

Pre-exposure vaccinations are recommended for travellers whose activities put them at increased risk including:

- those at risk due to their work (e.g. laboratory staff working with the virus, those working with animals or health workers who may be caring for infected patients).
- those travelling to areas where access to post-exposure treatment and medical care is limited.
- those planning higher risk activities such as running or cycling.
- long-stay travellers (more than one month).

A full course of pre-exposure vaccines simplifies and shortens the course of post-exposure treatment and removes the need for rabies immunoglobulin which is in short supply world-wide.

Rabies in brief

#### Tuberculosis (TB)



TB is a bacterial infection transmitted most commonly by inhaling respiratory droplets from an infectious person. This is usually following prolonged or frequent close contact.

## Tuberculosis in India

The average annual incidence of TB is greater than or equal to 40 cases per 100,000 population (<u>further details</u>).

## Prevention

Travellers should avoid close contact with individuals known to have infectious pulmonary (lung) TB.

Those at risk during their work (such as healthcare workers) should take appropriate infection control precautions.

## Tuberculosis (BCG) vaccination

According to current national guidance, BCG vaccine should be recommended for those at increased risk of developing severe disease and/or of exposure to TB infection e.g. when the average annual incidence of TB is greater than or equal to 40 cases per 100,000 population. See Public Health England's Immunisation against infectious disease, the <u>'Green Book'</u>.

For travellers, BCG vaccine is also recommended for:

- unvaccinated, children under 16 years of age, who are going to live for more than 3 months in this country. A tuberculin skin test is required prior to vaccination for all children from 6 years of age and may be recommended for some younger children.
- unvaccinated, tuberculin skin test negative individuals under 35 years of age at risk due to their work such as healthcare workers, prison staff and vets. Healthcare workers may be vaccinated over the age of 35 years following a careful risk assessment.

There are specific contraindications associated with the BCG vaccine and health professionals must be trained to administer this vaccine intradermally (just under the top layer of skin).

Following administration, no further vaccines should be administered in the same limb for 3 months.

The BCG vaccine is given once only, booster doses are not recommended.

Tuberculosis in brief

# Malaria

Malaria is a serious illness caused by infection of red blood cells with a parasite called Plasmodium. The disease is transmitted by mosquitoes which predominantly feed between dusk and dawn.



Symptoms usually begin with a fever (high temperature) of 38°C (100°F) or more. Other symptoms may include feeling cold and shivery, headache, nausea, vomiting and aching muscles. Symptoms may appear between eight days and one year after the infected mosquito bite.

Prompt diagnosis and treatment is required as people with malaria can deteriorate quickly. Those at higher risk of malaria, or of severe complications from malaria, include pregnant women, infants and young children, the elderly, travellers who do not have a functioning spleen and those visiting friends and relatives.

## Prevention

Travellers should follow an ABCD guide to preventing malaria:

Awareness of the risk - Risk depends on the specific location, season of travel, length of stay, activities and type of accommodation.

**B**ite prevention – Travellers should take mosquito bite avoidance measures.

Chemoprophylaxis – Travellers should take antimalarials (malaria prevention tablets) if appropriate for the area (see below). No antimalarials are 100% effective but taking them in combination with mosquito bite avoidance measures will give substantial protection against malaria.

Diagnosis – Travellers who develop a fever of 38°C [100°F] or higher more than one week after being in a malaria risk area, or who develop any symptoms suggestive of malaria within a year of return should seek immediate medical care. Emergency standby treatment may be considered for those going to remote areas with limited access to medical attention.

## **Risk Areas**

- There is a risk of malaria in the states of Assam and Orissa; the districts of East Godavari, Srikakulam, Vishakhapatnam and Vizianagaram in the state of Andhra Pradesh; and the districts of Balaghat, Dindori, Mandla and Seoni in the state of Madhya Pradesh (see map below - click on map to enlarge): atovaquone/proguanil OR doxycycline OR mefloquine recommended.
- For the rest of India (including Goa and the Andaman and Nicobar Islands) there is a low risk of malaria: awareness of risk and bite avoidance recommended.
- There is no risk of malaria in the Lakshadweep islands.

#### Special risk groups

In low risk areas, antimalarials may be considered in exceptional circumstances for travellers who are at higher risk of malaria (such as long term travellers visiting friends and relatives), or of severe complications from malaria (such as the elderly [over 70 years], the immunosuppressed, those with complex co-morbidities, pregnant women, infants and young children).

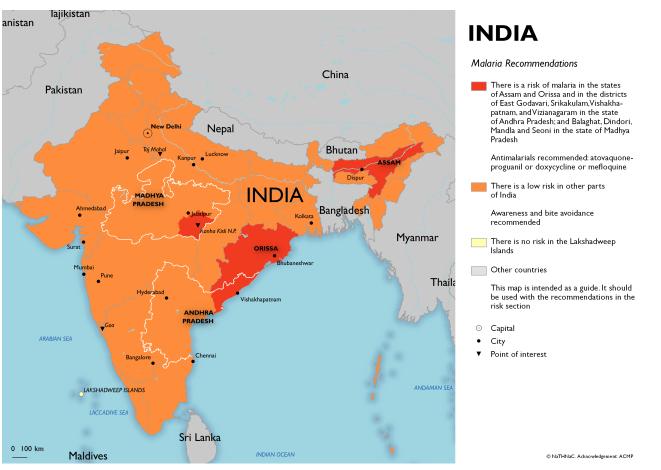
Travellers with an absent or poorly functioning spleen should be dissuaded from travel to any area with risk of malaria, but where travel is essential awareness, rigorous bite avoidance and antimalarials should be advised.

In these circumstances, you may wish to seek specialist advice, although chloroquine plus proguanil would be an option.

The final decision whether or not to advise antimalarials rests with the travel health advisor and the



traveller after individual risk assessment.



## **Antimalarial Recommendations Map**

Open map in a new window

## **Recommended Antimalarials**

The recommended antimalarials for India are listed below. They are recommended for certain areas only (see description of risk areas above). If these are not suitable please seek further specialist advice.

Please note, the advice for children is different, the dose is based on body weight and some antimalarials are not suitable.

## Atovaquone/Proguanil

#### Atovaquone 250mg/Proguanil 100mg combination preparation:

- start one to two days before arrival in the malaria risk area
- for adults, one tablet is taken every day, ideally at the same time of day for the duration of the time in a malaria risk area and daily for seven days after leaving the malaria risk area
- take with a fatty meal if possible
- for children paediatric tablets are available and the dose is based on body weight (see table below)



#### Doxycycline

#### Doxycycline 100mg:

- start one to two days before arrival in the malaria risk area
- adults and children over 12 years of age take 100mg daily, ideally at the same time of day for the duration of the time in a malaria risk area and daily for four weeks after leaving the malaria risk area
- take with food if possible; avoid taking this drug just before lying down
- not suitable for children under 12 years of age

## Mefloquine

#### Mefloquine 250mg:

- this drug is taken weekly, adults take one 250mg tablet each week
- start two to three weeks before arrival in the malaria risk area and continue weekly until four weeks after leaving the malaria risk area
- for children the dose is based on the body weight (see table below)

#### Resources

- Malaria in brief
- Malaria factsheet
- Insect and tick bite avoidance
- <u>Children's antimalarial dose table</u>
- Malaria prevention guidelines for travellers from the UK

# **Other risks**

There are some risks that are relevant to all travellers regardless of destination. These may for example include road traffic and other accidents, diseases transmitted by insects or ticks, diseases transmitted by contaminated food and water, sexually transmitted infections, or health issues related to the heat or cold. Some additional risks (which may be present in all or part of this country) are mentioned below and are presented alphabetically.

#### Altitude

There is a risk of altitude illness when travelling to destinations of 2,500 metres (8,200 feet) or higher. Important risk factors are the altitude gained, rate of ascent and sleeping altitude. Rapid ascent without a period of acclimatisation puts a traveller at higher risk.

There are three syndromes; acute mountain sickness (AMS), high-altitude cerebral oedema (HACE) and high-altitude pulmonary oedema (HAPE). HACE and HAPE require immediate descent and medical treatment.

#### Altitude illness in India



There is a point of elevation in this country higher than 2,500 metres. Some example places of interest, Leh 3,514m and Darjeeling 2,127m.

#### Prevention

- Travellers should spend a few days at an altitude below 3,000m.
- Where possible travellers should avoid travel from altitudes less than 1,200m to altitudes greater than 3,500m in a single day.
- Ascent above 3,000m should be gradual. Travellers should avoid increasing sleeping elevation by more than 500m per day and ensure a rest day (at the same altitude) every three or four days.
- Acetazolamide can be used to assist with acclimatisation, but should not replace gradual ascent.
- Travellers who develop symptoms of AMS (headache, fatigue, loss of appetite, nausea and sleep disturbance) should avoid further ascent. In the absence of improvement or with progression of symptoms the first response should be to descend.
- Development of HACE or HAPE symptoms requires immediate descent and emergency medical treatment.

Altitude illness in brief

#### Dengue

Dengue is a viral infection transmitted by mosquitoes which predominantly feed between dawn and dusk. It causes a flu-like illness, which can occasionally develop into a more serious life-threatening form of the disease. Severe dengue is rare in travellers.

The mosquitoes that transmit dengue are most abundant in towns, cities and surrounding areas. All travellers to dengue areas are at risk.

#### Dengue in India

There is a risk of dengue in this country.

#### Prevention

- All travellers should avoid mosquito bites particularly between dawn and dusk.
- There is currently no medication or vaccination available for travellers to prevent dengue.

Dengue in brief



#### Schistosomiasis

Schistosomiasis is a parasitic infection. Schistosoma larvae are released from infected freshwater snails and can penetrate intact human skin following contact with contaminated freshwater. Travellers may be exposed during activities such as wading, swimming, bathing or washing clothes in freshwater streams, rivers or lakes.

Schistosomiasis infection may cause no symptoms, but early symptoms can include a rash and itchy skin ('swimmer's itch'), fever, chills, cough, or muscle aches. If not treated, it can cause serious long term health problems such as intestinal or bladder disease.

#### Schistosomiasis in India

Cases of schistosomiasis have previously been reported from this country, however according to World Health Organization (WHO) in 2012, transmission of schistosoma larvae in fresh water may have been interrupted. Most travellers are considered to be at very low risk.

#### Prevention

- There is no vaccine or tablets to prevent schistosomiasis.
- All travellers should avoid wading, swimming, or bathing in freshwater where possible. Swimming in chlorinated water or sea water is not a risk for schistosomiasis.
- Topical application of insect repellent before exposure to water, or towel drying after accidental exposure to schistosomiasis are not reliable in preventing infection.
- All travellers who may have been exposed to schistosomiasis should have a medical assessment.

Schistosomiasis in brief

## Zika Virus

Zika virus (ZIKV) is a viral infection transmitted by mosquitoes which predominantly feed between dawn and dusk. A small number of cases of sexual transmission of ZIKV have also been reported. Most people infected with ZIKV have no symptoms. When symptoms do occur they are usually mild and short-lived. Serious complications and deaths are not common. However, there is now scientific consensus that Zika virus is a cause of congenital Zika syndrome (microcephaly and other congenital anomalies) and Guillain-Barré syndrome.

#### Zika virus in India

This country is considered to have a **moderate risk of Zika virus transmission**. **Pregnant women should consider postponing non-essential travel** until after the pregnancy. Details of specific affected areas within this country are not available but the mosquitoes that transmit ZIKV are unlikely to be found above 2,000m altitude.

#### Prevention

- All travellers should avoid mosquito bites particularly between dawn and dusk.
- There is no vaccination or medication to prevent ZIKV infection.
- It is recommended that pregnant women planning to travel to areas with a moderate risk of ZIKV transmission should consider postponing non-essential travel until after pregnancy.
- Women should avoid becoming pregnant while travelling in, and for 8 weeks after leaving



an area with active ZIKV transmission or 8 weeks after last possible ZIKV exposure.

- Couples should follow guidance on prevention of sexual transmission of Zika and avoid conception while travelling and for up to 6 months on return.
- If a woman develops symptoms compatible with ZIKV infection, it is recommended she avoids becoming pregnant for a further 8 weeks following recovery.
- Pregnant women who visited this country while pregnant, or who become pregnant within 8 weeks of leaving this country or within 8 weeks after last possible ZIKV exposure, should contact their GP, obstetrician or midwife for further advice, even if they have not been unwell. Further information about when to perform fetal ultrasound scanning, and, if necessary, referral to the local fetal medicine service is available.

#### Preventing sexual transmission

- Most cases of ZIKV are acquired via mosquito bites but cases of sexual transmission of ZIKV are occasionally reported.
- See further information for pregnant women, their partners and couples planning pregnancy.

See detailed guidance on factors to consider when assessing the risk of ZIKV.

Zika virus in brief

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