

# INDIA - SRI LANKA – MALDIVES - NEPAL – BANGLADESH - BHUTAN - MYANMAR (BURMA)

## 1 Country information

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**INDIA:** There is no malaria risk in the mountainous areas above 2000 m of the northern provinces Kashmir, Jammu, Sikkim and Himachal Pradesh. No preventive measures are therefore necessary there.

In the rest of India there is some risk of malaria infection, but this varies greatly according to the area. The risk of malaria is very low to absent in the centres of the big towns and is also considerably lower at the southern tip of the Indian continent, namely south of the line connecting Madras, Bangalore and Mangalore. Here the protective measures against mosquito bites in the evenings and at night are sufficient.

In most of the rest of India (and also on the Andaman and Nicobar islands) the measures against mosquito bites in the evenings and at night suffice for travellers who spend the nights in very good conditions (luxury hotels) for a period of several weeks.

However, in the extreme eastern part of the country between Bangladesh, China and Myanmar, especially in the Assam region, there is a high risk of resistant malaria, and preventive measures apply here.

**SRI LANKA:** There is no malaria risk in the capital Colombo, nor in the Kalutara district to the south of Colombo in the coastal strip, nor in the central district Nuwara Eliya. Measures for protection against mosquito bites in the evenings and at night are sufficient here.

However, in the rest of the country in the areas below 800 m, there is a varying malaria risk, and the protective measures against mosquito bites in the evenings and at night suffice for travellers who spend the nights in very good conditions for a period of several weeks; however, the recommendations for prevention of malaria apply for other travellers.

**MALDIVES:** There is no malaria risk.

**NEPAL:** There is some risk of malaria in the Terai, namely the southern provinces in the narrow border strip with India, lying below 1200 metres. There is no risk of malaria in the rest of Nepal, and hence also not in the capital Kathmandu. The recommendations for prevention of malaria apply in the cited districts of the Terai: Bara, Dhanukha, Kapilvastu, Mahotari, Parsa, Rautahat, Rupendehi, Sarlahi.

**BANGLADESH:** In Bangladesh there is a risk of malaria. There is however no or only an

extremely low risk of malaria in the big towns (such as in Dacca, the capital, and Chittagong), and the measures for protection against mosquito bites in the evenings and at night suffice here.

In the border districts in the north and east (along the border with the Assam region of India and the border with Burma, especially in the forested regions and in the foothills of the mountains) there is a very high risk of malaria and resistance to Nivaquine has been reported. The recommendations for prevention of malaria apply here.

In the rest of Bangladesh (namely outside the capital Dacca, and outside the provinces on the border with Burma) there is a varying malaria risk, and the recommendations for prevention of malaria apply here.

**BURMA (MYANMAR):** There is no risk of malaria in the cities of Rangoon and Mandalay. There is a risk of malaria in the rest of the country in areas below 1000 m.

- The protective measures against mosquito bites in the evenings and at night suffice for travellers who spend the nights in the big tourist resorts in very good conditions for a period of at most a few weeks.
- Additional protective measures depending on the risk area are indicated for other travellers:
- Throughout the whole year in the Karen State, on the border with Thailand.
- From March to December in the States of Chin, Kachin, Kayah, Mmon, Rakhine, and Shan, the provinces of Pegu and Hlegu, Hmawbi, and the Taikkyi municipal districts of the Yangon Province (formerly Rangoon)
- From April to December in the rural areas of Tenasserim Province
- From May to December in Irrawaddy Div. and the rural areas of Mandalay province
- From June to November in the rural areas of Magwe and Sagaing Provinces. The recommendations for the prevention of malaria apply here.

**BHUTAN:** There is no malaria in areas above 1700 metres, and therefore also none in the capital Thimbu. There is some risk of malaria in the rural areas of five southern districts (Chirang, Sarpang, Samchi, Samdrupjongkhar, Shemgang) bordering on India, below 1700 m.

## 2 Malaria prevention

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Protective measures against mosquito bites in the evenings and at night are always essential for protection against malaria. Individuals who visit a malaria area during the daytime and who stay in a good hotel in the evening and at night run no risk and do not need to take any antimalaria tablets. A mosquito repellent (for application to the skin) should always be carried, in case returning to the hotel in time in the evening proves impossible i.e. due to problems such as illness, car breakdown, etc. The mosquito repellent should also be generously applied to the skin when going on a trip in the early morning, in the evening or at night. On

adventurous trips in the countryside with overnight stays in primitive conditions it is moreover advisable to impregnate the mosquito net with permethrine or deltamethrine, a chemical substance that produces an extra mosquito-repellent and mosquitocidal effect. Taking antimalaria tablets is also necessary.

#### NOTE 1

The combination of

NIVAQUINE®, 3 tablets per week, taken in one dose, and

PALUDRINE®, 2 tablets per day taken in one dose or else 1 tablet each morning and one each evening. This medication regimen should be started from 1 week before departure, and continued until 4 weeks after returning home. People who spend a long time in a malaria area should have a full treatment stand-by in case of a malaria attack. LARIAM® should be considered for long, risky trips (see NOTE 2). All this should be individually discussed with your doctor or with the doctor at the specialised travel advice centre.

#### NOTE 2

LARIAM® 1 tablet once per week is the first-choice medication regimen, unless the doctor thinks this treatment is contraindicated (e.g. desire for pregnancy, first three months of pregnancy, epilepsy, depression, or cardiac rhythm disorders for which certain medications such as beta-blockers, calcium antagonists or digitalis are taken) or unless Lariam was not tolerated on an earlier occasion. This medication is started at least 1 week before departure, but if there is sufficient time, and certainly if you have never taken this medication before, it is better to start 2 to 3 weeks before departure (in order to discover any side effects, e.g. dizziness, insomnia, nightmares, excitation, inexplicable anxiety, cardiac palpitations). The medication should be continued for 4 weeks after returning home. If Lariam® is tolerated well, it can if necessary be taken for many months and even years. MALARONE®, 1 tablet per day from 1 day before departure until 7 days after returning home, is an excellent but expensive alternative for a trip of at most 4 weeks. If there are contraindications, DOXYCYCLINE, 1 tablet per day (NOTE 3) is an alternative, or else NIVAQUINE® 1 tablet per day plus PALUDRINE® 2 tablets per day can be considered, though this combination is frequently significantly less effective and in many areas of Southeast Asia (e.g. Myanmar ) it is almost totally ineffective. People who take Nivaquine® and Paludrine® and who stay for at least several weeks in a malaria area should carry stand-by treatment for any possible malaria attack. All this should be discussed with your doctor or with the doctor at the travel advice centre.

#### NOTE 3

DOXYCYCLINE (100 mg per day, starting the day before departure, and continuing dosing until 4

weeks after returning home). Doxycycline must be taken with plenty of liquid while sitting down or during a meal. Doxycycline can sometimes give rise to phototoxicity and fungal infections in the mouth or genitals. This should be discussed with your doctor or with the doctor at the specialised travel advice centre.

### 3 Vaccinations

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- No vaccination whatever is strictly required.
- YELLOW FEVER vaccination is not required if you are departing from Belgium. If you travel from some other country where yellow fever can occur (Africa, South America), you should be vaccinated from the age of 1 year and upwards (for India from the age of 6 months and upwards).
- Going on a trip is furthermore an ideal opportunity for getting TETANUS, DIPHTHERIA and POLIOMYELITIS VACCINATIONS up to date. These infectious diseases are preventable by vaccination. A repeat inoculation is effective for ten years.
- The WHO advises anyone travelling to Asia/Oceania, regardless of the duration and the circumstances of their stay, to be protected against HEPATITIS A. Vaccination against hepatitis A is in any case advised for people who (1) are travelling in not very good hygienic conditions, or (2) who stay abroad frequently or (3) for long periods (e.g. for more than 2-3 weeks), even if in good hygienic conditions. Vaccination against TYPHOID is also advised in these cases.
- In specific circumstances vaccination against HEPATITIS B should also be considered.
- People on hikes testing more than 4 weeks on adventure trips through the countryside should consider vaccination against JAPANESE ENCEPHALITIS and RABIES.

All this should be individually discussed with your doctor or with the doctor at the travel advice centre.