

SOUTH AMERICA

1 Country information

ARGENTINA: In most of Argentina there is no risk of malaria at all, and therefore no antimalaria precautions are necessary. There is only a limited risk of malaria from October to May in the extreme north of Argentina, and this only in a few low-lying rural areas (below 200 metres), and exclusively with the mild vivax form, namely: ① on the border with Bolivia, in the provinces of Salta (in the plains of the departments Iruya, Oran, San Martin and Santa Victoria) and Jujuy (in the plains of the departments Ledesma, San Pedro and Santa Barbara). ② on the border with Paraguay, in the plains of the provinces of Misiones and Corrientes. The precautionary measures discussed in NOTE 1 apply here.

BOLIVIA: There is no malaria in the larger towns, nor in the areas above 2500 m. This means that there is no risk in the following high areas in the south-west: *in the Oruro Department; *in a number of provinces in the south-western part of the La Paz Department: namely in the provinces Ingavi, Los Andes, Omasuyos, Pacajes; *in the southern and central part of the Potosi Department.

- There is Nivaquine-resistant falciparum-malaria on the border with Brazil in the northern departments Pando and Beni (in a strip of the tropical Amazon basin bordering on the Brazilian states of Acre and Rondonia, especially in the localities of Guayaramerin, Riberalta and Puerto Rico), for which the recommendations discussed in NOTE 3 apply.
- There is a limited to very limited malaria risk throughout the whole year in the areas below 2500 m (but of course not in the centres of the large towns) in the remaining areas of Bolivia (only the mild vivax-malaria) and the anti-mosquito precautionary measures suffice here. The recommendations discussed in NOTE 1 apply only in the low-lying rural areas on the border with Paraguay and Argentina.

BRAZIL: In many areas of Brazil there is no malaria risk at all.

- There is a malaria risk in most of the forested areas below 900 metres in the 9 states of the "*Legal Amazonia Region*": Acre, Amapà, Amazonia, Maranhão (only in the west), Mato Grosso (only in the north, not in Mato Grosso do Sul), Parà, Rondônia, Roraima and in Tocantins (north of Goiás). The measures for the prevention of malaria discussed in NOTE 3 apply only in these areas. There is no risk in the town of Belem (Parà), but there is a low risk in the urban areas of large towns such as Pôrto Velho (Rondônia), Boa Vista (Roraima), Macapà (Amapà), Manaus (Amazonas), Santarém (Parà), Cuiaba (Mato

Grosso), Rio Branco (Acre) and Marabá (Pará). When you are able to stay overnight in good conditions in the centre of Manaus and other large towns in the Amazon region, for a stay of at most four days, you should not have to take any tablets, and measures for protection against mosquito bites in the evenings and at night will suffice.

- As already said in the beginning, no measures against malaria are necessary in the remaining areas of Brazil. For a visit to the "Foz de Iguaçu" waterfalls the measures for protection against mosquito bites in the evenings and at night are sufficient.

CHILE: No malaria risk.

COLOMBIA: There is no malaria risk in Bogotá and its environs, nor in the other big towns. There is just as little malaria risk in the areas above 800 m on the Cordillera Occidental, Cordillera Central and Cordillera Oriental. There is no risk in most of the Caribbean coastal areas (except in Córdoba) and in the low plain of Colombia, towards the border with Venezuela. There is a malaria risk, varying greatly from place to place, throughout the whole year in many rural areas below 800 m.

- The recommendations discussed in NOTE 3 apply ① in the area on the coast of the Pacific Ocean (Pacífico: in the departments Narino, Cauca, Valle del Cauca and Chocó), ② in the northern region Urabá-Bajo Cauca (departments Chocó, Antioquia, Córdoba) ③ in the tropical rainforest area of the Amazon basin (departments Amazonas and Vaupés).
- The recommendations discussed in NOTE 2 apply for the remaining areas, to the east of the Andes (in the departments Arauca, Boyacá, Caquetá, Guaviare, Meta, Norte de Santander, Putumayo, Vichada).

ECUADOR: There is no malaria risk in the areas above 1500 m, nor in the large towns and on the Galapagos Islands. There is only a limited risk of malaria in

- the rural areas of the provinces Esmeraldas (the northern province bordering on Colombia), Manabí and El Oro, all of which are situated on the Pacific Ocean, and also in the province of Sucumbios, where NOTE 3 is applicable.
- in a narrow border area, along the entire border with Peru. The recommendations discussed in NOTE 2 apply here.

BRITISH GUYANA: There is no malaria risk in Georgetown and New Amsterdam. * There is a quite substantial malaria risk in all rural areas in the rest of the country, the recommendations discussed in NOTE 3 apply here.

FRENCH GUYANA: There is no malaria risk in the towns of Cayenne and Kourou, and the malaria risk is very limited in the rest of the coastal strip. No anti-malaria precautions are necessary here. – Especially in the border area with Brazil (Oiaopoque river valley) and Surinam (Maroni river valley) there is a substantial malaria risk, for which the guidelines discussed in NOTE 3 apply.

PARAGUAY: In most of Paraguay there is no risk of malaria at all, and therefore no antimalaria measures are necessary. There is no risk in the towns, nor in the tourist resorts and their environs, such as at the Iguazu waterfalls. - There is only a limited risk of malaria from October to May in some rural areas ① in the west, in the area bordering on Bolivia, ② in the east on the border with Brazil in the departments Caaguazu, Alto Parana (towards Foz do Iguazu), Amambay, and Canendiyu. The recommendations discussed in NOTE 1 apply here for overnight stays in adventure conditions.

PERU: There is no risk of malaria in the large towns (hence also not in the capital Lima and environs), nor in all areas higher than 1500 m. No preventive antimalaria measures are therefore necessary here.

- In the coastal areas to the west of the Andes mountains (except for the northern provinces named below) the malaria risk is very low to negligible.
- In the northern provinces in the coastal area on the Pacific Ocean bordering on Ecuador (Tumbes / Piura / Lambayeque) and in the provinces in the Amazon region between Ecuador, Colombia and the Amazon region of Brazil to the north of 10° latitude (Amazonas / Loreto / Jaen / San Martino / Ucayali) the recommendations discussed in NOTE 3 (*Plasmodium falciparum*) apply.
- The recommendations of NOTE 1 (principally the mild *P. vivax*) apply for spending nights under primitive conditions in the rural areas of the rest of the country, except for the provinces in the southern Peruvian Amazon region (south of 10 degrees south latitude: southern half of Ucayali and Madre de Dios): there the recommendations of NOTE 2 apply.

SURINAM: There is no risk of malaria in Paramaribo and the coastal zone north of 5° latitude north. *- In the interior (south of 5° latitude north) there is substantial malaria risk, and the recommendations discussed in NOTE 3 apply.

TRINIDAD - TOBAGO: No malaria risk

VENEZUELA: Most of the land area is malaria-free. There is no malaria risk in the towns. There is no malaria risk on Margarita Island.

- There is a risk of (falciparum) malaria in a number of low-lying rainforest areas of the provinces of Amazonas (Atabapo) and Bolivar (Cedeno, Gran Sabana, Raul Leoni, Sifontes and Sucre) (situated south of the Orinoco River, on the border with Brazil), and Delta Amacuro (Antonia Diaz, Casacoima, Pedernales; around the delta of the Orinoco). The measures discussed under NOTE 2 may possibly apply here for overnight stays in rainforest areas under adventure conditions (not for the Angel Falls).
- NOTE 3 applies for the areas bordering on Brazil.
- In a number of rural areas of the provinces Apure, Barinas, Sucre and Tachira there is a limited risk of mild vivax malaria. The measures discussed under NOTE 1 may apply here for overnight stays in adventure conditions.
- In the remaining provinces there is thus no risk of malaria at all. This means that the taking of tablets is not necessary for most well organised tourist trips, even to some rainforest areas, and that measures for protection against mosquito bites in the evenings and at night are sufficient.

2 Malaria prevention

Measures for protection against mosquito bites in the evenings and at night are always essential for protection against possible malaria. Persons who visit a malaria area during the daytime and who stay in good hotels in the evenings and overnight run no risk, and do not need to take anti malaria tablets, though they should always have a mosquito-repellent product in their bag for application to the skin, in case they are not able to get back to the hotel in time in the evening, due for example to problems such as illness, car breakdown etc. Also, when you are on a trip or a safari in the early morning, in the evening or at night you should generously apply the mosquito-repellent product to the skin. When on an adventure-type trip in rural areas with overnight stays in primitive conditions you are also advised to impregnate the mosquito net with permethrine or deltamethrine, a chemical substance that provides an extra mosquito-repellent and mosquitocidal effect, and the taking of antimalaria tablets is also necessary:

NOTE 1

NIVAQUINE® 3 tablets per week, to be taken all in one dose, starting from 1 week before departure, and continuing until 4 weeks after returning home.

NOTE 2

The combination of NIVAQUINE® (3 tablets per week) and PALUDRINE® (2 tablets per day) from 1 week before departure, and continuing until 4 weeks after returning home.

NOTE 3

LARIAM® 1 tablet once per week is the first-choice medication, unless the doctor thinks there are contraindications (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 necessary) or if you did not tolerate this medication on an earlier occasion. You start this medication at least 1 week before departure, but if there is sufficient time, and certainly if you have never taken the medication before, it is better for you to start 3 weeks before departure (in order to discover any side effects: dizziness, insomnia, nightmares, excitation, inexplicable anxiety, cardiac palpitations). You continue to take the medication until 4 weeks after returning home. If Lariam® is tolerated well, it can, however, if necessary continue to be taken for many months and even years. For a trip of at most 4 weeks the taking of MALARONE®, 1 tablet/day from 1 day before departure until 7 days after returning home, is also an excellent but expensive choice.

If there are contraindications, an alternative (though in this situation often a significantly less effective alternative) is the combination of Nivaquine® (1 tablet/day) and Paludrine (2 tablets/day), or else the taking of DOXYCYCLINE, 1 tablet/day, can be considered (100 mg/day, starting the day before departure, and taking it until 4 weeks after returning home; it should be taken when sitting down, together with plenty of liquid or with a meal). Doxycycline can sometimes give rise to phototoxicity and fungal infections of the mouth and genitals. Persons who take Nivaquine® and Paludrine® who stay for at least several weeks in a malarial area should often also have a full treatment for a possible malaria attack to hand. All this should be individually discussed with your doctor or with the doctor at the travel advice centre.

3 Diarrhoea

DIARRHOEA is a frequent travel problem. It is not always possible to escape it, even when travelling in good conditions. Some advice and the correct medications from the travel

pharmacy are very useful. In any case consult the text on travellers' diarrhoea, where the measures for preventing and if necessary correctly treating diarrhoea are discussed.

4 Vaccinations

- YELLOW FEVER vaccination is necessary (at any rate for a visit to certain countries) in Bolivia, Brazil, Colombia, Equador, Guiana (French and British), Peru, Surinam and Venezuela (not for Isla Margarita). In principle you are best always vaccinated for a visit to any of these countries. If you are starting your trip from another country where yellow fever can occur (Africa, South America), vaccination is certainly officially required, except for a trip to Venezuela, Chile and Argentina. Travellers to French Guiana are always required to be vaccinated.
- Going on a trip is furthermore an ideal opportunity to get up to date with the TETANUS-DIPHTHERIA- and POLIOMYELITIS VACCINATION. These infectious diseases are in any case fully preventable by means of vaccination. A repeat vaccination is effective for ten years. Poliomyelitis has been eliminated from the American continent for some years.
- Anyone who is travelling to Latin America, regardless of the duration and the circumstances of the trip, is advised to be protected against HEPATITIS A. Vaccination against hepatitis A is always advised for persons who (1) are travelling in poor hygienic conditions, or who stay abroad (2) frequently or (3) for long periods (e.g. for at least 2-3 weeks), even if in good hygiene conditions. In these cases vaccination against TYPHOID is also advised. For further details see VACCINATIONS text.
- In specific circumstances vaccination against HEPATITIS B, RABIES and MENINGOCOCCAL MENINGITIS should also be considered. All this should be individually discussed with your doctor or with the doctor at a travel advice centre.