



Vaccinations and advice for travellers

i n f o r m a t i o n f o r p a t i e n t s

INTRODUCTION	3
THE TRAVEL CONSULTATION	4
Beforehand: fill out the questionnaire	
In the waiting room	
During the consultation	
VACCINATIONS	5
Yellow fever	
Poliomyelitis	
Tetanus	
Measles	
Hepatitis A	
Hepatitis B	
Hepatitis A en B: combination vaccine	
Typhoid fever	
Meningococcal meningitis	
Rabies	
Japanese encephalitis	
European tick-borne encephalitis	
Cholera	
MALARIA	17
TRAVELLER'S DIARRHOEA	21
Selftreatment while travelling	
MISCELLANEOUS	24
CONTACT	26

You are about to travel to a tropical or subtropical destination. During the travel medicine consultation, we will talk about preventive measures and vaccinations that are useful and necessary for this trip. The health risks associated with travel depend on the destination, the length of stay, the type of travel (business, tourism, adventure), your age and your health.

The doctor will provide tailored advice based on this information.

This brochure provides more information about vaccinations, malaria, traveller's diarrhoea and other practical matters.

Health insurance does not cover most of the costs of travel-related medicines and vaccinations. If you have any questions about this, please ask your doctor.

The general internal medicine department wishes you a pleasant trip!

THE TRAVEL CONSULTATION

The recommendations are updated annually in accordance with the guidelines of the World Health Organization (WHO) and the Belgian Study Group of Travel Medicine.

BEFOREHAND: FILL OUT THE QUESTIONNAIRE

Have you made an appointment and do you have a mynexuzhealth account? Log in and complete the questionnaire that has been prepared for you. This questionnaire is confidential and serves as a guide for the doctor.

You can complete it at home using a smartphone, computer or tablet. Bring your vaccination booklets and your International Certificate of Vaccination or Prophylaxis (yellow booklet) with you to the consultation.

You can also download the questionnaire at www.uzleuven.be/reisvaccinaties.



More information on mynexuzhealth, your online medical record: www.uzleuven.be/mynexuzhealth.

IN THE WAITING ROOM

Read the information for travellers on the [media screens](#) in the waiting room at least once in full while you are waiting. You can ask any further questions you may have during the consultation.

Have you not yet completed your [questionnaire](#) at home? Ask for a questionnaire from the receptionist and try to complete it before you see the doctor.

DURING THE CONSULTATION

In order to provide you with tailored advice, it is important that you mention:

- ✓ whether you suffer from any [disease](#),
- ✓ whether you have [allergies](#),
- ✓ whether you take any [medication](#),
- ✓ whether you are [pregnant](#) or you or your partner [wish to become pregnant](#) in the near future
- ✓ whether you [breastfeed](#)

Do not forget to mention your [prior vaccinations](#).

VACCINATIONS

YELLOW FEVER

Yellow fever is a very serious viral disease transmitted by [day-biting mosquitoes](#). The disease only occurs in parts of [Africa](#) and [South America](#).

Vaccination is [mandatory](#) for entry into certain countries in tropical Africa and South America and is [strongly recommended](#) for health protection in some countries on these continents. The map on Wanda (www.wanda.be) shows the countries where the disease

occurs. The vaccination consists of a single injection and is safe and effective.

In most cases, **protection is lifelong**, even if your yellow fever vaccination was administered a long time ago. The official vaccination certificate is entered in the *International Certificate of Vaccination or Prophylaxis* (yellow booklet) and is **legally valid for life from 10 days after vaccination**. You must be able to present your vaccination certificate at national borders or at the request of health officials.

Adverse effects

Ten to thirty per cent of those vaccinated experience flu-like symptoms 5 to 10 days after vaccination. Less than 1 per cent are temporarily unable to work as a result.

Approximately 1 in 100,000 people, mainly those over 60, experience serious side effects after vaccination. The risk of side effects from the yellow fever vaccination must therefore always be weighed against the risk of serious illness from the disease itself.

POLIOMYELITIS

Poliomyelitis is a serious viral infection that can lead to paralysis and is transmitted through poor hand or food hygiene.

If you received the primary vaccination for polio – which is compulsory in Belgium as a child – a [single booster vaccination](#) is recommended in adulthood when travelling to a region where polio is still present.

If you have never been vaccinated, you need to start [primary vaccination](#).

For some countries with active circulation of polio, revaccination is compulsory for all travellers who stay in the country for more than four weeks. This vaccination must be administered at least four weeks and no more than twelve months before leaving the country and needs to be recorded in the *International Certificate of Vaccination or Prophylaxis* (yellow booklet).

Vaccination is carried out with an injectable killed virus vaccine. The oral vaccine is no longer used.

TETANUS

Tetanus is a serious disease of the nervous system that is contracted through dirty wounds.

Good protection against tetanus is also recommended in Belgium. Travelling is a good opportunity to check your vaccination status and get it up to date.

A [booster](#) after an earlier primary vaccination consists of a single injection and provides protection for 10 years.

If the previous vaccination was administered [more than 20 years ago](#), two injections are recommended, 6 months apart. For people who have [never been vaccinated](#), a primary vaccination schedule is started.



As vaccines containing only tetanus are no longer available in Belgium, this vaccination is always given in the form of combined non-live vaccines: tetanus-diphtheria-polio or tetanus-diphtheria-pertussis. The latter combination vaccine is free of charge.

Adverse effects

Pain, swelling and stiffness at the injection site, sometimes with fever, are possible adverse effects of this vaccine.

MEASLES

Measles is a serious and very contagious viral disease with fever and rash, which is transmitted through saliva droplets. There are increasing epidemics in Europe, including in Belgium, and elsewhere in the world.

Vaccination is recommended for all individuals who have no documentation of previous infection or full vaccination (two doses).

For persons born and raised in Belgium:

- ✓ **if born before 1970:** protected for life after natural infection
- ✓ **if born between 1970 and 1985:** often no history of disease and not fully vaccinated either
- ✓ **if born after 1985:** in principle vaccinated twice (if not refused) and thus protected

The [schedule of administration](#) of this live-attenuated combination vaccine measles-mumps-rubella (MMR Vax Pro[®]) is as follows:

- 2 injections with a 1 month interval

Adverse effects

Fever or rash occurs in 5-15% of those vaccinated. Serious adverse effects, such as allergic reactions or febrile convulsions, are very rare.

The vaccine is free of charge.

HEPATITIS A

Hepatitis (infection of the liver) caused by the hepatitis A virus is transmitted through [food, drinks and objects](#) that were insufficiently cleaned.

If you have previously been exposed to the hepatitis A virus (sometimes with mild or no symptoms), you are protected for life. A blood test can confirm this.

The risk of infection and illness in unprotected individuals travelling to areas with poor hygiene is significant. The symptoms are also more severe when you contract the disease as an adolescent or adult. Unprotected individuals can be protected against hepatitis A by vaccination. The vaccine is very effective and safe. Full vaccination offers [lifelong protection](#).

The **schedule of administration** is:

- 1 injection before travel
- a repeat injection 6 to 12 months later

HEPATITIS B

Hepatitis (infectious jaundice) caused by the hepatitis B virus is transmitted through **blood and other bodily fluids, contaminated needles and sexual contact**.

Vaccination against hepatitis B is recommended for travellers who are at risk of exposure to the hepatitis B virus, especially:

- healthcare providers (medical and paramedical personnel);
- employees and their families who will be staying for extended periods in an area where hepatitis B is common;
- travellers who may need medical or paramedical care during their stay in (sub)tropical regions;
- travellers anticipating sexual contacts with a local partner.

The World Health Organisation recommends widespread hepatitis B vaccination. In Belgium, this vaccination is part of the primary vaccination for children, so persons born after 1987 who received the official Belgian vaccination schedule should in principle already be vaccinated.

The [schedule of administration](#) is:

- 2 injections with a 1 month interval
- a repeat injection 6 months later

After full vaccination over 95 per cent of healthy adults are protected.

HEPATITIS A AND B: COMBINATION VACCINE

As many travellers need both hepatitis A and B, a combination vaccine offering protection against hepatitis A and hepatitis B can be used.

The [schedule of administration](#) for this combination vaccine (Twinrix®) is:

- 2 injections with a 1 month interval,
- A repeat injection 6 months later.

TYPHOID FEVER

Typhoid fever, caused by the bacterium *Salmonella typhi*, is an infection transmitted by [contaminated food or water](#). The risk of infection with *Salmonella typhi* is very low for travellers. Typhoid fever can be treated with antibiotics.

Vaccination against typhoid fever does **not offer complete protection** and is therefore mainly recommended for travellers:

- ✓ who travel to **South- and Southeast-Asia** for more than 3 weeks
or
- ✓ who travel in very primitive circumstances
or
- ✓ who stay with locals.

Protection after vaccination lasts **3 years**.

MENINGOCOCCAL MENINGITIS

Meningococcal meningitis is caused by the bacterium *Neisseria meningitidis*, transmitted by droplets of saliva.

Vaccination is **compulsory** for travellers to Mecca

Vaccination is **recommended** for:

- travellers who stay for extended periods and in close contact with the population in endemic areas, particularly the Sahel countries (from late December to June).
- travellers to countries where there is an ongoing meningococcal epidemic.

The vaccine against one type that was used in the past in the vaccination program for children does not offer protection against the most common type in the Sahel. Since 2023, the vaccine against four types has been used as part of primary vaccination in children in Flanders.

Traveller vaccination consists of an injection of the vaccine against four types (Nimenrix[®] or Menveo[®]).

The vaccine is expensive and is not reimbursed.

RABIES

Rabies is a deadly disease affecting the nervous system, transmitted by [saliva of infected animals](#). Rabies occurs in many countries in the tropics and subtropics.

Preventive measures before exposure

Vaccination is recommended for travellers:

- who stay for extensive periods in areas where rabies occurs.
- who have a higher risk, e.g. persons with contact with animals, cyclists, ...

The [schedule of administration](#) is:

- 2 injections with a 1 week interval

Preventive measures after exposition

After contact with a sick animal (dog, monkey, bat ...):

- thoroughly clean the wound with soap for 15 minutes and disinfect afterwards.
- Seek immediate medical help to have protective injections (vaccine and if necessary antibodies) administered.

This prevention after exposure is very effective, but not always available locally.

Even if you have been vaccinated beforehand, the preventive measures after exposure must still be performed, although in that case this only involves additional vaccination without the administration of antibodies.

The vaccine is expensive, but is partially reimbursed by the health insurance. In recent years, there have often been problems with the availability of the vaccine.

JAPANESE ENCEPHALITIS

Japanese encephalitis is a viral disease that sometimes causes infection of the brain and is transmitted by mosquitoes that bite between sunset and sunrise in certain parts of Asia.

Take precautions against mosquito bites as you would for malaria (see below).

Vaccination against Japanese encephalitis is recommended for travellers staying in certain parts of Asia in rural areas for at least 4 weeks or in cities for several months.

The [schedule of administration](#) is:

- 2 injections, with a 4-week interval

The vaccine is expensive and is not reimbursed.

EUROPEAN TICK-BORNE ENCEPHALITIS

European tick-borne encephalitis (Frühsommer meningoencephalitis) is a viral disease that can cause brain infection, and is transmitted by ticks.

Vaccination is recommended for travellers staying in [wooded areas](#) in countries in Europe and Asia where the disease occurs. Precautions against tick bites are recommended.

The [schedule of administration](#) is:

- 2 injections with a 4-week interval

CHOLERA

Cholera is a serious bacterial gastrointestinal infection transmitted through poor hand or food hygiene.

Cholera is [extremely rare](#) among travellers. Vaccination against cholera is [not required](#) and is only recommended for aid workers during a cholera epidemic. The vaccine is not commercially available in Belgium.

MALARIA

Malaria is a disease caused by the *Plasmodium* parasite, which is transmitted by the bite of an infected *Anopheles* mosquito that bites between sunset and sunrise. The disease presents with **episodes of fever** accompanied by muscle pain and headache. These can be serious and even fatal if the correct diagnosis is not made in time or an appropriate treatment is not started.

The time between the infectious bite and the onset of symptoms is between 8 days and 4 weeks (rarely several months).

The *Plasmodium falciparum* parasite is the most dangerous and widespread. Infections with other species are milder and do not normally cause fatal complications, but symptoms may develop more than 4 weeks after the infectious bite.

Mosquito prevention from sunset to sunrise is the most important preventive measure:

- ✓ In the evening and at night, wear long trousers, socks and long sleeves.
- ✓ Apply **insect repellents** on the uncovered skin (most products contain DEET as active ingredient).
- ✓ Sleep under a **bed net**, preferably impregnated with insecticides, or sleep in a well closed room with airconditioning and a mosquito vaporiser.

Vaccines against malaria do exist, but they are currently only used in children growing up in malaria-endemic areas. The vaccination

schedules are complex and the vaccines are only partially effective. In travellers they have not yet been studied, they are not recommended and the administration schedule would be most impractical for travellers.

In case of sufficient risk of exposure **preventive medication** is prescribed adapted to the traveller and his travel destination.

For the prevention of malaria, the following medication is used (dosage for adults):

Medication	Dose	Frequency	From	Until
Preferred medication				
atovaquone-proguanil ¹	1 tablet	daily	1 day before	7 days after
Rare alternative options (after discussion with your doctor)				
doxycycline 100 mg	1 tablet	daily	1 day before	4 weeks after
OF				
mefloquine 250 mg ²	1 tablet	weekly	1 week before	4 weeks after

1 Original brand name Malarone®

2 Original brand name Lariam®

- ✓ Always take your medication **with food** (especially important for atovaquone-proguanil).
- ✓ For the medicine to work properly, **strictly follow the frequency and duration of intake** as indicated in the above schedule.



Preventive medication is also recommended for long-term stays (months to years) in areas with a high risk of malaria. Those who reside permanently in areas with a high risk of malaria sometimes stop taking these preventive medicines (at the earliest 6 to 12 weeks after arrival). Before doing so, they must first have identified reliable local healthcare. If you stop taking the preventive medication during your stay, you must immediately start [emergency treatment for malaria](#) if you become ill with a [fever](#), while awaiting examination by a doctor.

Emergency treatment for malaria is also sometimes prescribed if you are travelling to a malaria endemic area (for longer than 2 weeks) and cannot tolerate any preventive medication.

Sometimes you will be given a prescription for malaria medication so that you have reliable medication at hand if a doctor on site

diagnoses malaria and recommends treatment. This is then done because of the unreliable quality of the malaria medication available locally.

The most commonly used regimen for emergency treatment of malaria is atovaquone-proguanil: 4 tablets once a day with food for 3 consecutive days.

ADVERSE EFFECTS

Anti-malaria medications are well tolerated by most travellers.

- The most frequent adverse effects of **atovaquone-proguanil** are mild stomach problems such as nausea or abdominal pain, which are mostly temporary and in most persons do not become severe. Less frequently skin rash or headache can occur.
- **Doxycycline** can cause gastro-intestinal problems, yeast infections and extreme sun sensitivity. To evaluate tolerance, doxycycline can be started some days before departure.
- **Mefloquine** is rarely first choice. In a minority of travellers it causes neuro-psychiatric adverse effects: sleeplessness, nightmares, hallucinations, fear, excitement, depression ... These adverse effects have to be recognised timely and mefloquine then needs to be stopped immediately. The adverse effects of mefloquine occur mostly during the first two to three doses. For this reason, when mefloquine is started for the first time, we recommend starting the medication 2 to 3 weeks prior to departure.

Consult your doctor for advice if you don't tolerate mefloquine, so alternatives can be considered.

Mosquito prevention and preventive medicines reduce the risk of malaria, but never offer complete protection. If you develop a fever on or after the eighth day of your trip, or if you develop a fever after returning home, you should always consider the possibility of malaria, even if you have taken the correct preventive measures.

TRAVELLER'S DIARRHOEA

Traveller's diarrhoea is the most common condition affecting travellers in tropical and subtropical regions. It usually involves mild diarrhoea that typically disappears spontaneously after a few days. Diarrhoea is caused by consuming contaminated food or drinking water.

General hygiene measures are of utmost importance:

- Wash your hands after using the toilet and before eating.
- Avoid undercooked or uncooked food, ice cubes and ice cream, tap water, fresh fruit juices, cocktails, etc.

Excessive loss of fluids and salt can lead to **dehydration**. Therefore, ensure you consume sufficient fluid and salt, e.g. oral rehydration salts (ORS), soft drinks or bottled fruit juices supplemented with salty biscuits.

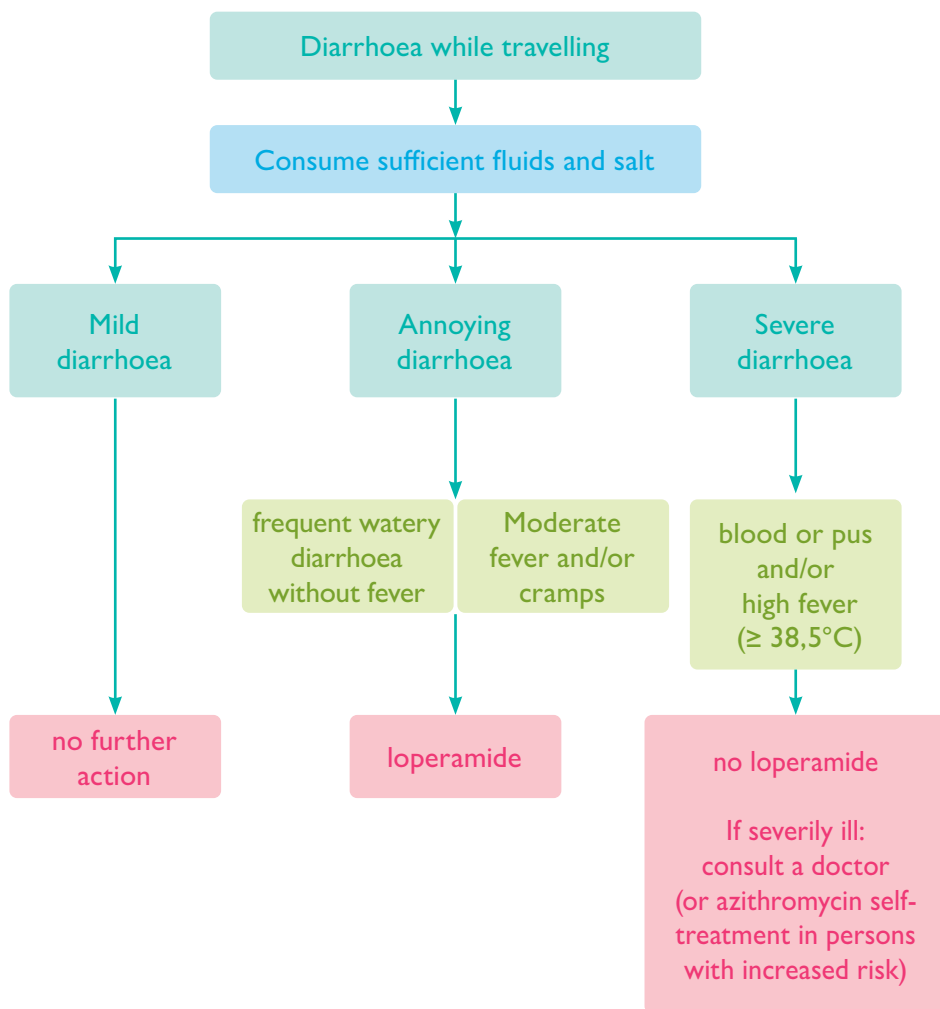
Boil drinking water to disinfect it or use chlorine drops/powders available from pharmacies or outdoor sports shops (e.g. Hadex® and Clonazone®). Even when using a water filter, it is important to use additional chlorine to inactivate viruses.

Loperamide can be taken for **bothersome diarrhoea**. If you have **severe diarrhoea** with pus or blood in the stool and/or a high fever ($\geq 38.5^{\circ}\text{C}$), you should not take loperamide. Antibiotics, in particular azithromycin, for self-treatment of traveller's diarrhoea are only prescribed in exceptional cases, for travellers at high risk. The dosage for adults is a single dose of 1 gram of azithromycin.

If the diarrhoea does not disappear within a few days, further medical examination is necessary.

3 Original brand name: Imodium

SELF-TREATMENT WHILE TRAVELLING



The above schedule applies to diarrhoea during travel. For diarrhoea that occurs or persists after returning to Europe, you should always consult your doctor.

MISCELLANEOUS

Vaccination against **SEASONAL FLU** is indicated for risk groups. In other regions, seasonal flu can occur outside the classical flu season.

More information on flu vaccination:
www.vlaanderen.be/vaccinaties/vaccinatie-tegen-griep.

DENGUE, CHIKUNGUNY and ZIKA are viral diseases that usually cause flu-like symptoms, but can exceptionally be serious. The infection is transmitted by Aedes mosquitoes, which mainly bite during the day.

Live attenuated virus vaccines exist for dengue and chikungunya (Qdenga® and Ixchiq® respectively), but their use in travellers is unclear for the time being, as the risks and benefits of these vaccines in travellers have only been studied to a very limited extent. If you have any questions about this, discuss them with your doctor.

When travelling to South and Southeast Asia, Africa or Latin America, it is therefore important to protect yourself against mosquitoes, even during the day. Take a look at the possible measures you can take to protect yourself (see “Malaria” earlier in this brochure).

SCHISTOSOMIASIS is a worm disease that is contracted while swimming or bathing in contaminated fresh water or contaminated rivers. Contact with fresh water in large parts of Africa and certain areas in South America and Asia is therefore not recommended.

ALTITUDE SICKNESS can occur at altitudes above 2,000 metres. Altitude sickness often occurs when you ascend to an altitude of more than 3,000 metres. The main symptoms are nausea, vomiting, weakness, difficulty sleeping, shortness of breath and headache. In cases of severe altitude sickness, the only effective measure is to **descend immediately**.

Measures to reduce the risk of altitude sickness:

- ✓ drink sufficiently and avoid alcohol
- ✓ reside some days at an altitude between 1500 and 2500 metres before ascending further.
- ✓ ascend slowly with a maximum of 500 metres per day.
- ✓ if ascending quickly to 2500 metres or higher, use preventive medication (acetazolamide 2 x 125 mg (1/2 tablet) qd from just before ascending till 2 days at stable altitude or shorter if redescending earlier).

PREGNANCY(WISH)

If you or your partner are pregnant or wish to become pregnant (during the trip or 3 months after the trip), there are special considerations. Discuss this with your doctor during the consultation.

SEXUALLY TRANSMITTED DISEASES

Unprotected sexual contact with a new partner during travel poses a significant risk of contracting sexually transmitted diseases, including **HIV/AIDS**.

Transmission of HIV/AIDS occurs solely through:

- ✓ unprotected sexual contact with an infected person
- ✓ transfusions with contaminated blood or blood products
- ✓ use of non-sterile needles (for injection, tattoo...)

TRAVEL INSURANCE AND TRAVEL MEDICINE KIT

If you wish to take a small supply of needles with you on your trip, discuss this with your doctor. A medical certificate is required for this.

Wound infections are a common problem among travellers. Wash and disinfect every wound.

Good **travel insurance** is essential. Accidents are the most common cause of repatriation.

Do not forget to take your **home medication and this brochure** with you on your trip.

EXTRA INFORMATION

www.wanda.be: information for patients by the Institute of Tropical Medicine, including detailed instructions for individual countries

UZ Leuven registers all administered vaccines in Vacinnet.

CONTACT

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