

Updated version (23/09/2016 – UM) see: www.travelhealth.be

HEPATITIS A

**IT IS NEVER TOO LATE TO START THE VACCINATION AGAINST
HEPATITIS A AND B, EVEN SHORTLY BEFORE DEPARTURE!!!**

Card WHO: <http://www.who.int/ith/en/> → Disease Distribution Maps

This viral hepatitis was previously known as “infectious hepatitis” because of its infectious and epidemic nature. Transmission takes place via food, drinks or objects directly or indirectly contaminated with faeces from an infected person (faecal-oral contamination). This infection is not visible! The incubation time is 2 to 7 weeks, with an average of 4.

In countries with low hygienic standards, nearly everyone gets contaminated during childhood, the disease being mostly asymptomatic or very mild. In industrialised countries the frequency of the infection has decreased strongly during the last 40 to 50 years, resulting in a diminished chance of acquiring antibodies through a natural infection. Most travellers are thus not protected.

When adult people get infected (e.g., while travelling) there is a greater risk of hepatitis with obvious symptoms (75-97%). The disease itself (characterised by feeling unwell, fatigue, nausea, jaundice, etc.) lasts several weeks and is usually followed by a fairly long period of pronounced fatigue. Although Hepatitis A usually remains a mild disease (without chronic course and without later life-threatening consequences), in adults, the disease can be a problem, especially in the long term. Hepatitis with a prolonged and fluctuating course (up to 6 months) can occasionally occur (1 in 10).

Very serious (“fulminant”) hepatitis occurs in 1 case in 1,000 with children, but the chance increases strongly with the age (more than 2% with the age of 40 years). Fulminant hepatitis has a 30% mortality rate.

The risk of infection with hepatitis A while travelling in a (sub)-tropical area is very real, but fluctuates very strongly and has decreased very strongly during the last years: 1 to 2 per 10.000 travellers per month for ordinary tourist travel) but can increase to 1 per 50 travellers per month when staying in very unhygienic conditions. Before the introduction of vaccination in 1992 hepatitis A was a fairly frequent reason for repatriation of (non-immune) travellers on a hiking tour in the tropics and expatriate employees.

VACCINATION

The hepatitis A vaccine (Havrix[®], Vaqta[®], Avaxim[®]) is very effective, with rapid production of protective antibodies. A few weeks after the first (intramuscular) injection there is already protection in more than 75% of

the cases, after one month the protection reaches 100%. The **vaccination schedule** is: 2 injections with an interval of 6 months to 1 year between injections. This second inoculation provides 100% protection for at least 40-50 years; but scientific studies show that the protection is for life. Tolerance of the vaccine is excellent. It may if necessary be given to small children and pregnant women. Children of 1 year and up to 15 years of age (regardless of body weight) can receive a junior dose (1/2 dose). The vaccine may also be administered simultaneously with all other vaccines, as it is a killed vaccine. The combined vaccine against hepatitis A and B, Twinrix[®], may also be used. Since this vaccine only contains half the dose of the hepatitis A vaccine, at least two doses of Twinrix[®] must be administered before departure in order to obtain sufficient protection.

Vaccination against hepatitis A is absolutely advised for all travellers, to Africa (also Morocco, Algeria, Tunisia, Libya and Egypt), Latin America and Asia (also the Near East) regardless of the duration of the journey.

Even in luxury hotels there is no guarantee of freedom from hepatitis A: there are recent examples of different tourist groups being infected by an contaminated orange press.

For regions with moderate risk of hepatitis A (**Caribbean, East and South Europe**), vaccination is indicated for journeys in primitive, unhygienic conditions. Although the risk is on average lower here, the number of travellers to these regions is very large, and so a substantial number of import cases of hepatitis A is found in this category of travellers. Hepatitis A infection is also found in travellers to southern Europe eating raw fish and oysters.

Frequent travellers must consider an immunisation against hepatitis A.

Persons who had hepatitis A, are protected for life and must not be vaccinated (to be detected during a blood test: IgG antibodies not IgM antibodies). People who stayed in the tropics for longer than 1 year or who were born before 1960 have a real chance of already having had hepatitis A, often without symptoms. In these cases, and if there is enough time, it is advisable to first test for the presence of protective antibodies before attempting vaccination.

- **Last minute traveller:** it is never too late (even just before leaving) to get a vaccination. Even if one gets vaccinated at the airport just before take-off, protection still lies between 70 and 90% if hepatitis A infection occurs in the first few weeks. The incubation period for hepatitis A is 2 to 7 weeks and in most cases one can really have the chance to set up an effective immunity during that period.
- The course of vaccinations never needs to be re-started if not completed, even after 5 or 6 years as the vaccinations are cumulative.
- It is meaningless to detect antibodies after vaccination against hepatitis A (something useful after the vaccination against hepatitis B), because the vaccines against hepatitis A are very immunogenic. In studies where very sensitive blood tests are used, antibodies are generated in 100% of the vaccinated persons.
- In **persons with decreased immunity** (for example by HIV-infection or intake of immunodepressing medication, et.) it is necessary to detect antibodies by blood test and it is often useful to administer 2 doses of the hepatitis A vaccine shortly after each other or even simultaneously.

HEPATITIS B

Hepatitis B is a viral liver inflammation, mainly transmitted via contaminated blood and blood products (blood transfusion, contaminated needles, open wounds), or via sexual contact. The incubation period is 6 weeks to 6 months (with an average of 2-3 months).

“Vertical” transmission from mother to child (principally in the period around the birth) is also a major transmission route. In addition to this, there is also “horizontal” transmission, such as among children in institutions or in developing countries. Here transmission takes place via minor wounds, scratches or bites. The saliva of some virus carriers apparently contains infectious particles. Transmission from adopted children, who are carriers, to members of the receiving family, can also happen via horizontal transmission.

In about 90% of the children and 60% of the adults an acute hepatitis B infection is asymptomatic. A symptomatic infection with hepatitis B usually causes severe illness (with absence from work for several months). The risk of a fulminant course of the hepatitis is estimated to be 1/100 to 1/1000, with mortality of 1 in 3. If an adult is infected, there is approximately a 1 in 10 risk of becoming a chronic carrier, irrespective of whether the infection is asymptomatic. About 85% of babies infected at birth become chronic carriers.

However, the most insidious aspect for these carriers is the possibility of developing chronically aggressive hepatitis, which is estimated at 3% of all infections. In a lot of cases chronic aggressive hepatitis eventually leads to liver cirrhosis and primary liver cell carcinoma.

The vast majority of the more than 400 million hepatitis B carriers live in developing countries. Worldwide the hepatitis B virus is therefore a major cause of liver cirrhosis and primary liver cell carcinoma. The World Health Organization puts hepatitis B in 9th place among the principal causes of mortality in the world. It is estimated that hepatitis B takes 1 million human lives per year.

In Belgium approximately 7 to 8% of the population have been in contact with the virus, and 7 out of 1,000 inhabitants are carriers of the virus.

Hepatitis B endemic countries are more and more visited.

(Card WHO: <http://www.who.int/ith/en/> → Disease Distribution Maps).

However, it appears from a number of well-documented studies that the ordinary tourist does not run any greater risk of an infection with hepatitis B than in his/her own country, (the risk while travelling is estimated to be 4/100,000 per month) but this figure increases sharply with risk behaviour (such as sexual risk behaviour).

VACCINATION

The present hepatitis B vaccine (Engerix[®], Hbvaxpro[®]) is very effective and 100% safe. An antibody response is obtained in 90 – 95% of vaccinated adults and this is even higher in children.

Basic Schedule:

- **Schedule:** 2 injections with one month between injections, 3rd injection after 4 to 6 months (protection after 4-6 months).
- **Accelerated schedule:** 3 injections with 1 month interval, repeat injection after 1 year (protection after 2-3 months). If there is an urgent necessity for rapid immunity, a **super fast scheme** is possible where the first 3 injections may be administered at intervals of only 1 to 2 weeks (day 0-7-21). A 4th injection after one year may not be forgotten, this in order to guarantee a lifelong immunity.

The vaccine may be administered together with any other vaccine. For children up to and including the age of 15 half a dose is sufficient (=Junior form) when reimbursed for children up to and including 12 years of age).

With adults, an antibodies detection is advised 1-3 months after the **complete** vaccination scheme; in persons with a normal immunity, the presence of (at least 10 IE/ml) antibodies means a **lifelong protection** against asymptomatic forms of the disease and chronic support; this is obtained in more than 90-95% of the cases with 1 vaccination series (less high % with persons with decreased immunity, persons above the age of 40 years, and/or obese persons and/or smokers), in children this is even higher. After completion there is a lifelong immunological memory, even when the antibodies are no longer measurable.

If vaccination against hepatitis A and B is indicated, one can use the combined form Twinrix[®] should be used. Two injections with an interval of one month, and a 3rd after 4 to 6 months.

N.B. Occasionally non-responders show no or unnotable titres (lower than 10 IU/ml) after the complete vaccination series of 3 injections. In that case one can follow a revaccination scheme as advised by the High Health Council. This can be done either by a complete new scheme (for example 0,1,6 months), or with a scheme of 2 simultaneously administered doses (one in the left and one in the right upper arm muscle), followed by again 2 doses 2 months after the first administration (also in the left and right upper arm muscle); a serological antibodies detection (anti-HBs) must be conducted again 1-3 months after the revaccination scheme.

INDICATION

There is often no indication for vaccination for the ordinary tourist, or at any rate no more urgently than for someone who stays at home. However, the risk of infection during a stay in Africa, Asia, Latin America or the Soviet countries can significantly increase when the traveller belongs to one of the so-called higher risk groups.

According to the WHO, vaccination against hepatitis B must be taken into CONSIDERATION for every traveller.

1. **People who regularly travel to Asia, Latin America, Africa.**
2. People who might have sexual contacts (with the native population or with the other travellers), or having received **piercings or tattoos** and this unregard the length of the journey! The hepatitis B vaccine must not give the traveller a false sense of security because the risk for sexually transmitted diseases and AIDS remains just as real. Transmission is also possible for **“accident-prone”** travellers (like motorbike riders, those taking part in dangerous sports, undertaking an adventurous trekking or a bicycle trip, etc.) who run more risk being involved in an accident by their activity and will have to be treated in rudimentary hospitals. Persons having **medical (also acupuncture, etc.) or dental interventions** must also consider vaccination.

3. Those going to (sub)-tropical areas **for longer periods (several months)** are likewise candidates for vaccination, even though the duration of the journey is of lesser importance than sexual risk behaviour or dangerous sports. Even if the hygienic standard of living is high throughout the whole stay, the risk of local medical care and therefore the risk of contagion through infected needles increases with the frequency of travelling, the duration of the journey, also with close social contacts with the local population, like the care of orphans or street urchins (contagion through direct or indirect contact with oral mucosa, conjunctiva and skin wounds).
4. Hepatitis B vaccination is strongly recommended for **children** who are going to live in developing countries and will have regular contact with local children. Here there is a real risk of horizontal transmission. This applies certainly for children of immigrants from countries with a large number of virus carriers, when they spend their holidays in their home country. (“VFR travellers”, “**V**isiting **F**riends & **R**elatives”). N.B. Principally all children and adolescents are vaccinated since 1999.
5. Employers are obliged by law to provide the necessary information on hepatitis B infection to their employees who for professional reasons have to stay repeatedly or for long periods in areas where hepatitis B is widespread and to offer them the possibility to have themselves vaccinated (Belgian law gazette of 10.02.1988).
6. All medical personnel and other **health workers** should be vaccinated (whether they travel or not).

For all these risk groups the argument of cost should not outweigh the benefit of being vaccinated and protected. At least 3 doses should be administered before departure, so that a satisfactory immunological response is obtained. For people going to live and work in the tropics it is certainly worth the trouble to at least start the vaccination, even if it is not possible to complete the whole series before departure. It is known from stability studies that Engerix-B® injection ampoules can be taken in hand-luggage during a flight, and can be kept in a refrigerator upon arrival at the final destination. As the vaccine is already packed in an injection syringe with needle, safe administration is possible, even in the (sub)tropics.

It happens quite regularly that patients forget to follow the whole vaccination series. In that case, “each injection counts” for hepatitis A as well as for B. This means that when there is a long delay (even of several years) the course does not have to start again from zero. The next injections can be carried on according to the plan, i.e., at the point where they left off.