

Liver Conditions

Travel health advice for travellers and health professionals

Key Messages

Individuals with liver conditions may be at increased risk of some travel-related illnesses and should ideally see their travel health adviser at least 6-8 weeks prior to travel.

Travellers should ensure they take out comprehensive travel health insurance and declare all pre-existing health conditions; an additional premium payment may be required.

Treatment of liver conditions often requires advanced level medical facilities, such as those found in larger hospitals with specialist staff. In case of illness, travellers should research the health facilities available at their destination prior to their trip.

Immunisations against hepatitis A and B are particularly important for travellers with chronic (long-term) liver conditions. Infection with such viruses can lead to serious complications.

Malaria can result in severe complications in travellers with some liver conditions. Some antimalarial tablets are not suitable in those with impaired liver function; specialist advice may be required.

Overview

Worldwide, the most common cause of chronic (long-term) liver disease is infection with hepatitis B or C viruses. The World Health Organization (WHO) estimates that globally, 400 million people are living with hepatitis B and/or C, and each year about 1.4 million people die from hepatitis [1]. Chronic and excessive alcohol use is also a major cause of liver disease. Less common causes are primary biliary cirrhosis, primary sclerosing cholangitis and autoimmune chronic active hepatitis.

Destruction of the liver structure in chronic liver disease can lead to irreversible cirrhosis (scarring) and portal hypertension (increased pressure in the liver blood vessels). Ascites (fluid in the abdomen), oesophageal varices (varicose veins in the gullet) and encephalopathy (abnormal brain function) may result.

In the United Kingdom, liver disease is now the third leading cause of premature death [2]. Since 1970, deaths due to liver disease have increased by 400 percent, and in people below the age of 65 they have risen almost fivefold [2]. Over 600,000 people in the UK have some form of serious liver

disease [2].

COVID-19

Current advice is that anyone with a chronic liver disease, such as hepatitis, is at increased risk of severe COVID-19 disease and have been included in the groups prioritised for COVID-19 vaccination in the UK (see [Table 3 in Immunisation against Infectious Disease](#)).

All individuals, but particularly those who are at high risk of and considered [clinically extremely vulnerable](#) to severe COVID-19 disease should follow [current UK recommendations](#) to reduce their risk of infection and consider whether postponing travel would be appropriate.

General guidance regarding [risk assessment](#) for travel during the COVID-19 pandemic and information about the [COVID-19 vaccination programme](#) is available.

Pre-travel preparation

Individuals with liver conditions who are intending to travel should be encouraged to thoroughly research their destination and discuss the suitability of their proposed trip with a healthcare professional (and/or specialist), ideally prior to booking.

During the pre-travel consultation, the health care professional should establish the degree of liver impairment in order to make an accurate risk assessment. The [Country Information pages](#) highlight health risks and provide vaccine and malaria recommendations for different destination. This information must be tailored for the individual traveller. Careful consideration is required in the selection of antimalarial medication; additional vaccines are also recommended for those with liver disease (see below).

The liver is important in the metabolism of many drugs. Liver disease can alter this metabolism. In contrast to renal (kidney) impairment, there are no specific measurable markers of the liver's capacity to process and eliminate drugs. The Child-Pugh classification can be used to grade liver impairment, as either "Mild", "Moderate" or "Severe". Drug metabolism and drug interactions must be carefully considered prior to the prescription of medication to be taken during travel. There is a risk of drug accumulation in severe liver impairment.

Those with mild or long-term conditions should ensure that their condition is stable, medication is optimal and they have sufficient supplies for the duration of their travel. See [Medicines and travel](#) factsheet. Access to appropriate medical care may be limited. Even in regions with adequate medical provision, specialist liver facilities may not be readily available. Those with severe liver disease should be strongly advised not to travel. Those with a newly diagnosed liver condition may be advised not to travel until the condition is stable and a management plan is agreed and in place.

Travellers with liver disease may have specific complications affecting their fitness to fly, such as hepatic encephalopathy or bleeding tendency. A fitness to fly certificate from a doctor may be

required to board a flight for a patient with jaundice (yellow skin and eyes) for example, confirming they are not infectious to other passengers.

Comprehensive travel insurance is essential for all travellers. A full declaration of medical conditions should be made to the insurers. All equipment and planned activities should also be covered. Travellers should prepare a basic first aid kit tailored to their destination. Contents may include insect repellents, medicines and/or oral rehydration solution to manage the symptoms of travellers' diarrhoea, alcohol gel to clean hands when no hand washing facilities exist, condoms and basic wound dressings/antiseptic.

Journey risks

Some travellers are at increased risk of [venous thromboembolism](#) as a result of long periods of immobility associated with any form of travel. Those at increased risk include older travellers, those with active cancer or a history of recent surgery.

Food and water-borne risks

Individuals with certain liver conditions may be advised to consume a restricted diet, such as high protein, low salt, reduced fat or sugar free. These diets may be difficult to follow during travel; it may be helpful to carry a supply of appropriate snacks.

[Travellers' diarrhoea](#) is the most common health problem in travellers. Travellers should be advised, and receive written instructions, on the use of medication for self-treatment of travellers' diarrhoea, and know when and how to seek medical assistance. Prompt treatment of gastrointestinal infections is essential. Drug metabolism and drug interactions must be carefully considered prior to the prescription of medication for self-treatment of gastrointestinal illness. Tetracycline antibiotics should be avoided or used with caution; ciprofloxacin (an antibiotic sometimes used for the treatment of travellers' diarrhoea) has rarely been associated with drug-induced acute liver injury. Specialist advice should be sought if necessary.

Travellers with liver disease should exercise caution if offered traditional herbal remedies, 'bush teas', or local alcoholic beverages which can be strong; these are rare causes of liver toxicity [3].

Hepatitis A, hepatitis E, typhoid and paratyphoid are spread by contaminated food and water and can pose a particular risk to those with pre-existing liver disease [4]. See vaccinations section below. There is currently no UK licensed vaccine to prevent hepatitis E.

Water-related activities such as fresh water fishing, kayaking, rafting and swimming may carry a risk of exposure to *Leptospira*, a bacteria which can cause liver inflammation and so is a greater risk for travellers with pre-existing liver disease [4].

Vector-borne risks

There are many viruses transmitted by insect bites which can cause inflammation of the liver (hepatitis) and/or exacerbate a pre-existing liver condition. Mosquito borne viruses associated with hepatitis include yellow fever, dengue, chikungunya and West Nile virus [3, 5]. Travellers with liver disease should use [strict bite avoidance measures](#).

Malaria

Most antimalarial drugs are excreted or metabolised by the liver. There is therefore a risk of drug accumulation in severe liver impairment.

The Advisory Committee on Malaria Prevention (ACMP) [Guidelines for malaria prevention in travellers from the UK](#) 2021 [6] state that-

For those with severe liver disease:

- Mefloquine is contraindicated [6,7].
- The dose of doxycycline does not have to be adjusted in patients with impaired hepatic function since it is excreted as an inactive chelated product via a process of back diffusion in the small bowel. Note to prescribers: The BNF states that tetracyclines should be avoided or used with caution in patients with hepatic impairment.
- The manufacturer of atovaquone-proguanil combination preparation states that although no pharmacokinetic studies have been conducted in severe hepatic impairment, no special precautions or dosage adjustment are anticipated.

For those with moderate impairment: doxycycline, proguanil, or atovaquone-proguanil combination preparation, or mefloquine may be used.

For those with mild impairment: chloroquine, or proguanil, or chloroquine plus proguanil, or atovaquone-proguanil combination preparation, or mefloquine, or doxycycline may be used.

The choice of chemoprophylaxis should be made after discussion with the patient's specialist, who will be able to assess their degree of hepatic impairment.

The Child-Pugh classification is often used for grading liver function and can be found at [Liverpool Medics](#) or [US Department of Veteran Affairs](#).

Travellers should be aware of the importance of compliance with malaria prevention advice and the need to seek medical help early should they become unwell.

Vaccination

Travellers with liver disease should be up to date with routine immunisations according to the UK schedule [8]. Live vaccines such as yellow fever, MMR, BCG and oral typhoid are contraindicated (cannot be given) in immunocompromised individuals (those with a weakened immune system) e.g.

post liver transplant or patients taking steroids for autoimmune hepatitis [9]. See our [immunosuppression factsheet](#).

In addition:

Hepatitis A

Individuals with chronic liver disease are at substantially higher risk of developing complications if they become infected with hepatitis A virus. Immunisation against hepatitis A is recommended for all patients with severe liver disease, regardless of cause [8]. Those with mild liver disease respond well to vaccination, with similar response rates to healthy individuals. However, those with advanced chronic liver disease (cirrhosis or liver failure) do not respond well and may therefore not be fully protected [8].

Hepatitis B

Individuals with chronic liver disease are at substantially higher risk of developing serious complications if they become infected with hepatitis B. Immunisation against hepatitis B is recommended for all travellers with severe liver disease, regardless of cause [9]. Vaccination should also be offered to those with milder forms of liver disease [9]. Hepatitis B vaccination may be less immunogenic (less effective) in those with alcoholic liver disease, particularly if cirrhosis is present. Post vaccination antibody levels should be obtained (a blood test to check immunity following vaccination). A second series of hepatitis B vaccination can induce a response in those who do not respond to a first series [8].

Influenza

Individuals with chronic liver disease are at higher risk of complications of influenza (flu) such as pneumonia. In accordance with UK recommendations, those with chronic liver disease should be offered to annual flu vaccination [9].

Pneumococcal disease

The incidence of pneumococcal disease is higher in those with chronic liver disease, and carries a higher risk of death. Adults with chronic liver disease should receive pneumococcal vaccine regardless of age [8, 9].

Other health risks

[Altitude illness](#) can affect any traveller. A review article in 2015, highlighted that certain groups of cirrhosis patients may be at increased risk of health problems at high altitude. Those with hepatopulmonary syndrome are at risk of severe hypoxemia (reduced oxygen levels in the blood) following ascent to altitude, and those with portopulmonary hypertension may be at risk for high

altitude pulmonary oedema (a life-threatening condition where fluid accumulates in the lungs) and acute right ventricular dysfunction (right sided heart problems). The authors suggest that all travellers with cirrhosis require careful pre-travel assessment to identify conditions that might predispose to problems at altitude. No information is available regarding the risks of long-term residence at high altitude with chronic liver disease [10].

Resources

- [Child-Pugh Score Clinical Calculator](#)
- [Public Health England. ACMP Guidelines for malaria prevention in travellers from the UK](#)
- [The British Liver Trust](#)
- [Childrens Liver Disease Foundation - Going on Holiday](#)

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