

Englisch

Viral hepatitis

up-to-date information, prevention and treatment



Health guide | available in 15 languages



Das Gesundheitsprojekt
Mit Migranten
für Migranten

Ethno-
Medizinisches
Zentrum e.V.



LEGAL NOTICE

Viral Hepatitis – up-to-date information, prevention and treatment

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this brochure.





Hepatitis caused by viral infection is a widespread and often underestimated health problem. Some forms of viral hepatitis don't cause complaints straight away, but can have severe long-term effects. The good news is that in some cases it can be prevented by vaccination, early detection and treatment. Those who are well informed can better protect themselves.

The Ethno-Medical Centre Inc. (Ethno-Medizinisches Zentrum e.V.) has developed this guide. We would be pleased if, by working hand in hand with you, it contributed to maintaining and improving your health. We have restricted ourselves to including the most important medical facts. In each individual case, talking with your doctor is the most important step in addressing any further questions. At the end of this guide, you will find contact details for services that can also assist you.

Prof. Dr. Gisela Fischer
Ramazan Salman

Ethno-Medical Centre Inc.



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Because viral hepatitis can have damaging effects on your health, prevention and early detection are important. If you know the routes and risks of transmission, you can protect yourself and ensure that any infection with a hepatitis *virus* is detected and treated early. This health guide contains information about the different forms of viral hepatitis, about prevention and tests, as well as about treatment and support.

Hepatitis infection means that a *virus* enters the body and causes changes that make the infected person ill. Different infectious organisms affect different parts of the body; in hepatitis, the liver is affected. *Viral* hepatitis spreads predominantly from person to person or through contaminated food.

The different hepatitis viruses are more common in some regions of the world than others.

To assess your personal risk, it is therefore also important to consider your own background and travel destinations. In this guide, we would like to offer you valuable advice on how to protect yourself from becoming infected with a hepatitis virus, and about what can be done in case of illness.

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The liver

The liver is the most important organ involved in the human metabolism. It is located in the upper right abdomen. Everything that the body absorbs into the blood via the intestines is transported to the liver. Absorbed nutrients are processed or stored there in order to make them available for other organs.

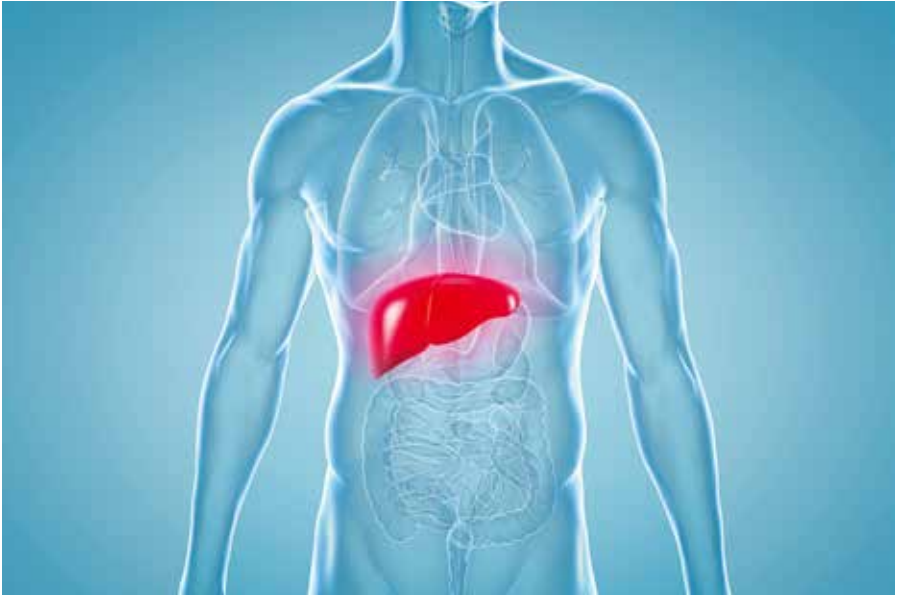


Illustration: The liver as a central organ of the metabolism

Among the liver's most important tasks is building proteins, which are then released into the bloodstream as needed. The breaking down of proteins also takes place in the liver. It also serves as a storage organ for sugar (glucose) that is not required immediately, and it produces the bile needed for digestion. In addition, important fats needed by the body are created in the liver and it also stores vitamins and releases them when required. The

liver is also involved in making important *hormones* that we need e.g. for our growth.

Moreover, the liver is our biggest detoxification organ. Harmful substances such as alcohol or nicotine first end up in the liver, which breaks toxins down into harmless components. This is why many substances (e.g. alcohol) can damage the liver.

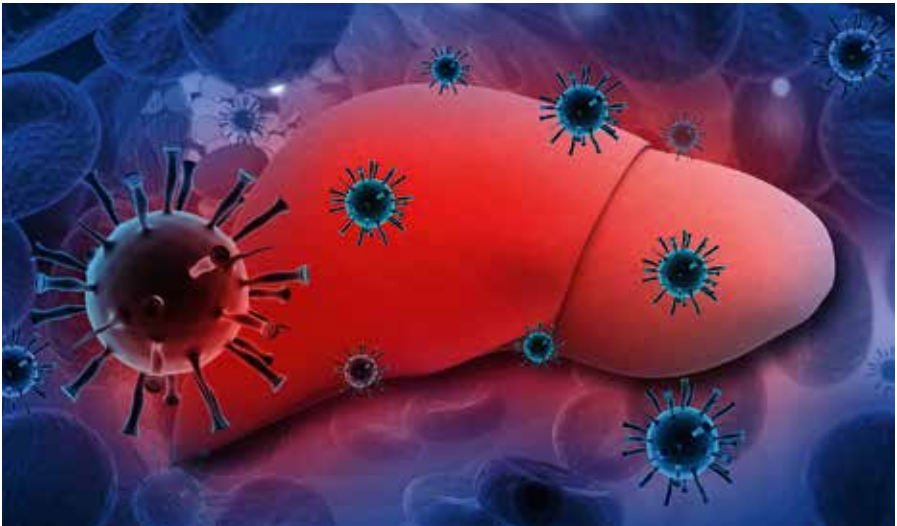
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What is hepatitis?

Hepatitis means 'inflammation of the liver' (from hepar = Greek for liver). Apart from *viral* infections, it can also be caused by metabolic disorders or poisoning, e.g. alcohol poisoning. The damaged liver cells then release *enzymes*, including so-called transaminases. Increases in liver transaminase levels in the blood are an important indicator for hepatitis.

Damage to the liver can cause disruptions to the body's metabolic processes. The accumulation of metabolic waste products can become visible as an obvious yellowing of the skin or the white of

the eye. This is called jaundice. Because hepatitis can also lead to a disruption of the energy production process, general fatigue may occur.



The most common cause of hepatitis is an infection with hepatitis A, B, C, D or E virus. The most important non-infectious causes are alcohol consumption, abnormal processing of fats (dyslipidemia) and the side effects of medications.

GENERAL HEPATITIS SYMPTOMS INCLUDE:

- Upper right abdominal pain
- General malaise and/or slight fever
- Loss of appetite, nausea and bloating
- Yellowing of the skin and the white of the eye, and dark urine
- Itchiness, and in some cases a mild rash.

However, elevated liver *enzymes* in the blood are the most important indicator of a potential hepatitis illness. Palpation or ultrasound examination can detect an enlargement of the liver. By determining the relevant *antibodies* and *virus components* in the blood, viral hepatitis can be confirmed or excluded as the case may be.

If the cause is unclear, or to assess the degree of liver damage, a 'biopsy' (taking a tissue sample) may become necessary.

Vaccinations are available against hepatitis A and hepatitis B. If you ever had a risk of hepatitis C infection, you should definitely get tested, as hepatitis C can now be cured. This prevents possible long-term health effects such as *liver cirrhosis* and liver cancer.

WHERE ARE HEPATITIS TESTING AND TREATMENT AVAILABLE?

- In some federal German states (Bundesländer), refugees and asylum seekers are tested for hepatitis B and C as part of the initial processing in reception centres.
- Hepatitis B testing is offered as part of maternal care and in preparation for giving birth.
- People who have had an infection risk can be tested by their general practitioner.
- A hepatitis test may be required to investigate certain symptoms, even if there is no known infection risk.
- Offices of Public Health (Gesundheitsämter) and counselling centres also offer free and anonymous testing.
- For certain professional groups, e.g. for employment in a hospital, the employer will pay for the tests carried out by the doctor responsible for occupational health. Statutory accident insurance will pay for health care in cases of occupational exposure as the cause of infection.

Treatment will always be provided by a physician. Hepatologists specialise in liver diseases such as hepatitis.



The hepatitis A virus (HAV) causes hepatitis A disease. Its symptoms, however, are no different to those of other types of viral hepatitis. The virus can even survive high temperatures and many disinfectants, and it occurs worldwide. Hepatitis A occurs most commonly in developing countries. There, many people already become ill during childhood or adolescence. You can be vaccinated against hepatitis A.

TRANSMISSION AND ITS PREVENTION

The hepatitis A virus is excreted with the stools and can enter the body via the mouth. It is therefore transmitted mainly through food or drinking water contaminated with sewerage, but also through a lack of hygiene or through sexual contact.

COMMON ROUTES OF TRANSMISSION ARE:

- Contaminated food and drinking water
- Insufficient sanitation
- Insufficient hand washing
- Sexual contact, especially anal-oral contact.

THEREFORE AT INCREASED RISK ARE:

- Travellers to countries where hepatitis A is very common
- Employees in care occupations
- People working in occupations that deal with sewerage
- Men who have sex with men.



A vaccination that protects for many years is available against hepatitis A. It is recommended for all risk groups. In some cases, statutory health insurance or the employer will cover the cost. Please ask about this and get vaccinated if appropriate.

General domestic hygiene and careful food handling prevents most infections, including hepatitis A. Always wash your hands after going to the toilet and before preparing meals or eating, and carefully wash fresh fruit and vegetables.

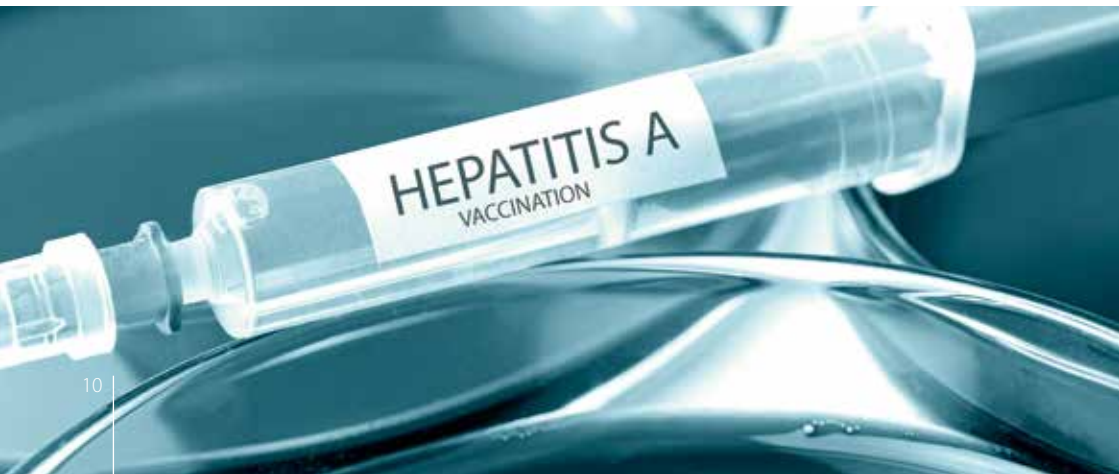
If you work in a care profession or are dealing with sewerage, there will be workplace infection control procedures that will prevent transmission. If you are unsure, ask your employer or union.

DIAGNOSIS AND TREATMENT

The infection often goes unnoticed, especially in children. However, the typical symptoms of hepatitis may occur after 15 to 50 days. Older people often experience more severe symptoms. If you have recovered from hepatitis A, you are protected (immune) against the disease afterwards. Severe disease progression with liver failure occurs very rarely.

If hepatitis symptoms are present, a blood test for elevated liver enzymes is carried out. The detection of *antibodies* may indicate previous or current infection.

The hepatitis A virus itself can currently not be treated with medication. Treatment serves to support the body in the healing process until symptoms such as fever, nausea and vomiting have disappeared. This means that you must avoid everything that may stress the liver (alcohol, certain medications) and drink sufficient water.



The hepatitis B virus causes one of the most frequently occurring types of hepatitis in the world, but is more common in some regions than others. Most adults completely recover from an *acute* hepatitis B infection. In most cases, they are then protected (immune) against reinfection for life. However, in 5–10% of adults, and much more often in small children, the virus remains detectable in the blood for longer than six months. This is called *chronic* hepatitis B. You can be vaccinated against hepatitis B.

TRANSMISSION AND ITS PREVENTION

The virus is predominantly transmitted from an infected person to a non-infected person through blood, but also through other bodily fluids such as saliva, semen or vaginal fluid. The risk of transmission through everyday contact and in the home is low.

COMMON ROUTES OF TRANSMISSION ARE:

- Sexual contact
- Sharing injecting needles and syringes during drug use
- *Unsterile* piercing, tattooing or shaving
- Unsterile medical procedures, e.g. in the past or in regions with a lack of infection control
- From mother to child during the birth.

THEREFORE AT INCREASED RISK ARE:

- Men who have sex with men.
- People with frequently changing sexual partners
- People who use drugs intravenously
- People in custody
- Medical personnel dealing with blood
- Children of infected mothers.

If you are from a region of the world where hepatitis B infection is very common, you may carry the hepatitis B virus without knowing it. These regions include, above all, Asia, the South Pacific, the sub-Saharan region, South America and the Middle East. But people with hepatitis B antibodies are also significantly more common in the Mediterranean region and in eastern Europe than in Germany.

Therefore, please get tested – and treated if required.

Especially newborns infected at birth more frequently develop *chronic* hepatitis B. Vaccinating the newborn immediately after birth can prevent transmission during childbirth. It is therefore important that mothers are tested before giving birth. In Germany, the test is legally mandated in the maternal protection guidelines (Mutterschutzrichtlinien).

People with chronic hepatitis B can transmit the virus to others. Condoms provide protection during sexual contact. Don't share any equipment during drug use. Many support services and counselling centres for people who use drugs offer *sterile* injecting equipment. Don't share shavers, nail scissors or toothbrushes.

DIAGNOSIS AND TREATMENT

Around one third of those affected don't have any symptoms. The first symptoms to appear with *acute* hepatitis B are loss of appetite, joint pain, feeling sick, nausea/vomiting or fever. After 3 to 10 days, the skin may turn yellow and the urine turns dark. Only very few people become severely ill and may develop liver failure. More than 90% of adults recover completely and without long-term health effects.

This is very different with childhood infections – more than 90% develop into chronic hepatitis B. This means that parts of the virus remain detectable in the blood for longer than 6 months.

In cases of chronic hepatitis B, there is an increased risk of *liver fibrosis* and *liver cirrhosis*. These impact on the function of the liver. Cirrhosis also increases the risk of liver cancer.

Elevated liver enzymes are an indicator for possible hepatitis B. Blood tests are needed to tell for certain. Important is the difference between acute and chronic hepatitis B because chronic infection indicates possible long-term health effects.

Taking a sample of liver tissue (liver biopsy) may become necessary in order to assess the degree of liver damage.

In most cases, people with chronic hepatitis B receive antiviral treatment. Especially if the virus is multiplying strongly, or if the liver is inflamed or already damaged.



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Hepatitis C

Hepatitis C is caused by the hepatitis C virus (HCV). Hepatitis C viruses are divided into different variants called *genotypes*. They are more common in some regions and population groups than others. No vaccination exists.

According to the World Health Organization, 1.75 million people worldwide are newly infected with hepatitis C virus each year. The number of those with chronic infection is estimated to be 71 million. Because of the potential long-term consequences, this is an important health issue: after 20 years, on average a quarter of all persons with chronic hepatitis C develop liver cirrhosis,

and some also liver cancer. This increases the risk of requiring a liver transplant.

Today, 95 % of chronic hepatitis C cases can be cured with medication. You should therefore get tested if you have ever been at risk of hepatitis C infection.



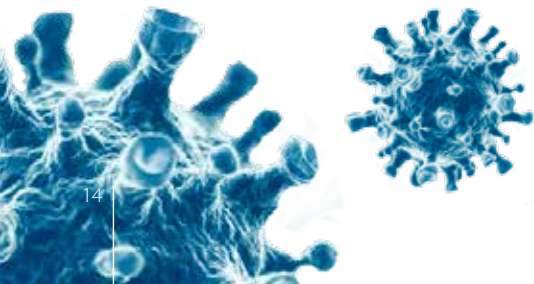


TRANSMISSION AND ITS PREVENTION

The hepatitis C virus is predominantly transmitted through blood-to-blood contact. Even a very small amount of infected blood entering the bloodstream of a non-infected person can be enough. Sexual transmission is rare, but possible – especially when there are small injuries during sex. Hepatitis C is not transmitted via breastmilk, sharing meals or drinks, or through social contact.

COMMON ROUTES OF TRANSMISSION ARE:

- Sharing needles, syringes, straws and other utensils when using drugs intravenously or by snorting.
- Unprotected sex, especially among men who have sex with men
- *Unsterile* medical procedures, in the past or in regions with a lack of infection control (especially through multiple use of needles and syringes, e.g. during vaccination campaigns or in dental medicine)
- Blood transfusions before the introduction of routine testing of blood and blood products for hepatitis C (in Germany before 1992).



THEREFORE AT INCREASED RISK ARE:

- People who inject or snort drugs
- Men who have sex with men
- People in custody
- Persons who have received untested blood or blood products, transplants or dialysis (in Germany before 1992)
- People from regions with a high HCV prevalence (Africa, Central and East Asia).

There is no vaccine against hepatitis C. Condoms provide protection during sex. Don't share any equipment during drug use. Many support services and counselling centres for people who use drugs offer *sterile* injecting equipment. Don't share shavers, nail scissors or toothbrushes.

DIAGNOSIS AND TREATMENT

In around a third of cases, the body overcomes the virus, mostly without symptoms. If not, hepatitis C becomes chronic. Usually no symptoms occur in this case either – and if they do, they are mostly mild. But after 20 to 25 years of living with chronic hepatitis C, between 2 and 35 % of those affected first develop *liver fibrosis*, and later sometimes also liver cirrhosis. The liver then gradually loses its function. Each year, around 2 – 5 % of people with liver cirrhosis become ill with liver cancer.

The first test used to detect hepatitis C is a blood test that looks for antibodies. However, these are also found in the blood of persons who have overcome the virus naturally or who have been cured through treatment. It is therefore important to conduct a further blood test if the antibody test is positive. Here, the genetic material (*RNA*) of the virus itself is detected in the blood (*RNA* test). Taking a sample of liver tissue (liver biopsy) may become necessary in order to assess the degree of liver damage.

Chronic hepatitis C should be treated as early as possible, as the risk of long-term health effects increases with age and disease progression. The aim of treatment is to remove the virus permanently from the body.

Until a few years ago, hepatitis C could only be treated with a combination of *interferon* and other medications. This form of treatment took months, had strong side effects and showed different rates of success, depending on the type of virus.

Since 2011, more and more new medications that intervene in the reproductive cycle of the virus have gradually been approved. They have shortened the treatment period, made it much more tolerable and increased the success rate to over 95 %. Even if previous treatment has been unsuccessful in your case, you now have a very good chance of a cure. In principle, chronic hepatitis C should always be treated in order to prevent cirrhosis and liver cancer. If you are affected, ask your medical specialist or the organisations listed at the end of this guide for advice.

In contrast to some other infections, being cured of hepatitis C does not lead to immunity. You can become infected again and need to protect yourself accordingly.

The hepatitis D virus (or hepatitis delta virus) only occurs in combination with the hepatitis B virus. Hepatitis D is more common in some world regions than others. In cases of additional hepatitis D infection, hepatitis B disease can be more severe, with an increased risk of liver cirrhosis and liver cancer.

TRANSMISSION AND ITS PREVENTION

Like hepatitis B, hepatitis D is mainly transmitted through blood-to-blood contact. Transmission through bodily fluids and contact with mucous membranes, e.g. during sexual contact, is also possible. Effective hepatitis B vaccination also prevents hepatitis D infection. If you ever had hepatitis B and have recovered, you are also immune. The prevention measures for hepatitis B also apply to hepatitis D. Avoid sharing razors, nail scissors and toothbrushes, as well as needles and syringes during drug use, and use condoms. The hepatitis D virus commonly occurs in the Mediterranean region, in the Middle East, in Pakistan, in Central and North Asia, Japan, Taiwan, Greenland, as well as in the countries of the Horn of Africa, in West Africa, in the Amazon basin and in certain regions of the Pacific.

Prevention is therefore particularly important if you already have chronic hepatitis B and want to travel to these areas. Discuss your travel plans with your doctor early.

DIAGNOSIS

Often, no symptoms occur at all in cases of simultaneous hepatitis B and D infection. However, the typical hepatitis complaints may appear. Those affected mostly recover completely, and only 5% of cases result in chronic disease. Hepatitis D infection is more dangerous in cases of already existing chronic hepatitis B. Here, disease progression is severe in 70–90% of cases and leads to liver cirrhosis earlier.



The different *genotypes* of the hepatitis E virus, which causes this form of hepatitis, are more common in some world regions than others. Most infections occur through water contaminated with faecal matter – in Southeast and Central Asia, North and West Africa, Central America and in the Middle East. In Germany, cases of hepatitis E have also increased a lot.

People usually recover from acute infection on their own. However, it may become life threatening for pregnant women and people with liver disease. People with an immune deficiency (e.g. transplant recipients, people on dialysis or people living with HIV) more frequently develop chronic hepatitis E.

TRANSMISSION AND ITS PREVENTION

As with hepatitis A, transmission occurs predominantly through drinking water or food contaminated with faecal matter. In Germany probably via the consumption of raw pork or wild boar meat. No vaccination is approved in Germany. When travelling to regions with known hepatitis E outbreaks, you can seek information about the risk beforehand and ensure clean drinking water and food. Even in Germany it is advisable to only eat well-cooked meat.

DIAGNOSIS AND TREATMENT

If symptoms occur at all, typical general hepatitis complaints will appear after 14 to 60 days. In some cases, complaints of the nervous system are also observed. In pregnant women – especially during the last month of the pregnancy, as well as in people with liver disease, hepatitis E disease progression may be very severe, and fatal in 20% of cases. If persons with reduced immune function develop chronic hepatitis E, it can, without treatment, lead to liver cirrhosis in a relatively short time (several years). Initially, the blood is

tested for hepatitis E antibodies. If chronic disease is suspected, blood or a stool sample can be tested for the genetic material of the virus.

Specific hepatitis E treatment is not currently approved in Germany, but is being investigated further. However, medication is sometimes used to treat the symptoms.



Acute

Relating to disease: occurring suddenly, with disease progression being fast and intense

Antibodies

Antibodies are formed by the immune system in order to neutralise pathogens that have entered the body. They are individually adapted to the pathogen. Antibodies in the blood can therefore serve as proof that a particular type of infection has taken place. In some cases, they cause the body to develop long-term immunity against a pathogen that has been overcome.

Chronic

Relating to disease: ongoing, developing over a longer period

Enzymes

Substances produced by the body to help speed up chemical reactions. They perform an important regulating function in metabolic processes.

Genotype

The genotype of a life form is the particular variant of its genetic material. Individuals of the same species may be of a genotype with small deviations, which can affect their characteristics. Viruses can also exist in the form of different genotypes, which can influence e.g. disease progression and treatment.

Hormone

A messenger substance produced by body cells that has certain effects or initiates certain functions in the target organ.

Interferon

Interferons are substances produced by the body itself to defend against viruses and even tumors. Artificially produced interferon is used as a medication against viral diseases. Treatment using interferon often has unwanted side effects.

Liver fibrosis

Liver fibrosis means that dead liver cells are replaced by connective tissue. The lobed structure of the liver and its blood vessels initially remain unaffected.

Liver cirrhosis

Develops from liver fibrosis. Through the development of nodular deformities, of scarring and through the increasing destruction of its cellular structure, the liver loses more and more of its function.

RNA

Ribonucleic acid (RNA) is the material that the genetic code of certain viruses (RNA viruses) is made of. RNA tests can detect and measure the RNA of different viruses in the blood.

Sterile/unsterile

Sterile means free from pathogens. Devices and materials used when operating on the human body must, through heat or chemical processes, be made sterile (sterilised). Unsterile means that the absence of pathogens is not guaranteed.

Virus/viral

Viruses are infectious particles that need the host cells of another life form in order to reproduce. They consist of an outer coat and the genetic material contained therein. Many infectious diseases are caused by viruses, including viral hepatitis. The human immune system fights viruses e.g. with antibodies.

Viral Hepatitis

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DISEASES OF THE LIVER: ASSISTANCE AND ADVICE

The German Liver Foundation was created in 2006. Its aim is to continuously improve the early detection and treatment of liver disease. For patients and their relatives, the German Liver Foundation offers information and advice on medical matters.

**Deutsche Leberstiftung
(German Liver Foundation)**
Carl-Neuberg-Straße 1, 30625 Hannover
www.deutsche-leberstiftung.de

The German Liver Association connects medical specialists with self-help initiatives and their concerns. It provides information and offers education. In some cities, people with hepatitis (or other forms of liver disease) have come together in groups. As self-help groups, they are also members of the German Liver Association.

**Deutsche Leberhilfe e.V.
(German Liver Association)**
Krieler Straße 100, 50935 Köln
www.leberhilfe.org

UP-TO-DATE INFORMATION ON HIV

In collaboration with partners in six European countries, the Ethno-Medical Centre Inc. has developed a brochure on HIV/AIDS as part of the AIDS & Mobility project.

<http://www.aidsmobility.org/326.0.html>

INTERNATIONAL LINKS

The World Hepatitis Alliance has made the elimination of the spread and illness caused by hepatitis B and C its goal. Every year it organises World Hepatitis Day. As an international organisation, it publishes its policy statements in English, French, Arabic, Chinese, Russian, Spanish and Portuguese.

www.worldhepatitisalliance.org