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Hepatitis B

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Key facts

- Hepatitis B is a viral infection that attacks the liver and can cause both acute and chronic disease.
- The virus is most commonly transmitted from mother to child during birth and delivery, in early childhood, as well as through contact with blood or other body fluids during sex with an infected partner, unsafe injections or exposures to sharp instruments.
- WHO estimates that 254 million people were living with chronic hepatitis B infection in 2022, with 1.2 million new infections each year.
- In 2022, hepatitis B resulted in an estimated 1.1 million deaths, mostly from cirrhosis and hepatocellular carcinoma (primary liver cancer).
- Hepatitis B can be prevented by vaccines that are safe, available and effective.

Overview

Hepatitis B is an infection of the liver caused by the hepatitis B virus. The infection can be acute (short and severe) or chronic (long term).

Hepatitis B can cause a chronic infection and puts people at high risk of death from cirrhosis and liver cancer.

It can spread through contact with infected body fluids like blood, saliva, vaginal fluids and semen. It can also be passed from a mother to her baby.

Hepatitis B can be prevented with a safe and effective vaccine. The vaccine is usually given soon after birth with boosters a few weeks later. It offers nearly 100% protection against the virus.

Hepatitis B is a major global health problem. The burden of infection is highest in the WHO Western Pacific Region and the WHO African Region, where 97 million and 65 million people, respectively, are chronically infected. Sixty-one million people are infected in the WHO South-East Asia Region, 15 million in the WHO Eastern Mediterranean Region, 11 million in the WHO European Region and 5 million in the WHO Region of the Americas.

Transmission

In highly endemic areas, hepatitis B is most commonly spread from mother to child at birth (perinatal transmission) or through horizontal transmission, especially from an infected child to an uninfected child during the first 5 years of life. The development of chronic infection is very common in infants infected from their mothers or before the age of 5 years.

Hepatitis B is also spread by needlestick injury, tattooing, piercing and exposure to infected blood and body fluids, such as saliva and menstrual, vaginal and seminal fluids. Transmission of the virus may also occur through the sharing or reuse of contaminated needles and syringes or sharp objects either in health care settings, in the community or among persons who inject drugs. Sexual transmission is more prevalent in unvaccinated persons with multiple sexual partners.

Hepatitis B infection acquired in adulthood leads to chronic hepatitis in less than 5% of cases, whereas infection in infancy and early childhood leads to chronic hepatitis in about 95% of cases. This is the basis for strengthening and prioritizing infant and childhood vaccination.

Symptoms

Most people do not experience any symptoms when newly infected.

Some people have acute illness with symptoms that last several weeks:

- **yellowing of the skin and eyes (jaundice)**
- **dark urine**
- **feeling very tired**
- **nausea**
- **vomiting**
- **pain in the abdomen.**

When severe, acute hepatitis can lead to liver failure, which can lead to death.

Although most people will recover from acute illness, some people with chronic hepatitis B will develop progressive liver disease and complications like cirrhosis and hepatocellular carcinoma (liver cancer). These diseases can be fatal.

HBV-HIV coinfection

About 1% of persons living with HBV infection (2.7 million people) are also infected with HIV. Conversely, the global prevalence of HBV infection in HIV-infected persons is 7.4%. Since 2015, WHO has recommended treatment for everyone diagnosed with HIV infection, regardless of the stage of disease. Tenofovir, which is included in the treatment combinations recommended as first-line therapy for HIV infection, is also active against HBV.

Diagnosis

It is not possible on clinical grounds to differentiate hepatitis B from hepatitis caused by other viral agents; hence laboratory confirmation of the diagnosis is essential. Several blood tests are available to diagnose and monitor people with hepatitis B. Some laboratory tests can be used to distinguish acute and chronic infections, whilst others can assess and monitor the severity of liver disease. Physical examination, ultrasound and elastography can also be performed to assess degree of liver fibrosis and scarring and monitor progression of liver disease. WHO recommends that all blood donations be tested for hepatitis B to ensure blood safety and avoid accidental transmission.

As of 2022, 13% of all people estimated to be living with hepatitis B were aware of their infection, while 3% (7 million) of the people living with chronic hepatitis B were on treatment. According to latest WHO estimates, the proportion of children under five years of age chronically infected with HBV dropped to just under 1% in 2019 down from around 5% in the pre-vaccine era ranging from the 1980s to the early 2000s.

In settings with intermediate and high Hepatitis B surface antigen (HBsAg) seroprevalence in the general population (defined as $\geq 2\%$ HBsAg seroprevalence), WHO recommends that all adults have access to and be offered HBsAg testing with linkage to prevention and care and treatment services as needed. WHO also recommends targeted testing, in all settings, of people with suspicions of liver disease, blood donors, and all pregnant women, the latter in order to provide the opportunity to institute measures for prevention of mother-to-child transmission (MTCT). In addition, WHO recommends testing among specific high-risk groups, including migrants from endemic regions, partners or family members of infected

persons, health-care workers, people who inject drugs (PWID), people in prisons and other closed settings, men who have sex with men (MSM) sex workers, transgender people and people living with HIV.

Treatment

There is no specific treatment for acute hepatitis B. Chronic hepatitis B can be treated with antiviral medications.

Care for people with acute hepatitis B should focus on managing symptoms. They should eat a healthy diet and drink plenty of liquids to prevent dehydration from vomiting and diarrhoea.

Chronic hepatitis B infection can be treated with oral medicines, including tenofovir or entecavir.

Treatment can

- **slow the advance of cirrhosis**
- **reduce cases of liver cancer**
- **improve long term survival.**

Most people who start hepatitis B treatment must continue it for life.

With the updated Guidelines for the prevention, diagnosis, care and treatment for people with chronic hepatitis B infection, released in 2024, it is estimated that more than 50% of people with chronic hepatitis B infection will require treatment, depending on setting and eligibility criteria.

In low-income settings, most people with liver cancer present late in the course of the disease and die within months of diagnosis. In high-income countries, patients present to hospital earlier in the course of the disease and have access to surgery and chemotherapy, which can prolong life for several months to a few years. Liver transplantation is sometimes used in people with cirrhosis or liver cancer in technologically advanced countries, with varying success.

Prevention

Hepatitis B is preventable with a vaccine.

All babies should receive the hepatitis B vaccine as soon as possible after birth (within 24 hours). This is followed by two or three doses of hepatitis B vaccine at least four weeks apart.

Booster vaccines are not usually required for people who have completed the three-dose vaccination series.

The vaccine protects against hepatitis B for at least 20 years and probably for life.

Hepatitis B can be passed from mother to child. This can be prevented by taking antiviral medicines to prevent transmission, in addition to the vaccine shortly after birth.

To reduce the risk of getting or spreading hepatitis B:

- **practice safe sex by using condoms;**
- **avoid sharing needles or any equipment used for injecting drugs, piercing, or tattooing;**
- **wash your hands thoroughly with soap and water after coming into contact with blood, body fluids, or contaminated surfaces; and**
- **get a hepatitis B vaccine if working in a health-care setting.**

WHO response

Global health sector strategies on, respectively, HIV, viral hepatitis, and sexually transmitted infections for the period 2022–2030 ([GHSSs](#)) guide the health sector in implementing strategically focused responses to achieve the goals of ending AIDS, viral hepatitis (especially chronic hepatitis B and C) and sexually transmitted infections by 2030.

The GHSS recommend shared and disease-specific country actions supported by actions by WHO and partners. They consider the epidemiological, technological, and contextual shifts of previous years, foster learnings across the disease areas, and create opportunities to leverage innovations and new knowledge for effective responses to the diseases. They call to scale up prevention, testing and treatment of viral hepatitis with a focus to reach populations and communities most affected and at risk for each disease, as well as addressing gaps and inequities. They also promote synergies under a universal health coverage and primary health care framework and contribute to achieving the goals of the 2030 Agenda for Sustainable Development. WHO supports countries to develop national strategies in line with this vision.

Furthermore, WHO develops and updates guidelines for the prevention, testing and treatment of HBV and supports countries in their efforts to reflect the latest science and recommendations in their public health response.

WHO organizes annual [World Hepatitis Day campaigns](#) to increase awareness and understanding of viral hepatitis.

[WHO's work on hepatitis B](#)