

## Blood-borne Viruses (HIV, Hepatitis B, Hepatitis C)

### Patient Information

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#### What is a blood-borne virus?

A virus is a submicroscopic infectious agent that replicates itself only inside the living cells of an organism. Viruses can damage the cells they replicate in; this is one of the ways viruses can make an infected person ill. Blood-borne viruses include HIV, Hepatitis B and Hepatitis C (this list is not exclusive). If a person is infected with one of these viruses, it is carried in the blood and may result in severe disease in some people and very few symptoms in others.

#### Why do we test patients for blood-borne viruses?

Patients wishing to have fertility treatment require viral screening as part of their investigations. Viral status affects how your eggs, sperm and/or embryos are processed and stored in the laboratory. Viral screening is in place to ensure that the risk of passing blood-borne viruses on to others is as low as possible. Viral screening protects our patients and their eggs, sperm and embryos, in addition to protecting our staff. Patients who are seeking treatment with donated gametes or embryos can request information about the donor's screening status (e.g viral, genetic). Patients can also request information on the sensitivity and suitability of any tests. It is important to note that screened gamete providers can still be a carrier of genetic disease or infection.

#### What is HIV?

HIV stands for Human Immunodeficiency Virus. HIV destroys cells in the immune system, in particular, the CD4 T cells. CD4 T cells are a type of white blood cell. These are important cells involved in protecting the body against various bacteria, viruses and other germs. HIV multiplies within the CD4 cells. HIV cannot be destroyed by the white blood cells as it continually sheds its outer coating.

Untreated HIV leads to a compromised and dysfunctional immune system. This is when AIDS (commonly now called late-stage HIV infection) develops. However, early detection and treatment with antiretroviral therapy means that people living with HIV can lead active, healthy lives, although they may get side-effects from the treatment

#### What is AIDS?

AIDS stands for Acquired Immunodeficiency Syndrome. This is a term which covers the range of infections and illnesses which can result from a weakened immune system caused by HIV.

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**Please note: HIV and AIDS are not the same thing and people who get HIV infection do not automatically develop AIDS.**

AIDS is unlikely to develop in people who have been treated in the early stages of HIV infection. Even in people who do not receive treatment, there is usually a time lag of several years between initial HIV infection and developing AIDS related problems. This is because it usually takes several years for the number of CD4 T cells to reduce to a level where your immune system is weakened. People with HIV can pass the virus on to others whether or not they have any symptoms.

## What is Hepatitis B and C?

Hepatitis is the medical term that means inflammation of the liver. Hepatitis B & C are viruses that attack the liver and can cause it to become inflamed. People with Hepatitis B & C can pass the virus on to others whether or not they have any symptoms.

## How do you become infected with blood-borne viruses?

**Sexual transmission.** Semen, vaginal secretions and blood from an infected person enable viral transmission through the lining of the vagina, vulva, penis, rectum or mouth during sex. Having vaginal or anal sex with an infected person is the most common route of transmission. Oral sex is usually lower risk, however this risk can increase if you have a condition which affects the defence barriers of the mouth, such as ulcers, bleeding, damaged gums or a sore throat. You cannot be infected with blood-borne viruses by coming into contact with the saliva of an infected person (for example, through kissing). Coughing or sneezing is also not a route of transmission.

**Needle sharing.** Blood-borne viruses can be passed on by people who are dependent on injectable drugs and share needles, syringes and other injecting equipment which is contaminated with infected blood. Needle-exchange services run by hospitals, clinics and drug dependency units have drastically reduced needle-sharing as a source of infection.

**Infected blood.** In the past, quite a number of cases occurred from infected blood transfusions and other blood products. This is now rare in the UK, as all blood products are screened for blood-borne viruses before they can be used. It is still a significant problem in developing countries.

**From mother to child.** Blood-borne viruses can be passed to an unborn child from an infected positive mother during pregnancy, child birth or breast-feeding. Appropriate treatment and management of blood-borne viruses can decrease the chance of blood-borne virus transmission from mother to baby. Treatments are now available for mothers infected with HIV, Hepatitis B and C. Early disease detection is important to prevent viral transmission. Having a caesarean section to deliver a baby reduces the risk of blood-borne virus transmission even further. Breast feeding is not recommended due to the risk of nipple irritation and bleeding.

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**NOTE: To become infected with blood-borne viruses, some infected blood, semen or vaginal secretions would have to get into your body. You cannot catch these viruses from ordinary contact, such as hugging, shaking hands or touching, or from sharing food, towels, utensils, swimming pools or telephones.**

## How common is HIV?

The number of new people diagnosed with HIV in the UK peaked at 8,000 in 2006 and currently approximately 6,000 new diagnoses occur each year. The total number of people living with HIV in the UK in 2014 was 103,700. Of these, About 9 in 20 resulted from men having sex with men and about 9 in 20 were due to heterosexual sex. HIV infection is much more common in many other countries in the world.

## How common is Hepatitis B?

Hepatitis B is defined as 'chronic' when an infection lasts longer than 6 months. Chronic hepatitis has an estimated prevalence of 0.3% with approximately 180,000 people in the UK with the condition. Its prevalence is considerably higher among high-risk groups such as first generation migrants from areas where Hepatitis B is endemic, people who have multiple sexual partners and injecting drug users. There are approximately 600 to 800 new cases of symptomatic (jaundiced) acute Hepatitis B infection in the UK each year.

## How common is Hepatitis C?

It is not known for sure how many people in the UK have Hepatitis C, but it is estimated that around 400,000 people may be infected. Worldwide, more than 200 million people are estimated to be chronically infected.

## What are the symptoms of HIV and AIDS?

**Primary infection with HIV.** When you first become infected with HIV it is known as the primary infection. About 8 in 10 people develop symptoms at this time. The three most common symptoms (sometimes known as the classic triad) are: sore throat, fever and a blotchy red rash. Other symptoms can include feeling sick, diarrhoea, swollen glands, headache, tiredness and general aches and pains. The symptoms can last up to three weeks and are often just thought of as flu or a mild viral illness.

**After the primary infection.** After any primary infection settles, you can remain without any symptoms for several years. Early testing and treatment has revolutionised our concept of HIV infection which is now considered a long-term disease. Even without treatment, there are often no symptoms for a long time (often up to ten years) and many people do not realise that they are even infected. However, the virus continues to multiply, the number of CD4 T cells tends to gradually fall and you can pass on the virus to others. During this time some people with HIV who are otherwise well may develop persistent swollen lymph glands and night sweats.

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## What are the symptoms of Hepatitis B and C?

Hepatitis B and C affects people differently; some people may have no symptoms at all and never know they have the virus. It can take several months for symptoms to appear for both diseases. Symptoms can include fatigue, anxiety, weight loss, loss of appetite, nausea, liver discomfort, inability to tolerate alcohol, difficulty concentrating, muscle aches, itchy skin, flu-like symptoms, jaundice, fever and dark urine/yellow bowel motions.

## What tests are done?

Most sexual health clinics offer testing for all three blood-borne viruses. Rapid HIV tests are now available that can report results within 30 minutes. Standard blood test results may take up to a week to be reported.

GPs can also arrange blood tests to screen for all blood-borne diseases but the results will go on your health record. It is recommended that all people who frequently have sex without a condom, have multiple partners, have been diagnosed with another sexually-transmitted disease or develop suspicious symptoms should be tested for blood-borne diseases annually.

If you are confirmed to have HIV then your doctor may do a blood test to check the amount of virus in your blood (the viral load) and the number of CD4 T cells in your blood. These tests may be done from time to time to assess how far the disease has progressed (and the response to treatment).

## What is the treatment for HIV infection?

There is still no cure or vaccine for HIV. However, treatment is now effective at allowing people with HIV to live their lives as normally as possible. Since the introduction of medicines to treat HIV, the death rates from AIDS have reduced dramatically. With effective treatment, very few people go on to develop AIDS. It is not uncommon for people with HIV to feel low or even depressed, especially soon after the diagnosis is made. (If you have any feelings of depression then you should speak to your doctor).

## What is the treatment for hepatitis B?

If you think you have been exposed to the Hepatitis B virus, emergency treatment is most effective within 48 hours, and this is usually given in the form of a vaccine or a dose of Hepatitis B immunoglobulins. Treatment type depends on how long you have been infected. Short term Hepatitis B does not need specific treatment. Long term hepatitis B is often treated with medication to keep the virus under control.

## What is the treatment for hepatitis C?

Chronic Hepatitis C involves taking anti-viral medication to fight the virus, testing whether your liver is damaged and making changes to your lifestyle to prevent further liver damage. Unfortunately, no vaccine is available for this virus.

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## How can infection with blood-borne viruses be prevented?

The main ways to prevent infection with blood-borne viruses is to avoid activities that put you at risk, such as sharing needles and having sex without a condom. Vaccination for hepatitis B if you are at high risk (e.g. health care/laboratory worker) is recommended.

## What happens if my test is positive?

If your test is positive you will be contacted without delay by the Hewitt Centre and referred for specialist care, counselling and possible treatment.

## If my test is positive will I still be able to have treatment?

This depends on several things such as which virus you have and how well you are. Each case would be considered individually.

## Will I be able to undergo treatment without being tested?

If you wish for us to freeze and store any "spare" embryos created during your treatment cycle then you must be tested prior to treatment. The Human Fertilisation & Embryology Authority (HFEA) requires both of you to be screened before you start treatment to ensure the storage requirements for your eggs, sperm and embryos are possible.

## Further help and information

**HIV aware:** [www.hivaware.org.uk](http://www.hivaware.org.uk)

**National Aids Trust:** [www.nat.org.uk](http://www.nat.org.uk)

**Terrence Higgins Trust:** [www.tht.org.uk](http://www.tht.org.uk)

**Averting AIDS and HIV (AVERT):** [www.avert.org](http://www.avert.org)

**NHS (2018) Hepatitis C** <https://www.nhs.uk/conditions/hepatitis-c/>

**NICE Guidelines: Hepatitis B:** <https://www.nice.org.uk/guidance/cg165/documents/hepatitis-b-scope2>

This leaflet can be made available in different formats on request. If you would like to make any suggestions or comments about the content of this leaflet, then please contact the Patient Experience Team on 0151 702 4353 or by email at [pals@lwh.nhs.uk](mailto:pals@lwh.nhs.uk)

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