

What is HIV?

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What is HIV?

HIV stands for Human Immunodeficiency Virus which belongs to a group of viruses called 'retroviruses'. Retroviruses copy their genetic material into the genetic material of human cells. This simply means that once a cell is infected, the cell stays infected.

HIV destroys/infects key cells (CD4 cells) which co-ordinate the immune system's fight against infection.

While there is no current cure for HIV, there are more than 20 anti-HIV drugs ('anti-retroviruses') available.

What are the symptoms for HIV?

Firstly, you cannot 'tell' whether a person has HIV simply by looking at them. Having a HIV test is the only sure way of finding out.

On being exposed to the virus, many people experience a reaction which is termed as 'seroconversion'.

Typical symptoms may include a fever, sore throat, headache, aches and pains, and a blotchy red rash. However symptoms and the level of severity

experienced may vary from person to person. For some people it is mild and passes without being noticed, while others mistake it for 'flu', but for some it is more severe and they may need to see a doctor.

However, because the symptoms are similar to other medical conditions, HIV might not be diagnosed at the time.

- If you have or think you may have been exposed to the HIV virus, it's very important to have a test so it can be correctly diagnosed. [For details of local test centres click here.](#)
- In an emergency PEP may be available, see below for details on accessing PEP. You may be asked to return at a later date for a further test.

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How can HIV be passed on/transmitted?

HIV is present in bodily fluids such as blood, genital fluids (cum/pre-cum, vaginal/anal mucous) and breast milk and may be passed on if it enters the body:

- During unprotected sex anal/vaginal sex (sex without a condom)
- By blood-to-blood contact (such as sharing injecting equipment)
- During pregnancy, birth or breastfeeding from mother to baby.

HIV virus dies quickly when exposed to the air, so transmission relies on the virus getting into the blood stream or being absorbed through mucous membranes (such as the vagina/inside of the arse, mouth/throat, foreskin/head of penis, urethra).

HIV cannot be passed by:

- Kissing or touching
- By spitting, coughing or through sweat or sneeze particles
- From toilet seats, swimming pools, or shared facilities or utensils

Preventing HIV transmission

The risk of HIV transmission (and STIs) through sex can be minimised by safer sex techniques and following a few simple steps, such as:

- Using (male or female) condoms and knowing how to put them on properly every time you have vaginal or anal sex.
- Using a condom when giving oral sex to a man, or covering the female genitals and male or female anus with a latex or polyurethane (soft plastic) square during oral or oro-anal sex respectively.
- Avoid sharing sex toys.
If you do share toys, wash them or cover them with a new condom when

- a new person uses them.
- Regular screening for sexually transmitted infections. Having some untreated STIs can increase your susceptibility to being transmitted HIV.

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What is PEP (post exposure prophylaxis)?

PEP is a course of anti-HIV medication which can be taken if you have been exposed to the virus (through unprotected sex, split condom etc).

Lasting a month, the earlier the course starts (usually with 72 hours) the more effective it is. PEP is not 100% effective, so should not be seen as a 'cure' or 'morning after pill'.

Due to the strength of the treatment, people taking PEP can experience side-effects (nausea, diarrhoea headaches etc). However it is important to complete the treatment course to get its full benefit.

GMFA have produced a useful [information guide about PEP and the drugs used, click here for details.](#)

PEP can be obtained from most clinics or in emergency/during weekends, from your local Hospital Accident and Emergency (A&E). Inform the reception when you attend that you want to see a nurse or health advisor about PEP. Due to the limited window (PEP treatment needs to start within 72 hours of being exposed), you may have to be insistent.

Drugs, Sex and HIV Transmission

Studies have found a connection between drug use and HIV transmission. Drugs such as crack, crystal meth, alcohol and others can increase sexual desire and/or impact a person's sexual behaviour.

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How HIV affects the Body?

Viruses tend to be specialists. They zero in on a few particular types of cells in the body and move in. The human immunodeficiency virus is best known for targeting the T cells of the immune system. However, it can also attack cells of the brain, nervous system, digestive system, lymphatic system, and other parts of the body.

The immune system is made up of specialised cells in the bloodstream that fight off invading germs to keep the body healthy. The "T" cells (also referred to as "T4," "helper-T," or "CD4" cells) are the brains of the operation. These

white blood cells identify invaders and give orders to 'soldier-type cells', which then battle various bacteria, viruses, cancers, fungi, and parasites that can make a person sick.

Like all viruses, the HIV is only interested in one thing: reproducing itself. Once it has attacked and moved into a T cell, it converts that cell into a miniature virus factory. Eventually there are so many new viruses in the cell that the T cell explodes, scattering the HIV back into the bloodstream. The virus then moves on to fresh T cells and repeats the process. Over time, the HIV can destroy virtually all of an infected person's T cells in this manner.

With fewer and fewer "leaders" to rely on for warnings, the "soldier" cells become powerless. They can no longer recognise and fight off common organisms that would not present a problem to a healthy immune system.

The immune system's weakness provides opportunities for dormant infections, or new infections the chance to multiply, and cause illness. Thus, we call these illnesses "opportunistic infections".

People with fully functioning immune systems are almost never troubled by these particular infections-but those with damaged immune systems are highly vulnerable to them.

Are HIV and AIDS the same?

No. When someone is described as living with HIV, they have the HIV virus in their body. A person is considered to have developed AIDS when the immune system is so weak it can no longer fight off a range of diseases with which it would normally cope.

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Can I get HIV from oral sex (fellatio/cunnilingus/rimming)

HIV transmission through unprotected oral sex is low, although the risk is greater:

- if you are giving oral sex and have any cuts, sores, throat infections or abrasions in your mouth
- if you are giving oral sex to an infected woman having her period
- if an infected man ejaculates in your mouth

Brushing your teeth and/or using a mouthwash before or immediately after oral sex will remove the protective properties that saliva contains and so may increase the risk of transmission.

While the HIV risk is low, unprotected oral sex may put you at risk of getting an STI (such as Chlamydia, gonorrhoea, herpes or syphilis).

Is unprotected anal sex more of an HIV risk than vaginal or oral sex?

Unprotected anal intercourse (not using a condom) does carry a higher risk for receptive person (one being fucked) than most other forms of sexual activity.

The lining of the arse has fewer cells than that of the vagina, and can be damaged more easily, causing bleeding during sex. This can then be a route into the bloodstream for infected sexual fluids or blood. There is also a risk to the insertive partner during anal intercourse, though this is lower than the risk to the receptive partner.

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Does circumcision protect against HIV?

There has been research showing that circumcised men are about half as likely as uncircumcised men to acquire HIV through heterosexual sex. However, circumcision does not make a man immune to HIV infection, it just means that it's less likely to happen.

Male circumcision probably has little or no preventive benefit for women.

[For details about HIV and Circumcision visit aidsmap.](#)

If I have an undetectable viral load in my blood, does that mean I can't pass HIV on?

Following an effective antiretroviral therapy course, it is possible for a person who is HIV positive to have a viral load that becomes undetectable.

This does not mean that HIV has been 'cured' or the virus cannot be transmitted through semen/vaginal fluid, as questions remain about the link between viral loads in blood and in semen.

[More information NAM have produced a booklet: undetectable viral load:](#)

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Can I become infected with HIV through normal social contact?

No. HIV is not an airborne, water-borne or food-borne virus, and does not survive for very long outside the human body. Therefore ordinary social contact such as kissing, shaking hands, coughing and sharing cutlery does not result in the virus being passed from one person to another.

How can I get more information about HIV?

For further information about HIV:

- email: testme@positiveeast.org.uk
- visit [Positive East specialist HIV support links page](#)
- Visit AidsMAP: www.aidsmap.com:
A community-based HIV information provider based in London but with full and comprehensive information in multi-language formats.

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Jargon explained

Below is a summary of some of the medical jargon terms you may come across. Always ask your Doctor for an explanation if they use a term you do not understand.

Adherence: Closely following a prescribed treatment programme. Requiring a patient to take the correct dose, at the correct time.

AIDS: Acquired Immune Deficiency Syndrome

AIDS-Defining condition: Any of a list of illnesses, when occurring in an HIV-infected person leads to a diagnosis of AIDS.

Antibody: Also known as immunoglobulin. A protein produced by the body's immune system to recognise and fight infections/foreign substances. Each antibody is specific to a particular infection/virus and develop after the first expose to a substance.

Antiretroviral: A drug that interferes with the ability of a retrovirus, such as HIV, to make copies of itself.

Antiretroviral Therapy (ART): Treatment with drugs that inhibit the ability of retroviruses to multiply in the body. The antiretroviral therapy recommended for HIV infections is referred to as highly active antiretroviral therapy (HAART), which uses a combination of drugs to attack HIV at different points of its lifecycle.

Baseline: An initial measurement (for instance CD4 count) made before starting treatment or therapy. The baseline is used as a reference point to monitor HIV infection.

CD4 cells/T-Helper cells: CD4 cells or T-helper cells, are white blood cells which organise the immune system's response to bacterial, fungal and viral infections.

Looking at your CD4 cell count can provide a guide for decisions about your need to start taking HIV treatment as well as other medicines to prevent some

AIDS-defining illnesses. But CD4 cell count can naturally fluctuate, so don't put too much emphasis on a single test result. Rather, look at the trend in a number of recent CD4 cell counts.

CD4 cell count: A measurement of the number of CD4 cells in a sample of blood. The CD4 count is one of the useful indicators of the health of the immune system and determine when to start, halt or interrupt anti-HIV therapy.

CD4 Receptor: A specific molecule on the surface of the CD4 cell. HIV recognises and binds to the CD4 receptor to gain entry into the host cell.

Chlamydia: Sexually Transmitted Infection (STI) which infects the genital tract and if untreated can result in sterility.

Cholesterol: Fat-like substance used a building block for cells. It is made in the liver and absorbed from food. High cholesterol levels may result in fatty deposits on blood vessel walls, resulting in increased risk of heart disease. A class of anti-HIV drug (Protease Inhibitor) may also increase cholesterol.

Co infection: Infection with more than one virus/bacterium at a given time – such as HIV-infected person co infected with Hepatitis C.

Combination therapy: Two or more drugs used together to achieve the optimum results in controlling HIV infection.

Drug resistance: Ability of a bacteria/virus to adapt and be able to multiply in the presence of drugs which previously would have killed them.

HAART: Highly Active Antiretroviral Therapy, name given to treatment programmes the aggressively suppress HIV replication, usually comprising of three or more anti-HIV drugs from at least two different classes.

HIV: Human Immunodeficiency Virus.

Genital Warts: A treatable STI that produces warts/growths on the genitals/groin/thighs.

Gonorrhoea: A STI, which results in yellow/greenish discharge or burning itching sensation from genitals. Active gonorrhoea infection may increase the risk of becoming infected with HIV through sex.

HBV: Hepatitis B virus, vaccine available. Usually spread through contact with blood of infected person, sex or during childbirth from an infected mother.

HCV: Hepatitis C virus, no vaccine available. Primarily spread through infected blood.

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Hepatitis: Inflammation of the liver, which can lead to liver damage. There are a number of Hepatitis vaccine (A, B, C etc) some of which have vaccines.

Herpes: A family of virus; the most common being Herpes Simplex Virus 1 (HSV-1) which causes cold sores on the mouth, that can be transmitted to the genitals. Virus can become inactive and symptoms disappear. Stress, trauma and the suppression of the immune system can result in the virus reappearing.

Immune Response: The body's defensive reaction to a foreign invader, such as a virus or bacteria.

Immune system: The collection of cells/organs whose role is to protect the body from foreign invaders.

Lipoatrophy: Loss of body fat from particular areas of the body, as the arms, legs, face and arse. A potential side-effect of certain classes of anti-HIV drugs.

MSM: Abbreviation for men who have sex with men.

PEP – Post Exposure Prophylaxis: Administration of anti-HIV drugs within 72 hours of a high risk exposure.

Rapid test: HIV test that can detect antibodies in the blood in less than 30 minutes, with a greater than 99% accuracy in sensitivity and specificity.

Receptor: A protein on the surface of the a cell that serves as a binding site for substances outside the cell, such as HIV floating free in the blood.

Retrovirus: A type of virus that stores its genetic information in a single-stranded RNA molecule and constructs a double-stranded DNA version of its genes using a special enzyme called a reverse transcriptase. The DNA copy is then integrated in to the host cell's own genetic material – HIV is an example of a retrovirus.

Seroconversion: The process by which a newly-infected person develops antibodies to HIV. These antibodies are then detectable by a HIV test. Seroconversion may occur anywhere from days to weeks or months following HIV infection – refer to Window Period.

Sexually Transmitted Infection - STI: Any infection spread by the transmission of organisms from person to person during sexual contact. Unlike HIV, STIs are treatable.

Syphilis: A sexually transmitted infection (STI) which initially cause genital/mouth sores. While the sores may disappear, if left untreated the infection affects the heart and central nervous system. Syphilis may be transmitted from an infected mother to her foetus during pregnancy.

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Thymus: Organ in chest where infection fighting T-cells develop.

Tolerance: A decreasing response to repeated doses of a drug, requiring a dose increase to continue the effects of the drug.

Tuberculosis - TB: A treatable bacterial infection affecting the lungs, spread through the air by an infected person coughing/sneezing. Symptoms lead to tiredness, weight loss, fever and may also affect brain, kidneys if untreated.

Undetectable Viral Load: the point where levels of HIV RNA in the blood are too low to be detected in a viral load test. This does not mean the virus has stopped replicating or gone away, just that the levels are below the test's ability to measure it.

Unprotected sex: Sex without a condom.

Vaccine: A substance that stimulates the body's immune response in order to prevent or control an infection. A vaccine is typically made up of some part of a bacteria or virus that cannot itself cause an infection.

Virus: A microscopic organism that requires a host cell to make more copies of itself. HIV, measles, mumps, polio and the common cold are viruses.

Viral load: Test that measures the quantity of HIV RNA in the blood, and so an indicator on HIV progression and treatment.

Window period: Time lapse between being exposed to the virus and the appearance of detectable antibodies. Because antibodies take time to produce, an HIV antibody test will not immediately be able to detect if a person is infected.

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