

Understanding HIV infection

Fourth Edition



# HIV? AIDS?



The HIV & AIDS charity for life

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This booklet is for you if you have any basic questions about HIV: what it is, how it is transmitted, and its effects on the human body. If you have HIV infection and have concerns about anti-HIV treatment, side-effects and how to live well with HIV, Terrence Higgins Trust produce a range of information that could be useful.

This leaflet covers:

- 1: What is HIV and AIDS?
- 2: How is it transmitted?
- 3: What is the HIV test?
- 4: How does HIV affect the body?
- 5: Living with HIV

## 1: What are HIV and AIDS?

**HIV** stands for **Human Immunodeficiency Virus**. It is a viral infection that attacks the human body's immune system. Initially a person may show no symptoms of HIV infection as their immune system manages to control it. However, in most cases, the immune system will require help from anti-HIV drugs to keep the HIV infection under control. These drugs do not completely rid the body of HIV infection.

**AIDS (Acquired Immune Deficiency Syndrome)** as a term is now very rarely used. It is more usual to talk of late-stage or advanced HIV infection. AIDS is not a single disease or condition, it is a term that is used to describe the point when a person's immune system can no longer cope, because of damage caused by HIV and specific illnesses start to appear. People do not actually die from AIDS; they die from the cancers, pneumonia or other conditions that may take hold when their immune system has been weakened by HIV.

## 2: How is HIV transmitted and how can the risk be reduced?

As far as viruses go, HIV is not an easy one to pass from one person to another. The virus has to get out of an HIV infected person's body and into the blood stream of someone who does not have HIV, for that person to become infected.

Body fluids which contain enough HIV to infect someone are:

- sperm and seminal fluid
- vaginal fluids, including menstrual fluids
- breast milk
- blood

Other body fluids like saliva, sweat or urine do not contain enough virus to infect another person.

The following is a list of possible ways that HIV can be passed from one person to another, and information on how the risk can be reduced. It's important to remember that at least one of the people has to have HIV for there to be any risk of infection.

### Semen, seminal fluid, 'cum'

If an HIV infected man's penis enters an uninfected person's body there could be HIV infection present in the 'pre cum' (which is the fluid released from the penis to help lubricate it). HIV is also found in much greater quantities in the semen and can be passed on through vaginal, anal and oral sex.

### Reducing the risk

When having penetrative sex (this means that a man's penis is put into someone else), using condoms properly with the right lubricant (if one is needed) remains the most effective way of reducing the risk of HIV being passed from one person to another. Covering the penis in a condom before penetration and checking to see that it stays on the penis is also important. Relying on the man to withdraw before ejaculation has been shown to be **not** an effective method of preventing HIV infection.

Anal and vaginal sex are the most common ways that HIV is passed from someone with HIV to another person. There have been some cases where HIV has been passed from an HIV positive man having his penis sucked by someone who was HIV negative. To further reduce this relatively small risk some people use condoms for oral sex - flavoured condoms are available to help make their use more pleasant for oral sex.

## Mother to baby (sometimes called vertical transmission)

If a woman with HIV becomes pregnant, there is a risk of her passing on HIV infection to her baby during birth. While in the womb, the baby remains fairly protected against HIV infection, but during the trauma of birth HIV can be passed on. HIV may also be transmitted if the HIV positive woman breast-feeds her baby, as HIV has been detected in the breast-milk of women with HIV and the digestive systems of young babies are not fully developed, making them more at risk of infection.

### Reducing the risk

For an HIV infected woman, it is possible for her child to be born without HIV. This can be achieved through careful planning by the woman and medical professionals, and using certain anti-HIV drugs at particular points during the pregnancy. HIV infected mothers are also advised to bottle-feed their babies rather than breast-feed to reduce the risk of HIV being passed through breast-milk.

## Blood to blood

Bleeding on its own isn't enough to pass on HIV infection. The HIV infected person's blood needs to leave their body and get into an uninfected person. This sometimes used to happen through blood transfusions and people who require blood products like haemophiliacs. In the UK since 1985/1986 all blood donations have been screened for HIV and blood products for haemophiliacs have been treated. Another way that blood can be passed from one person to another is through sharing needles and this has led to HIV being transmitted to some intravenous drug users.

### Reducing the risk

For intravenous drug users (those who inject into the body, which also includes people who inject steroids into their muscle), the main way that the risk of HIV infection can be reduced is to always use fresh needles and to not share drug equipment with anyone else.

## HIV is NOT passed on from one person to another if:

- Neither person is HIV positive. Neither a person's body or having sex creates HIV: one of the people involved has to be infected with HIV already.
- An uninfected person touches or is close to someone with HIV.
- HIV positive and uninfected people share cups, glasses and cutlery.



## 3: What is the HIV test?

The HIV test shows whether someone has HIV infection. It is not a test for AIDS.

### Antibodies

The most commonly available HIV test is the HIV antibody test, which looks for antibodies to HIV. These antibodies are created by the infected person's immune system in response to the presence of HIV.

### The window period (seroconversion)

When someone becomes infected with HIV, it can take up to three months for their immune system to produce enough antibodies to show up on an HIV test. This gap is called the *window period*, or *seroconversion*. Throughout this period, the person with HIV has enough of the virus in their blood, sexual fluids and breast milk to infect another person. Often the level of virus in their body fluids at this time can be extremely high, making them particularly infectious.

Because the HIV test looks for antibodies, taking an HIV test less than three months after possible infection might not give an accurate result.

### A positive result

If the test finds HIV antibodies, the result is said to be positive. The person would then be HIV antibody positive or 'HIV positive'. In other words this person has HIV infection. It does not mean that they have AIDS. The test does not show if, when or whether they will become ill. But it can be used as a guide as to whether the time is right to start anti-HIV treatment.

### A negative result

If the test does not find HIV antibodies, the result is said to be negative. A negative test result shows that the person does not have detectable HIV infection at this time. This is accurate as long as the test was done at the end of the 'window period'.

## 4: How does HIV affect the body?

After a while, HIV will begin to weaken the body's immune system, which usually fights off any infections.

HIV reproduces even in someone who may be feeling well. If their immune system is working well, the virus may only reproduce a little. But if their immune system is weakened through illness, the virus can reproduce itself much more easily. Research shows that people with higher levels of HIV in their bodies have a greater risk of becoming ill than people with less HIV in their bodies.

As the HIV reproduces itself, the person is more vulnerable to other infections. Normally many of these infections would be controlled by an effective immune system, but in someone with HIV and a weakened immune system they can become more serious and in some cases fatal. These illnesses are often called 'opportunistic infections'.

Using anti-HIV treatments can slow this process down. They do not clear the body of HIV infection but do help control the amount of virus. If the HIV is controlled, the person's immune system is better able to deal with any other infections.

### How effective is anti-HIV treatment?

Taking a combination of anti-HIV drugs (combination therapy) can successfully reduce the level of HIV in the blood, and in many cases have a dramatic effect in improving the health and life expectancy of someone with HIV. However, the longer term effects of these treatments and for how long they remain effective is still unknown.

### Is there now a cure for HIV?

At present there is no cure for HIV infection. Drug combinations do not completely eliminate HIV from the body, they at best control it. There is still no vaccine to prevent people becoming infected with HIV.

## 5: Living with HIV

Many people manage to continue living with HIV without many alterations to their lives, remaining in work, relationships, raising or starting families and forming new relationships. The main aspect of life that can dramatically alter is sometimes other people's attitudes towards them if they know or find out that they have HIV. Other people's attitudes can range from being supportive and accepting, through to rejection and hostility. Because of this, the hardest part of life with HIV for many people is telling others, uncertain of what their reaction will be. Some people have been rejected by family, friends and partners.

As a result of this many HIV positive people choose not to tell anyone about being HIV positive except for a few trusted friends. Not being able to talk openly about concerns can be hard, but there are often support groups around the country available to help counter this feeling of isolation.

**For further information and details of these support groups call THT DIRECT  0845 12 21 200**

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