HIV and AIDS

Introduction

HIV is a virus most commonly caught by having sex without a condom.

It can also be passed on by sharing infected needles and other injecting equipment, and from an HIV-positive mother to her child during pregnancy, birth and breastfeeding.

HIV stands for human immunodeficiency virus. The virus attacks the immune system, and weakens your ability to fight infections and disease.

There is no cure for HIV, but there are treatments to enable most people with the virus to live a long and healthy life.

AIDS is the final stage of HIV infection, when your body can no longer fight life-threatening infections. With early diagnosis and effective treatment, most people with HIV will not go on to develop AIDS.

How is HIV spread?

HIV is found in the body fluids of an infected person, which includes semen, vaginal and anal fluids, blood and breast milk. It is a fragile virus and does not live very long outside the body.

HIV cannot be transmitted through sweat or urine.

The most common way of getting HIV is by anal or vaginal sex without a condom.

Other ways of getting HIV include:

using a contaminated needle, syringe or other injecting equipment

tranmission from mother to baby during pregnancy, birth or breastfeeding

through oral sex or sharing sex toys (although the risk is significantly lower than for anal and vaginal sex)

Getting tested

The only way to find out if you have HIV is to have an HIV test.

If you think you have put yourself at risk of HIV, you should seek medical advice and have a test as soon as recommended. The earlier HIV is detected, the more likely it is that treatment will be successful.

Emergency anti-HIV medication called PEP (post-exposure prophylaxis) may stop you becoming infected, but treatment must be started within three days of coming into contact with the virus.

There are a number of places you can get an HIV test, including your DOCTOR surgery and sexual health clinics and clinics run by charities including the Terrence Higgins Trust.

Most HIV tests involve taking a small sample of blood and sending this to a laboratory for analysis. These tests can provide a reliable result from four weeks after possible infection. It is now also possible to test using a saliva sample or pin-prick (blood-spot) test, but these tests do not reliably detect HIV as early as laboratory tests.

You may get the results in hours, days or weeks, depending on the type of test you take.

If your test is positive, you will be referred to a specialist HIV clinic where you'll have more blood tests to show what effect HIV is having on your immune system and be able to discuss treatment options.

Find out more about coping with a positive HIV test.

Anyone who has sex without a condom or shares needles is at risk of HIV infection. However, the two groups with highest rates of HIV in the UK are gay and bisexual men and African men and women.

NICE recommends that annual HIV tests be offered to all men who have sex with men, and more frequent testing be offered to those at higher risk due to multiple partners or unsafe sexual practices.

Living with HIV

Although there is no cure for HIV, treatments are now very effective, enabling people with HIV to live long and healthy lives.

Medication, known as antiretrovirals, works by slowing down the damage the virus does to the immune system. These medicines come in the form of tablets, which need to be taken every day.

You will be encouraged to take regular exercise, eat a healthy diet, stop smoking and have yearly flu jabs and five-yearly pneumococcal vaccinations to minimise the risk of getting serious illnesses.

Without treatment, a person with HIV's immune system will become seriously damaged and they will develop life-threatening illnesses such as cancer. This is known as late-stage HIV infection or AIDS.

Preventing HIV

Anyone who has sex without a condom or shares needles is at risk of HIV infection.

The best way to prevent HIV is to use a condom for sex and to never share needles or other injecting equipment (including syringes, spoons and swabs).

How common is HIV?

More than 1 in 5 people with HIV (over 20,000) do not know they are infected.

The World Health Organization estimates that around 34 million people in the world are living with HIV.

The virus is particularly widespread in sub-Saharan African countries, such as South Africa, Zimbabwe and Mozambique.

Symptoms of HIV

Most people who are infected with HIV experience a short, flu-like illness that occurs two to six weeks after infection. After this, HIV often causes no symptoms for several years.

The flu-like illness that often occurs a few weeks after HIV infection is also known as seroconversion illness. It's estimated that up to 80% of people who are infected with HIV experience this illness.

The most common symptoms are:

fever (raised temperature)

sore throat

body rash

Other symptoms can include:

tiredness

joint pain

muscle pain

swollen glands (nodes)

The symptoms, which can last up to four weeks, are a sign that your immune system is putting up a fight against the virus.

These symptoms can all be caused by conditions other than HIV, and do not mean you have the virus.

However, if you have several of these symptoms, and you think you have been at risk of HIV infection, you should get an HIV test.

After the initial symptoms disappear, HIV will often not cause any further symptoms for many years. During this time, known as asymptomatic HIV infection, the virus continues to spread and damage your immune system. This process can take about 10 years, during which you will feel and appear well.

It is important to remember that not everyone with HIV experiences early symptoms, so you should still take an HIV test if you have put yourself as risk, even if you experience no symptoms.

HIVaware: symptoms at a glance

Late-stage HIV infection

If left untreated, HIV will weaken your ability to fight infection so much that you become vulnerable to serious illnesses.

This stage of infection is known as AIDS, although doctors now prefer to use the term late-stage HIV infection.

Typically, a person with late-stage HIV infection has:

persistent tiredness

night sweats

weight loss

persistent diarrhoea

blurred vision

white spots on the tongue or mouth

dry cough

shortness of breath

fever of above 37C (100F) that lasts a number of weeks

swollen glands that last for more than three months

At this stage, you are at increased risk of life-threatening illnesses such as tuberculosis, pneumonia and some cancers. Many of these, though serious, can be treated and your health is likely to improve if you start HIV treatment.

Causes of HIV

A person with HIV can pass the virus to others whether or not they have any symptoms. People with HIV are more infectious in the weeks following infection.

HIV treatment significantly reduces the risk of someone with HIV passing it on.

Sexual contact

The main routes of transmission are unprotected vaginal and anal sex. It is also possible to catch HIV through unprotected oral sex, but the risk is much lower.

The risk of HIV transmission through oral sex will be higher if the person giving oral sex has mouth ulcers, sores or bleeding gums and/or if the person receiving oral sex has been recently infected with HIV (and has a lot of the virus in their body) or another sexually transmitted infection.

The type of sex also makes a difference to the level of risk:

performing oral sex on a man with HIV carries some risk, particularly if he ejaculates (comes) in your mouth

it is possible to catch HIV by performing oral sex on a woman with HIV, particularly if she is having a period, although this is considered to be extremely low risk

receiving oral sex from someone who has HIV is also extremely low risk as HIV is not transmitted through saliva

Other forms of transmission

Other ways of getting HIV include:

sharing needles, syringes and other injecting equipment

from mother to baby before or during birth or by breastfeeding

sharing sex toys with someone infected with HIV

healthcare workers accidentally pricking themselves with an infected needle (this risk is extremely low)

blood transfusion

How HIV spreads

HIV is not passed on easily from one person to another. The virus does not spread through the air like cold and flu viruses.

HIV lives in the blood and in some body fluids. To get HIV, one of these fluids from someone with HIV has to get into your blood.

The body fluids that contain enough HIV to infect someone are:

semen

vaginal fluids, including menstrual blood

breast milk

blood

lining inside the anus

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

The main ways the virus enters the bloodstream are:

by injecting into the bloodstream (with a contaminated needle or injecting equipment)

through the thin lining on or inside the anus and genitals

through the thin lining of the mouth and eyes

via cuts and sores in the skin

HIV is not passed on through:

kissing

spitting

being bitten

contact with unbroken, healthy skin

being sneezed on

sharing baths, towels or cutlery

using the same toilets and swimming pools

mouth-to-mouth resuscitation

contact with animals or insects such as mosquitoes

How HIV infects the body

HIV infects cells of the immune system, the body's defence system, making it unable to fight off infections.

The virus enters the immune system's CD4 cells, which protect the body against various bacteria, viruses and other germs.

It uses the CD4 cells to make thousands of copies of itself. These copies then leave the CD4 cells, killing them in the process.

This process continues until eventually the number of CD4 cells, also called your CD4 count, drops so low that your immune system stops working.

This can take about 10 years, during which time you will feel and appear well.

Risk groups

People who are at high risk of catching HIV include:

men who have had unprotected sex with men

women who have had sex without a condom with men who have sex with men

people who have lived or travelled extensively in Africa

people who have had sex without a condom with a person who has lived or travelled in Africa

people who inject drugs

people who have had sex without a condom with somebody who has injected drugs

people who have caught another sexually transmitted infection

people who have received a blood transfusion while in Africa, eastern Europe, the countries of the former Soviet Union, Asia or central and southern America

HIV testing

Emergency HIV pills

If you think you have been exposed to the virus within the last 72 hours (three days), anti-HIV medication, called PEP (post-exposure prophylaxis), may stop you becoming infected.

Some people living with HIV have no signs and symptoms for many years.

People who have recently been infected with HIV often experience a short, flu-like illness two to six weeks after infection. Symptoms include fever, sore throat, and body rash. See symptoms of HIV for more information.

You can only be certain you have HIV if you have an HIV test.

If you think you might be at risk, you should seek medical advice immediately. The earlier HIV is detected, the more likely it is that treatment will be successful.

If you do have HIV, delaying treatment will allow the virus to spread in your system and damage your health.

The sooner you get tested, the sooner you can start life-saving treatment and avoid spreading the virus to someone else.

HIV testing is available on the NHS free of charge to anyone. Some clinics can provide test results on the same day the test is taken.

HIV tests

The most common form of HIV test is a blood test, in which a small amount of blood is taken and examined in a laboratory. These tests can provide a reliable result four weeks after exposure to HIV.

It is now also possible to test for HIV through saliva. In this test, a sample of saliva is taken using a mouth swab. Dried blood spot tests are also available, in which the finger is pricked and a spot of blood is blotted onto filter paper. However, it can take up to three months after you have been infected with HIV for the virus to show up in saliva and blood spot tests.

If the test finds no signs of infection, then your test result is "negative". If the HIV virus has been found in your blood then the test result is "positive".

Before someone is given a positive result the blood is tested several times to be completely sure.

If you test positive for HIV, you will undergo a number of tests to monitor the progress of the infection to work out when HIV treatment should be started.

Where to get tested

There are various places to go for an HIV blood test, such as:

sexual health clinics, also called genitourinary medicine (GUM) clinics

clinics run by charities such as the Terrence Higgins Trust

some DOCTOR surgeries

some contraception and young people's clinics

local drugs agencies

at an antenatal clinic, if you are pregnant

a private clinic, where you will have to pay

Home testing kits are also available, which allow you to take a saliva sample or blood spot and send them off to a laboratory for testing. These are available online and from some pharmacies, but you will generally have to pay for them.

What are the treatment options?

There is no cure for HIV, but there are treatments to enable most people with the virus to live a long and healthy life.

Emergency HIV drugs

If you think you have been exposed to the virus within the last 72 hours (three days), anti-HIV medication may stop you becoming infected.

For it to be effective, the medication, called post-exposure prophylaxis or PEP, must be started within 72 hours of coming into contact with the virus.

The quicker PEP is started the better, ideally within hours of coming into contact with HIV. The longer the wait, the less chance of it being effective.

PEP has been misleadingly popularised as a "morning-after pill" for HIV – a reference to the emergency pill women can take to prevent getting pregnant.

But the description is not accurate. PEP is a month-long treatment, which has serious side effects and is not guaranteed to work. The treatment involves taking the same drugs prescribed to people who have tested positive for HIV.

You should be able to get PEP from:

sexual health clinics, or genitourinary medicine (GUM) clinics

hospitals – usually accident and emergency (A&E) departments

If you already have HIV, try your HIV clinic if the PEP is for someone you've had sex with

Want to know more?

If you test positive

If you are diagnosed with HIV, you will have regular blood tests to monitor the progress of the virus before starting treatment.

You will not normally need to start treatment until the virus has begun weakening your immune system.

This is determined mainly by measuring your levels of CD4, which are infection-fighting cells, in your blood.

Treatment is usually recommended to begin when your CD4 count falls to 350 or below, whether or not you have any symptoms. Treatment is also recommended to as soon as possible if your CD4 count is getting close to 350.

The aim of the treatment is to reduce the level of HIV in the blood and prevent or delay any HIV-related illnesses.

If you are on HIV treatment, the level of the virus in your blood is generally very low and it is unlikely that you will pass HIV on to someone else.

Want to know more?

If you have another condition

If you have also been diagnosed with hepatitis B or hepatitis C, it is recommended that you start treatment when your CD4 count falls below 500.

Treatment is recommended to begin at any CD4 count if you are on radiotherapy or chemotherapy that will suppress your immune system, or if you have been diagnosed with certain other illnesses, including:

tuberculosis

HIV-related nephropathy (kidney

disease)

HIV-related neurocognitive (brain) illnesses

Want to know more?

nam: Starting treatment if you have another condition

Antiretroviral drugs

HIV is treated with antiretrovirals (ARVs), which work against the HIV infection by slowing down the spread of the virus in the body.

A combination of ARVs is used because HIV can quickly adapt and become resistant to one single ARV.

Patients tend to take three or more types of ARV medication. This is known as combination therapy or antiretroviral therapy (ART).

Some antiretroviral drugs have been combined into one pill, known as a "fixed dose combination". This means that the most common treatments for people just diagnosed with HIV involve taking just one or two pills a day.

Different combinations of ARVs work for different people so the medicine you take will be individual to you.

Once HIV treatment is started, you will probably need to take the medication for the rest of your life. For the treatment to be effective, it will need to be taken on time, every time.

Many of the medicines used to treat HIV can react in unpredictable ways if you take them with other types of medicines.

These include herbal remedies such as St John's Wort, recreational drugs such as cocaine, and some over-the-counter medicines. Always check with clinic staff or your DOCTOR before taking any other medicines.

Want to know more?

Pregnancy

ARV treatment is available to prevent a pregnant woman from passing HIV to her child.

Without treatment, there is a one in four chance that your baby will develop HIV. With treatment, the risk is less than one in a hundred.

Advances in treatment mean there is no increased risk of passing the virus to your baby with a normal delivery. However, for some women, a caesarean section may still be recommended.

If you have HIV, do not breastfeed your baby because the virus can be transmitted through breast milk.

If you or your partner has HIV, speak to an HIV doctor as there are options for safely conceiving a child without putting either of you at risk of infection.

Missing a dose

HIV treatment only works if you take your pills on time, every time. Missing even a few doses will increase the risk of your treatment not working.

You will need to develop a daily routine to fit your treatment plan around your lifestyle.

Side effects

HIV treatment can have unpleasant side effects. If you get serious side effects (which is uncommon) you may need to try a different combination of ARVs.

Common side effects include:

nausea

tiredness

diarrhoea

skin rashes

mood changes

gaining fat on one part of your body while losing it on another

People with HIV can get treated by their own doctor or by a specialist at an HIV clinic or a GUM clinic.

Services, including support organisations, may work together to provide specialist care and emotional support.

Find out more about living with HIV.

Preventing HIV

The main way to prevent HIV infection is to avoid activities that put you at risk, such as having sex without a condom and sharing needles and other injecting equipment.

If you have HIV you can pass it on to others if you have sex without a condom, or share needles, syringes, or other injecting equipment.

It is important to continue to practise safer sex even if you and your sexual partner both have HIV. This is because you can catch another strain of the virus that your HIV medication may not be able to control.

Sex

HIV can be spread by having vaginal or anal sex without a condom. There is also a risk of transmission through oral sex, but this risk is much lower.

HIV can also be caught from sharing sex toys with someone infected with HIV.

See causes of HIV for more on transmission of HIV.

The best way to prevent HIV and other sexually transmitted infections (STIs) is to use a condom for penetrative sex and a dental dam for oral sex.

Condoms

Condoms come in a variety of shapes, colours, textures, materials and flavours. Both male and female condoms are available.

A condom is the most effective form of protection against HIV and other STIs. It can be used for vaginal and anal sex, and for oral sex performed on men.

HIV can be passed on before ejaculation, through pre-come and vaginal secretions, and from the anus.

It is very important that condoms are put on before any sexual contact occurs between the penis, vagina, mouth or anus.

Lubricant

Lubricant, or lube, is often used to enhance sexual pleasure and safety, by adding moisture to either the vagina or anus during sex.

Lubricant can make sex safer by reducing the risk of vaginal or anal tears caused by dryness or friction, and it can also prevent a condom from tearing.

Only water-based lubricant (such as K-Y Jelly) rather than an oil-based lubricant (such as Vaseline or massage and baby oil) should be used with condoms.

Oil-based lubricants weaken the latex in condoms and can cause them to break or tear.

Dental dams

A dental dam is a small sheet of latex that works as a barrier between the mouth and the vagina or anus to reduce the risk of STIs during oral sex.

Dental dams are available in a variety of flavours and colours, and typically come in two forms:

a sheet, which can be spread across the vagina or anus and held in place during oral sex by either the giver or the receiver

a mask with elasticised bands, which is held in place around the ears of the person giving oral sex, leaving the hands free

It is important that dams are only used once, the same side of the dam is always kept against the body, and a new dam is used if a new area of the body is being stimulated. A dam should never be moved from the vagina to the anus or vice versa.

Find out more about what sexual activities can put you at risk of HIV and other STIs.

Sharing needles and injecting equipment

If you inject drugs, don't share needles or syringes, or other injecting equipment such as spoons and swabs, as this could expose you to HIV and other viruses found in the blood, such as hepatitis C.

Many local authorities and pharmacies offer needle exchange programmes, where used needles can be exchanged for clean ones.

If you are a heroin user, consider enrolling in a methadone programme. Methadone can be taken as a liquid, so it reduces your risk of getting HIV.

A DOCTOR or drug counsellor should be able to advise you about both needle exchange programmes and methadone programmes.

If you are having a tattoo or piercing, it's important that a clean, sterilised needle is always used.

Living with HIV

How people cope with being diagnosed with HIV, as well as with treatment, varies from person to person.

By properly managing your condition – taking your medication correctly and avoiding illness – you will be able to live as normal a life as possible.

Other issues to consider include getting psychological support, telling people about your HIV, pregnancy and financial support.

Your medication

HIV treatment only works if you take your pills on time, every time. Missing even a few doses will increase the risk of your treatment not working. It can be helpful to develop a daily routine around taking your medication, so that you do not forget to take it.

Many of the medicines used to treat HIV can react in unpredictable ways if you take other types of medicines. These include herbal remedies such as St John's Wort, recreational drugs such as cocaine, and over-the-counter medicines.

Always check with clinic staff or your DOCTOR before taking any other medicines.

Your health

In addition to taking HIV medication, there are many things you can do to improve your general health and reduce your risk of falling ill.

These include:

regular exercise

healthy eating

stopping smoking

Reviewing your treatment

Because HIV is a long-term condition, you will be in regular contact with your healthcare team, who will review your treatment on an ongoing basis.

A good relationship with the team means that you can easily discuss your symptoms or concerns. The more the team knows, the more they can help you.

Services, including support organisations, may work together to provide specialist care and emotional support. Find local HIV support services.

Preventing infection

If you have HIV, you should take extra precautions to prevent exposure to other infections.

Everyone with a long-term condition such as HIV is encouraged to get a flu jab each autumn to protect against seasonal flu (influenza).

It is also recommended that they get a pneumoccocal vaccination every five years. This is an injection that protects against a serious chest infection called pneumococcal pneumonia.

Psychological impact of HIV

Being diagnosed with HIV can be very distressing, and feelings of anxiety or depression are common. Your HIV clinic can provide you with counselling so that you can fully discuss your condition and your concerns.

You may find it helpful to talk to a trained counsellor or psychologist, or to someone at a specialist helpline. Your HIV clinic will have information on these.

Some people find it helpful to talk to other people who have HIV, either at a local support group or in an internet chatroom.

Telling people about your HIV

Telling your partner and former partners

If you have HIV, it is important that your current sexual partner or any sexual partners you have had since being exposed to infection are tested and treated.

If you do not tell your sexual partners and you have unsafe sex and infect someone, they could prosecute you.

Some people can feel angry, upset or embarrassed about discussing HIV with their current or former partners. Discuss your concerns with your DOCTOR or the clinic staff. They will be able to advise you about who should be contacted and the best way to contact them, or may be able to contact them on your behalf.

Nobody can force you to tell any of your partners about your HIV, but it is strongly recommended that you do. Left untested and untreated, HIV can have devastating consequences and will eventually lead to death.

Telling your boss

There is no legal obligation to tell your employer that you have HIV, unless you have a frontline job in the armed forces or you work in a healthcare role where you perform invasive procedures (as you will need to be monitored by your occupational health team and HIV doctor to ensure you are not putting your patients at risk of infection).

Employers are allowed to ask health questions only after an offer of employment has been made, to help them decide whether you can carry out tasks that are essential for the job.

If you are an employee with HIV, you may worry that if you do tell your employer, your HIV status will become public knowledge or that you may be discriminated against. On the other hand, if your boss is supportive, telling them may make it easier for adjustments to be made to your workload or for you to have time off.

The HIV organisations below have lots of information and can advise you on these and other work-related issues.

Pregnancy

If you have HIV and become pregnant, contact your HIV clinic. This is important because:

Some anti-HIV medicines can harm babies, so your treatment plan will need to be reviewed.

Additional medicines may be needed to prevent your baby getting HIV.

Without treatment, there is a one in four chance that your baby will develop HIV. With treatment, the risk is less than one in a hundred.

Advances in treatment mean that a normal delivery will not usually increase the risk of transmission from mother to baby for women who have an undetectable viral count and whose HIV is well managed. For some women, a caesarean section may still be recommended.

Discuss the risks and benefits of each delivery method with the staff at your HIV clinic. The final decision about how your baby is delivered is yours, and unless any unforeseen complications make a caesarean section necessary, staff will respect that decision.

If you have HIV, do not breastfeed your baby because the virus can be transmitted through breast milk.

If you or your partner has HIV, there may be options available that will allow you to conceive a child without putting either of you at risk of infection. You should ask your HIV doctor for advice.

Opportunistic infections

If your CD4 count drops below 200, you will be at risk of catching many different types of infection. Infections that 'take advantage' of an HIV-weakened immune system are known as opportunistic infections. However, if you stick to your HIV therapy, the likelihood of developing an opportunistic infection remains low.

The four main types of opportunistic infections are:

bacterial infections, such as pneumonia or tuberculosis (TB)

fungal infections, such as vaginal thrush and pneumocystis pneumonia (PCP)

parasitical infections, such as toxoplasmosis

viral infections, such as hepatitis

People with advanced HIV also have a higher risk of developing some forms of cancer, such as lymphoma (cancer of the lymph system).

Pneumonia

Pneumonia is a bacterial infection of the lungs. It can often develop as a complication of other infections, such as a cold or flu. Left untreated, pneumonia can be fatal because the infection can spread through your blood.

Pneumonia can be treated using antibiotics. There is also a vaccine that can protect you against many of the bacteria that can cause pneumonia. People living with HIV are recommended to receive annual flu vaccinations.

Tuberculosis (TB)

TB is another bacterial infection of the lung. Globally, it is the leading cause of death for people who are HIV positive. TB can be treated using antibiotics, but some strains of bacteria have developed resistance to this medicine, and these can be more difficult to treat.

Hepatitis

Hepatitis is a viral infection that can cause damage to your liver. This can increase your risk of developing liver cancer. There are three main types of hepatitis: hepatitis A, hepatitis B and hepatitis C.

Vaccines are available for hepatitis A and hepatitis B, but not for hepatitis C. Avoiding sharing needles and using a condom are the best ways to prevent hepatitis.

Candidiasis

Candidiasis is a fungal infection that is common in people living with HIV. It causes a thick, white coating to appear on the inside of the mouth, tongue, throat or vagina.

Though rarely serious, candidiasis can be both embarrassing and painful. It can be treated with antifungal creams.

Tell the staff at your HIV clinic if you have repeated bouts of candidiasis because it could be a sign of a low CD4 count.

Pneumocystis pneumonia (PCP)

PCP is a fungal infection of the lungs, which can be life-threatening if it is not treated promptly. Before the advances in anti-HIV medicines, PCP was the leading cause of death among those with HIV in the developed world.

Symptoms of PCP include:

a persistent dry cough

shortness of breath

difficulty breathing

in some cases, fever

Report any symptoms of PCP straight away because the condition can suddenly worsen without warning. PCP can be treated with antibiotics and, if your CD4 count drops below 200, you may be given antibiotics to prevent a PCP infection.

Cancer

People with advanced HIV have an increased risk of developing cancer. It is estimated that somebody with untreated late-stage HIV infection (AIDS) is 100 times more likely to develop cancer than somebody without the condition. However, with treatment, the risk of getting cancer is much the same as that of the general population.

The two most common cancers to affect people with HIV are lymphoma and Kaposi's sarcoma. Lymphoma is a cancer of the lymphatic system (a network of glands that makes up part of our immune system). Kaposi's sarcoma can cause lesions to grow on your skin, and can also affect your internal organs.