CONDITION

HIV & AIDS

HIV is a long-term viral infection that weakens the immune system without effective treatment.

WHAT IT IS
Long-term viral infection affecting the immune system

BODY SYSTEM
Immune system

MAIN SYMPTOMS
Often none; fever, rash, swollen glands, fatigue

WHAT CAUSES IT
Infection with human immunodeficiency virus

HOW IT IS DIAGNOSED
Antigen-antibody testing with confirmatory blood tests

MAIN TREATMENT
Combination antiretroviral therapy

CAN IT BE CURED?
No - treatment can suppress the virus

IS IT AN EMERGENCY?
Sometimes - severe breathing trouble, confusion, or collapse

LONG-TERM OUTLOOK
Near-normal lifespan possible with sustained effective treatment

Overview

Human immunodeficiency virus, or HIV, is a virus that attacks the immune system. It mainly affects CD4 cells, a type of white blood cell that helps protect you from infections.

Without treatment, HIV can gradually weaken the immune system. This can allow serious infections and some cancers to develop. Effective treatment stops the virus from multiplying and gives the immune system a chance to recover.

AIDS stands for acquired immunodeficiency syndrome. It is the most advanced stage of HIV. A person is diagnosed with AIDS if their CD4 count falls below a defined level or they develop certain serious infections or cancers. Not everyone with HIV develops AIDS.

There is currently no widely available cure for HIV. However, modern treatment can reduce the

amount of virus in the blood to an undetectable level. People who start treatment and continue taking it can often live long, active lives.

When HIV remains undetectable through treatment, it is not passed on through sex. This is known as undetectable equals untransmittable , or U=U .

Symptoms

HIV symptoms differ according to the stage of infection. Symptoms alone cannot confirm or rule out HIV.

Some people develop a flu-like illness two to four weeks after infection. This early stage is called acute HIV infection. Possible symptoms include:

These symptoms are also common in many other infections. Some people have mild symptoms or none at all.

After the early stage, HIV may cause no noticeable symptoms for years. The virus remains active during this time, even when you feel well.

If HIV becomes advanced, symptoms may include ongoing fever, unexplained weight loss, persistent diarrhoea, repeated infections, severe tiredness, or swollen glands that do not settle. Certain lung, brain, eye, skin, or digestive infections may occur when the immune system is severely weakened.

Treatment can prevent HIV from progressing to this stage.

- Fever, rash, sore throat, or swollen glands
- Headache, muscle aches, tiredness, or night sweats
- Mouth ulcers, diarrhoea, or nausea

Causes and risk factors

HIV is caused by infection with human immunodeficiency virus. It can be transmitted through blood, semen, pre-seminal fluid, vaginal or rectal fluids, and breast milk.

The main routes of transmission are:

HIV does not spread through ordinary contact. You cannot acquire it from hugging, shaking hands, sharing toilets or dishes, coughing, sweat, tears, or insect bites. Closed-mouth kissing does not transmit HIV.

The chance of transmission is affected by the type of exposure and the amount of virus

present. Untreated early infection may involve a high viral load, meaning a large amount of virus in the blood.

A person taking treatment who maintains an undetectable viral load does not transmit HIV through sex. U=U does not apply to sharing injection equipment, and separate medical advice is needed about pregnancy and breastfeeding.

- Anal or vaginal sex when HIV is not effectively suppressed
- Sharing needles, syringes, or other equipment used to inject drugs
- Pregnancy, birth, or breastfeeding without effective prevention and treatment
- Needlestick exposure or blood products that have not been safely screened

Diagnosis

An HIV test is the only way to know whether you have HIV. Testing may use blood from a vein, a finger-prick sample, or oral fluid, depending on the test.

Laboratory antigen-antibody tests are commonly used. They look for HIV antibodies made by the immune system and for part of the virus called the p24 antigen. A reactive screening result is followed by confirmatory testing before a diagnosis is made.

A nucleic acid test looks directly for the virus's genetic material. It may be used when very recent infection is suspected, symptoms suggest acute HIV, or other test results are unclear.

No HIV test can detect infection immediately after exposure. This delay is called the window period . Its length depends on the test and how recently the exposure happened. If an early test is negative, repeat testing may be recommended.

Home or self-tests are usually antibody tests. A positive self-test is preliminary and needs confirmation through a healthcare service.

After diagnosis, blood tests measure:

These results help guide treatment and follow-up. HIV testing should be voluntary and confidential within local laws.

- Viral load: how much HIV is in the blood
- CD4 count: how well the immune system is functioning
- Medicine resistance, liver and kidney function, and other infections

Treatment and management

HIV is treated with antiretroviral therapy, often shortened to ART. These medicines block different stages of the virus's life cycle. A combination of medicines is used to prevent HIV from multiplying and becoming resistant.

Treatment is recommended for everyone diagnosed with HIV and is usually started as soon as practical. It may involve a daily tablet or, for some people who meet specific requirements, long-acting injections.

The aim is to reach and maintain an undetectable viral load. This protects the immune system, prevents HIV from progressing to AIDS, and prevents sexual transmission.

Taking treatment consistently matters. Missed doses or long gaps can allow the virus to multiply and develop resistance. If taking treatment is difficult because of side effects, cost, privacy, housing, mental health, or another issue, the care team can often help find a safer and more workable plan.

Regular follow-up usually includes viral load testing. CD4 testing may be needed more often when the count is low and less often after immune recovery. Kidney, liver, cholesterol, blood sugar, and bone health may also be monitored, depending on the medicines and your health.

HIV medicines can interact with prescription drugs, non-prescription medicines, recreational drugs, and supplements. Review these with the clinician or pharmacist managing your HIV treatment. Do not stop ART without medical guidance.

Treatment can control HIV, but it does not remove the virus from the body. Claims that supplements, diets, or alternative therapies cure HIV are not supported by reliable evidence.

Complications

Untreated HIV can progressively damage the immune system. This raises the risk of opportunistic infections, which are infections that take advantage of weakened immune defences. Examples include tuberculosis, certain types of pneumonia, and infections affecting the brain or eyes.

Advanced HIV can also increase the risk of certain cancers, including some lymphomas and cervical cancer. HIV and its treatment may affect the kidneys, liver, bones, nervous system, heart, or metabolism, although risks differ between people.

AIDS is diagnosed when HIV has caused severe immune suppression or a specific AIDS-defining condition. Effective ART can help the immune system recover even after an AIDS diagnosis, although recovery may take time.

HIV can also affect emotional wellbeing. Anxiety, depression, isolation, and stigma are

common concerns. Mental healthcare and peer support can be important parts of treatment.

Prevention

HIV infection can often be prevented. There is not yet an approved vaccine for routine use.

Ways to reduce transmission include:

PrEP is medicine taken by an HIV-negative person before possible exposure. Different forms are available in some countries, and testing is required before and during its use.

Post-exposure prophylaxis, or PEP, is a short course of HIV medicine taken after a possible exposure. It must be started as soon as possible and no later than 72 hours after the exposure. Do not wait for symptoms before seeking it.

During pregnancy, effective HIV treatment and specialist maternity care greatly reduce transmission to the baby. Advice about birth and infant feeding differs by setting, treatment access, and local guidance.

- Using condoms correctly during anal or vaginal sex
- Taking pre-exposure prophylaxis, or PrEP, when there is ongoing risk
- Not sharing needles, syringes, or other injection equipment
- Having HIV and sexually transmitted infection testing when appropriate
- Taking HIV treatment and maintaining an undetectable viral load

Living with it and what to expect

HIV usually remains a lifelong condition. With sustained treatment, the viral load can become undetectable within months and stay that way. The immune system often improves, although the amount and speed of recovery differ.

Many people with well-controlled HIV work, travel, exercise, have relationships, and raise families. With early diagnosis and effective treatment, life expectancy can approach that of people without HIV. Other health conditions, access to care, smoking, substance use, and long gaps in treatment can affect the outlook.

You will need ongoing care even when you feel well. Routine appointments focus on viral load, medication effects, vaccinations, sexual health, and health needs that change with age. An unexpected detectable result does not always mean treatment has failed; it needs review and sometimes repeat testing.

Pregnancy is possible, and people with HIV can have children without transmitting HIV when appropriate treatment and maternity care are available.

Disclosure can be a personal and emotional decision. Laws about telling sexual or needle-sharing partners differ by location. An HIV service can explain local requirements and help with confidential partner notification if needed.

When to get medical help

Arrange prompt testing if you may have been exposed to HIV, even if you feel well. If the exposure happened within the past 72 hours, seek urgent medical care immediately to ask about PEP.

Contact your usual HIV service soon if you:

Seek urgent or emergency care for severe breathing difficulty, chest pain, confusion, a seizure, fainting, a severe headache with neck stiffness, sudden weakness, or inability to stay awake. These symptoms have many possible causes, but they need rapid assessment.

A positive home HIV test is not usually an emergency. Arrange confirmatory testing promptly. Until the result is confirmed, avoid sharing injection equipment and use measures that reduce sexual transmission.

- Have missed several doses or cannot access your medicine
- Develop new or persistent symptoms
- Have troublesome treatment side effects
- Receive a detectable viral load after previously being undetectable
- Are pregnant, planning pregnancy, or breastfeeding

Common questions

What is the difference between HIV and AIDS?

HIV is the virus. AIDS is the most advanced stage of HIV, when the immune system is severely weakened or certain serious conditions have developed. Effective treatment can prevent AIDS.

Can HIV be cured?

There is no widely available cure. A very small number of people have had no detectable HIV after complex stem-cell transplants performed for serious cancers, but this is not a routine or

suitable HIV treatment. ART can suppress HIV for the long term but must usually be continued.

Can I pass on HIV if my viral load is undetectable?

A person who takes ART and maintains an undetectable viral load does not transmit HIV through sex. This is U=U. Continued treatment and viral load monitoring are essential. U=U does not prevent other sexually transmitted infections.

How soon after exposure will an HIV test work?

It depends on the test. Nucleic acid tests can identify infection earlier than antigen-antibody or antibody-only tests. Testing too soon can give a negative result even when infection is present. A testing service can advise when to test again based on the exposure and test used.

Can HIV spread through kissing or sharing a bathroom?

HIV is not spread by ordinary kissing, hugging, toilet seats, dishes, food, sweat, or saliva. It is transmitted through specific body fluids reaching the bloodstream or vulnerable tissues.

Can I live a normal life with HIV?

Many people with treated HIV live long, active lives. This usually involves continuing ART, attending routine monitoring, and managing other health needs. Individual outcomes are influenced by how early treatment begins and whether viral suppression is maintained.

Sources

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