

Patient information from BMJ

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HIV: common infections in people with HIV

If you have HIV, your immune system doesn't work as well as it should. This means that you're more likely to get certain infections.

Your doctor should talk to you about the most common infections that can happen when you have HIV, and about how to prevent and treat them. You might hear them called 'opportunistic' infections.

What is HIV?

HIV stands for **Human Immunodeficiency Virus**. If you are infected by the HIV virus it damages your immune system. This makes it harder to fight off some types of infection, and easier for some cancers to develop.

Without treatment, HIV infection can lead to AIDS. AIDS stands for **Acquired Immune Deficiency Syndrome**.

AIDS is the name given to the group of infections and illnesses that develop as the immune system is weakened by the HIV virus. Without treatment, AIDS usually develops between 6 and 9 years after infection with HIV.

What are 'opportunistic' infections?

If you have HIV, your immune system is weakened. This makes you more likely to get certain infections alongside HIV. Your doctor might call these 'opportunistic' infections.

The word opportunistic means to take advantage of an opportunity - in simple terms, to grab your chance when it happens.

So, in people with HIV, some infections grab their chance to take advantage of your weakened immune system.

Your chance of getting opportunistic infections partly depends on how badly your immune system has been affected by HIV. Your doctor might talk about your **CD4+ count**. This roughly means how many blood cells you have that can fight infection.

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So the lower your CD4+ count, the greater your chance of getting an infection.

What are the main infections I should know about?

In this leaflet we look at the main infections that affect people with HIV, including a brief look at their symptoms, and how to prevent and treat them.

It's important to remember that, while the list of infections might look long and scary, these are just possible problems: they might not happen to you at all.

You can use our information to talk to your doctor in more detail about any of these infections that you're concerned about.

Treatment side effects

Like all medicines, the drugs used to treat opportunistic infections in HIV can have unpleasant side effects in some people. Your doctor should explain these possible side effects to you.

Many people with HIV need to take a lot of different drugs. Unfortunately, this means that side effects of medications are a fact of life for many people with HIV.

Some drugs can also interact badly with each other to cause problems. If you notice any side effects that your doctor didn't mention, or that seem unusual, tell your doctor.

Tuberculosis

The symptoms of tuberculosis (TB) can be a bit vague and general. They include fever, weight loss, and feeling generally unwell. But TB is common enough in people with HIV that doctors should be on the lookout for it.

TB is treated with antibiotics to kill the bacteria that cause the infection.

But treatment can be complicated, as the antibiotics can sometimes react badly with antiretroviral treatment (ART) used to treat HIV. So your doctor will want to keep a close eye on you.

When you're first diagnosed with HIV you should have what's called a tuberculin skin test. This test can tell if you have what's called latent TB. This means that you have the infection but it's not causing you any problems at the moment.

If you have HIV and latent TB, you should have antibiotic treatment to get rid of the infection.

Disseminated MAC disease

MAC stands for mycobacterium avium complex. It's a bacterial infection that affects people with weakened immune systems. Without treatment it can cause serious problems, including severe damage to the lungs.

Like TB, MAC disease is fairly common in people with HIV, so doctors know to look out for it. Symptoms include fever, night sweats, weight loss, and sometimes stomach problems.

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MAC disease is treated with long-term antibiotics, and some people have to take antibiotics for the rest of their lives to stop the condition from coming back.

People with very low CD4+ counts, or who cannot have ART for any reason, might need to take antibiotics to prevent MAC disease.

Pneumonia

People with HIV can be affected by a type of pneumonia called *Pneumocystis* pneumonia, or PCP for short. You might also hear it called *P jirovecii* pneumonia.

This type of pneumonia is caused by a fungus that attacks the lungs in people with weakened immune systems. The symptoms include fever, fatigue, and a dry cough.

PCP is treated with antibiotics. As with some other infections in people with HIV, some people might have to take long-term antibiotics to stop the infection from coming back.

Toxoplasmosis

Toxoplasmosis is a parasitic infection. You can get it from infected meat or from the faeces (poo) of infected cats. In people with strong immune systems it doesn't usually cause any problems, and it goes away on its own.

But in people with HIV, toxoplasmosis can cause serious problems, including problems with the eyes and brain. Symptoms include headaches, confusion, fever, and weakness.

Toxoplasmosis is treated with a combination of medicines.

Unlike some other infections that can happen to people with HIV, most people don't need to take long-term medicine for prevention. But people with HIV should not eat raw or undercooked meat and should avoid direct contact with cat faeces.

Cytomegalovirus (CMV)

CMV is usually harmless in people with a healthy immune system. But it can cause serious problems in people with HIV, including damage to the eyes and lungs. The symptoms include fever, aching muscles, and swollen glands.

The infection is treated with antiviral medicines. Taking your normal ART medicines as prescribed helps prevent CMV by stopping your CD4+ count from falling too low.

Cryptococcus infection

Cryptococcus is a fungal infection. The symptoms include fever, headache, chest pain, and coughing. Without treatment it can lead to meningitis.

The infection can usually be treated fairly easily with antifungal drugs. But people with severe symptoms sometimes need to have more intensive treatment, including daily lumbar punctures during treatment to test the spinal fluid for infection.

Cryptococcus can also lead to a reaction in some people, called Immune Reconstitution Inflammatory Syndrome, or IRIS for short.

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IRIS happens, strangely, when your immune system starts to get better. What then happens is that your strengthened immune system over-reacts to the cryptococcus or to another opportunistic infection, making you ill.

People who have IRIS usually need to have long-term antifungal treatment, and sometimes medicines to reduce inflammation (swelling) in some parts of the body.

People with very low CD4+ counts may also need to have long-term antifungal treatment, to stop the infection coming back.

Mucocutaneous candidiasis (thrush)

Thrush is a fungal infection that usually affects the mouth and throat. In women it can also affect the vagina. It isn't usually serious but it is unpleasant and annoying.

Symptoms of vaginal thrush include itching, swelling, and discharge. Thrush in the mouth and throat can cause swelling and make it hard to swallow food and liquids.

Thrush is fairly common in people with HIV, but it's also fairly easy to treat using short courses of antifungal drugs. Taking antifungals to prevent thrush from coming back isn't usually recommended, as the infection can become resistant to the drugs.

What will happen?

While it's not possible to say what will happen to individual people with HIV, opportunistic infections are more likely when your CD4+ count is low.

Taking your ART medications properly as prescribed helps keep your CD4+ count high.

How well you recover from opportunistic infections varies depending on how well you are when you get the infection, and on the type of infection.

For example, candidiasis (thrush) is common, but it is usually fairly easy to treat and rarely causes serious problems. Other infections, while possibly less common, can be harder to treat. And some, like TB and pneumonia, can sometimes be fatal.

Staying healthy and preventing infections when you have HIV doesn't just depend on taking your medications properly.

Good nutrition is crucial when you have an illness that affects your immune system. Talk to your doctor or nurse about how to eat well.

Practising safe sex helps to keep your sexual partners safe. That means using condoms, and educating yourself about other safe sex practices.

It's much easier to stay healthy with HIV when you **don't use drugs, drink alcohol, or smoke**. All these things can affect your immune system and make you weaker.

If you can't stop injecting drugs, talk to your treatment team about how to get clean needles and syringes. Your doctor might be able to help you get drug treatment.

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Many organisations and support groups offer help and information to people with HIV. For example, in the UK, the Terrence Higgins Trust (tth.org.uk) has been providing these services for many years.

Your doctor might be able to help you find support in your area, or you can easily search online.

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