

Primary infection

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The first few months following infection with HIV are known as primary HIV infection, or acute HIV infection. During this initial stage of HIV infection, the immune system is unprepared to attack the virus which therefore reproduces at very high levels. A viral load test at this stage will usually show high levels of HIV in the blood – often higher than at any other stage of HIV infection. For many people, this is accompanied by a dramatic drop in CD4 count.

Diagnosing primary HIV infection

Early HIV infection can cause a range of symptoms, which can be very similar to the flu or other common viral illnesses. These symptoms are sometimes called seroconversion illness, or acute retroviral syndrome. As many as 90% of those diagnosed with HIV will have experienced one or more of the following symptoms, usually within the first four weeks of initial exposure to the virus: fever, rash, headache, feeling generally unwell, aches and pains, mouth ulcers, sore throat, night sweats, weight loss, tiredness, swollen glands, and neurological symptoms like meningitis.

Symptoms typically appear a few days to a few weeks after exposure to HIV and can persist for two to four weeks, although swollen glands may last longer.

Some people do not experience symptoms at all or only for a very short time and it is not possible to diagnose HIV infection without an HIV test.

Although many people with primary HIV infection seek medical care for their symptoms, the diagnosis is often missed due to the similarity with other illnesses. Very few people go to a sexual health clinic with these symptoms and seek an HIV test.

However, efforts are underway to increase rates of HIV testing, and people from groups with a high risk of HIV (particularly African people and gay men) should be encouraged to go for an HIV test if they are seen by a GP or other healthcare professional when they have symptoms of primary HIV infection.

HIV testing during this time

After infection with HIV, it may be months before the body generates immune cells that can recognise HIV-infected cells or produces antibodies against HIV. The time at which antibodies to HIV appear is called seroconversion. Before this time, an HIV antibody test will give a negative result.

During suspected primary HIV infection, other forms of test can be used to detect the presence of the virus (or antigen). Such tests respond to a specific protein on the HIV virus, although as HIV becomes fully established in the body the protein will fade to undetectable levels and the test will be inaccurate. Tests that detect the genetic material of HIV itself can identify HIV in the blood within a week of infection and continue to work after seroconversion.

In the UK, most sexual health clinics will use a kit which combines both tests, in order to ensure an accurate result. These are sometimes known as fourth-generation tests.

If you are concerned that you may have recently been at risk of HIV infection, talk to a health professional about HIV testing. If the risk was in the last 72 hours, you and your doctor should also discuss whether a short-course of preventive HIV treatment called post-exposure prophylaxis (PEP) is appropriate for your situation.

Treatment during primary infection

In the UK, it is recommended that HIV treatment should be started when your CD4 cell count is around 350.

However, many doctors have been interested in offering a relatively short-course (three months) of HIV treatment to people who have recently contracted HIV as a means of limiting its spread in the body and

strengthening the immune system's response. Some clinical trials have suggested that treatment during primary infection results in a shorter symptomatic period, rapid suppression of viral load and less viral infection in the lymphoid tissue. Treatment during primary infection also appears to reverse the drop in CD4 count which is often experienced at this time. Some studies even suggest that a longer course of treatment in the early stages of infection could help in preserving some of the body's natural ability to fight HIV. However, it is not known how this will affect people's long-term prognosis. Furthermore, other studies have failed to find any real benefit, so there is still a lot of uncertainty about this treatment strategy.

At the moment you are only recommended to take treatment during primary infection if:

- You have an AIDS-defining illness.
- If your nervous system (brain, spine and nerves) are affected by HIV.
- If you have a CD4 cell count below 350.

But treatment decisions should be made based on your individual circumstances, in discussion with your doctor. One of the leaflets in our illustrated series, *The basics*, is designed to help support a conversation about the issues. It's called *Very recent infection* and you can find it on our website at www.aidsmap.com/thebasics.

Infectiousness

Because of the extremely high viral load that occurs during the early stages of infection, the risk of transmitting HIV to other people, during unprotected sex for example, may be high during this time.

Safer sex, such as using condoms, is particularly important during this time. HIV treatment reduces viral load and reduces infectiousness. If you are concerned about the risk of passing on HIV, this may be another reason to consider taking HIV treatment during primary infection.