

Primary infection

Last updated February 2011/ Due for review June 2012

The first few months following infection with HIV are known as primary HIV infection, or acute HIV infection. This is the period between HIV first entering the body and the time that antibodies to HIV can be detected in the blood. 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. This is often accompanied by a dramatic drop in CD4 count.

Primary 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. Several studies suggest that the more serious and prolonged the symptoms someone experiences during primary infection, the faster he or she is likely to experience disease progression.

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.

Diagnosing primary HIV infection

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 Africans and gay men) should be encouraged to go for an HIV test if they are seen by a GP or casualty doctor 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 and so HIV testing clinics require individuals to take tests three months and six months after exposure to HIV to ensure negative results are accurate.

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.

Treatment during primary infection

It is now 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 you have neurological (brain) conditions that are related to HIV.
- If you have a CD4 cell count that is below 200 for three months or more.

A big study is looking at treatment during primary infection, so we should have more information on its possible benefits or risks in the new few years.