

The HIV Test



Why it is better to have yourself tested

If someone has been at risk of contracting HIV, testing is the only way to find out whether or not they have become infected. The test should be combined with comprehensive counselling by a doctor.

The HIV infection has, within the space of only a few years, developed into a pandemic (worldwide epidemic). Here too it is becoming more and more widespread, and no longer affects only the risk groups. It is, therefore, important for all persons to know whether they are infected or not, since in this way each one of us can contribute towards preventing the further spreading of this fatal disease.

Deceptive calm

As a rule an infected person notices nothing (with the exception of an occasionally occurring influenza-like illness within the first weeks) of the HIV infection for several years – a deceptive calm. In this symptom-free period, which lasts on average ten to twelve years, the infected person is already a transmitter of the disease. Whether one has become infected or not can only be ascertained by making an HIV test. Those who have themselves tested are behaving responsibly both towards themselves and towards others.

The test always makes sense

Let us assume that the person in question is not infected at all, i.e. HIV negative. The negative test result indicates the absence of an infection with a high degree of certainty – provided that the recommended waiting period before the test has been observed (see below). Any uncertainty and any unnecessary fears can now be assuaged. In this situation, combined with competent counselling, a responsible pattern of behaviour (with avoidance of risk situations) can be developed for the future.

Let us assume, on the other hand, that someone is infected, i.e. HIV positive. This person will, as a rule, do everything possible not to spread the disease further. No-one would like to infect his/her partner, the person he/she loves most, or cause the birth of an HIV positive child. On the other hand only those persons can profit from timely therapy (which can postpone the terminal stage AIDS), who know that they are HIV positive. In many of the complications accompanying AIDS, early recognition plays an important role. Such manifestations can be treated in time, and much suffering can be prevented. An HIV positive person who places him/herself under competent medical care, can live longer and

better than someone who delays until the onset of AIDS.

We recommend that you have the test performed by a doctor in whom you have confidence, so that comprehensive counselling can follow.

Treat immediately and correctly

When an HIV positive person falls victim to other infections, this contributes to the proliferation of the virus, and thus to further weakening of the immune system. Basically harmless diseases – e.g. shingles – can take a very severe course. Many diseases, e.g. diarrhoea, must therefore be treated at an early stage.

It is essential for a doctor to know whether his patient is HIV positive or not. Only then can he make a correct diagnosis and initiate correspondingly effective therapy. For example in the most frequent type of pneumonia encountered in HIV positive patients, Pneumocystis-Carini-Pneumonia (PCP) completely different drugs have to be employed than in „normal“ pneumonia. At the time when PCP was treated as normal pneumonia almost half of the patients died. But now, with early diagnosis and appropriate therapy, less than five per cent of these patients die.

In patients known to be HIV positive a virus disease of the eyes (CMV Retinitis), which frequently occurs in AIDS patients, can be diagnosed at an early stage and treated, preventing them from going blind.

No time to lose

Anyone who keeps putting off the decision to submit him/herself to an HIV test, will, if infection is present, lose valuable treatment time.

There are also other reasons why a test should be made: in the case of certain inoculations, e.g. before travelling overseas, the doctor has to adopt a different procedure in the presence of an HIV infection to ensure that the patient comes to no further harm. The same applies to major operations which, as everyone knows, represent an exceptional strain on the immune system. In the interest of the patient the nature of the operation must be considered very carefully.

Medical advice

Only if HIV positive individuals know that they are infected can they take specific precautions to safeguard their health. How many people are aware that birds in the apartment can, with their excrement, cause dangerous fungal diseases in HIV infected persons, or that cat toilets and the soil in flower pots can hold similar risks? Alcohol, cigarettes and drugs are even more harmful for HIV positive persons, since they weaken the immune system additionally. Raw meat and other foodstuffs likely to be contaminated with salmonella should be strictly avoided, as should raw fish, oysters and other sea foods. Mayonnaise and sauce or gravy that have been left standing too long can also be dangerous. In contrast, healthy nutrition rich in calories and vitamins is to be recommended. Contacts with carriers of pathogens (germs) – whether childrens' diseases (e.g. chicken pox) or tuberculosis – can become dangerous. Travelling to countries with a low standard of hygiene – above all tropical countries – may involve above-average dangers of infection. The taking

When should a test be made?

- In the event of a previous way of life involving risk (e.g. drug dependence or frequent change of partners)
- Both partners at the beginning of a sexual relationship
- Partners wanting a child
- Women at the beginning of a pregnancy
- Before inoculation with living vaccines
- If blood transfusions were received before autumn 1985
- Prior to major operations

The test should be taken at the earliest two to six weeks after a possible infection and, in the event of a negative result, repeated after three months.

The test no longer makes sense for persons who already know that they are infected.

of medicines without first consulting the doctor should be avoided due to possible side effects or weakening of the immune system. And, what many people do not know, severe physical strain or stress, as well as sun-bathing in the open air or in the solarium, can also affect the immune system, and thus accelerate the outbreak of AIDS.

In the interests of all infected persons, all the points mentioned speak in favour of an HIV test. But there is also a further reason: for several years now the medical world has been in possession of virus-inhibiting medications.

Therapy

Antiviral therapy

Currently, the drugs available to combat HIV infection are the reverse transcriptase inhibitors and the protease inhibitors. The reverse transcriptase inhibitors indirectly prevent the viral genome from becoming incorporated in the DNA of the human host cell, as these drugs block an important enzyme for DNA synthesis – reverse transcriptase. The protease inhibitors block protease, a central enzyme responsible for forming new viruses. Nowadays the two types of drug are used in combination. Both help to keep down the level of virus in the blood and lymph nodes and in this way they slow down the progress of the disease.

Huge advances have been achieved in the treatment of HIV infection in the last few years. In the early nineties, antiviral therapy was used only in the advanced stages of HIV infection. Nowadays treatment is begun early in the hope: (1) of stopping further proliferation of the virus and destruction of the immune system, thus halting the progress of the disease; (2) of suppressing the formation of resistant HIV variants; (3) of reducing proneness to infection. Studies have shown that in HIV-positive pregnant women, the risk of transmitting the virus to the baby can be greatly reduced by use of antiviral therapy.

Nowadays therapy is begun with two different reverse transcriptase inhibitors and one protease inhibitor. Reverse transcriptase inhibitors include AZT (Retrovir®), Lamivudin

(3TC®), ddI (Videx®) or ddC (Hivid®). Protease inhibitors are Indinavir (Crixavan®) or Nelfinavir (Viracept®).

Drugs for Prophylaxis in cases of AIDS

Prophylaxis is aimed at preventing or at least delaying onset of typical infections (opportunistic infections) in the AIDS stage. It only combats the symptoms and does not cure the HIV infection, nor is it a way of halting the destruction of the immune system.

The precise procedure for prophylaxis against opportunistic infections depends on the stage of the disease. Various drugs are used: e.g. Baktrim® for prophylaxis against *Pneumocystis carinii* pneumonia.

Post-exposure prophylaxis (PEP)

For several years now, medical and nursing staff exposed to the risk of HIV infection by an injury at work – from a used syringe, for example – have been treated for two to four weeks with one or more anti-HIV drugs. This has reduced the risk of transmission by 80%.

Since 1997 this „treatment“ has been available in Switzerland also to persons who may have become infected through unprotected sexual contact with an HIV positive partner. But little is known at present about the effectiveness of the „treatment“, except that it should be started as soon as possible, ideally within a few hours, but not later than 72 hours after the infection risk situation, otherwise the HIV will already have spread in the body. These drugs must be taken for two to four weeks and have strong side-effects. The decision to carry out PEP needs careful consideration by a doctor in a central hospital, as nothing is yet known about long-term damage through antiretroviral therapy on healthy individuals.

Your most important partner: the doctor

Have faith in your doctor. He is an expert and therefore the right partner for you. He will support you and can, where necessary, call upon well trained specialists. Naturally he is bound by the Hippocratic oath of secrecy.

What you should know about the test

The test used to ascertain whether someone has become infected with the AIDS Virus, HIV, is called the HIV antibody test (e.g. the ELISA). What is looked for is not the virus itself, but the products of the human defence system (immune system) in the blood, i.e. the antibodies.

The HIV test is one of the surest tests in medicine.

The time from the moment of infection until the appearance of antibodies in the blood (seroconversion time, diagnostic window) varies, and is dependent on various factors (route of transmission, number of virus particles transmitted, etc.). As far as we know today, antibodies appear at the earliest after two to six weeks and, in the majority of people within three months, and therefore testing is effective at the earliest two to six weeks after exposure to risk of infection. If the result is then negative, the test should be repeated 3 months later.

There are various tests, and these complement each other. The ELISA is used

as an HIV antibody detection test. Since other antibodies may also interact, „positive“ results are always rechecked. For confirmation or correction the Western Blot Test is used. It is more time-consuming and expensive than the more sensitive ELISA. To exclude possible sample switches in the laboratory, in the event of a „positive“ result a second blood sample is to be recommended.

Antigen tests, which demonstrate viral components directly, are less sensitive than the HIV antibody test, and give no essential shortening of the diagnostic window. The antigen test is important in identifying those newly infected with HIV. The PCR test (gene probes, with which even traces of genetic material of the virus can be detected) is, because of its complexity, used only by specialists and when test results are unclear e.g. in early diagnosis in infants and uncertain cases of infection with HIV. The PCR Test is nowadays used to measure the effectiveness of therapy.

The test is in everyone's interest

Only people who are aware of their infection can behave responsibly towards themselves and others.

- Infected persons should, in principle, inform all previous sexual partners about the existence of the infection, so that they can also have themselves tested at once and receive medical counselling. In this way can it be ensured that they profit at an early stage from the medications available today, and that they do not unwittingly transmit the infection further.
- Infected persons must inform their present sexual partner about the infection. Safe protection means abstaining from sexual intercourse and the exchange of body fluids. Condoms reduce the risk of infection, but they do not exclude it completely. Someone who does not want to change his/her risky pattern of behaviour should always protect him/herself with condoms.
- In sexual intercourse between infected persons it is worthwhile using condoms to reduce the risk of infection with other pathogenic organisms (syphilis, herpes, hepatitis etc.) or with a particularly „virulent“ HIV strain.
- Infected persons must inform doctors, dentists and nursing staff about the infection, so that the latter can act accordingly.
- Blood, organ and sperm donations from infected persons are forbidden.

All the points set out here ought to be obvious as groundrules of caring and considerate behaviour.

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AIDS Information Switzerland
P.O. Box 26 • CH 8610 Uster 1
Phone +41 44 261 03 86
Fax +41 44 261 10 32 • PC 80-18122-3
www.aids-info.ch