

## Medicine for Managers

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# Human Immunodeficiency Virus (HIV)

HIV is one of the fastest growing serious diseases in the Western world. It can affect any part of society and a quarter of people infected with the disease are unaware they have it. Gay men and black Africans are still at greatest risk but numbers are increasing significantly for all groups

Human Immunodeficiency Virus is a retrovirus which attacks the body's immune system, rendering the sufferer vulnerable to infection or disease. The disease develops as the virus destroys white blood cells (CD4 cells) which fight infection gradually resulting in immune failure. In the later stages of the disease it may be called AIDS (Acquired Immune Deficiency Syndrome) and the patient is usually suffering serious consequences of the disease. The term 'late-stage HIV infection' is now preferred.

The disease first appeared in the New York gay male community in the early 1980s but has spread globally. In the UK there are probably about 100,000 patients with HIV, a quarter of whom do not know that they are infected. It is thought that the virus originally arose from a similar virus found in chimpanzees in Africa.

HIV is spread by exchange of bodily fluids such as blood or semen. It can be spread through sexual contact, either homosexual

or heterosexual, with infected individuals. It may also be spread by sharing of contaminated needles by illicit drug users and by infected blood transfusion (in the UK all blood is screened for HIV but this may not be the case in some parts of the world). It is more common in people who have caught another sexually transmitted disease.

*Comprehensive information about HIV together with details of helplines and publications can be found on the Terrence Higgins Trust website [www.tht.org.uk](http://www.tht.org.uk)*

The initial symptoms of HIV occur 2-6 weeks after infection and are non-specific and often mistaken for cold or flu symptoms. They include sore throat, fever, swollen glands, tiredness and aching and a blotchy rash. They are usually mild and resolve without treatment. There is then a

latent period often of many years without symptoms but during which time the virus is multiplying and progressively damaging the immune system.

In late-stage HIV symptoms may depend on the nature of acquired illness but may include weight loss, night sweats, extreme tiredness, persistent diarrhoea, cough, breathlessness, fever and lymphadenopathy. Patients may develop pneumonia, TB and some cancers.

HIV is usually diagnosed by a blood test which identifies the virus. The test is not effective immediately after exposure and patients who have been potentially exposed to risk are advised to have a test after three months. The test is specific for the disease and consent of the patient is required.

Any person with a positive diagnosis needs considerable support with counselling and social back-up. This may be arranged through referral to a specialist HIV clinic. Patients undergo regular blood testing to monitor the level of HIV in the blood (the viral load) and the CD4 count (the number of defence cells in the blood). This data enables medical staff to assess disease progression and the likelihood of developing an HIV-related infection. The viral load also gives a measure of the efficacy of anti-HIV medication, the purpose of which is to reduce the virus to undetectable levels.

HIV is treated with anti-retroviral medication. There is no cure and currently no effective vaccine for the disease. Medication requires skilful selection. Single medicines are not used because the virus can quickly adapt and become resistant. They are therefore normally used in combination and are able to slow the progression of the disease. They can prolong life for years. There are five main groups of anti-retro-viral medication, all of which attack the virus in different ways. The objective of treatment planning is to identify the best combination of medication to reduce viral load to undetectable levels whilst minimising the side effects, which are commonly nausea, diarrhoea, tiredness and skin rashes. For the medication to be effective and to provide the best chance of success it is essential that the full dose is taken exactly as prescribed.

It is sometimes possible to halt the development of HIV within the first 72 hours after exposure. This technique, Post Exposure Prophylaxis (PEP) can be used after, for example, having sexual intercourse with an HIV-infected person when a condom broke or following an accidental stab with an HIV infected needle, as could happen in the course of medical treatment. The course of treatment lasts for four weeks, often has unpleasant side effects such as nausea, vomiting, diarrhoea and headache, and is not guaranteed to be effective.

Preventive measures are crucial if there is any risk of acquiring the disease. Because the route of transmission is through bodily fluids, precautions such as condoms are essential. Drug users should ensure that they use needle exchanges wherever possible to avoid ever sharing needles.

HIV is an insidious infection which remains to be beaten and it remains invariably fatal. Healthcare workers should take care to minimise any risk of transmission through needle-stick injuries and health education programmes to reduce sexual transmission are crucial.

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