



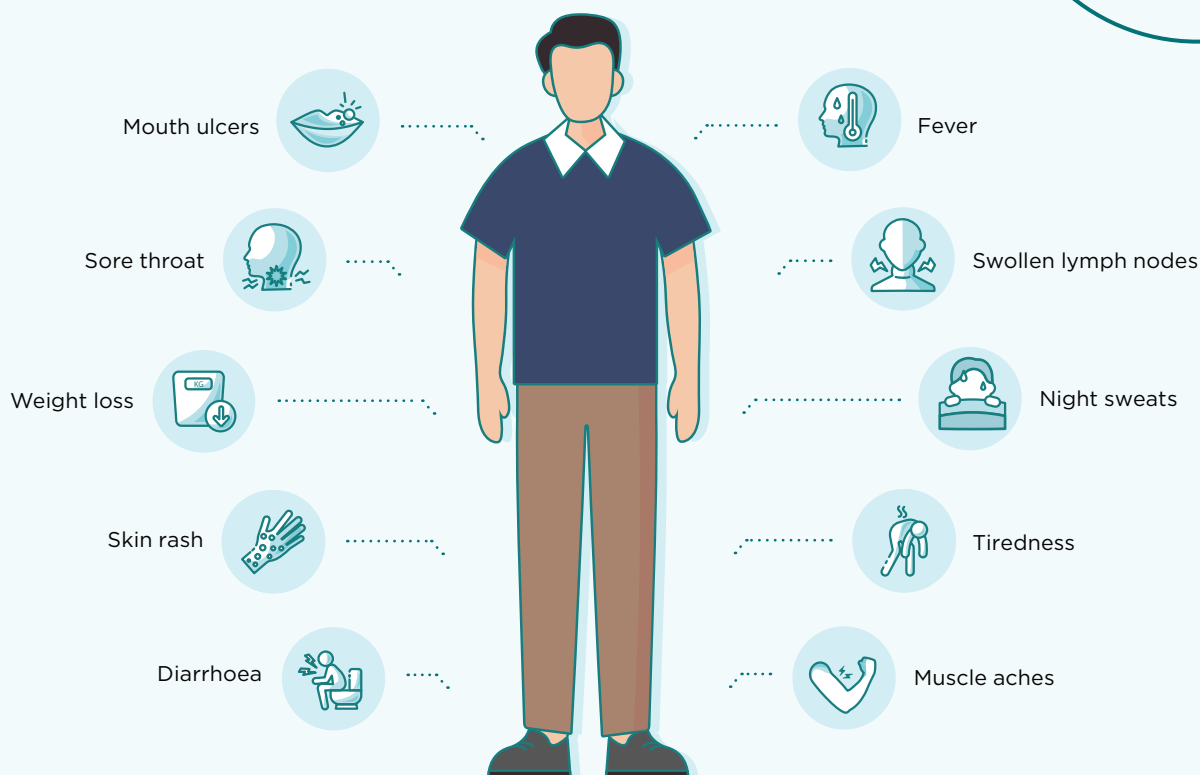
TREATMENTS FOR HIV INFECTION

WHAT IS HIV INFECTION?

HIV (Human Immunodeficiency Virus) is a virus that attacks white blood cells in the body's immune system, making a person more likely to get sick from infections and other diseases.

HIV infection is spread through contact with certain body fluids from an infected person who is not on effective treatment. In Singapore, this mainly happens through unprotected sex with someone who has HIV. However, it can also be spread by sharing contaminated needles and syringes, or receiving infected blood or blood products. A woman with HIV may also pass it to her baby during pregnancy, at birth or through breastfeeding if she is not on treatment.¹

Some people may not have any symptoms when they are newly infected with HIV. However, others may develop flu-like symptoms such as:



Without treatment, the virus will slowly multiply and weaken the body's immune system. This can lead to advanced HIV disease (**AHD**), previously known as Acquired Immunodeficiency Syndrome (AIDS). People with AHD can become sick easily from potentially life-threatening infections or cancers.



In Singapore:
Around **200** new cases of HIV infection were diagnosed in 2022, mostly in **men**.²

At least **90%** of diagnosed individuals living with HIV are receiving treatment.³



The only way to know if you have HIV is to have an **HIV test** in clinics or hospital. You may need regular testing if you are at a high risk of getting HIV.

Anonymous testing services are available.¹ You can identify clinics offering anonymous testing by looking for this icon. HIV self-testing kits are also available to buy at select clinics.⁴

HOW IS HIV INFECTION TREATED?

HIV infection can be controlled with **early** and **effective** treatment. Taking a combination of **antiretroviral drugs**, known as antiretroviral therapy (**ART**), as soon as possible after diagnosis can help people living with HIV prevent illness and **lead healthy lives with full life expectancies**. If the amount of HIV in your blood (**viral load**) goes down after starting treatment, it means the treatment is working.

ANTIRETROVIRAL THERAPY (ART)

It is important to take ART exactly as prescribed by your doctor because:



It can reduce the viral load to a level so low that a test can't detect it (**undetectable** viral load). This **prevents passing** HIV to others and protects your partners from infection.

It can also prevent AHD and **improve** your overall health.



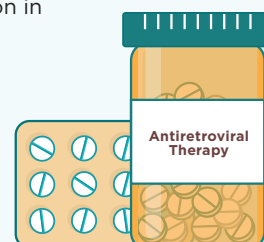
Stopping or taking ART inconsistently can cause the treatment to stop working against HIV (**drug resistance**).

Almost everyone who takes ART as prescribed can achieve an undetectable viral load, usually within 6 months after starting treatment. It is important to keep taking your ART even when your viral load is undetectable, otherwise your viral load will quickly go back up.

There are different types of antiretroviral drugs that are used in combination as ART to treat HIV infection in Singapore:

- Integrase strand transfer inhibitors (INSTIs)
- Nucleoside and nucleotide reverse transcriptase inhibitors (NRTIs)
- Non-nucleoside reverse transcriptase inhibitors (NNRTIs)
- Protease inhibitors (PIs)

ART is also available as a fixed-dose combination pill, where two or three drugs are **combined** into one pill. This helps to reduce the number of pills you have to take.



SUBSIDISED TREATMENTS

Many antiretroviral drugs have been subsidised making ART more affordable^{5,6}:

SUBSIDISED		
Fixed-dose combinations	INSTIs	NRTIs
<ul style="list-style-type: none"> ✓ Abacavir/lamivudine ✓ Abacavir/dolutegravir/lamivudine ✓ Dolutegravir/lamivudine ✓ Emtricitabine/tenofovir disoproxil fumarate 	<ul style="list-style-type: none"> ✓ Dolutegravir ✓ Raltegravir 	<ul style="list-style-type: none"> ✓ Lamivudine* ✓ Tenofovir disoproxil fumarate ✓ Zidovudine*
		*tablet or capsule only
NNRTIs	PIs	
<ul style="list-style-type: none"> ✓ Efavirenz ✓ Etravirine ✓ Nevirapine ✓ Rilpivirine 	<ul style="list-style-type: none"> ✓ Atazanavir ✓ Darunavir ✓ Lopinavir/ritonavir ✓ Ritonavir 	

Treatment costs are subsidised by **40% to 75%** for eligible patients

Key: INSTI, integrase strand transfer inhibitor; NNRTI, non-nucleoside reverse transcriptase inhibitor; NRTI, nucleoside and nucleotide reverse transcriptase inhibitor; PI, protease inhibitor

KEY MESSAGES

HIV testing is the only way to know if you have HIV. Get tested if you feel you may be at risk of HIV infection. **Early treatment** can prevent passing HIV to others, help you stay healthy, and save lives.

Antiretroviral therapy (ART) is **effective** and **safe** for treating HIV infection and many antiretroviral drugs are subsidised. The choice of treatment depends on different factors such as your preferences, side effects, medical history, drug resistance and other medicines that you are taking.

Finding out you have HIV can be overwhelming, but you are not alone. Talk to your **doctor** to **discuss** which treatment is suitable for you and your concerns. You can also speak to a **medical social worker** if you need further financial assistance, or you can reach out to **local support groups**⁷ if you want to meet people with similar experiences.

Sources

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3. Choy CY et al. Recommendations for the use of antiretroviral therapy in adults living with HIV in Singapore. 2022
4. www.ncid.sg/About-NCID/OurDepartments/Pages/National-HIV-Programme.aspx
5. ACE Technology Guidance, *Antiretroviral therapies for treating Human Immunodeficiency Virus type 1 (HIV-1) infection*, 1 September 2020
6. ACE Technology Guidance, *Dolutegravir with lamivudine for treating Human Immunodeficiency Virus infection*, 7 December 2022
7. Action for AIDS (Singapore)



The Agency for Care Effectiveness (ACE) was established by the Ministry of Health (Singapore) to drive better decision-making in healthcare through health technology assessment (HTA), clinical guidance and education. It publishes guidances on diagnosing, treating, and preventing different medical conditions based on the latest research information available worldwide. This factsheet is not, and should not be regarded as, a substitute for professional or medical advice. Please seek the advice of a qualified healthcare professional about any medical condition. ©Agency for Care Effectiveness, Ministry of Health, Republic of Singapore. All rights reserved. Reproduction of this publication in whole or in part in any material form is prohibited without the prior written permission of the copyright holder.

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