
understanding HIV/AIDS




about HIV

what is HIV?


- HIV (human immunodeficiency virus) is the virus that leads to AIDS (acquired immunodeficiency syndrome).
- AIDS is the most advanced stage of HIV disease.
- A person does not have AIDS as soon as he or she becomes infected with HIV.
- In fact, it is possible to have HIV for many years and not have any signs of the disease.
- However, if left untreated, HIV can become AIDS.

how does HIV affect the body?

- Our immune system protects our bodies from infections caused by many viruses, bacteria and fungi.
 - HIV destroys and weakens the cells of the immune system (CD4/T-cells).
 - When these cells are weakened or destroyed, our immune system cannot protect our bodies as well as it should.
 - As a result, our bodies can be at risk for developing life-threatening infections.
- 

having HIV

how does someone get HIV?

- HIV is spread mainly through sexual contact (anal, vaginal, oral) with someone who is infected with the virus.
 - Using a latex or polyurethane condom can help reduce the chance of spreading the virus.
 - Someone can also get HIV by sharing a needle with a person who has HIV or, very rarely, through a blood transfusion with infected blood.
 - HIV can also be spread from a pregnant mother with HIV to her baby during pregnancy, labor, and the delivery. An infected mother can also spread HIV when she breast-feeds.
- 

can a person get HIV from casual contact with someone who is infected with HIV?

- Someone **cannot** get HIV from simple or casual contact with a person who has the virus. For example, you **cannot** get HIV by:
 - shaking hands.
 - drinking out of the same drinking glasses.
 - touching the person.

what does it mean when someone tests positive for HIV?

- A confirmed positive result on an HIV test usually means that a person is infected with HIV. However, if one has engaged in risk behaviors within three months prior to testing, an HIV test may return a negative result. Additional testing three months after the last possible exposure is encouraged. Consult a medical professional on the importance of re-testing.
- A person who tests positive for HIV should see a health-care professional as soon as possible.
- If HIV goes untreated, it can damage the immune system and lead to AIDS.

can someone with HIV live a healthy life?

- With the right medications and lifestyle changes, people with HIV are living longer and healthier lives.
- It's important to partner with a doctor or other health-care professional to make sure that your medications are working and that HIV is under control.
- Your doctor wants to find the HIV regimen that's best for you. Make sure you talk about your work life, home life and social life with your doctor. These are all important when finding a regimen that fits with your lifestyle and won't stop you from doing the things you like to do.

what steps can I take to manage my HIV?

There's no question that living with HIV has its challenges, but you can manage them. Here are some things you can do:


- Follow all of your doctor's advice. Take your medication as prescribed.
- Talk honestly with your doctor about your experience with HIV and your medicine. Side effects can have an impact on your life daily and even cause damage over time. But remember: side effects can be managed. Your doctor wants to help.
- Learn as much as you can about HIV/AIDS. Remember, knowledge is power.
- Join an HIV/AIDS support group so that you can express your feelings and share with others.
- Reward yourself for even the smallest accomplishment.

how can I be supportive of a loved one who is living with HIV?

- Let the person know that you still love and care about him or her.
- Encourage and motivate your loved one to stay active. HIV doesn't have to slow anyone down.
- Don't be afraid to talk to or listen to your loved one. HIV does not mean life is over.

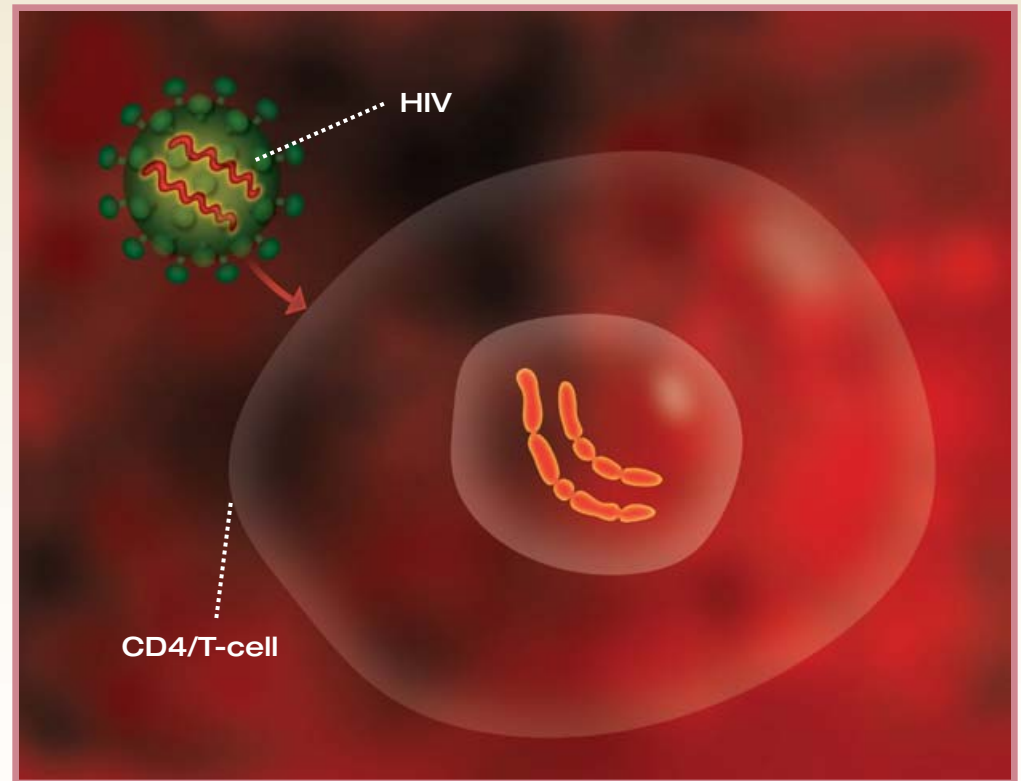
understanding how HIV reproduces

how does HIV reproduce in the body?

- Our bodies renew themselves by making new cells, such as skin cells and blood cells.
 - In a similar way, HIV wants to renew itself.
 - However, HIV cannot renew itself or reproduce on its own. It must infect the cells of our immune system called CD4/T-cells. It then uses these cells like factories to make more HIV.
 - Several steps must take place before HIV can reproduce.
- 

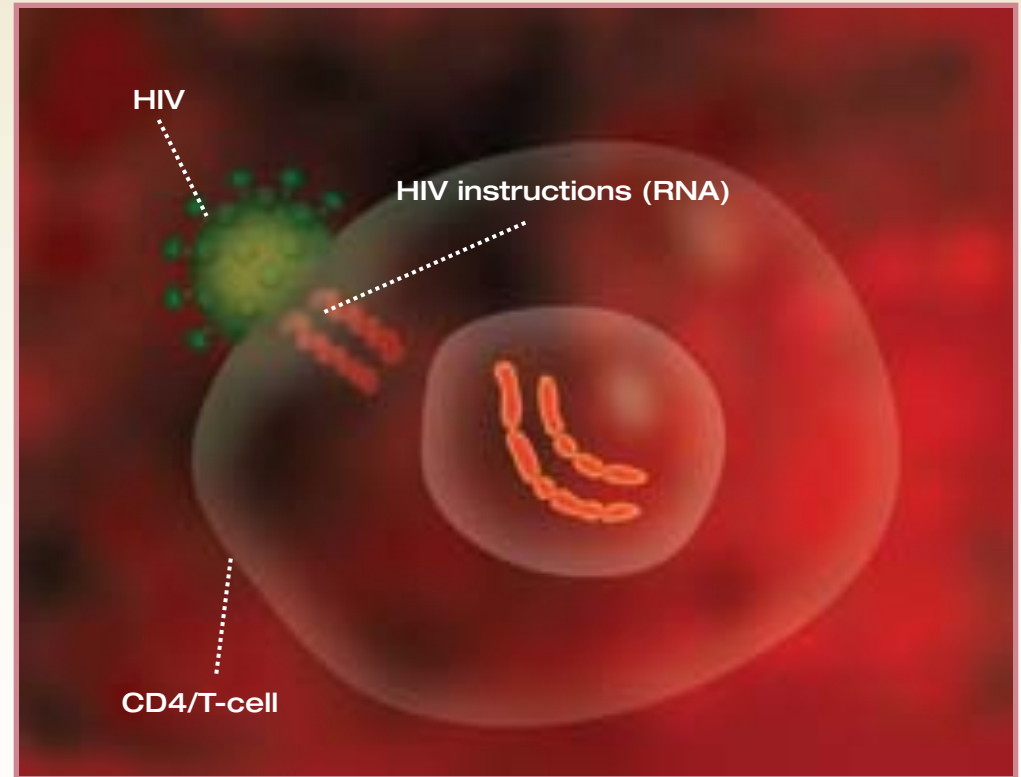
step 1 — attach

HIV attaches to a CD4/T-cell.



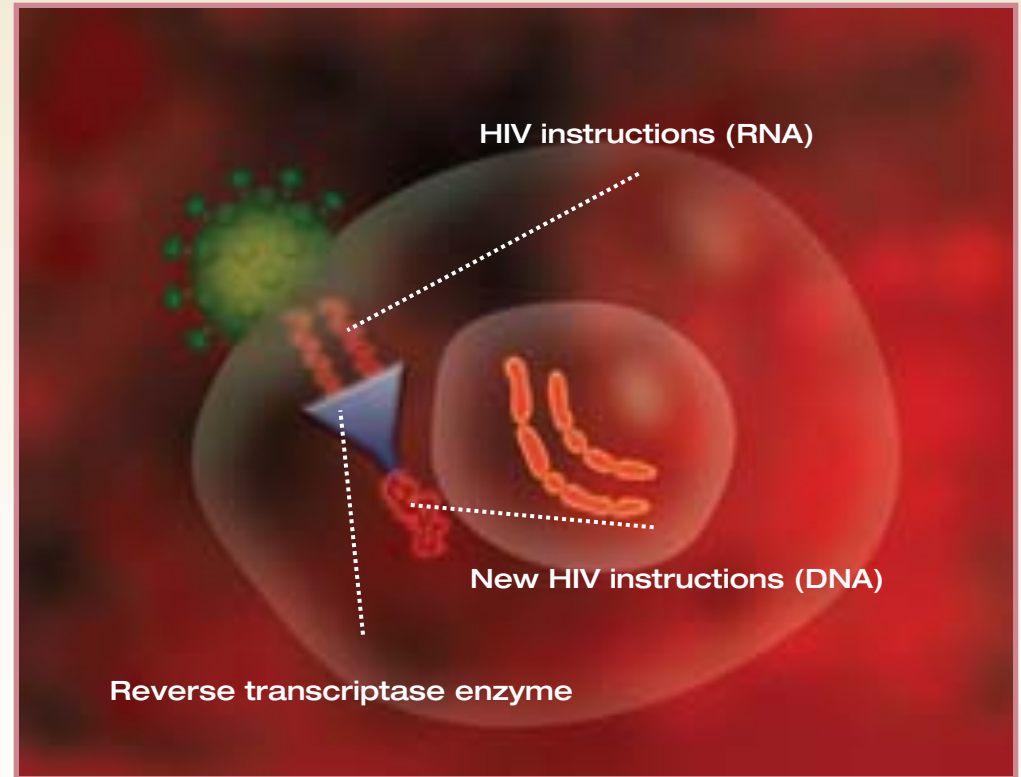
step 2 — insert

Once attached, HIV inserts instructions (called RNA) into the CD4/T-cell so that the CD4/T-cell can make more HIV.



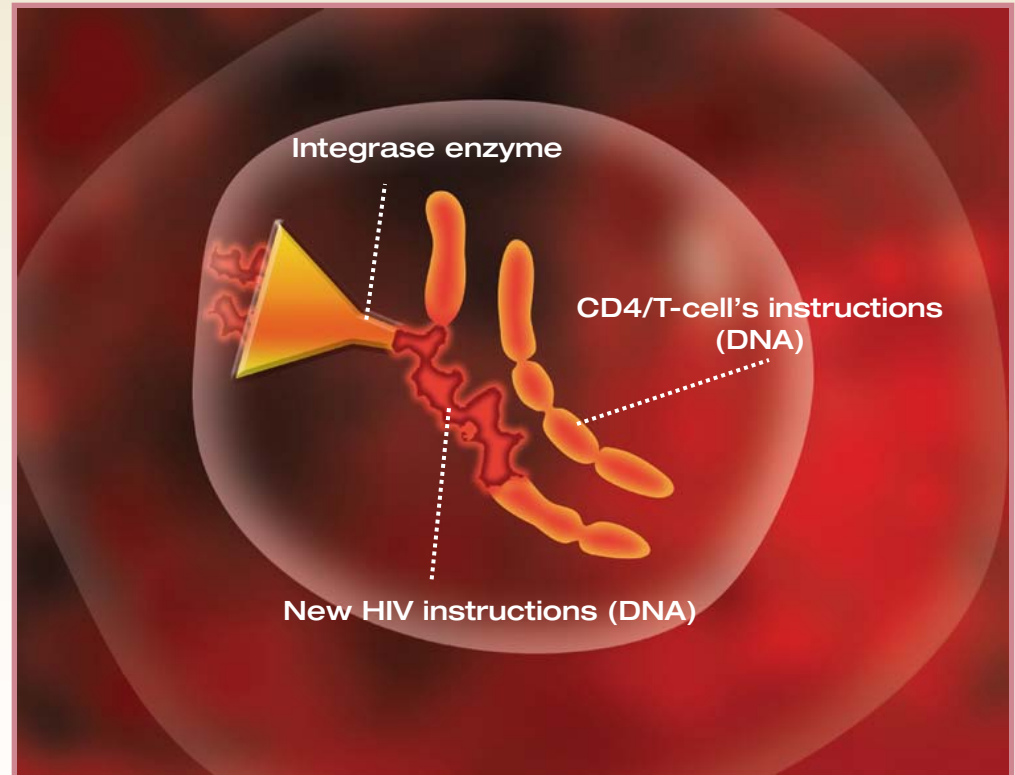
step 3 — read

HIV then uses an enzyme (helper) called reverse transcriptase. This enzyme helps the CD4/T-cell read the HIV instructions (RNA) and turn them into new instructions (DNA) that the CD4/T-cell can understand.



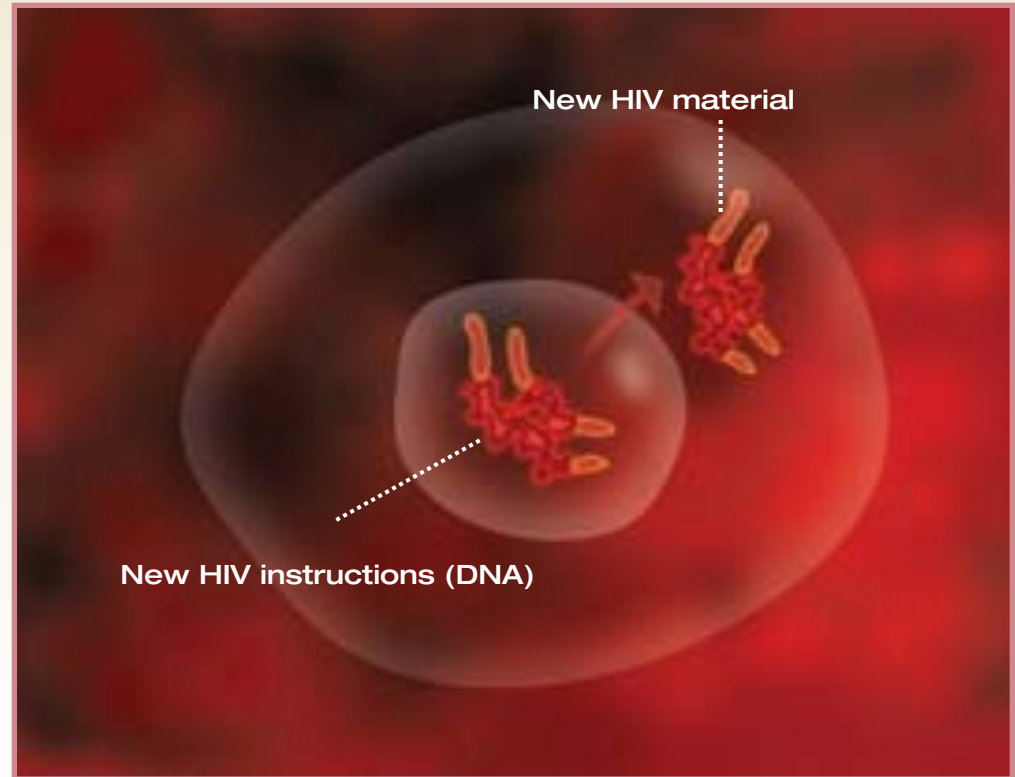
step 4 — combine

Next, HIV uses an enzyme (helper) called integrase. This enzyme helps HIV integrate (combine) its new instructions (DNA) into the CD4/T-cell's instructions (DNA).



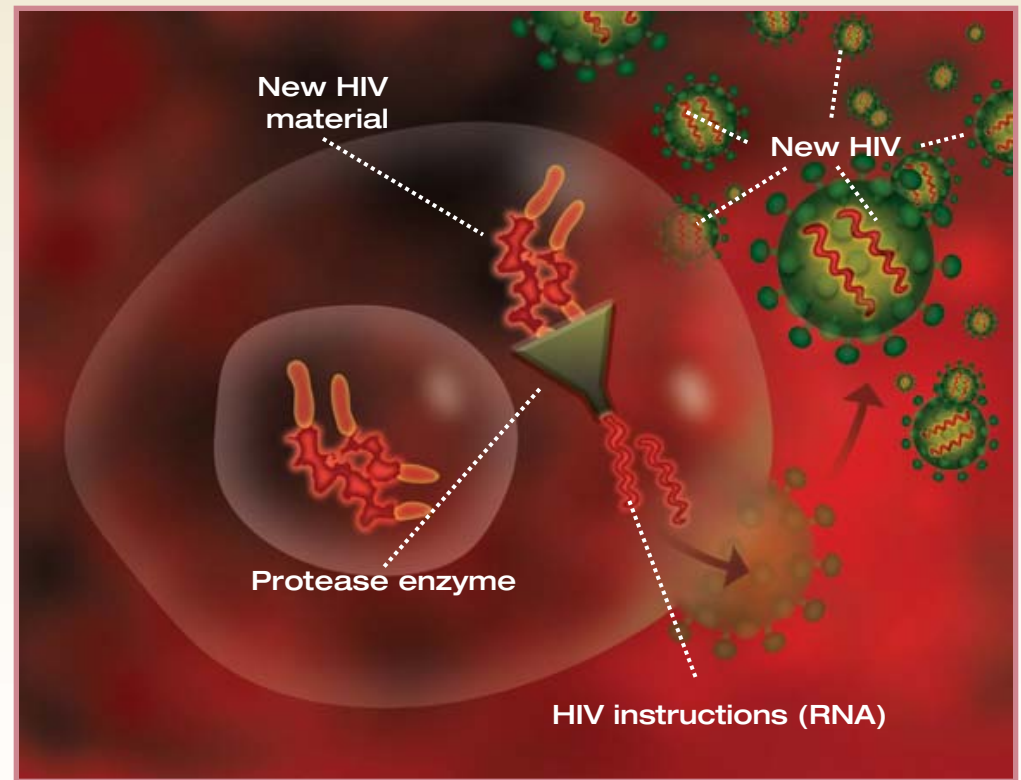
step 5 — follow instructions

The CD4/T-cell then follows the new instructions (DNA) to make new HIV material.



step 6 — assemble

HIV then uses an enzyme (helper) called protease. This enzyme helps assemble new HIV.



20903871(1)-07/09-HIV-PHY

