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.

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.
- 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.

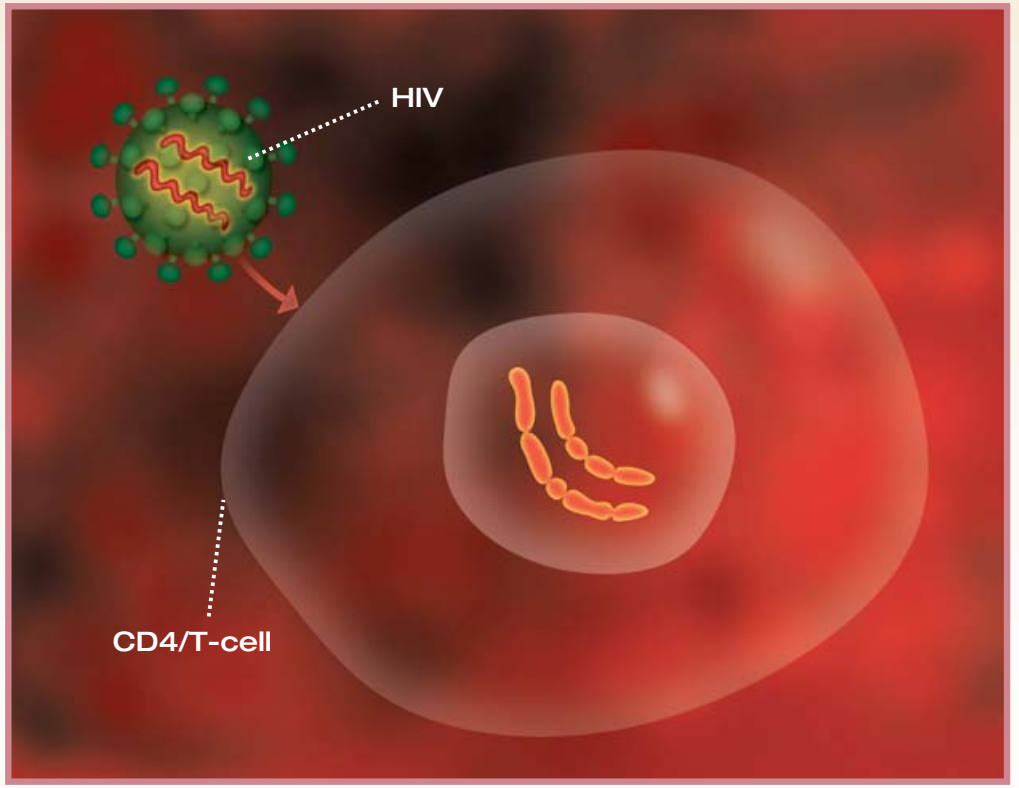
understanding how HIV reproduces

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.

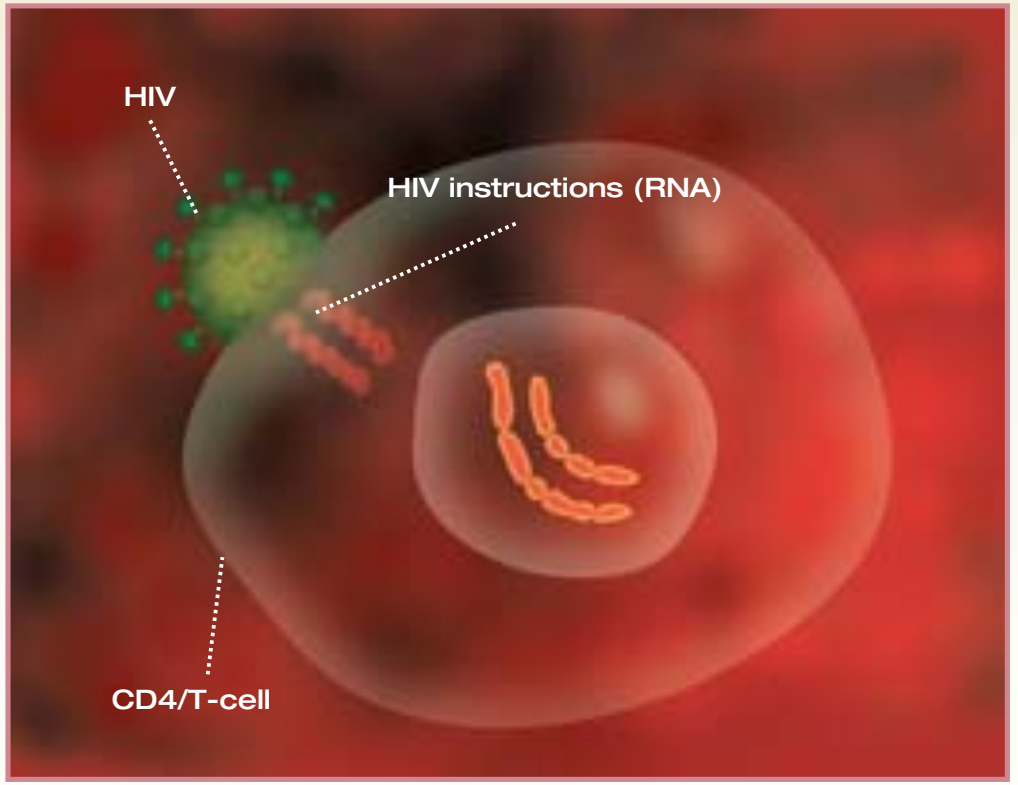
step 1 — attach

HIV attaches to a CD4/T-cell.



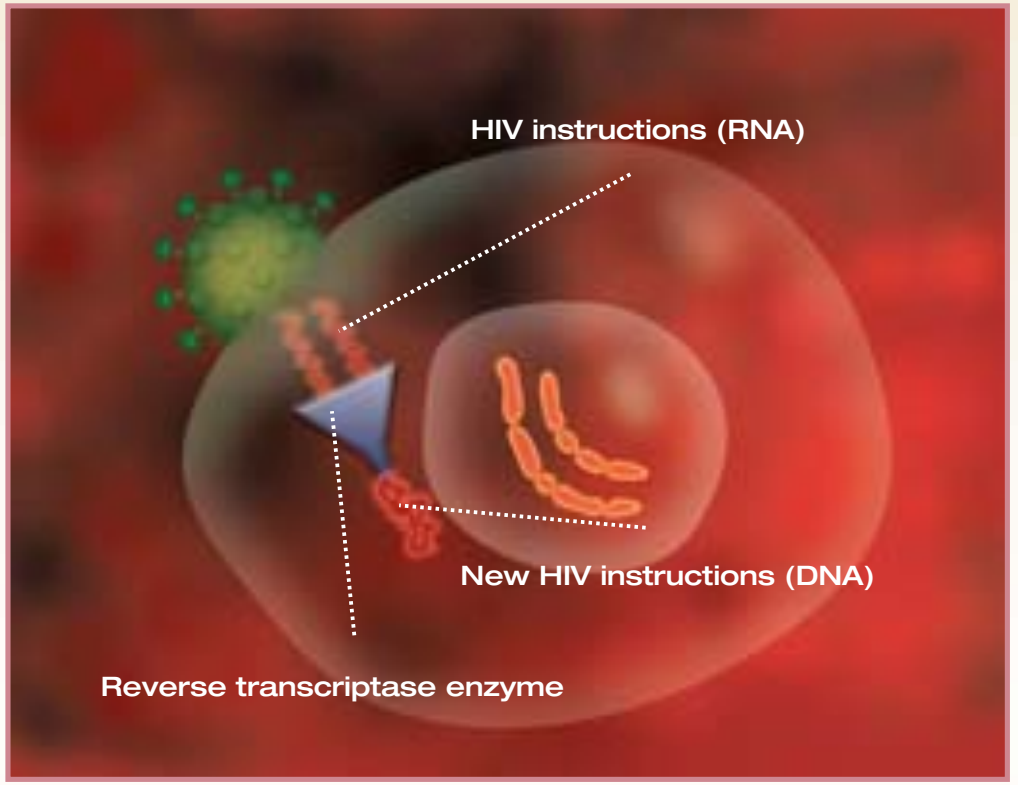
step 2 — insert

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



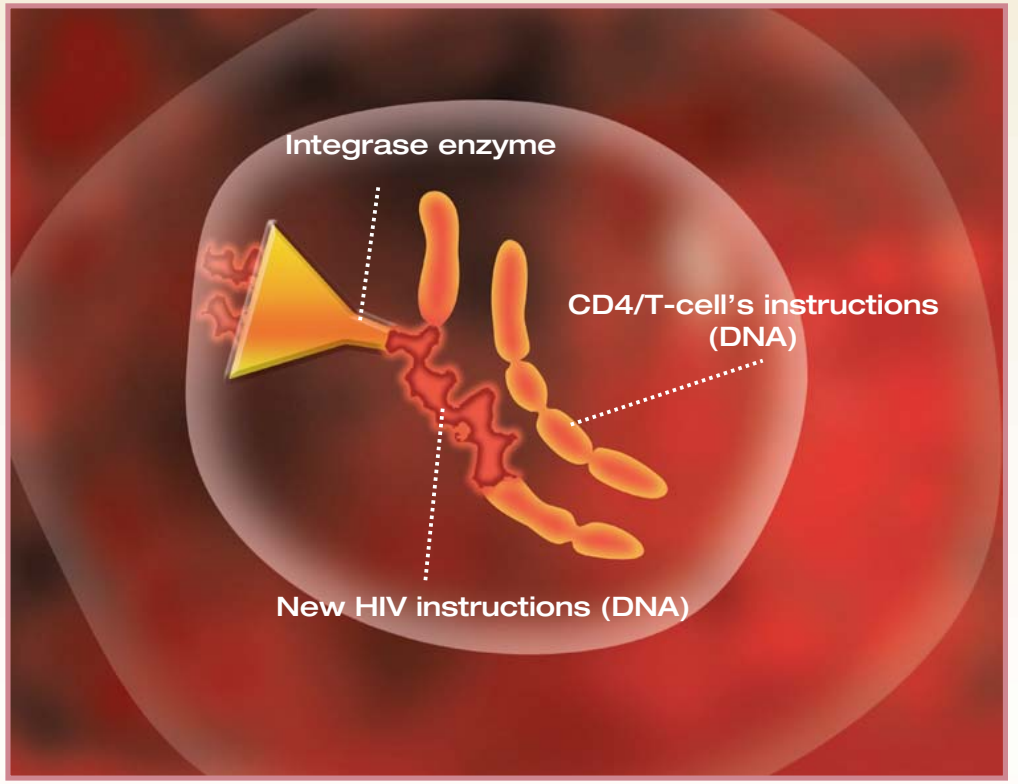
step 3 — read

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.



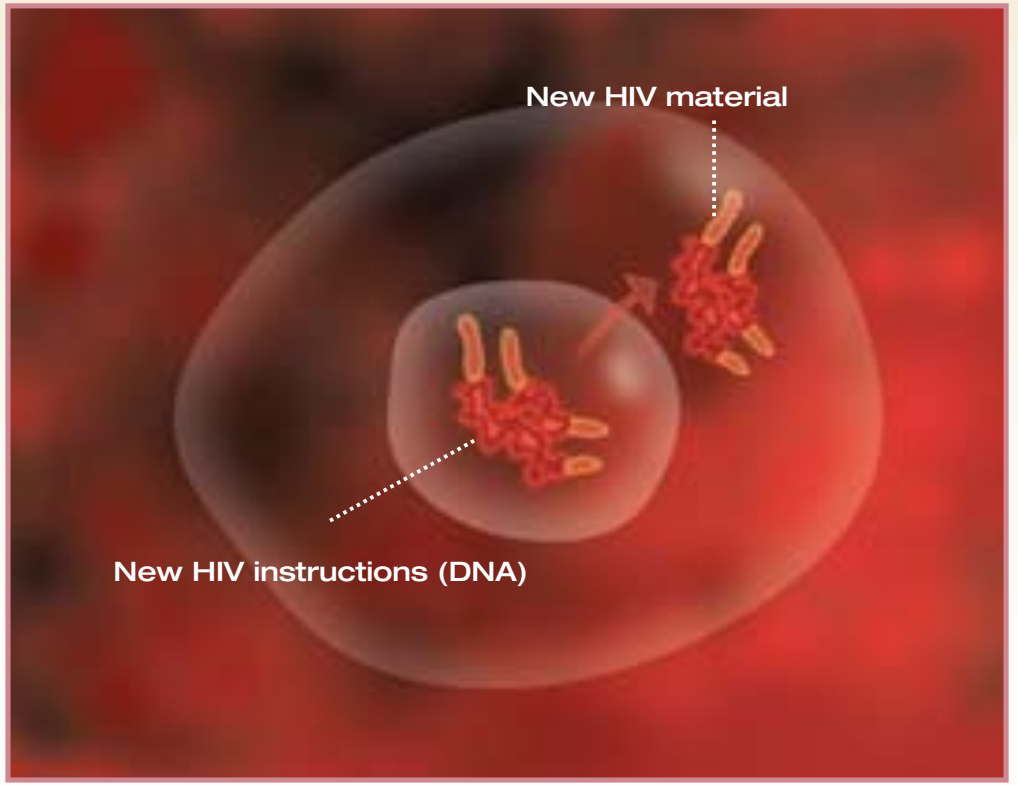
step 4 — combine

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.