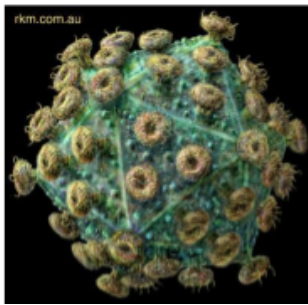


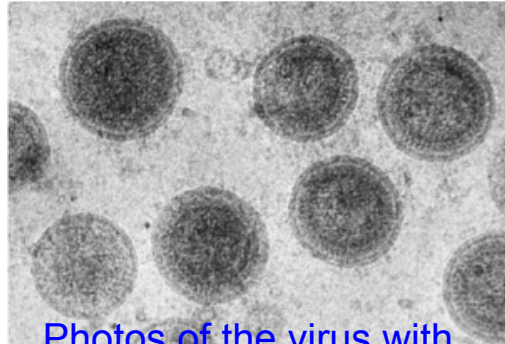
HIV and AIDS

What does HIV stand for?

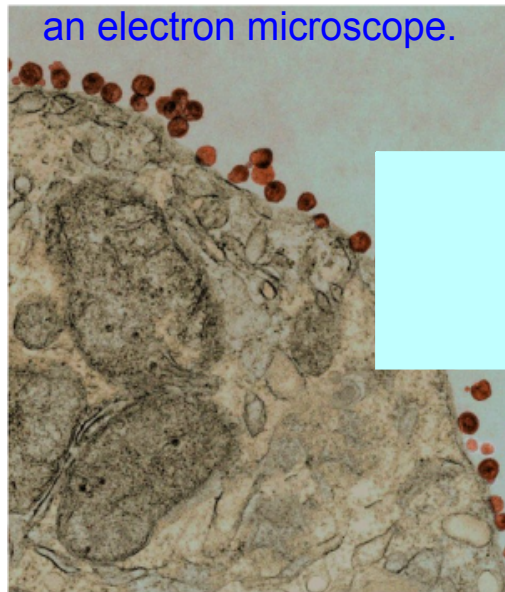
Human Immunodeficiency Virus



Model of an HIV virus



Photos of the virus with an electron microscope.



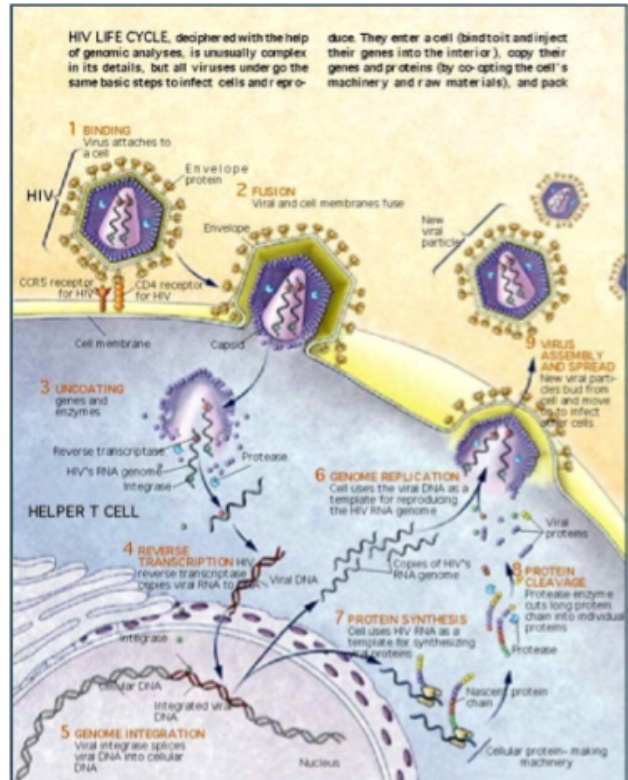
A white blood cell with HIV leaving through the cell membrane.

What does this virus do?

It kills certain kinds of white blood cells that make it harder for one's body to fight off other diseases.



HIV replication

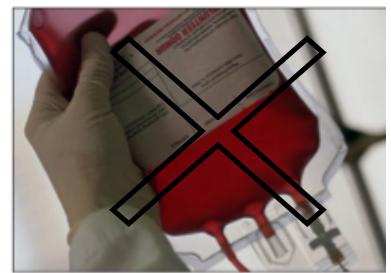


The steps in the replication of the virus.

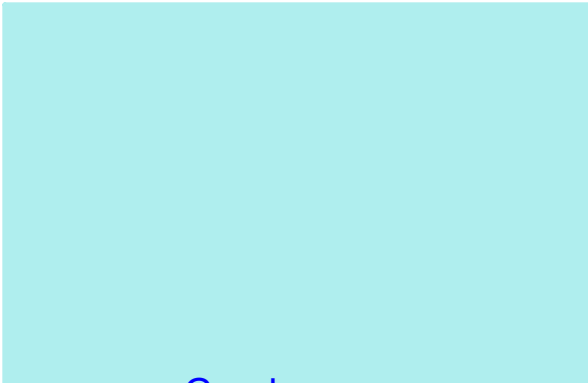
How is HIV spread?

It is transmitted in body fluids. These include vaginal fluids, semen, blood and mother's milk. It has not been seen to be transmitted by saliva.

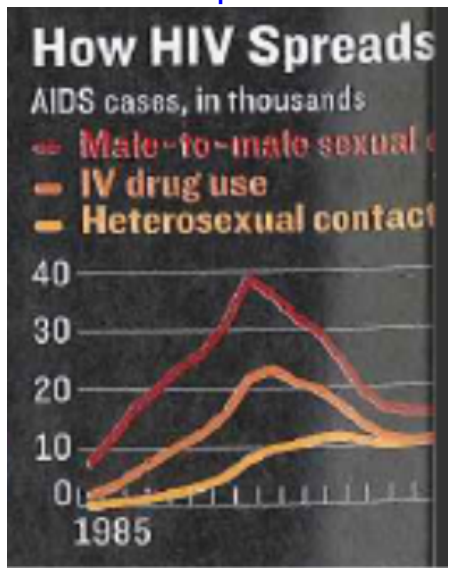
Contaminated blood can be transferred during the birthing process, by contaminated needles, tattooing devices and body piercing needles. If blood is not properly tested before transfusion, it too can spread HIV.



How do you prevent the spread of HIV?
Besides not using contaminated needles of any kind, avoiding any sexual activity is the only sure way to not get infected with HIV. If sexual activities are engaged in, then proper use of a condom reduces the chance of becoming infected with HIV.



Graph



How does one find out if they have HIV?

Blood tests look for antibodies against the HIV virus.



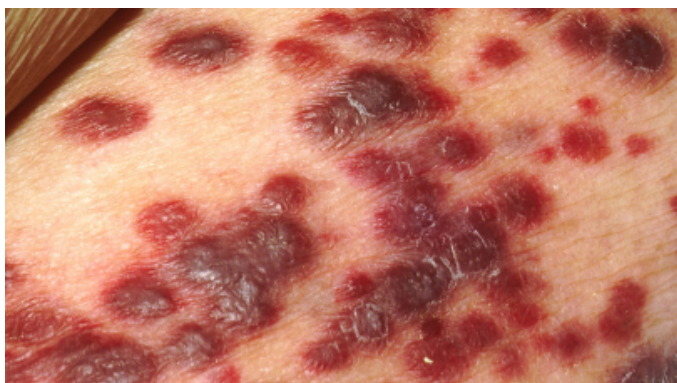
What are some of the issues with this testing?

The antibodies often don't show up in the blood for 1 to 3 months after infection. Sometimes it can take six months for the antibodies to show up.



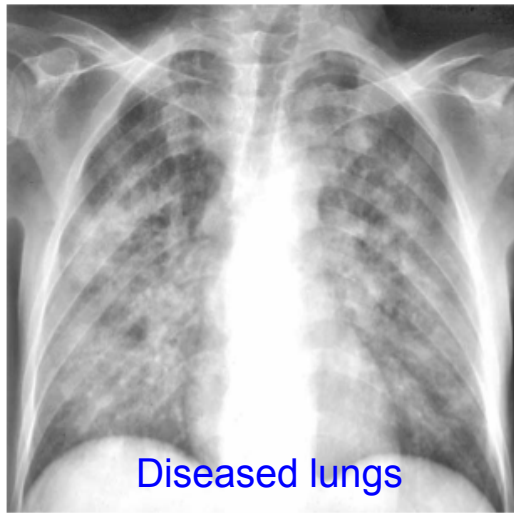
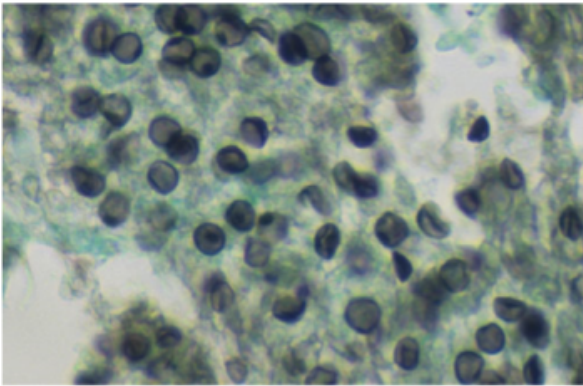
What is the difference between HIV and AIDS?

HIV is the virus infection and AIDS happens when there are too few white blood cells to fight off other diseases.

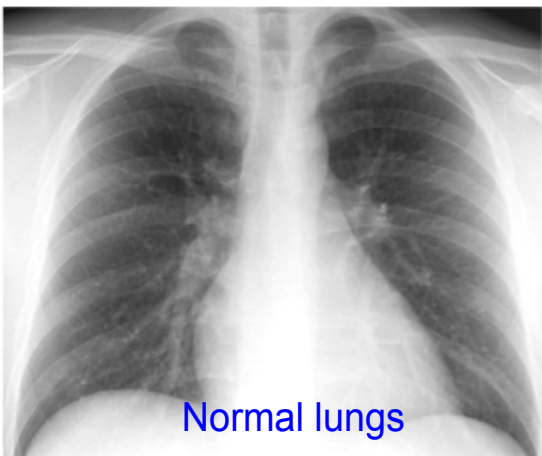


Kaposi's sarcoma is one of the illnesses which strikes AIDS patients. It is not seen in otherwise healthy people.

Pneumocystis carinii - a yeast infection found only in human lungs



Diseased lungs



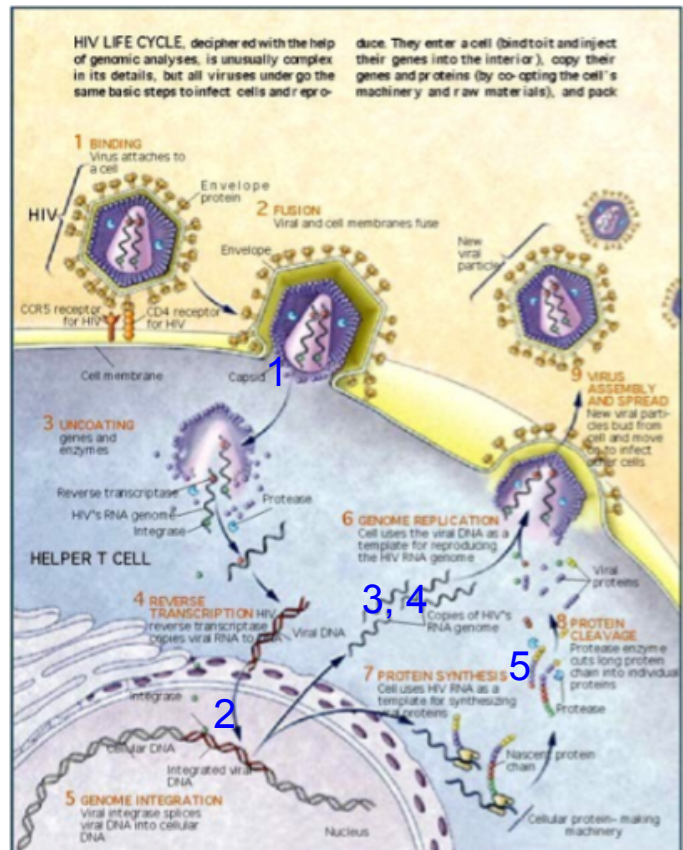
Normal lungs

This is also seen only in AIDS patients.

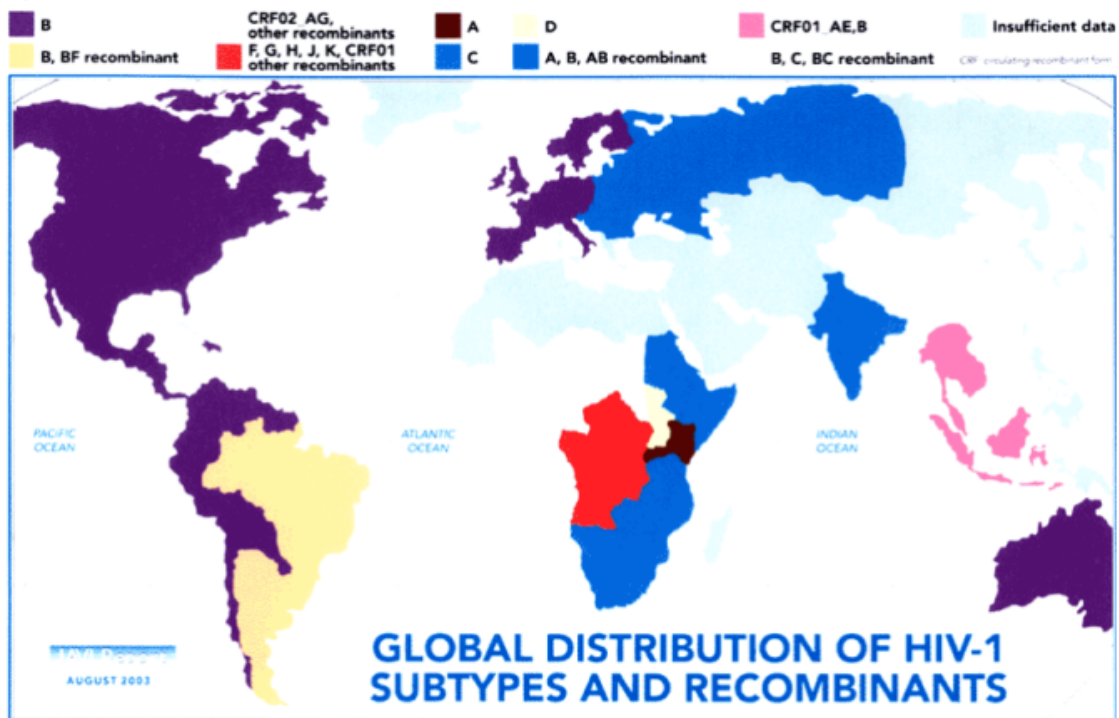
How is an HIV infection treated? Medications - what do they do?

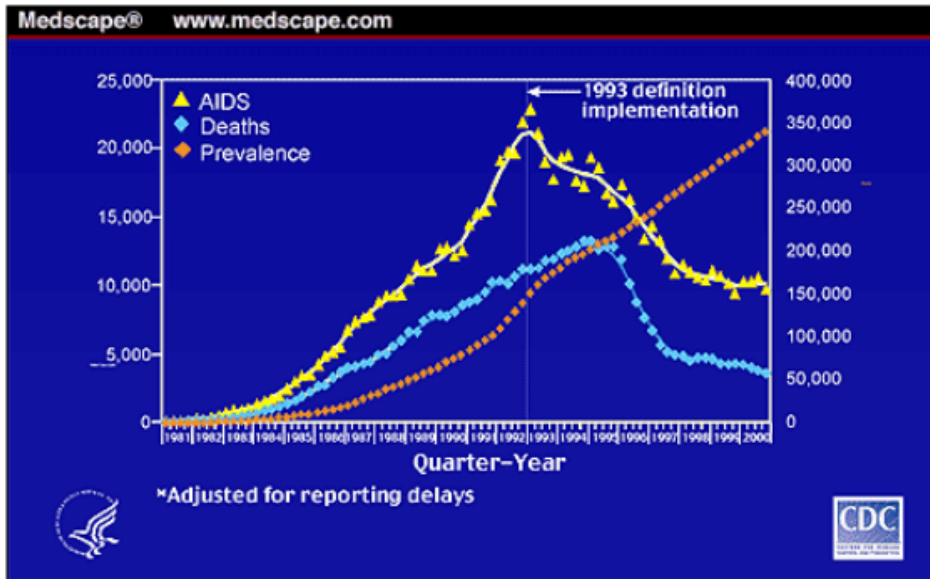
1. Entry inhibitors
2. Integrase Inhibitors
3. Reverse Transcriptase Inhibitors
4. Nucleotide Analogs
5. Protease Inhibitors

A wide variety of medications have been developed which slow down the replication of the HIV virus. Unfortunately the virus mutates and is no longer affected by some of these drugs.



The HIV virus has many forms and can change so it is hard to develop a vaccine for it.





Results of HIV medications in controlling the disease

What are some of the side effects of these medications?

Liver damage

High blood pressure

Excess fat in the blood -

heart disease, pancreas damaged

Excess lactic acid in the blood -

death

(liver is not breaking down lactic acid)

Bone death -

joint replacement, remove dead bone

Skin rashes -

loss of skin

death from an allergic reaction

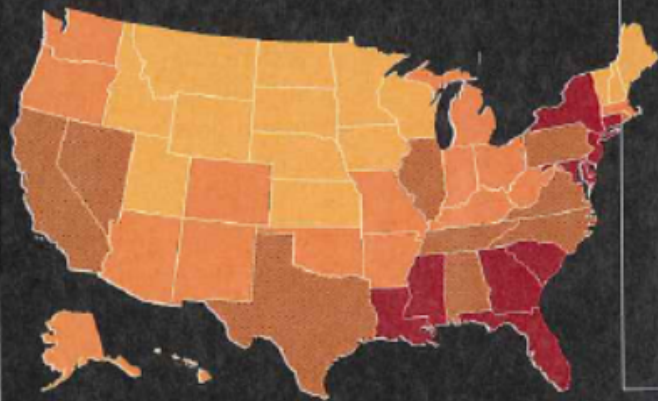
AIDS in America

Access to potent drug therapies developed in the 1990s has led to a decrease in AIDS deaths. But more women and minorities are now testing positive.

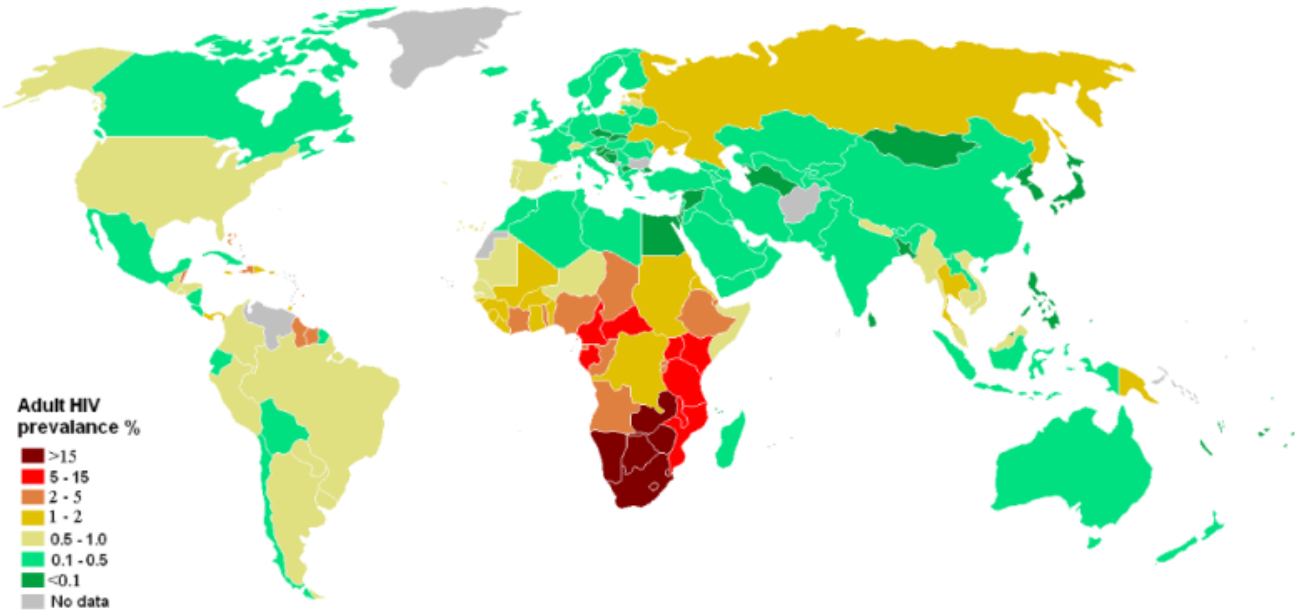
A National Concern

AIDS cases per 100,000 population, 2004

15-49 10-14.9 5-9.9 0-4.9



HIV - AIDS is worldwide problem.



Attachments



HIV replication