

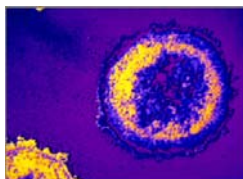
The Mechanics of HIV

HIV stands for: **H**uman
Immunodeficiency
Virus

You receive HIV when your bloodstream comes in contact with the bodily fluids of an infected person.

Once in your bloodstream, the virus attacks your cells in the following method:

- 1) The virus finds a host cell
- 2) The virus attaches itself to the cell
- 3) The virus injects its RNA
- 4) The virus makes copies of itself
- 5) New viruses break free from the cell
- 6) Cell dies



If HIV persists, it will eventually progress into AIDS.

AIDS stands for: **A**cquired
Immuno-
Deficiency
Syndrome

The History of HIV

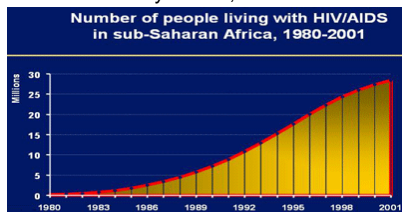
Many scientists believe that HIV evolved from apes carrying SIV.

SIV stands for: **S**imian
Immunodeficiency
Virus

There are 3 popular theories of how the virus jumped from simian to human:

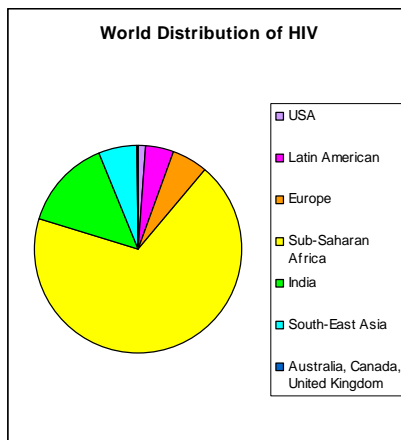
- 1) A hunter sliced his hand while butchering an ape, and their bloods mixed.
- 2) Humans ate the brains of apes in Central Africa.
- 3) A vaccine containing SIV was accidentally distributed to people.

After HIV originated in the early 1980s, it has increased exponentially.



The Demographics of HIV

World Distribution of HIV

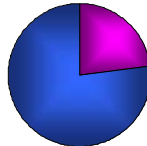


As you can see, HIV is not distributed evenly throughout the world.

Worldwide Gender Ratio



USA Gender Ratio

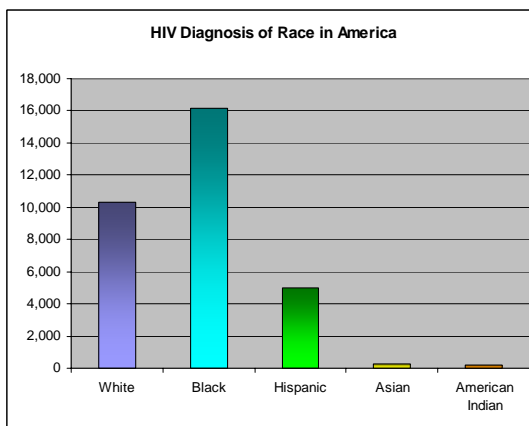


African Gender Ratio



The different ratios arise because of the way people live their lives in different settings.

HIV Diagnosis of Race in America



Even within America, HIV is not distributed evenly.

* Demographic Graphs Created in Excel

The Medicines of HIV

Although scientists find it difficult to completely identify different strains, it is generally believed that there are 5 strains of HIV worldwide.

However, the symptoms of HIV patients depends much more on their immune system and their outside environment (sleep, nutrition value, water quality, stress, etc.) rather than on the strain of virus they carry.

Because of this, different patients will react differently to medicines. And, doctors need to 'guess and check' as to what medicines will work best for a particular patient.

Early medicines for HIV were meticulous. In extreme cases, some patients were receiving up to 100 medicines. And to make matters worse, different medicines required different needs (take with milk, take on an empty stomach, take on a full stomach, etc.) In addition, certain medicines required hourly intake, even during sleep.

Fortunately, medicines are much more efficient these days. Scientists have come up with a combination of three medicines, and while one distracts the virus, the other two are at work. This is called the 'cocktail therapy.'

People who were expecting to die within a few years, are now living decades on end.

Infants and Children Affected by HIV

In any case, when a baby is born to an HIV-positive mother, it will initially read positive. This is because a baby is born with its mother's immune system, which is carrying HIV antibodies. However, once the baby develops its own immune system, there is a chance it will not have HIV.

Years ago, 2/3 of American babies read positive after developing their own immune system. Because medicines for embryos and infants is very efficient, this number has decreased to 1/4.

Sadly, children are orphaned because their parents died of AIDS. By the end of 2003, 15 million children were orphaned because of AIDS.

You CANNOT catch HIV from...

- 1) Handshakes, hugs, kisses
- 2) Coughs, sneezes
- 3) Making a Blood donation
- 4) Swimming pools
- 5) Toilet seats, water fountains
- 6) Bed sheets
- 7) Forks, spoons, cups
- 8) Insects

Acknowledgements

Ray J. Emerson; José Rafael Rivera; Dr. Stephen Heard; Joanne Calista