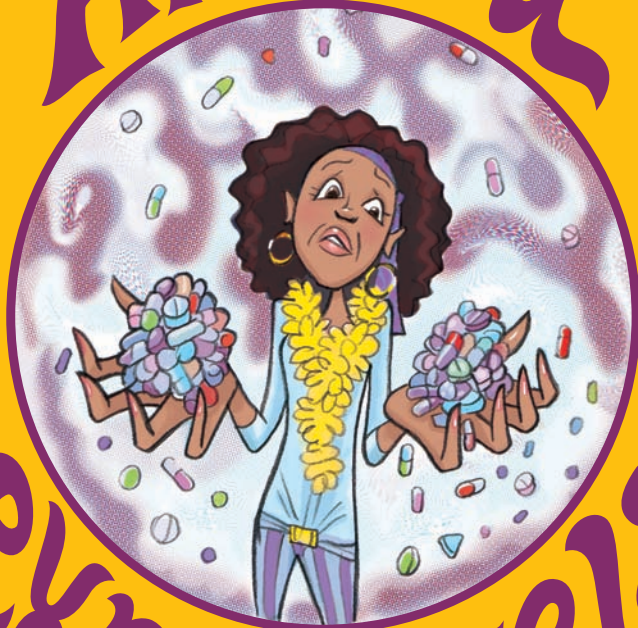


Are You Experienced?



HIV and YOU

Special 2008 Update!

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In this booklet, you'll see words in **bold, red type**. Go to the "Glossary" on the back cover to find out what these words mean.

WRITERS AND EDITORS:

Lillian Thiemann

Co-Founder and President
Visionary Health Concepts
Editor-in-Chief
www.freehivinfo.com,
www.freehepatitisinfo.com
Gardiner, NY

Krista Martel

Vice President
Visionary Health Concepts
Editor-in-Chief, VHComics
Brooklyn, NY

Robert Munk, PhD

Research Assistant Professor
University of NM Department of Internal Medicine
Coordinator
AIDS InfoNet (www.aidsinfonet.org)
Arroyo Seco, NM

SCIENCE EDITOR:

Daniel Kuritzkes, MD

Director of AIDS Research
Brigham and Women's Hospital
Professor of Medicine
Harvard Medical School
Boston, MA

Art Direction: DZP

Illustrations: Chuck Gonzales

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Are you experienced?

Every person has "life experiences." What does this mean?

Flip through an old photo album, and what do you see?

...your first love

...a family vacation

...the birth of a child

...a loved one who has passed on



Not all of our experiences are in our photo albums.
There are days we'd rather not remember...

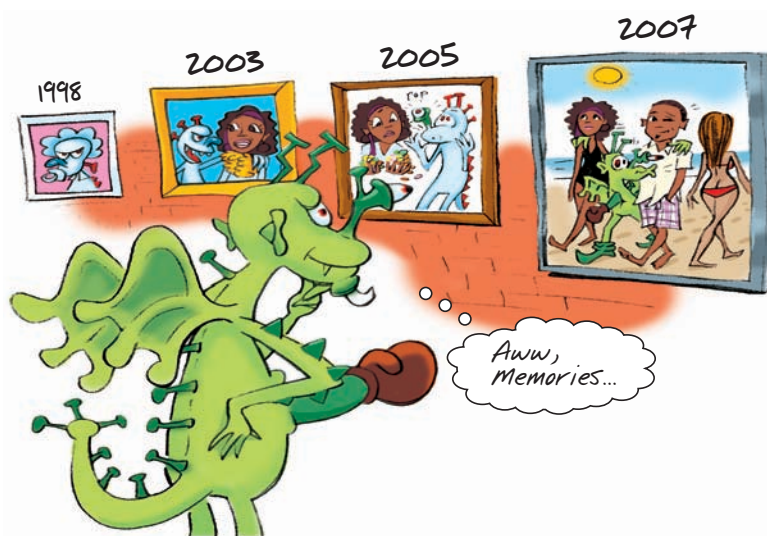
...like the day that we found out we have HIV.



All of the experiences that have happened to us in our lifetime make us who we are and make up our personal history.

Are your HIV—and you—treatment experienced?

Like you, each HIV virus also has experiences and a history. HIV is passed from one person to the other. It can enter the body directly through the blood and other bodily fluids such as **semen, vaginal fluid** and breast milk.



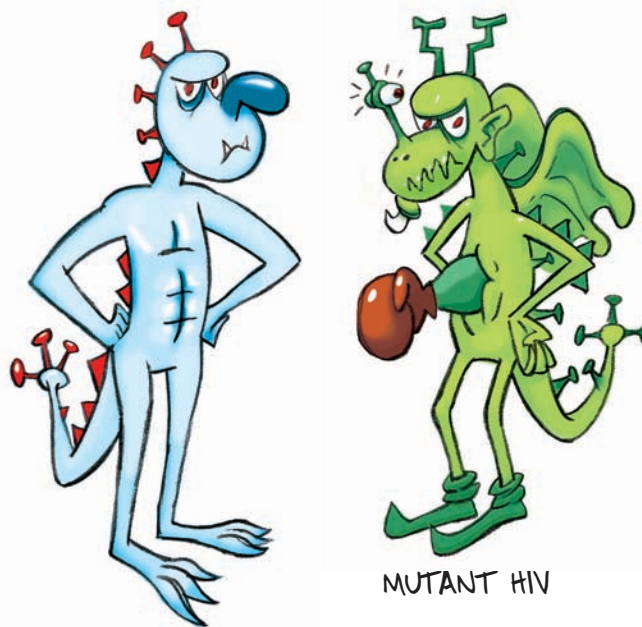
Sometimes the HIV passed on to you can “resist” certain anti-HIV drugs. This means your HIV has **treatment experience**. A person who has taken more than one set of drugs to fight their HIV is also said to be treatment experienced.

*

It is important to choose every anti-HIV **regimen** with care, even the first one (see page 11).

So what is resistance?

- The basic HIV virus is called **wild type**.
- **HIV drug resistance** happens when the wild type HIV “changes” enough to allow HIV to make copies of itself even though you are taking anti-HIV drugs.
- The “changes” HIV goes through that helps resistance to happen are called **mutations**.



WILD TYPE HIV
(Regular HIV)

MUTANT HIV

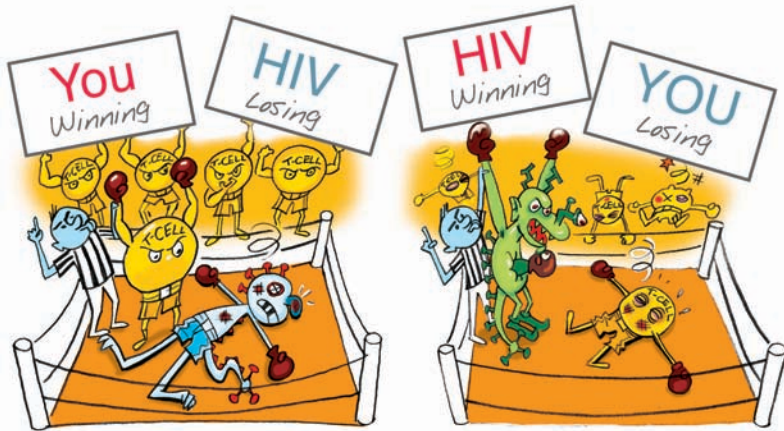
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It is very important to know that it is the virus that’s resistant—not the drug, and NOT the patient!

How do you know if your HIV is becoming resistant to the drugs you are taking?

Blood tests are taken when you visit the clinic. From that blood sample certain things are looked at...

- 1 **Viral load:** checks to see how much HIV is in your blood:
 - A low viral load—or one that is too low to measure (undetectable)—means there is very little HIV found in your blood and the drugs are winning the fight against HIV.
 - A high viral load (or a viral load that goes up with each test) might mean either: (1) HIV is winning the fight and the drugs you are taking are not working OR (2) you are not taking the drugs the way you need to.



- 2 **CD4+ T-cell count:** looks at the number of CD4 cells in a tiny sample of blood. If your CD4 count is going down, it is a sign that HIV is starting to win the fight for your health.
- 3 **Resistance tests:** check to see if your HIV has changed (mutated) or if it is acting differently than before (page 5).

What you should know about resistance tests

"HIV Guidelines" are documents used by healthcare providers to "guide" how they go about treating HIV. In December 2007, the US Department of Health and Human Services (DHHS) updated their HIV treatment guidelines (for adults). They advise that persons with HIV infection get a **resistance test** when entering care, even when HIV treatment is not started right away. If treatment is put off, then a second resistance test should be taken before starting anti-HIV drugs.

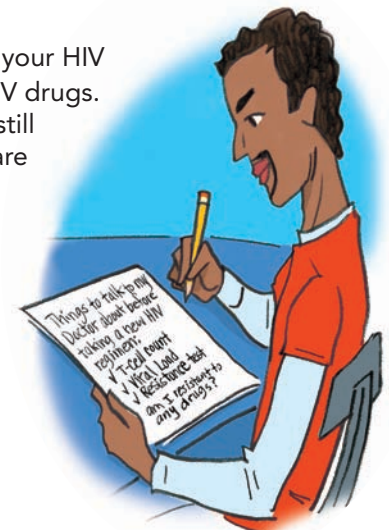
Before changing anti-HIV drugs, a resistance test should be taken to help find out which drugs will (or will not) work well for you.

There are 2 basic types of resistance tests that can be done:

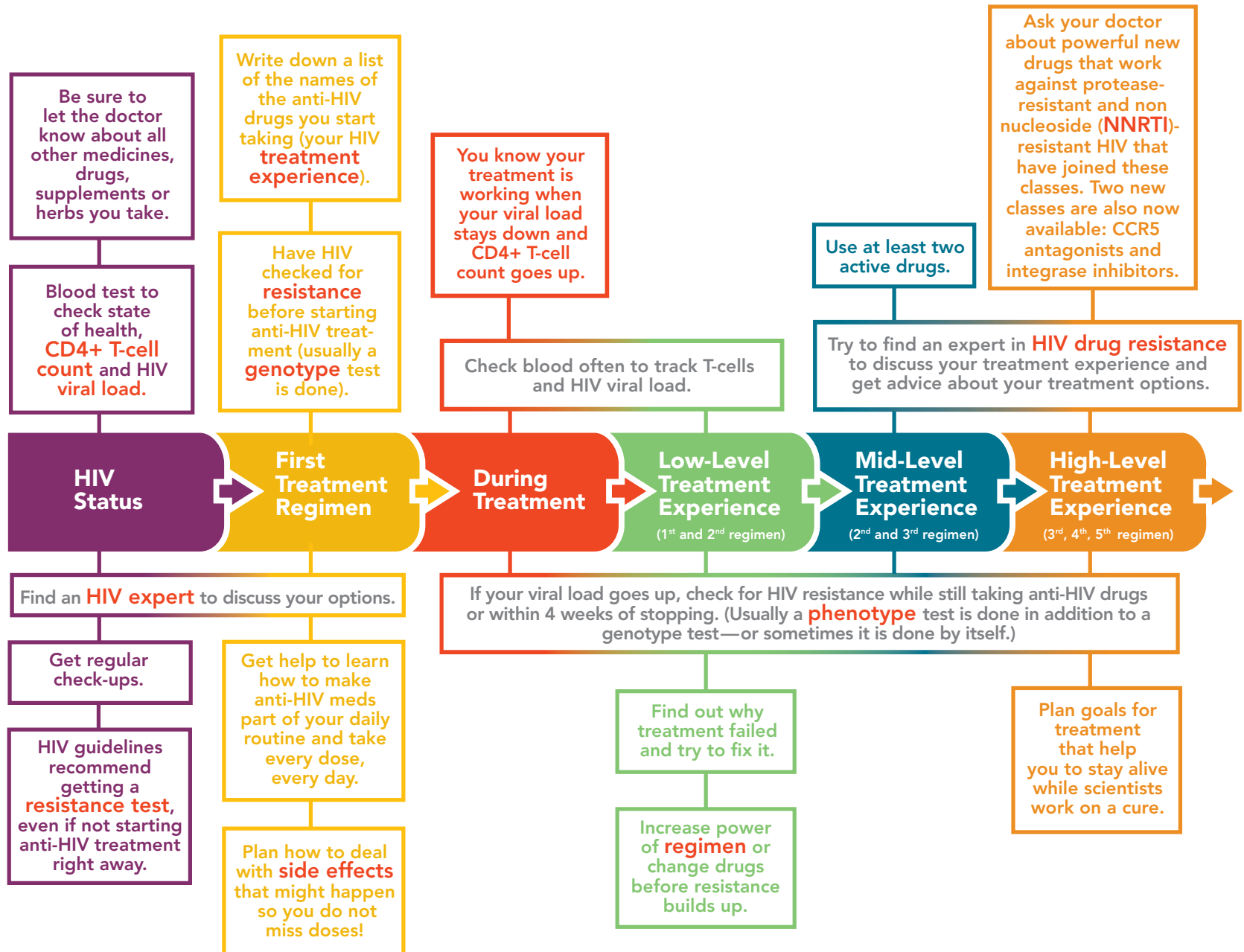
- A **genotype** test (or genotypic assay) looks at what physical changes (mutations) your HIV has gone through. Then they look to see if the changes are ones that are known to cause resistance to any anti-HIV drugs. The guidelines recommend a genotypic test for people who have never taken anti-HIV drugs before (also known as treatment naïve).
- A **phenotype** test shows how your HIV acts when it is faced with anti-HIV drugs. This test looks to see if HIV can still make copies of itself when you are taking an anti-HIV **regimen**, and how much.



Drug resistance testing... ask your doctor.



HIV Treatment Resistance Map



Questions to ask your doctor BEFORE starting or changing HIV treatment...

Q: What is my CD4 and viral load count?

Helpful tip: Make a note of the first (**baseline**) results of your **CD4+ T-cell count** and **viral load** test before starting treatment. This way you can see with your next blood test if they change and how much. The new drugs should make your viral load go down and stay down. CD4 count should then go up. Make sure that HIV viral load and CD4+ T-cells are checked at least every 3 months.

Q: Is my HIV already resistant to any anti-HIV drugs?

Helpful tip: Keep in mind that resistant HIV can be passed from one person to another. Guidelines now recommend that a **baseline** resistance test be done even if you are not ready to start anti-HIV treatment.

Q: What do I do if my viral load starts to go up?

Helpful tip: If your viral load goes up two times in a row, find out WHY the drugs are not working—

- 1 Ask yourself if you have been forgetting to take your drugs.
- 2 Make a list of ANY drugs, medicines or herbs your doctor may not know you are using.
- 3 Get an HIV resistance test before planning your next treatment move.

The doctor tells you your virus is resistant, now what?

You are not alone!

HIV drug resistance is the biggest reason anti-HIV drugs stop working.



3 out of 4 people on failing HIV treatment have drug-resistant HIV.



Up to **1 out of 4** people with HIV who have never taken anti-HIV drugs already may have HIV that is drug resistant.

Take every dose on time:

Missing doses can give your HIV a chance to go up in number. The more HIV in your body, the bigger the risk of resistance.



Treating your mutant HIV

Sometimes the anti-HIV drugs you are taking are just not strong enough or right for the job. Anti-HIV drugs with more power—or different resistance patterns (see chart page 12-13)—might be needed to take control of your HIV.



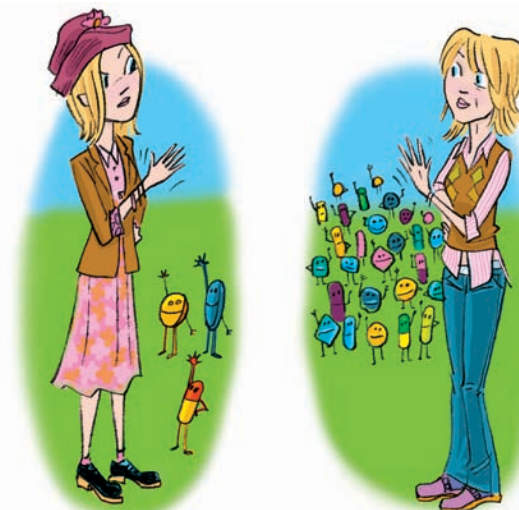
Just think of your body as the hottest club in town, and you and your doctor as the door guys—deciding who goes in and who stays out.

Powerful new drugs that work against protease (PI)-resistant and non nucleoside (NNRTI)-resistant HIV have joined the protease inhibitor and NNRTI **classes**. Two new classes are also now available: CCR5 antagonists and integrase inhibitors.

*

You don't want to let any old drug into your body. You want to make sure it's going to work.

Anti-HIV drug options



1992

2008

Unlike 16 years ago, there are now many anti-HIV drugs to choose from. It is still very important to choose your anti-HIV **regimens** carefully and take the drugs when and how you are supposed to.

- 1 Put together three or four anti-HIV drugs in a regimen to be taken twice—or sometimes even just once—every day.
- 2 Pick drugs for your regimen from at least two different classes to start.

If you are **treatment experienced**, and have taken 2, 3, or even 4 regimens already, you probably have HIV that is resistant to some drugs.

*

The good news is that there are some new drugs that fight HIV in different ways and will **WORK** against your drug-resistant HIV!

HIV DRUGS...

and their resistance patterns

The following chart lists the brand names of all current HIV drugs grouped by **class** (updated March 2008). It also shows—very generally—where single changes (mutations) and groups of changes that form a “resistance

Nucleoside Reverse Transcriptase Inhibitors (nukes)	Contains how many drugs in each pill?	Resistance type(s)
Atripla™ (Viread + Emtriva + Sustiva)	3 drugs from 2 HIV drug classes (2 nukes + 1 non nuke)	Shares major non nuke mutation K103N plus common nuke mutations.
Combivir® (Retrovir + Efavirenz)	2 nukes	Share common nuke mutations.
Emtriva®	1	
Efavirenz®	1	
Epzicom® (Ziagen + Efavirenz)	2 nukes	
Retrovir®	1	
Trizivir® (Retrovir + Efavirenz + Ziagen)	3 nukes	
Truvada® (Viread + Emtriva)	2 nukes	
Videx®	1	
VidexEC®	1	
Viread®	1	
Zerit®	1	
Ziagen®	1	
Non Nucleoside Reverse Transcriptase Inhibitors (non nukes)	Contains how many drugs in each pill?	Resistance Type(s)
Intelence™	1	Does <i>not</i> share primary common resistance mutation K103N with other non nukes.
Rescriptor®	1	Share the major non nuke mutation K103N.
Sustiva®	1	
Viramune®	1	
Atripla™ (Viread + Emtriva + Sustiva)	3 drugs from 2 classes (2 nukes + 1 non nuke)	Shares major non nuke mutation K103N plus common nuke mutations.

pattern” are similar among drugs and where they are not. Such changes can lessen the effectiveness of several HIV drugs, or in some cases, make the drugs affected totally helpless to assist in the fight against mutant HIV.

Protease Inhibitors	Contains how many drugs in each pill?	Resistance type(s)
Aptivus®	1	It generally takes many more mutations to make HIV resistant to this newer protease inhibitor.
Crixivan®	1	Share similar resistance patterns with most other protease inhibitors.
Invirase®	1	
Kaletra® (Norvir + lopinavir)	2 protease inhibitors	
Lexiva®	1	
Norvir®	1	
Prezista™	1	It generally takes many more mutations to make HIV resistant to this newer protease inhibitor.
Reyataz®	1	Share similar resistance patterns with most other protease inhibitors.
Viracept®	1	
Fusion Inhibitor	Contains how many drugs in each pill?	Resistance Type(s)
Fuzeon®	1	Does <i>not</i> share resistance patterns with any other HIV drugs (from any class).
CCRS Antagonist	Contains how many drugs in each pill?	Resistance Type(s)
Selzentry™	1	Does <i>not</i> share resistance patterns with any other HIV drugs (from any class).
Integrase Inhibitor	Contains how many drugs in each pill?	Resistance Type(s)
Isentress™	1	Does <i>not</i> share resistance patterns with any other HIV drugs (from any class).

Glossary

Baseline: The results of the first test you take (for example, CD4 T-cell count). Your baseline number is helpful to compare against future results of the same test.

CD4+ cells are also called T-cells. They are cells in the body that help fight disease and infection. HIV destroys CD4 cells. Your CD4+ T-cell count is the number of CD4 cells in a tiny sample of blood. If your CD4 count is too low, it is hard for your body to fight off disease.

Class is a term for a group or family of drugs that work in a similar way. Nucleoside reverse transcriptase inhibitors, non nucleoside reverse transcriptase inhibitors, protease inhibitors, fusion inhibitors, CCR5 antagonists and integrase inhibitors are the six approved classes of anti-HIV drugs.

Genotype: A way of reading the clues in the virus that tell us if the virus is changing (and if it is, how it's changing).

HIV stands for Human Immunodeficiency Virus, the virus that causes AIDS.

HIV expert: A doctor who mainly studies HIV disease and sees a lot of HIV+ patients.

HIV drug resistance happens when the virus has changed itself (mutated) enough to grow in number—by making copies of itself—even though you are taking anti-HIV drugs.

Mutation: HIV makes mistakes or changes when making copies of itself. These changes are called mutations. Some mutations can make it harder for anti-HIV drugs to control the virus.

NNRTI: An abbreviation of Non-Nucleoside Reverse Transcriptase Inhibitor—also known as “non-nuke.” The NNRTI class is one of six different classes of drugs that are used together in combination (or cocktail) to fight HIV.

Phenotype: How HIV acts when faced with anti-HIV drugs—can it make copies of itself or not?

Protease inhibitor (PI) is one of six different classes of drugs that are used together in combination (or cocktail) to fight HIV.

Regimen: A drug, or combination of drugs, that a person takes to treat their disease.

Resistance test: A blood test that detects HIV drug resistance and helps rule out drugs that may not work for you. HIV guidelines recommend getting a resistance test, even if not starting anti-HIV treatment right away.

Semen: Male sex fluid.

Side effect: An unwanted result of a treatment.

Treatment is another term for a drug, regimen, or a way of fighting a disease.

Treatment experience: A person's history of what drugs or actions have been taken to fight a disease.

Vaginal fluid: Female sex fluid.

Viral load is the amount of HIV in a tiny sample of blood. Blood tests that look at a person's HIV viral load should be done about every 3 months.

Wild type: Virus that has not been changed by meeting anti-HIV drugs before.

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