Unfortunately, there is currently no cure for HIV infection. However, HIV treatment can significantly reduce HIV’s ability to make copies of itself and dramatically slow HIV disease, allowing the immune system to recover.

HIV treatment usually consists of a combination of three or more antiretroviral medications.

Most HIV-positive people have to start treatment at some point. The best time to start depends on your CD4 count and other factors that you and your doctor will discuss.

Guidelines for the best use of antiretroviral medications have been developed by experts and are constantly being updated based on the latest evidence.

Guidelines are not rules. Your doctor may recommend a combination of anti-HIV drugs that are not listed as “preferred” treatment in guidelines.

What is ART?
There is no cure for HIV infection—at least, not yet. However, there are medications for treating HIV, called antiretroviral drugs. When used properly, these medications can all but stop HIV from replicating, allowing your immune system to retain (or rebuild) its strength and keep you healthy.

HIV treatment means taking an appropriate combination of antiretroviral drugs—usually at least three. These drug combinations go by the fancy names ART (antiretroviral therapy) or HAART (highly active antiretroviral therapy), but you can call it whatever you like—your meds, your combo, whatever works for you. We’re going with the term antiretroviral drugs in this guide because sometimes we like to be just a bit fancy.

What do antiretroviral drugs do?
As long as HIV is left untreated, it continues to infect CD4 cells and other types of cells inside your body. It uses these cells to make millions of copies of itself, which then infect other cells, and so on. This process, called viral replication, eventually damages your immune system, lowers your CD4 count and leaves you vulnerable to serious diseases.

The goal of antiretroviral drugs is to block this replication process. How do they do this? There are several different groups, or classes, of drugs. Each class of drugs attacks the virus in a different way. In the appendices, we talk at length about each of the antiretroviral drug classes, the specific drugs in each class, and how each one works to stop the virus. Generally, drug combinations include drugs from different classes, so as to fight the virus in several different ways.

Viral replication slows down dramatically soon after you begin taking antiretroviral drugs. Essentially, the “assembly line” for building new virus slows to a crawl and very little new virus gets produced from that point onward. Since very few viruses are now being created, the overall amount of HIV in your body—your viral load—gradually drops. Most people’s viral loads fall to undetectable levels within several months of starting treatment.
“Suppressing” HIV in this way allows your immune system to rebuild itself and become stronger. Your CD4 count should rise, the risk of serious infections should drop, and many of the other symptoms of HIV infection should diminish or disappear. Your immune system will also “calm down” because it is no longer constantly fighting HIV—we’re beginning to realize all the health benefits this can have (see page 42).

Remember, though: there is still no cure for HIV infection, and an “undetectable” viral load in the blood does not mean that the virus is gone. When a person first becomes infected with HIV, the virus quickly finds its way inside long-lived cells deep inside the immune system and certain organs such as the brain. Antiretroviral drugs sometimes have difficulty penetrating the brain and some other organs, and HIV can replicate there at very low levels. Despite scientists’ best efforts, they have not yet found a way to eliminate this “reservoir” of stored virus. This means that, at present, HIV is a lifelong infection and HIV treatment is a lifelong commitment.

**Do I have to take antiretroviral drugs at all?**

Most people with HIV probably wonder: Do I have to take antiretroviral drugs at all? The short answer is yes. To put it bluntly, HIV can kill you if it’s left untreated. We sometimes overlook the basic fact that antiretroviral drugs save lives. It’s completely understandable to feel hesitant about treatment, given its potential side effects and the demands of taking pills every day. Just remember that, in the long run, not going on treatment is almost always worse. This isn’t just opinion—it has been proven repeatedly in clinical research and in real life. Indeed, the benefits of modern antiretroviral treatment greatly outweigh the risks for the vast majority of HIV-positive people.

Less than one percent of people with HIV seem able to live with the virus for decades without suffering serious harm. These lucky few (so-called “long-term non-progressors”) may have some genetic advantage that helps their bodies control the virus on their own. However, most HIV-positive people will eventually develop more serious disease if their HIV is left untreated. So, for most people, the question isn’t **whether** to start ART, but **when**.

**Can I still infect other people if I am taking antiretroviral drugs?**

Yes, it’s still possible to transmit HIV during sex even if you are taking antiretroviral drugs. Some experts have pointed out that people with HIV who are on treatment and who have

---

Since 1989—the year I was diagnosed with HIV—I’ve taken it upon myself to learn about biological sciences and medicine through the lens of HIV disease. Even if I sometimes end up slogging through science I quite frankly don’t understand, learning all that I can about HIV disease has still given me a sense of power and control over my own healthcare.

—Wayne
undetectable viral loads have a very low risk of transmitting HIV to other people through unprotected sex. However, this depends on many factors. For example, if one partner has a sexually transmitted infection (STI), such as gonorrhea, syphilis or herpes, this increases the chance of transmitting HIV during unprotected sex—and people are not always aware that they have an STI.

The risk of transmission also depends on viral load—not just in the blood, but in sexual fluids (pre-cum, semen, and vaginal or anal fluids). Significant levels of HIV can be present in these fluids, even in people whose viral load is undetectable in their blood. Even in the blood, viral load can vary from one test to the next. People whose viral load is usually undetectable can have short-lived increases, or “blips”, of detectable viral load.

So, while it’s true that treatment may reduce the chances of transmitting HIV in some circumstances, there are many uncertainties involved. It’s unwise to think of HIV drug treatment as a replacement for safer sex.

How do we know which treatments are “best”? HIV treatment involves many decisions. Two of the most pressing are when and what, or more precisely: When is the best time to start treatment? and What drugs should I take? The answers to these and other questions come from studies called clinical trials. In these studies, two or more groups of otherwise-similar patients are given different treatments, and the outcomes are compared. (For more information about clinical trials, see Clinical trials: what you need to know, available at www.hivnet.ubc.ca or through the CATIE Ordering Centre.)

Information from clinical trials is rendered into practical recommendations in treatment guidelines. These documents summarize the clinical information we have on key issues, such as when is the best time to start, what are the best combinations to use, how to detect and manage side effects, and so on.

Groups of HIV medical experts in the U.S., Canada, the European Union and elsewhere have produced treatment guidelines. Both British Columbia and Quebec produce their own HIV treatment guidelines, and many doctors in Canada refer to the U.S. guidelines called the DHHS guidelines. While in agreement on many points, guidelines may differ as to specific recommendations, such as when to start treatment and which drugs are considered best for first-time use.
Guidelines are not inflexible rules: they change often as new drugs, new technologies and new information become available. Finally, authoritative as they are, they are still *only guidelines*—for doctors to consult and use in combination with their own experience to guide their practice.

For most people with HIV, one of the most important questions is: When is it best to start treatment? We explore this question in the next section.