



# TREATMENT INTERRUPTIONS

## WHAT ARE TREATMENT INTERRUPTIONS?

Researchers have studied interruptions of antiretroviral therapy (ART) for various reasons. These treatment interruptions are usually called structured or strategic treatment interruptions (STIs), or structured intermittent therapy (SIT).

During most treatment breaks, the viral load climbs very quickly and CD4 counts drop. Some people get the same symptoms as if they were newly infected with HIV. Fact Sheet 103 has more information on acute HIV infection.

When people start medications again after taking a break, they might experience more side effects, like when they first started taking antiretroviral drugs (ARVs). They might also have difficulty with adherence (see fact sheet 405), taking all of their doses correctly.

There were several reasons why treatment interruptions were studied:

**1. People who started treatment as soon as they got infected.** It seemed possible that if ARVs were started immediately after HIV infection, they could protect the immune system from damage. The hope was that in these rare cases, patients could stop taking medications.

Unfortunately this approach now does not seem to work. There are several reasons. First, most people aren't aware that they have just been infected with HIV. Once HIV infection has continued for a few months, it's too late for this approach. Also, researchers cannot predict which patients might be able to stop their therapy. But most important, newer research shows that the immune response in these patients does not continue to protect them against HIV disease.

**2. People on therapy who don't meet current treatment guidelines.** During the past few years, HIV treatment guidelines have gotten more conservative. They recommend that people start treatment with lower CD4 counts than previous guidelines. See Fact Sheet 404 for more information on treatment guidelines for HIV.

Some people started treatment with higher CD4 counts than today's guidelines. In

some cases, their doctors will recommend that they stop taking medications. They check their CD4 counts and their viral loads regularly. They go back on therapy when they meet the current guidelines.

As more doctors follow the newer guidelines and delay treatment for their patients, there won't be as many people who started treatment "too early."

**3. Using "intermittent therapy" to reduce side effects and costs.** Doctors have studied "cycling" people on and off of ART. Their goal was to give patients more time off of therapy, and reduce side effects, while still controlling HIV. Two major clinical studies of this type of treatment interruption were stopped. There were more cases of AIDS disease progression and death among people who stopped treatment.

Two types of "cycling" were studied. The first type put patients on a fixed schedule. They would start and stop therapy for a certain number of days or weeks. The second type of cycling used CD4 counts and/or viral loads to decide when to end a treatment break and start medications again. Neither of these approaches seems to work.

**4. Stopping treatment to deal with drug side effects.** Some patients get very serious side effects. In some cases they can switch medications. However, if they have already used most antiretroviral drugs (ARVs,) they might need to take a break from treatment to recover from the side effects before getting back on treatment.

**5. Waiting for a new drug to be approved.** Some doctors used to stop treatment for their patients when there wasn't any treatment regimen that could control their virus. Maybe HIV had developed resistance to all of the available ARVs. Fact Sheet 126 has more information on resistance.

During a treatment interruption, the "wild type" virus becomes more common. At first, researchers thought this was a good thing, because the wild type virus can be controlled by medications. However, most viral resistance doesn't go away. It can come back quickly when drugs are re-started. Most patients do better if they keep

taking medications, even if HIV is not totally controlled. A study in 2008 showed that patients who continued a "failing" regimen developed fewer AIDS-related medical problems than those who stopped their medications.

***Do not stop your ART without careful discussion with your doctor. Viral load and CD4 cell levels should be carefully monitored. Do not stop taking medications to prevent or treat opportunistic infections (see fact sheet 500).***

## WHAT ARE THE RISKS?

The biggest risk of an STI is that you will develop an AIDS-related infection. Also, the viral load will probably climb and the CD4 count will drop. These risks are greatest for people whose virus is not under control or who have a low CD4 count. If you have only 50 CD4 cells, losing another 10 might have serious consequences. Stopping medications to prevent opportunistic infections can allow them to develop. People who stop treatment have a much higher chance of developing an opportunistic infection.

Stopping and re-starting medications could make it easier for the virus to develop resistance to medications. This has happened to some patients in STI studies.

People ending a treatment interruption might have a hard time re-starting medications. This can be due to side effects, or due to psychological difficulties in getting back on treatment.

## THE BOTTOM LINE

HIV patients stop ART for various reasons. If we can learn how to use treatment interruptions safely, patients might be able to take periods of time off of ARVs. This could mean fewer side effects and lower drug costs. However, we will have to learn how to avoid HIV disease progression, and minimize drug resistance and transmission of HIV. So far, large research studies have not shown any benefits to discontinuing therapy.

