

HIV Treatment Failure

What is treatment failure?

Treatment failure happens when the anti-HIV medications you take can't control your infection. There are three types of treatment failure: **virologic failure**, **immunologic failure**, and **clinical progression**.

Virologic failure happens when anti-HIV medications can't reduce the amount of virus in the blood. (While taking medications, **viral load** doesn't drop or it repeatedly rises again after having dropped.)

Immunologic failure happens when the immune system doesn't respond to anti-HIV medications. (While taking medications, **CD4 count** doesn't rise or it drops.)

Clinical progression happens when a person has symptoms of HIV disease despite taking anti-HIV medications.

The three types of treatment failure may happen alone or together. In general, virologic failure happens first, followed by immunologic failure, and then clinical progression. They may happen months to years apart.

What are risk factors for treatment failure?

Factors that can increase the risk of treatment failure include:

- previous treatment failure
- **drug resistance**
- **poor treatment adherence**
- anti-HIV medications poorly absorbed by the body
- other illnesses or conditions
- poor health before starting treatment
- side effects of medications or interactions with other medications
- substance abuse leading to poor treatment adherence

What happens if my treatment fails?

Your doctor will do many things to understand why your treatment failed. He or she will evaluate your treatment history, medication side effects, and your physical condition. Tell your doctor if you often forget to take your medications or if you have problems taking them as directed. Not taking medications as prescribed is one of the main reasons for treatment failure.

You and your doctor may decide to choose a new treatment regimen to better control your infection. **Drug resistance testing** will help you and your doctor select a new regimen.

Terms Used in This Fact Sheet:

CD4 count: CD4 cells, also called T cells or CD4+ T cells, are white blood cells that fight infection. HIV destroys CD4 cells, making it harder for the body to fight infections. A CD4 count is the number of CD4 cells in a sample of blood. A CD4 count measures the health of the immune system.

Clinical progression: occurrence or recurrence of HIV-related illness (after taking anti-HIV medications for at least 3 months).

Drug resistance: HIV can mutate (change form). The altered HIV can multiply even in the presence of anti-HIV medications that would normally kill the virus. One or more drugs in a treatment regimen may become ineffective as a result of drug resistance.

Drug resistance testing: laboratory testing to determine if a person's HIV is resistant to any anti-HIV medications.

Immunologic failure: repeat testing shows no increase in CD4 count despite treatment. A drop in CD4 count while on anti-HIV medications can also indicate immunologic failure.

Treatment adherence: closely following (adhering to) a treatment regimen. This includes taking the correct dose of a medication at the correct time exactly as prescribed.

Viral load: the amount of HIV in a sample of blood. Viral load measures how well anti-HIV medications are controlling the infection.

Virologic failure: HIV can still be detected in the blood 48 weeks after starting treatment or is consistently detected again after treatment previously lowered viral load to undetectable. (Undetectable means that the level of HIV is too low to be detected with a standard viral load test.)

What is drug resistance testing?

Drug resistance testing shows if your HIV is resistant to any anti-HIV medications. Resistance testing is done in a laboratory using a sample of your blood. The results of drug resistance testing provide information about which anti-HIV medications will be most effective.

Your doctor will help you find ways to adhere to your new regimen. Taking your medications as prescribed will reduce the chance of treatment failure on your new regimen. Tell your doctor if you can't tolerate your medications because of side effects or if you can't take them according to directions. Don't stop taking your medications or skip pills on your own. Talk to



your doctor. He or she can help you find the best regimen and the best ways to take your medications as prescribed. (See fact sheet on [Changing My HIV Treatment Regimen](#).)

For more information:

Contact an AIDSinfo Health Information Specialist at 1-800-448-0440 or <http://aidsinfo.nih.gov>. See your doctor for medical advice.