

## Resistance

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Every time HIV reproduces itself there's a high chance that it may 'mutate' slightly. A 'mutation' is a small alteration in the genetic makeup. These alterations may make the [virus](#) [1] A small infective organism which is incapable of reproducing outside a host cell. more [resistant](#) [2] HIV which has mutated and is less susceptible to the effects of one or more anti-HIV drugs is said to be resistant. to an individual drug or potentially a class of drug. The more the virus is reproducing (i.e. the higher the [viral load](#) [3] A measurement of the quantity of HIV RNA in the blood. Viral load blood test results are expressed as the number of copies (of HIV) per milliliter of blood plasma.) the more chances there are of mutations occurring.

Three drug combinations are most frequently used because they stop most virus reproduction, and because the chances of a mutation becoming resistant to a number of drugs at the same time are very small. For example, if you are on one drug then the virus may only have to mutate in one place for resistance to occur. But if you are on three drugs then the virus has to mutate in three different places at the same time – and there is much less chance of this occurring.

If you miss doses regularly or stop taking the drugs for a few days, you give the virus a chance to mutate. And because small concentrations of one or more of the drugs you are on can still remain in your bloodstream, any mutations which are resistant to these drugs will multiply better and have more chances of then infecting new cells. So, each missed dose can mean slowly rising levels of resistant virus in your body. Missing doses regularly may allow the virus to escape the control of a drug.

If the virus does develop resistance, the treatments become much less effective and your choices of available drugs to use in the future may be limited. If this happens, HIV can keep multiplying in spite of the drugs, effectively behaving as untreated virus. This is why rises in viral load can mean you need to change treatments.

**Missing doses regularly may allow the virus to escape the control of a drug.**

### A few tips to help stop the development of resistance:

- Take the full dose of each drug as prescribed. This allows the drug always to be working at maximum capacity.
- If you miss a dose, don't double up on your next dose. You just risk more side effects but won't have a better result against the virus.
- Take all the drugs in your combination regularly. This means the drugs are always in your blood at levels that work effectively against the virus.
- If you are having difficulties taking a certain drug because of side effects or dose requirements, talk to your doctor about changing to a combination that suits you better and is easier to remember. It is better to change treatments than to stay on a combination which doesn't suit.

[◀ Antiviral treatments](#) [4] [up](#) [4] [When to start?](#) [▶](#) [5]

- [ANET resources](#)
- [drug resistance](#)
- [resistance tests](#)

### Links:

[1] <http://www.napwa.org.au/glossary/term/125>

[2] <http://www.napwa.org.au/glossary/term/109>

[3] <http://www.napwa.org.au/glossary/term/416>

[4] <http://www.napwa.org.au/resource/hiv-tests-and-treatments/antiviral-treatments>

[5] <http://www.napwa.org.au/resource/hiv-tests-and-treatments/antiviral-treatments/when-to-start>

