



# TRUVADA (Tenofovir + Emtricitabine)

## WHAT IS TRUVADA?

Truvada is a pill that contains two drugs used to fight HIV: Tenofovir (Viread) and emtricitabine (Emtriva). Truvada is manufactured by Gilead Sciences.

The drugs in Truvada are called nucleoside analog reverse transcriptase inhibitors, or nukes. These drugs block the reverse transcriptase enzyme. This enzyme changes HIV's genetic material (RNA) into the form of DNA. This has to occur before HIV's genetic code gets inserted into an infected cell's own genetic codes.

## WHO SHOULD TAKE TRUVADA?

Truvada was approved in 2004 for people with HIV infection. It has not been carefully studied in children or older people.

There are no absolute rules about when to start antiretroviral therapy (ART). You and your doctor should consider your CD4 cell count, your viral load, any symptoms you are having, and your attitude about taking ART. Fact Sheet 404 has more information about guidelines for the use of ART.

If you take Truvada with other antiretroviral drugs (ARVs), you can reduce your viral load to extremely low levels, and increase your CD4 cell counts. This should mean staying healthier longer.

Truvada has not been tested in people under 18 years old and people who have hepatitis B infection. They should not take Truvada without careful discussion with their doctor.

Some people with HIV had their hepatitis B get worse after they stopped taking emtricitabine, which is part of Truvada. Get tested for hepatitis B before you start taking Truvada to treat HIV. If you have hepatitis B and stop taking Truvada, your doctor should carefully monitor your liver function for several months.

Truvada provides two drugs in one pill. It can be more convenient to use Truvada than some other combinations of drugs. This could mean fewer missed doses and better control of HIV.

Truvada is not recommended for use as part of a triple-nucleoside regimen.

## WHAT ABOUT DRUG RESISTANCE?

Many new copies of HIV are mutations. They are slightly different from the original virus. Some mutations can keep multiplying even when you are taking an ARV. When this happens, the drug will stop working. This is called "developing resistance" to the drug. See Fact Sheet 126 for more information on resistance.

Sometimes, if your virus develops resistance to one drug, it will also have resistance to other ARVs. This is called "cross-resistance".

**Resistance can develop quickly. It is very important to take ARVs according to instructions, on schedule, and not to skip or reduce doses.**

## HOW IS TRUVADA TAKEN?

Truvada is taken by mouth as a tablet. The normal adult dose is one tablet, once a day. Each tablet includes 300 milligrams (mg) of tenofovir (Viread) and 200 mg of emtricitabine (Emtriva).

Truvada can be taken with food, or between meals. If you have kidney problems, you may need to take Truvada less often.

## WHAT ARE THE SIDE EFFECTS?

When you start any ART, you may have temporary side effects such as headaches, high blood pressure, or a general sense of feeling ill. These side effects usually get better or disappear over time.

The most common side effects of Truvada are the same as with tenofovir (Viread) and emtricitabine (Emtriva). They include headache, nausea, vomiting, rash and loss of appetite. In some people, tenofovir can increase creatinine and transaminases. These are enzymes related to the kidneys and liver. High levels can indicate damage to these organs.

Tenofovir can reduce bone mineral density (see fact sheet 557). Calcium or vitamin D supplements may be helpful. This is especially true for people with osteopenia or osteoporosis. Fact Sheet 551 has more information on fatigue.

Levels of lactic acid in the blood (lactic acidosis, see Fact Sheet 556) increase in some people taking nucleoside analog drugs. Liver problems including "fatty liver" may also occur.

In rare cases, people taking emtricitabine had some limited changes in skin color.

## HOW DOES TRUVADA REACT WITH OTHER DRUGS?

**Truvada should not be taken with 3TC (lamivudine, Epivir).**

**Truvada increases levels of ddl (Videx).** The dose of ddl taken with Truvada should be reduced to 250 mg for people weighing 60 kg (132 lbs) or more. There is no information on ddl dosing for people weighing less than this.

Truvada should not be used with **tenofovir (Viread) or emtricitabine (Emtriva)** or with drugs containing **lamivudine (Epivir, 3TC)** including Combivir, Trizivir or Epzicom.

There are no data on interactions between emtricitabine and **methadone**. Tenofovir does not affect blood levels of methadone.

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