



# TRUVADA (Tenofovir + Emtricitabine)

## WHAT IS TRUVADA?

Truvada is a combination pill that contains two drugs used to fight HIV: tenofovir DF (Viread) and emtricitabine (Emtriva). Truvada is manufactured by Gilead Sciences. Generic versions have been approved under PEPFAR (see fact sheet 925.)

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 DNA. This occurs before HIV's genetic code gets inserted into an infected cell's chromosome.

## WHO SHOULD TAKE TRUVADA?

Truvada was approved in 2004 for treatment of people with HIV infection in combination with other antiretroviral drugs.

Truvada is also approved for daily use by adults confirmed to be HIV negative, don't have symptoms of recent HIV infection and at high risk of becoming infected. PrEP should be used in combination with safer sex practices. This use is called pre-exposure prophylaxis (PrEP, see fact sheet 160).

While antiretroviral therapy is recommended for all persons living with HIV, there are no absolute rules about when to start antiretroviral therapy (ART). You and your health care provider 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 undetectable levels, and increase your CD4 cell counts. This should mean staying healthier longer.

Truvada is not approved for treating people who have hepatitis B infection (HBV). Some people with HBV get worse after they stopped taking Truvada. Get tested for hepatitis B before you start taking Truvada to treat HIV.

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.

## 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 DF (Viread) and 200 mg of emtricitabine (Emtriva).

Truvada can be taken with or without food. 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.

Truvada is usually very well tolerated. The most common side effects of Truvada are the same as with tenofovir DF (Viread) and emtricitabine (Emtriva). They include headache, nausea, vomiting, rash and loss of appetite. In some people, tenofovir can increase blood chemicals called creatinine and transaminases. High levels can indicate injury to kidneys or the liver.

Tenofovir DF can reduce bone mineral density (BMD). This can be an issue for people with osteopenia or osteoporosis (see fact sheet 557). BMD tests should be considered in people taking Truvada who have had bone fractures or other risks for osteoporosis.

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 can interact with other drugs or supplements you are taking. **These interactions can change the amount of each drug in your bloodstream and cause an under- or overdose. New interactions are constantly being identified. Make sure that your health care provider knows about ALL drugs and supplements you are taking.**

**Tenofovir DF levels can be increased with the HCV drug ledipasvir/sofosbuvir.** (Harvoni, see fact sheet 686), especially when given with a boosted protease inhibitor. Kidney function should be monitored before and during HCV treatment in people taking this combination of medications.

**Tenofovir DF 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), emtricitabine (Emtriva, FTC), Descovy** 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.

**Tenofovir lowers the levels of the HIV protease inhibitor atazanavir (Reyataz).** When taken with Truvada, atazanavir should be taken with ritonavir (Norvir).

**Revised September 3, 2016**