



NEVIRAPINE (Viramune)

WHAT IS NEVIRAPINE?

Nevirapine is a drug used as part of antiretroviral therapy (ART). It is also called Viramune. It is manufactured by Boehringer Ingelheim. Generic versions have been tentatively approved under PEPFAR (see fact sheet 475.)

Nevirapine is a non-nucleoside reverse transcriptase inhibitor (a "non-nuke" or NNRTI). These drugs stop HIV from multiplying by preventing the reverse transcriptase enzyme from working. This enzyme changes HIV's genetic material (RNA) into the form of DNA. This step has to occur before HIV's genetic code gets inserted into an infected cell's genetic codes.

WHO SHOULD TAKE IT?

Nevirapine was approved in 1996 as an antiretroviral drug (ARV) for people with HIV infection. It has been studied in adults and children over 2 months old. People with liver disease should not take nevirapine.

There are no absolute rules about when to start 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. Nevirapine should usually not be started in women with over 250 CD4 cells or in men with over 400 CD4 cells due to the risk of liver problems. Nevirapine does not appear to harm pregnant women or increase the risk to their fetus. Therefore it is considered the safest NNRTI for use by pregnant women in the first 3 months of pregnancy.

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

Nevirapine can also be used to prevent transmission of HIV from a pregnant woman to her new child. Although AZT (another ARV) prevents more infections, nevirapine costs less and works better where women breast-feed their babies. The mother gets one dose when she arrives at the hospital in labor. Then the newborn gets one dose during the first three days of life. This approach could be very beneficial in developing countries.

Unfortunately, resistance to nevirapine develops in many women who use it when they are pregnant. This resistance can be transmitted through breast feeding.

Researchers are reviewing whether a short course of nevirapine should be used to prevent transmission of HIV to a newborn.

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." Cross-resistance among NNRTIs develops very easily. If you develop resistance to one NNRTI, you probably won't be able to use any of them in your ART.

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 IT TAKEN?

Nevirapine is available in 200-milligram (mg) pills. The recommended dose for adults is 200 mg per day for two weeks (the lead-in period), then 400mg per day (200mg twice per day). It is important to follow this schedule to reduce the risk of serious side effects. A liquid version is available for children.

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 serious side effect of nevirapine is liver damage which in some cases can be fatal. The greatest risk of these problems is during the first 6 weeks of treatment with nevirapine. However, patients should be carefully monitored during the first 18 weeks taking the drug to watch for signs of skin or liver problems. In some cases, liver problems can get worse even after nevirapine is stopped.

Because of the risk of liver damage, nevirapine should not be used for post-exposure prophylaxis (treatment after

exposure to HIV, or PEP). See Fact Sheet 156 for more information on PEP.

The most common side effect is a skin rash, which develops in about 25 percent of people taking the drug. This side effect is much more common for women than for men. If you develop a rash during the lead-in (lower dose) period, you should not increase to the full dose. If the rash is uncomfortable, you should stop taking the drug. A rare side effect is Stevens-Johnson syndrome. This is a serious skin rash that can be fatal.

Some health care providers used the drug prednisone to treat the rash. However, research showed that it can actually make the rash worse.

A helpful side effect of nevirapine is that it can increase levels of good cholesterol, or HDL. See Fact Sheet 123 for more information on Blood Sugar and Fats.

HOW DOES IT REACT WITH OTHER DRUGS?

Nevirapine can interact with other drugs or supplements that you are taking. **These interactions can change the amount of each drug in your bloodstream and cause an under- or overdose. New interactions are being identified all the time.**

Drugs to watch out for include other ARVs, drugs to treat tuberculosis (see fact sheet 518), for erectile dysfunction (such as Viagra), for heart rhythm (antiarrhythmics), and for migraine headaches. Interactions are also possible with several antihistamines (allergy medications), sedatives, drugs to lower cholesterol, and anti-fungal drugs. **Make sure that your health care provider knows about ALL drugs and supplements you are taking.**

Nevirapine lowers blood levels of some **birth control medications**, which could make them ineffective.

Nevirapine lowers blood levels of **methadone**. Nevirapine can lower concentrations of **buprenorphine**.

The herb **St. John's Wort** (See Fact Sheet 729) lowers the blood levels of some nonnucleoside reverse transcriptase inhibitors. Do not take it with nevirapine.

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