



# ZIDOVUDINE (Retrovir, AZT)

## WHAT IS ZIDOVUDINE?

Zidovudine (Retrovir) is a drug used for antiretroviral therapy (ART). It is manufactured by ViiV Healthcare. The patent on zidovudine expired in 2005 and several generic versions have been approved. Zidovudine is also known as azido-deoxythymidine, AZT or ZDV.

Zidovudine was the first drug approved for the treatment of HIV. It is a nucleoside analog reverse transcriptase inhibitor, or nuke. 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 ZIDOVUDINE?

Zidovudine was approved in 1987 as an antiretroviral (ARV) drug for people with HIV infection. Recommended dosages are available for children over 6 weeks old. It is also used to prevent transmission of HIV from a pregnant woman to her newborn baby (fact sheet 611).

While antiretroviral therapy (ART) is recommended for all people living with HIV, independent of your symptoms or CD4 count, 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 HIV medications. Fact Sheet 404 has more information about guidelines for the use of ART.

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

Zidovudine is no longer frequently used for treating HIV in high income countries. Zidovudine remains an important drug for treating babies and to prevent transmission of HIV from mother to newborn baby.

## 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 drug. 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 ZIDOVUDINE TAKEN?

The recommended adult dose of zidovudine is 300 mg twice daily. Zidovudine comes in 100mg capsules and 300mg tablets. It is also available in liquid form. For children between 6 weeks and 18 year old, the dose is based on weight.

Zidovudine greatly reduces transmission of HIV from the mother to newborn baby. It has been given to babies born to HIV+ mothers for 6 weeks..

Zidovudine is also available in the combination pills Combivir and Trizivir. Combivir (fact sheet 417) contains zidovudine and lamivudine. Trizivir (fact sheet 418) contains zidovudine, lamivudine, and abacavir.

## WHAT ARE THE SIDE EFFECTS?

When you start 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. About 15% of patients taking zidovudine report having headache, nausea, vomiting, anorexia and fatigue. Among children, the most common side effects are fever, cough and digestive problems.

The most serious side effects of zidovudine are anemia, neutropenia and myopathy. These side effects are not common.

**Anemia** is a shortage of red blood cells caused by damage to bone marrow. It is most common in newborn infants taking

zidovudine but disappears after they stop taking the drug. If you get anemia, your doctor might reduce your dose or switch zidovudine for another ARV. If the anemia is severe and you have to keep taking zidovudine, you may need a blood transfusion, or you might take the drug erythropoietin. For more information on anemia, see Fact Sheet 552.

**Myopathy** is muscle pain and weakness. There is no specific treatment for myopathy.

**Neutropenia** is an abnormally low number of neutrophils, the most common type of white blood cell. Neutropenia increases the risk of bacterial and fungal infections.

**Changes in skin and nail color** (darkening of skin and nails) can also occur. This is more common in people with darker skin.

**Other serious side effects associated with zidovudine** include lipodystrophy (fact sheet 553) and immune reconstitution syndrome (fact sheet 483)

## HOW DOES ZIDOVUDINE REACT WITH OTHER DRUGS?

Medications 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.**

**Zidovudine should not be combined** with stavudine (d4T, Zerit) or the cancer drug doxorubicin.

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