



AZT (Retrovir)

WHAT IS AZT?

AZT (Retrovir®), is a drug used for antiretroviral therapy (ART). It was first manufactured by GlaxoSmithKline. Glaxo's patent on AZT expired in 2005. Generic versions made by Aurobindo, Ranbaxy and Roxane were approved in 2005. AZT is also known as azido-deoxythymidine, zidovudine or ZDV.

AZT 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 AZT?

AZT was approved in 1987 as an antiretroviral (ARV) drug for people with HIV infection. Recommended dosages are available for children over 6 weeks old.

There are no absolute rules about when to start ART. You and your doctor 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 AZT 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.

Because AZT was the first anti-HIV drug approved, it has been studied more than any other drug. New drugs have been tested by comparing them to AZT. And because there is more research on AZT than on any other anti-HIV drug, it is prescribed the most often.

"Early treatment" with AZT was tested in people with no symptoms of HIV disease. The study showed no benefit

to taking AZT. But AZT is used as part of combination therapy for people who are exposed to HIV through a workplace accident (needle stick or splash).

AZT greatly reduces transmission of HIV from the mother to her child. It is given to HIV-positive pregnant women from the 4th month of pregnancy until their baby is born, and to the newborn baby for 6 weeks.

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 ARV drugs. This is called "cross-resistance".

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

HOW IS AZT TAKEN?

The recommended dose of AZT for adults is 500mg to 600mg daily. AZT comes in 100mg capsules and 300mg tablets. It is also available in liquid form.

AZT is also available in Combivir and Trizivir. Combivir contains AZT and 3TC. Trizivir contains AZT, 3TC, and abacavir. For more information, see Fact Sheet 417 on Combivir or Fact Sheet 418 on Trizivir.

WHAT ARE THE SIDE EFFECTS?

When you start any ARV treatment 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. Some patients taking AZT continue to have nausea, vomiting, headaches and fatigue.

The most serious side effects of AZT are anemia, neutropenia and myopathy. Very few people have these side effects.

Anemia is a shortage of red blood cells caused by damage to bone marrow. If you get anemia, your doctor might reduce your dose or switch AZT for another ARV drug. If the anemia is severe and you have to keep taking AZT, 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.

HOW DOES AZT REACT WITH OTHER DRUGS?

AZT is more effective if taken with other ARV drugs.

AZT should not be combined with d4T (stavudine, Zerit®).

AZT's side effects may be worse if taken with several other drugs. Be sure your doctor knows about all the medications you are taking.

Revised October 5, 2005