



DIDANOSINE (Videx, ddl)

WHAT IS DIDANOSINE?

ddl (Videx) is a drug used as part of antiretroviral therapy (ART). It is manufactured by Bristol-Myers Squibb and by Barr Laboratories. Didanosine is also known as ddl or dideoxyinosine. Generic versions have been tentatively approved under PEPFAR (see fact sheet 475.)

Didanosine 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 DIDANOSINE?

Didanosine was approved in 1991 as an antiretroviral drug (ARV) for people with HIV infection. The generic version was approved in 2004. It has been studied in adults and children who weigh at least 20 kg (44 lbs.) 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.

If you take didanosine 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.

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 DIDANOSINE TAKEN?

Didanosine is available in a slow-release capsule (Videx EC) in capsules of various strengths, and as a powder that is dissolved in water. Videx EC should be taken with an empty stomach. Do not chew it; swallow it whole.

The recommended dose of didanosine is based on weight. For people weighing at least 20 kg (44 lbs.) but less than 25 kg (55 lbs.) the dose is 200 mg (milligrams) daily; more than 25 kg but less than 60 kg (between 55 and 132 lbs), 250 mg daily; and over 60 kg (132 pounds), the dose is 400mg once a day.

If you have had liver or kidney problems, the dose of didanosine may need to be reduced.

The original form of didanosine could not be absorbed in an acid environment. It contained a buffer to reduce the effects of stomach acid. The original form of didanosine was taken on an empty stomach, 30 minutes before eating or two hours after a meal. Taking it with food reduced blood levels by as much as 50%.

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 didanosine are diarrhea, headaches, vomiting and rash. Diarrhea, caused by the buffer in the tablets, is sometimes severe. Side effects are less common with the EC version of didanosine.

The most serious side effects of didanosine are peripheral neuropathy, pancreatitis, and lactic acidosis:

Peripheral neuropathy is a form of nerve damage. It occurs in up to 20% of people who take didanosine. It usually shows up as tingling, numbness, or a sharp burning sensation in the feet, legs, or hands. The nerve damage is usually temporary and will go away if you stop taking didanosine, or reduce the dose. **If you continue to take didanosine after nerve damage shows up, it may become permanent.** See Fact Sheet 555 for more information.

Pancreatitis is an inflammation of the pancreas, a large gland located behind the stomach. Less than 7% of people get it, usually after taking didanosine for a few months. Pancreatitis can be fatal. If you are taking didanosine and have sharp pain near your stomach, back, or sides, with nausea and vomiting, stop taking didanosine immediately

and call your health care provider. Pancreatitis is more common in older patients, people who have had it before, and those with kidney problems.

Lactic acidosis is a buildup of lactic acid in the blood. This is a by-product of abnormal energy production by the cells. It may be caused by damage to the mitochondria. See Fact Sheet 556 for more information on mitochondrial toxicity. Lactic acidosis can cause severe damage to the pancreas and liver. Symptoms of lactic acidosis can include weight loss, abdominal pain, and severe fatigue.

HOW DOES DIDANOSINE REACT WITH OTHER DRUGS?

Didanosine 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.

- **Didanosine may be more effective** if taken with hydroxyurea (See Fact Sheet 427A). However, this increases the risk of developing pancreatitis.

- **Methadone** decreases blood levels of didanosine. If you take both medications, use the "EC" (enteric coated) version of didanosine.

- **Do not combine didanosine** with stavudine (d4T, Zerit).

- **Pregnant women** should not take didanosine and d4T at the same time due to an increased risk of lactic acidosis.

- **Didanosine should not be taken at the same time as protease inhibitors, antifungal drugs (names end in "azole") or some antibiotics.** Separation times are different for different medications. Check the instructions for your medications. The newer Videx EC capsules do not interact with these medications and can usually be taken at the same time.

- **Tenofovir (Viread) increases didanosine levels.** Didanosine and tenofovir should not be used together, especially in patients with a high viral load and a low CD4 count. Some patients have had serious side effects related to high levels of didanosine.

- **Ribavirin** (used to treat hepatitis C) **increases didanosine levels** and increases the risk of side effects associated with didanosine. People should not take both ribavirin and didanosine.

Revised October 1, 2009