

# because you asked

## Triple therapy

Is it really necessary to take three different antiretrovirals?

**Dr. Marianne Harris answers:** With the antiretroviral agents available today, the answer is yes. Long-term control of HIV infection was first achieved in the mid-1990s with the advent of triple drug regimens, also known as highly active antiretroviral therapy (HAART). Earlier treatments consisting of one or two drugs were only partially effective for a short time, apparently because the HIV virus can rapidly develop resistance to one or two drugs. However, it's much more difficult for the virus to develop resistance to three drugs given together.

The widespread use of triple therapy over the last 12 years has resulted in significant improvements in the effectiveness and durability of HIV treatment. The sustained control of viral replication and increases in CD4 cell counts achieved with three-drug HAART ultimately translate into fewer AIDS-related illnesses and longer life expectancy for people living with HIV.

Of course, taking three drugs at a time can be inconvenient and cumbersome. One approach that has been studied to improve convenience and reduce pill burden is to start on a triple drug regimen to bring the HIV viral load under control, then simplify to a single drug for "maintenance" therapy. The monotherapy used most often in these studies is a protease inhibitor (PI) such as lopinavir/ritonavir (Kaletra®), a potent antiretroviral agent for which it's relatively difficult for HIV to develop resistance. However, a recent paper reviewed the results of 22 PI monotherapy studies and showed that the risk of treatment failure was greater on monotherapy (33%) than on traditional triple therapy (23%). So for the time being, triple therapy is the gold standard for HIV treatment.



## Drug interactions

Are there drug interactions between antiretroviral medications (ARVs) and Alertec™ or Ritalin™?

**Danielle Gourde answers:** Modafinil is a medication sold by the name Provigil™ in the United States and as Alertec™ in Canada. The recognized indications for this medication are daytime hypersomnolence (extreme sleepiness) accompanied by narcolepsy (fits of sleepiness), or as treatment for daytime hypersomnolence secondary to sleep apnea (interrupted sleep due to breathing difficulties).

Interactions between ARVs and modafinil haven't been studied. However, we know that modafinil uses the same metabolic pathways as ARVs, particularly protease inhibitors (PIs) and non-nucleoside reverse transcriptase inhibitors (NNRTIs), and could therefore affect ARV concentrations.

These interactions are only theoretical but could lead to a decrease in the effectiveness of ARVs, which isn't desirable.

As well, the concentration of modafinil and potential side effects could be increased.

Treatment with modafinil should be started at a lower dose, and a blood test to measure ARV concentrations is recommended two weeks after you start taking the drug.

Atomoxetine (Strattera™), a medication used for the same indications as modafinil, has the same potential for interaction with ARVs and similar precautions should be taken. Methylphenidate (Ritalin™) is a safer alternative, because it doesn't interact with ARVs.

These central nervous system stimulant medications have been described as "smart drugs" by the popular press, but should be used with caution by people with heart disease, psychosis, anxiety or liver failure. Side effects associated with this class of drugs include headache and nervousness. These medications require a doctor's prescription and Alertec™ isn't covered by all drug plans, notably the Québec drug insurance plan. **R**

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you need to know?  
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