

## ANTI-RETROVIRALS: WHEN TO START & WHAT TO START WITH

Using anti-HIV drugs, also known as anti-retrovirals (because HIV is a retrovirus) has become very complicated over the past several years, to doctors and patients alike. There are currently 21 anti-retroviral drugs licensed in Canada, with several more pending approval by Health Canada.

### When to Start:

Deciding when to start antiretroviral therapy is a difficult decision. Although there is still much debate about the best starting time, the general consensus is that you want to “hit hard” with strong drugs, but not necessarily early. Experts believe that the longer you can wait, the better. By waiting, you avoid unnecessary side effects, and delay the development of drug resistance. And, hopefully, by the time you do have to start taking drugs, there will be more effective and less toxic drugs to take.

The International Guidelines provide recommendations for when to start taking anti-retrovirals (see Table 1). BC generally follows these recommendations.



The British Columbia Persons With AIDS Society is dedicated to empowering persons living with HIV disease and AIDS through mutual support and collective action. BCPWA is Western Canada's largest AIDS organization with a membership of 4000 HIV-positive individuals.

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# Anti Retrovirals

## What to start with:

There are many different types of antiretrovirals. Of the ones that are currently licensed in Canada, there are four classes, which are then sub-divided into the different drugs (see Table 2). All the drugs are designed to interfere with one of the 13 or so steps in the HIV lifecycle.

Because of HIV's ability to become resistant to antiretrovirals, these drugs are always used in combination with one another. Usual combinations that people start with include:

- ▼ 2 nukes and a PI (eg. 3TC, AZT, Kaletra)
- ▼ 2 nukes and a non-nuke (eg. Sustiva, 3TC, AZT)

## What drugs you start with will depend on the following factors:

### Side effects:

Are you already prone to nightmares? Peripheral neuropathy? Diarrhea? If so, you may want to avoid drugs which cause these side effects, and you may want to avoid drugs which cause the same side effects (eg. you may want to avoid taking ddI and d4T together because they both cause neuropathy).

### Lifestyle:

Will you have problems taking your medications more than once a day? Will you be able to manage scheduling taking your pills around meal times or with (or without) certain kinds of foods?

### Other medical conditions:

Are you taking methadone? Psychiatric drugs? Heart medications? Are you taking birth control pills? Drug interactions are a big problem with antiretrovirals. You need to work with a pharmacist who knows what drugs you're taking for all your medical conditions to find an antiretroviral combination that will be both effective and safe for you to use.

**Table 1: When to start Anti Retrovirals**

Viral Load at Baseline: CD4 at Baseline:	< 5000 copies/ml	Between 5000 and 20,000 copies/ml	Between 20,000 and 100,000 copies/ml	Over 100,000 copies/ml
more than 500 cells	Delay starting	Delay starting	Delay starting	Delay starting
Between 350 – 500 cells	Delay starting	Delay starting	Delay starting	Delay starting –monitor CD4s closely
Between 200 – 350 cells	Delay starting	Delay starting	Consider starting	Recommend starting
Less than 200 cells	Recommend starting	Recommend starting	Recommend starting	Recommend starting

**Table 2: Anti Retrovirals**

Drug Names (Brand Names)	Doses	Common Side Effects
<b>Nucleoside Reverse Transcriptase Inhibitors (Nukes)</b>		
AZT (Retrovir, zidovudine)	2 (100 mg) caps TID or 3 (100 mg) caps BID	Headaches, nausea, anemia, fatigue, vomiting, malaise, anorexia, neutropenia, liver toxicity
3TC (Epivir, lamivudine)	1 (150 mg) tab BID	Neutropenia
ddI (Videx, didanosine) or ddI Enteric Coated (EC)	2 (100 mg) caps BID, empty stomach or 2 (150 mg) + 1 (100 mg) QD	Pancreatitis, peripheral neuropathy, irritability, insomnia, nausea, diarrhea, mitochondrial toxicity
DdC (Hivid, zalcitabine)	1 (0.75 mg) tab TID	Peripheral neuropathy, oral ulcers, nausea, liver toxicity
D4T (Zerit, stavudine)	1 (40 mg) cap BID	Peripheral neuropathy, liver toxicity, pancreatitis, mitochondrial toxicity
Abacavir (Ziagen)	1(300 mg) tab BID	Hypersensitivity, rash, nausea, headache, diarrhea, fever
Combivir (AZT & 3TC)	1 (AZT 300 mg + 3TC 150 mg) tab BID	See AZT and 3TC
Trizivir (AZT & 3TC & Abacavir)	1 (AZT 300 mg + 3TC 150 mg + 1 Abacavir 300 mg) tab BID	See AZT, 3TC, and abacavir
<b>Non-Nucleoside Reverse Transcriptase Inhibitors (Non-Nukes)</b>		
Nevirapine (Viramune)	1 (200 mg) tab BID or 2 (200 mg) tab QD (note dose is escalated over first 2 weeks)	Rash, headache, nausea, fatigue, liver toxicity
Efavirenz (Sustiva)	3 (200 mg) caps QD or 1 (600 mg) cap QD	Confusion, mania, dizziness, vivid dreams, nightmares, insomnia, rash
Delavirdine (Rescriptor)	4 (100 mg) tabs TID or 6 (100 mg) tabs BID	Rash, headache, nausea
<b>Protease Inhibitors*</b>		
Saquinavir (Invirase)	3 (200 mg) caps TID with food	Bloating, diarrhea, fatigue, nausea, gas, liver toxicity
Saquinavir (Fortovase)	6 (200 mg) caps TID with food	Bloating, diarrhea, fatigue, nausea, gas, liver toxicity
Indinavir (Crixivan)	2 (400 mg) caps Q8h with low fat food and lots of water	Kidney stones, bloating, headache, weakness, nausea, diarrhea, flank pain, liver toxicity
Ritonavir (Norvir)	6 (100 mg) caps BID	Tingling around the mouth, nausea, vomiting, diarrhea, fatigue, dizziness, taste perversion, liver toxicity
Nelfinavir (Viracept)	625 mg BID	Diarrhea, nausea, gas, rash
Amprenavir (Agenerase)	4 (150 mg) BID NB: this drug is only used with Ritonavir	Diarrhea, nausea, headache
Lopinavir/ritonavir (Kaletra)	3 (400 mg/100 mg) caps BID	Diarrhea, nausea, headache
Atazanavir (Reyataz)	300 mg QD	Increased bilirubin levels, headaches, nausea, diarrhea
<b>Nucleotide Reverse Transcriptase Inhibitors</b>		
Tenofovir (Viread)	1 (300 mg) tab QD	kidney toxicity
<b>Fusion Inhibitors</b>		
T-20 (Fuzeon)	By injection BID	Tenderness and swelling at injection site

\*Most Protease Inhibitors today are used in combination with small doses of ritonavir, allowing the dosages to be reduced.

QD = once daily      BID = twice daily      TID = three times daily      Q8h = every 8 hours