

# because you asked

## Post-exposure prophylaxis

**Last night, the condom broke when I was with my partner. He's HIV positive and I'm not... What should I do?**

— *Concerned in Calgary*

**Dr. Dufresne replies:** Accidental exposure to HIV is an ongoing concern for serodiscordant couples, where one partner is HIV+ and the other is not. The best way to prevent transmission of HIV is by avoiding penetrative sex, which carries the highest risk. Short of that, use of a condom and water-based lubricant reduces the risk of transmission.

In the event of contact with HIV, post-exposure prophylaxis is one way to help prevent the spread of the virus. It involves taking a combination of antiretrovirals for up to 28 days following exposure to HIV. Although there's no definitive research proving the efficacy of these treatments for sexual exposures, in cases of accidental needle punctures among healthcare workers, preventive treatment works about 80% of the time. Researchers think post-exposure prophylaxis is just as effective in cases of sexual exposure to HIV. But post-exposure prophylaxis works best if it's administered immediately — within the first 72 hours after exposure — and is taken for a period of 28 days.

Choosing the right prophylaxis can be tricky. If appropriate, your doctor will select the combination of meds best able to fight the strain of the virus to which you've been exposed, based on any known resistances your partner has to antiretrovirals. The cost (\$600-\$1,200) of the treatment and its side effects are also reasons not to take it lightly.

Some, but not all, private and provincial health insurance programs cover the cost, so price should not be a reason to dismiss the option.

It's important that serodiscordant couples do everything they can to prevent transmission of HIV, and only resort to post-exposure prophylaxis when there's been a high-risk exposure, like unprotected vaginal or anal sex. If you wish to receive this treatment, you should see a doctor with experience in these treatments as soon as possible. If your doctor is unavailable, go to the emergency room of the nearest hospital. Ideally, the treatment should be started within two hours.

## Missing a dose

**I've been HIV+ for 6 years. My doctor just put me on HAART, and it seems to be working well — my viral load is low and my CD4 count is higher than it's ever been. However, I'm finding the dose schedule difficult to follow because of all the rules about when to take the pills. I'm a very busy professional and sometimes I forget doses completely. How much does this matter?**

— *Too Busy in Montréal*

**Dr. Klein answers:** Forgetting doses of antiretrovirals is a common problem among people living with HIV and yes, it does matter. For antiretrovirals to work, they must be taken regularly, as scheduled.

HIV is a powerful enemy that in most people, will ultimately lead to death if left untreated. Current guidelines suggest delaying treatment until the disease is quite advanced, which leaves you very vulnerable to developing AIDS if your medication doesn't work. This should be the primary motivation for adhering to your medication.

In an attempt to increase convenience and limit toxicities and side effects, doctors generally prescribe the lowest effective doses of antiretrovirals. Because of this, a missed dose or two may lower the amount of medication in your blood to a point where the virus is not being controlled. This allows HIV to become resistant to your meds, which means the drugs you're taking (and similar drugs in the same class) may not work as well. Since the only effective way to control HIV is to combine three or more medications, the actual number of treatment combinations is limited. If the virus learns

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**Dr. Alex Klein** is an HIV primary care physician in private practice and a family practitioner at Mount Sinai Hospital in Toronto.

**Dr. Graham Smith** is a family physician specializing in the care of people living with HIV/AIDS at the Maple Leaf Medical Clinic in Toronto.





## No great alternative

**I just read on the Internet about ozone therapy that claims to cure HIV/AIDS. The website said that you have to stop taking your meds for it to work. I'm tempted to try it but I don't want to get any worse. Should I give it a shot?**

— *Naturally Worried in Toronto*

how to overcome one of these drugs, other options may also be lost and you'll have to change to different — and usually more — drugs.

It's not clear how often or how many doses you can miss before your virus develops resistance; but logic says the fewer doses you miss, the better. I advise my patients that they should take all of their pills or none of their pills but never some of their pills.

## I advise my patients that they should take all or none but never some of their pills

As you only recently started therapy, chances are you still have lots of treatment options and, if anything, this first combination will be the easiest because in general, your first choice allows for a combo with the lowest pill number, dosing frequency and side effects. If you're struggling with the schedule, I suggest speaking honestly with your doctor to see if it's possible to switch you to a regimen that you're better able to stick to. The worst thing you can do right now is continue skipping doses. It may be better for you to stop therapy altogether than continue this way, because you're at risk of developing drug-resistant HIV. Speak to your doctor about your options and together you can decide on the best plan of action. I'd also recommend reading up on how resistance develops: the better you understand what's going on in your body, the more likely you'll stick to your meds.

**Dr. Smith responds:** In the days when HIV treatment wasn't very effective and people were developing AIDS-related illnesses much earlier than they are now, there was much interest in alternative treatments. Some of my patients spent a lot of money on these treatments but I never saw very good results. Some even ended up with abscesses or other problems from injecting what turned out to be toxic products. Highly Active Antiretroviral Therapy (HAART) is now very effective in keeping viral levels low, preventing the onset of AIDS and, in many cases, allowing the immune system to rebuild. Since HAART became available, interest in alternative therapies has declined.

Ozone can destroy bacteria and viruses in a test tube, but there's no evidence it can kill HIV inside human cells. When ozone therapy was tested in people with HIV, they didn't exhibit any significant changes in CD4 cell counts or viral load. There have even been accidental deaths associated with the use of intravenous ozone infusions.

Promoters can't show any reliable evidence to support it, yet they continue to sell this costly and potentially dangerous treatment.

There's no need to stop a therapy that's working for you. HIV is very clever at getting around treatments and, so far, only combination therapy — like HAART— has been shown to be effective over the long term. The risks involved with stopping therapy (increasing viral load, decreasing CD4 counts) likely outweigh the benefits of alternative treatments, especially when there's no evidence that they work at all.

When contemplating any treatment, ask yourself: Is there a good reason the treatment should work based on the science of HIV? Is there reliable scientific evidence that it works? How much does it cost, who's making the money and are the promoters accountable for the effectiveness of the product? Also, what are the risks associated with it?

I haven't seen any convincing evidence for the use of ozone therapy in the treatment of HIV, and would approach it with caution, if at all. **R**