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# **Side Effects**

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## **Side Effects and HIV Drugs**

Over the years, many HIV drugs have been developed that help people live longer, healthier lives. Like all drugs approved by the US Food and Drug Administration (FDA), HIV drugs are tested to make sure they are safe and effective in treating HIV. However, HIV drugs can also cause some effects that are different from what they were developed to do. These are called side effects. In most cases, the side effects of HIV drugs are mild, like a headache or an upset stomach. In some cases, however, more serious side effects, such as liver damage or peripheral neuropathy (damage to the nerves connecting the hands and feet to the brain) can occur.

Side effects are most common during the first four to six weeks when you are taking a new HIV medication. After your body gets used to the new drug, the side effects usually get better or go away. Other side effects may show up later or last longer. There may also be long-term side effects we do not know about yet, especially with newer HIV drugs.

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## **Knowing About Side Effects Can Help**

Every drug, including HIV medications, comes with information on its most common side effects. It can help to read this information. If you read the <u>package insert</u> provided by the drug manufacturer, the list of possible side effects can be very long and detailed. Drug manufacturers must list every possible side effect, even if it is very unlikely or affects very few people. For some, reading through that list can be downright scary. However, it is important to remember that this information lists side effects that you **might** experience, not side effects that you **will** experience. While all HIV drugs can cause side effects, not everyone will experience every side effect of each drug, and not everyone will experience the side effect(s) the same way. Many people living with HIV do not have any side effects from their medications.

Speak to your health care provider about side effects before starting a new treatment. It will help if you know what to expect and how to handle any problems that arise. Some important points:

- Find out what side effects are possible for any new drug you are taking. Drugs often have lists
  of the most common side effects that you can expect, so that you can prepare for and keep an
  eye out for them.
- Ask if there are ways of taking the drug that make it easier to tolerate for example with or

without food or at a certain time of day, such as bedtime.

- Find out if you can treat mild side effects with home remedies, over-the-counter medications, or prescription drugs and have these treatments on hand, especially for common side effects like diarrhea and nausea.
- Ask when you should get medical attention for a side effect, and whom to contact if the side effect occurs when your health care provider's office is closed.
- Let your health care provider know if you are experiencing side effects, especially if you are taking a drug that may cause a particularly serious problem.

Whether your side effects are considered mild or serious, if they are getting in the way of you taking your HIV drugs (see our fact sheet on <u>Adherence</u>), they are a very important concern. If you do experience side effects, it is important that you not stop on your own taking your drugs. Talk to your health care provider, who will help you by suggesting ways to address the side effect directly, changing the dose of the drug, or switching drugs.

## Women and Side Effects

A woman's smaller body size, metabolism (how we break down drugs in our bodies), or hormones may cause the higher levels [of certain HIV drugs in the bloodstream].

Although the total number of side effects among people taking HIV drugs does not differ much between men and women, some side effects (listed below) appear to be more common in women living with HIV than in men.

This may be because women have higher levels of certain HIV drugs in their bloodstreams, even though they take the same doses as men. A woman's smaller body size, metabolism (how we break down drugs in our bodies), or <a href="hormones">hormones</a> may cause the higher levels. For example, with the protease inhibitor (PI) Norvir (ritonavir), women seem to experience more nausea, vomiting, and weakness than men.

Despite some differences in drug levels and side effects, women seem to benefit as much from HIV treatment as men. No changes in dosing have been recommended for women.

#### More Common Side Effects

Below is a list of the more common side effects associated with HIV drugs. Click the available links for more detailed information on the side effects listed.

## **Nausea and Vomiting**

Nausea and vomiting can get in the way of taking your HIV drugs regularly or benefitting from the drugs you take.

Nausea, or feeling sick to your stomach, is one of the most common side effects of taking HIV drugs. Vomiting, or throwing up, is also very common. Both of these occur when new, unknown substances – like HIV drugs – are introduced to our bodies.

The good news is that nausea and vomiting often get better after the first days or weeks of treatment with a new HIV drug. However, they can still be awfully unpleasant and reduce the quality of your daily life. Nausea and vomiting can get in the way of taking your HIV drugs regularly or benefitting from the drugs you take (if you throw them up before they are digested). These side effects can also keep you from getting the proper nutrition your body needs.

Tell your health care provider if nausea is affecting your quality of life, including your ability to eat and

take medications. Also tell your provider if your vomiting lasts more than a few days, because this may lead to more serious problems.

Because nausea and vomiting are such common side effects with so many of the HIV drugs, switching drugs is often not helpful. Instead, there are some things you can do to manage these side effects:

- Eat smaller meals more often. Large amounts of food in the stomach can make nausea worse.
- Eat bland (have little flavor or taste), rather than spicy foods. Bland foods are easier for your stomach to break down.
- Eat foods that are at room temperature. Very cold or very hot foods can make nausea worse.
- Ginger and peppermint have long been known to ease stomach upset. Try ginger ale, ginger tea, or peppermint tea.
- Breathe slowly in through the nose, out through the mouth. Try to avoid strong smells, like perfume, smoke, incense, or food smells.

If these tips do not work, there are prescription medications to prevent nausea and vomiting. For example, your health care provider can prescribe medications that you can take before taking your HIV drugs to decrease the feeling of nausea. These medications can help you to take your HIV drugs exactly as prescribed. Talk to your health care provider about which of these medications would be best for you.

### Diarrhea

Diarrhea occurs when you have bowel movements (stools or "poop") that are loose and watery at least three times a day. Like nausea and vomiting, diarrhea can be unpleasant and reduce the quality of your life. It can also lead to dehydration (not having enough water in your body) and malnutrition (not getting enough nutrients from your food).

Tell your health care provider if you have diarrhea for more than a few days so that he or she can find the cause and suggest appropriate treatments.

There are many approaches to treating or managing diarrhea:

- Dietary changes:
  - Drink more water and other fluids to avoid dehydration
  - Eat small meals every two to three hours
  - Avoid fatty foods, very sweet or spicy foods, caffeine (found in coffee, chocolate, sodas, and some teas), 'roughage' (lettuce, greens, seeds, corn, bran), raw or undercooked foods
  - Try the BRATT diet: Bananas, Rice (white), Applesauce, Toast (plain), and Tea (unsweetened and non-caffeinated)
- Herbal remedies: Chamomile, ginger, and peppermint teas calm the gut
- Supplements, including probiotics, L-glutamine, and calcium carbonate
- Over-the-counter medications
- Prescription medications: There are medications your health care provider can prescribe that
  you can take with your HIV drugs to prevent diarrhea. These medications can help you to take
  your HIV drugs exactly as prescribed.

For more information on managing your diarrhea, please see our fact sheet on Diarrhea.

#### Headaches

Tell your provider if your headaches are affecting your quality of life or your ability to stick to your HIV

drug regimen.

Some HIV drugs can cause headaches. Mild headaches that go away with over-the-counter pain killers such as aspirin, Tylenol (acetaminophen), Advil or Motrin (ibuprofen), or Aleve (naproxen sodium), are usually not a sign of a serious condition or disease. However, if you have a severe headache, your vision changes, you become dizzy, your neck becomes stiff, or you have a fever, along with nausea and/or vomiting, seek emergency medical care right away, because these symptoms can indicate something more serious than a reaction to medication. Also tell your provider if your headaches are affecting your quality of life or your ability to stick to your HIV drug regimen.

You should also ask your health care provider if alternative or complementary therapies can be used to manage headaches. Some alternative therapies may interfere with your HIV medications so be sure to inform your health care provider if you decide to use these treatments.

#### Rash

Rash is a common side effect of many HIV drugs, especially non-nucleoside reverse transcriptase inhibitors (NNRTIs). Rashes are more common and more severe in women. It is important to check your skin for changes in color or any unusual bumps, especially after starting a new medication.

In rare situations, a rash is a symptom of a severe, life-threatening skin reaction called Stevens-Johnson syndrome. Call your health care provider immediately if you experience a bad rash or a rash together with any of the following symptoms: fever, lack of energy, general feeling of illness, muscle or joint aches, itchiness of the skin, mouth sores, bloodshot or dry eyes, and blisters, especially those that look like "targets," or "bulls-eyes."

## **More Serious Side Effects**

Below is a list of less common, more serious side effects associated with HIV drugs. Click the available links for more detailed information on the side effects listed.

## **Kidney Problems**

The kidneys are the two fist-sized, bean-shaped organs that filter blood and produce urine. They get rid of waste and maintain a healthy balance of many substances, including water and electrolytes.

Often, those with kidney disease – especially early kidney disease – do not notice any symptoms. This is why it is important to see your health care provider regularly for lab tests that can find changes in your kidney function. Symptoms of kidney disease can include too much or too little urine; urine that is foamy, pink, red, or brown; swollen hands, legs, or feet; muscle aches or cramps; fatigue and trouble concentrating.

Sometimes people develop a serious condition called acute renal failure (ARF) in response to certain HIV drugs. ARF happens when serious damage to the kidneys occurs in a short time. ARF can lead to permanent kidney damage. Symptoms of ARF include less urine, swelling in legs, ankles or feet, being drowsy, short of breath or confused, being very tired without a reason (fatigue), nausea, chest pain or pressure. In severe cases, you may have seizures or go into a coma.

It is important that people living with HIV drink plenty of water and stay hydrated, especially while taking drugs to treat HIV.

## **Liver Problems**

Some HIV drugs can cause liver problems. It is believed that women and people over the age of 50 are

at higher risk of developing liver problems. Obesity (being very overweight), <u>heavy alcohol use</u>, and other liver problems (such as <u>hepatitis B</u> and <u>hepatitis C</u>) can also increase this risk.

Some drugs, such as nevirapine (Viramune), can cause an allergic reaction in the liver that results in liver damage and increases the liver enzymes in your blood soon after the medication is started. It is important that your health care provider has your blood tested often to check your liver during the first few months of taking this drug. Women with more than 250 CD4 cells are more likely to develop liver problems when they start Viramune and therefore should not take that drug, unless there are no other options. Women whose CD4 cells were below 250 when they started Viramune and rise to above 250 while taking the drug do not need to stop or switch their treatment.

For more information on this topic, please see our fact sheet on Caring for Your Liver.

## Lipodystrophy

The term lipodystrophy is used to describe a number of body shape changes that result from the addition or loss of body fat. While men and women living with HIV both experience body shape changes, women are more likely to experience fat gain in the breasts, stomach, and upper bodies. Lipodystrophy can cause big changes in your appearance. If you are concerned about how you look, speak to your health care provider before making any changes to your HIV treatment.

Lipodystrophy also involves metabolic problems such as high blood glucose (<u>sugar</u>) and high lipid levels (<u>cholesterol and triglycerides</u>). The exact causes of lipodystrophy are not known but may include HIV itself and/or certain HIV drugs.

For more information on this topic, see our fact sheet on <u>Lipodystrophy and Body Changes</u>.

## **Peripheral Neuropathy**

Peripheral neuropathy (PN) happens when the nerves between the feet and/or hands and the spinal cord (the bundle of nerves running down your back) become damaged. Like frayed wires that can spark or misfire, these damaged nerves do not send their electrical signals properly. As a result, PN can cause feelings of numbness, tingling, burning, itching, or shooting pain. Some people with PN describe their pain as "holding a lit match to my feet," or "walking on broken glass."

Peripheral neuropathy can cause feelings of numbness, tingling, burning, itching, or shooting pain.

PN pain can be constant or occasional, and usually occurs on both sides of the body. Some older HIV drugs can be harmful to the nerves and cause PN, but these drugs are rarely used now. Unfortunately, there are no approved medical treatments to cure PN. For now, the key to treating PN is to remove the cause and to control the pain.

There are many causes of PN other than HIV drugs, including diabetes, chemotherapy treatments for cancer, not getting enough of certain vitamins, and HIV itself. Talk with your provider if you have symptoms of PN. For more information on this topic, see our fact sheet on <u>Peripheral Neuropathy</u>.

#### **Lactic Acidosis**

Lactic acidosis is a buildup of lactic acid, a waste product, in the blood. It is a rare but serious complication of some nucleoside reverse transcriptase inhibitors (NRTIs), which are now rarely used. Women (especially pregnant women), overweight people, and those with a long history of NRTI use are more likely to develop lactic acidosis. Symptoms include fatigue, nausea, vomiting, stomach pain, shortness of breath, and weakness in the arms and legs. If you notice any of these symptoms, call your health care provider right away.

For more information on this topic, see our fact sheet on Lactic Acidosis.

## Other Possible Side Effects

Taking HIV drugs can also affect your heart and bone health. For more information, see our fact sheets on <u>Caring for Your Heart</u> and <u>Bone Health</u>.

In addition to the side effects listed above, you can find more information on other possible side effects in the <u>Health and Medical Issues</u> section on our website.

## **Side Effects or Toxicities during Pregnancy**

The majority of studies have shown that taking most <u>HIV drugs during pregnancy</u> does not increase the risk of birth defects. However, there are certain HIV drugs that should not be used by pregnant people because of potential problems for the parent or the baby.

Though there used to be some debate about the safety of taking efavirenz (brand name Sustiva; also found in Atripla) during early pregnancy, all major medical organizations now suggest that efavirenz can be taken throughout pregnancy, including during the first trimester (12 weeks). In addition, people who are successfully virally suppressed (whose HIV is below levels detected by standard tests) on a treatment regimen that contains efavirenz and who become pregnant should continue on efavirenz throughout pregnancy.

If you are pregnant or thinking about <u>getting pregnant</u>, speak to your health care provider about all of your medications to be sure there are no specific warnings for pregnant people. The good news is that several HIV drugs are safe to take during pregnancy. If taken exactly the way they were prescribed, these HIV drugs can make the chances that you will pass HIV on to your baby very low (less than one in 100).

## **Taking Care of Yourself**

HIV drugs help many people live longer, healthier lives. Side effects are an important factor in determining whether someone takes their HIV drugs as prescribed. While the term 'side effects' may make them sound like they are not a big problem, if they are getting in the way of your taking your HIV drugs, they may get in the way of your good health. If you are having trouble sticking to your HIV drug regimen because of problems with side effects, speak to your health care provider before skipping, reducing, or stopping your drugs. There is usually something that can be done about it, such as changing the dose of that drug, switching to another drug, or finding ways to treat or manage the side effect directly.

## **Additional Resources**

Select the links below for additional material related to side effects.

- HIV Medicines and Side Effects (HIVinfo)
- Side Effects (Terrence Higgins Trust, United Kingdom)
- Side-Effects of HIV Treatment (aidsmap)
- A Practical Guide to HIV Drug Side Effects (CATIE)
- HIV Treatment Side-Effects and Mental Health (aidsmap)
- The 10 Most Common Side Effects of HIV Medications (plus)
- Managing Side Effects of HIV Medications (New York State Department of Health, ...
- Tips for Common Side Effects (US Department of Veterans Affairs)

- How to Manage Side Effects of HIV Treatment (Everyday Health)
- Side Effects (Be in the Know)
- Side Effects (International Association of Providers of AIDS Care)
- Side Effects of HIV and AIDS Drugs (WebMD)
- HIV Medication Side Effects (TheBody)



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