



Can't stomach it?

How to deal with GI side effects

by Dr. Gary Rubin

Over three quarters of people living with HIV will experience some type of gastrointestinal problem. Nausea, vomiting, diarrhea, abdominal pain and loss of appetite are among the most common symptoms. The main sources of these problems are HIV itself, other infections and the antiretroviral drugs used to treat HIV.

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Nausea

Nausea is one of the most common gastrointestinal side effects of antiretrovirals but doesn't usually last very long. These drugs are more frequently associated with nausea than others.

Drug	Risk of developing nausea
Zidovudine, AZT (Retrovir [®] , Combivir [®] , and Trizivir [®])	50%
Amprenavir (Agenerase [™])	30-50%
Ritonavir (Norvir [®])	25%
Saquinavir (Fortovase [®] and Invirase [®])	15%
Indinavir (Crixivan [®])	10%
Fosamprenavir (Telzir [®])	7%

Gastrointestinal (GI) problems are common side effects of antiretroviral (ARV) medications. Yet the possibility that these symptoms could be caused by medication is sometimes overlooked when people with HIV discuss the issue with their doctor. The greater the number of antiretrovirals being taken at any given time, the higher the likelihood of GI side effects. Untreated GI symptoms have a significant impact on everyday life and can lead to dehydration, malnutrition and weight loss. They can even compromise the absorption, and therefore effectiveness, of ARV medications.

Nausea

In general, GI side effects of antiretrovirals tend to occur shortly after starting therapy and are usually mild to moderate in severity. Some drugs are more likely to be associated with nausea than others. One of these drugs is zidovudine, also called AZT and it's found in three antiretrovirals:

Retrovir®, Combivir® and Trizivir®. Amprenavir (Agenerase™) has also been associated with a very high incidence of nausea. See the table for a complete list.

Nausea caused by antiretrovirals is usually sporadic and short lasting. GI side effects with AZT usually subside after the first four weeks of therapy and can be minimized by eating something small — like a piece of toast or some crackers — with your pills. Eating smaller, more frequent meals throughout the day can also reduce GI side effects. If you have a very sensitive GI system, you're more likely to develop these side effects. Available over-the-counter and by prescription, Gravol® can help if you develop severe nausea that can't be treated by eating changes.

Vomiting

Vomiting is another frequent side effect that can occur shortly after starting ARVs. Like nausea, it usually stops on its own or can be prevented by taking your meds with meals. If vomiting becomes severe, anti-emetic drugs like Gravol® or Stemetil® can be used to treat vomiting. As a last resort, your doctor might suggest switching you to another antiretroviral.

What helps?

Some antiretrovirals should be taken on an empty stomach for maximum effectiveness. When the result is severe nausea or vomiting, eating small quantities of low fat salty crackers may decrease the symptoms without interfering too much with your meds. Herbal teas, like ginger, peppermint or chamomile can also help. Fatty and very spicy foods, dairy products, coffee, cigarettes, alcohol and aspirin can all make vomiting worse.

Diarrhea

Diarrhea is a common and very disturbing side effect that can seriously compromise quality of life. It often becomes chronic and unrelenting and can lead to dehydration and malabsorption of vitamins and nutrients from food. It's not always clear whether diarrhea is related to combination therapy, HIV itself, or other causes, and treatment often brings only partial relief.

Meds: usual suspects

Protease inhibitors are the class of antiretrovirals most likely to cause GI distress and diarrhea. Ritonavir (Norvir®) and amprenavir (Agenerase™) are frequently associated with watery diarrhea. Nelfinavir (Viracept®) also causes diarrhea in 30% of people, with many reporting the symptoms as severe, yet it's not usually associated with weight

Diarrhea

Watery diarrhea is a common and frustrating side effect of many protease inhibitors.

Left untreated, it can lead to dehydration and malabsorption of your meds.

Drug	Risk of developing diarrhea
Ritonavir (Norvir®)	45%*
Amprenavir (Agenerase™)	40%
Nelfinavir (Viracept®)	30%
Indinavir (Crixivan®)	25%
Saquinavir (Fortovase® and Invirase®)	20%
Lopinavir/ritonavir (Kaletra®)	15%
Fosamprenavir (Telzir™)	5-10%
Atazanavir (Reyataz™)	3%

*when used in high doses, i.e. 600 mg twice daily

loss. 500 mg of calcium carbonate twice a day can relieve nelfinavir-induced diarrhea.

People taking the old formulation of didanosine (ddl, Videx®) also reported frequent diarrhea, but researchers discovered that it was related to the buffer, an inactive chemical used in the tablet preparation and not the active ingredient. Diarrhea is less of a concern with the new formulation, called ddl-EC or Videx® EC.

Treating diarrhea

The classic approach to diarrhea has been to add bulk to stools, using either clay (Kaopectate®) or fibre (Metamucil®). These can be bought at most pharmacies and work best in people with mild to moderate diarrhea. Another option is to slow down the activity of the intestines. Commercially available products like Imodium® (over the counter) or Lomotil® (by prescription only) do this quite well, especially in people with less severe diarrhea. The effectiveness of these drugs can be boosted to treat more severe cases by adding a small amount of codeine. Imodium® or Lomotil® can be very effective in reducing protease inhibitor (PI) induced diarrhea. However, before attributing diarrhea to your meds, other possible causes — like infections, parasites or lactose intolerance — should be looked for.

If diarrhea is a result of your PIs, oat bran taken with your meds can help. But if it's related to nelfinavir (Viracept®), digestive enzymes like Ultrase® taken with each dose can also reduce the symptoms. You'll also want to stay away from foods and

What to avoid

Many substances can make vomiting and nausea worse. If you're suffering from vomiting, it's a good idea to limit — if not cut out altogether — the following items from your diet:

- Fatty foods
- Spicy foods
- Dairy products
- Coffee
- Cigarettes
- Alcohol
- Aspirin

products that worsen PI-induced diarrhea, like nicotine, caffeine and fatty or greasy foods. Persistent high-grade diarrhea is when you have more than seven bowel movements a day or severe dehydration, despite the use of anti-diarrheal medications. It can compromise your quality of life to the point where you can't go out without knowing there's a bathroom nearby. It can also seriously threaten your health. If diarrhea persists and non-medication causes have been ruled out, your physician will probably suggest switching you to another PI or to another class of antiretrovirals.

Many OTC meds are covered by some formularies. Ask your doctor for a prescription, as it can cut costs considerably

Over the counter pills

Several of the over-the-counter (OTC) medications mentioned (like Gravol®, Imodium® and Ultrase®) are also available by prescription and are covered by some formularies. So if you really need them but can't afford to buy them OTC, ask your doctor for a prescription. It can reduce the cost considerably.

Other gut problems

Less severe but equally bothersome gastrointestinal symptoms include decreased appetite, abdominal discomfort, bloating and cramps. Often caused by antiretroviral medications, they're usually controlled by avoiding greasy and fatty foods and taking meds with small amounts of food, like soda crackers.

If symptoms persist, additional causes like HIV or other infections should be considered and investigated. Lactose intolerance is sometimes the cause of many of these symptoms.

Lactose intolerance

Lactose intolerance is the inability to digest anything more than small amounts of lactose, the predominant sugar in milk and dairy foods. It's relatively common in people living with HIV and results from a shortage of the enzyme lactase that's normally produced by the cells lining the small intestine. Lactase's role is to break down milk sugar (lactose) into simpler forms that can then be

Be careful

Stomach burning or dyspepsia can be increased or induced by some HIV meds. But prescription and over-the-counter drugs used against gastric acidity, like Zantac® or Losec®, can decrease absorption of antiretrovirals like atazanavir (Reyataz®) and should not be taken together. Discuss acid-treatment options with your pharmacist or physician.

absorbed into the bloodstream. When there's not enough lactase to break down the consumed lactose, the result can be nausea, abdominal cramps, belly rumbling, bloating, gas and diarrhea. These usually start about 30 minutes to two hours after eating or drinking food that contained lactose.

Treating it?

Changes in diet usually help reduce or stop symptoms, even when they're initially caused by HAART. Although milk and foods made from milk are the only natural sources of lactose, small amounts are often added to prepared foods. Bread, processed breakfast cereals, instant potatoes, soups, breakfast drinks, margarine, lunch meats, salad dressings, candies, mixes for pancakes, biscuits, cookies and powdered meal-replacement supplements may all contain lactose. Even some products labeled 'nondairy', like powdered coffee creamer and whipped toppings, sometimes use ingredients derived from milk and therefore contain lactose. Be sure to read the ingredients label if you're very intolerant to lactose.

Lactose is also used as the base for more than 20% of prescription drugs and about 6% of over-the-counter medicines. Many types of birth control pills contain lactose, as do some tablets for stomach acid and gas, but these products usually only affect people with severe lactose intolerance. Lactaid® or Dairy Aid are over-the-counter medications that provide lactase, the enzyme necessary to break down lactose. They're very helpful in reducing symptoms, but only if chewed immediately before eating.

Antiretroviral therapy has improved considerably since the introduction of the first medication many years ago. People with HIV are living longer, more productive and healthier lives thanks to these medications. However, they are also potent agents with a number of toxicities and side effects that can compromise your quality of life considerably. Your physician and healthcare team are there to help you treat and control the gastrointestinal complications of HAART so that you can get the full benefit of these medications and enjoy a high quality of life. **R**