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After You've Tested Positive

By David J. Sterjken, MN, CPNP

Greetings again from the HIV-Positive Committee of ANAC (Association of Nurse's in AIDS Care. We hope that you found the first issue of +NURSE informative and helpful.

San Francisco Project Inform has published a discussion paper that provides answers to the many of the questions asked by the newly diagnosed HIV-positive person. I would like to highlight some key topics discussed in this paper, entitled "After You've Tested Positive," and provide a general overview of antiviral therapy.

"A positive HIV antibody test is scary news, but it's not a death sentence." It is very common to have intense and overwhelming feelings and to feel like your get-up and go has got up and went. One of the most impor-

tant things that you need to do after testing HIV positive is to make an appointment with a physician who specializes in HIV care. This is important for three reasons: (1) to find out about your own immune status, (2) to ask questions about your HIV infection, and (3) to discuss treatment options. It is going to take work on your part to initiate that first doctor visit, but it is one of those vital steps toward getting informed and taking care of your health. "Given the right attitude and the right information, HIV infection can be managed like a chronic illness, one which some people seem able to survive for a long time."

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Many people with HIV ask about the risk/benefit of vitamin or herbal supplementation while taking antiretrovirals. Rather than argue the point pro vs. con, I think it is important to keep the following principles in mind:

- Recognize that you are a member of the decision-making team when it comes to your care. Discuss your thoughts and ideas about treatment with the other team members before you make any changes (i.e. adding vitamins or herbs to your treatment plan).
- Do your homework! Currently vitamins and herbal supplements are not evaluated by any regulatory agency. Seek out reputable sellers.
- Remember that you have a "unique" cellular structure that is different from anyone

else. The way that your body responds is unique to you and you alone.

- Complementary therapies can produce side effects. If you develop side effects from your therapy, inform your physician. One should never assume that a particular toxicity could only be related to HIV medications.

In the August 2000 issue of *Perspective*, a newsletter put out by Project Inform, an article was published that addresses the issue of "Herbs, Supplements and HIV." This article lists several herbal supplements that have been linked to the p450 enzyme. Why is this important, you may ask? The p450 enzyme processes many drugs, including protease inhibitors and most NNRTIs. "Depending on how they interact with p450,

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**Happiness is determined
more by one's state
of mind than by
external events.**

—The Dalai Lama

+ NURSE

Contact us . . .

One of the main goals of the HIV-Positive Nursing Committee and **+NURSE** is to reach out to all HIV-positive nurses, regardless of practice setting or organizational affiliation. You do not have to be a member of ANAC or an AIDS nurse to benefit from **+NURSE**.

You can contact us at **+NURSE**, c/o Association of Nurses in AIDS Care, 11250 Roger Bacon Drive, Suite 8, Reston, VA 20190-5202; **Phone:** 703-925-0081 or 800-260-6780; **Fax:** 703-435-4390; **E-mail:** aidsnurses@aol.com; **Web site:** www.anacnet.org.

Co-editors

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HIV and the Immune System

Although much is known about HIV, it is not fully understood how the virus disables the body's immune system. It is also puzzling that the pace at which the immune system is destroyed differs among people infected with HIV. Although many questions still exist regarding the impact of HIV on the immune system, research has provided us with some clues about HIV.

Viral load. A test that measures the amount of new virus in the bloodstream, it can be used to generally predict how quickly HIV will damage the immune system. The goal of therapy is to keep your viral load as low as possible (undetectable), thus slowing disease progression.

CD4+ cells (T cells). The T Lymphocyte is a certain type of white blood cell that is responsible for cell-mediated immunity. They are called T cells because they are processed through the thymus gland. When the viral load increases, the CD4+ cells usually decrease indicating the decline of immune health. Although once used as the sole measure of the effects of HIV disease, by itself, this number does not tell enough about the state of the disease and should be interpreted cautiously. Generally, a CD4+ count is drawn in conjunction with the viral load test.

Viral loads and CD4+ count form the foundation for decision making regarding treatment strategies in the HIV-infected person. These blood tests are drawn at regular intervals as a means of measuring response to therapy and disease progression.

Antiviral Therapy

Trying to keep track of the growing number of medications used to treat HIV can be a task in and of itself. Much of the confusion stems from the fact that generic, brand, and "other" (e.g. AZT, d4T, 3TC) names are used interchangeably by professionals who use the drugs on a regular basis. It is extremely important that you know what drugs you are being treated with since some may sound

the same and are easily confused by medical personnel who are unfamiliar with medications used to treat HIV.

Nucleoside Analogue Reverse Transcriptase Inhibitors (NARTIs)

Nucleoside analogue reverse transcriptase inhibitors work by blocking a viral enzyme, an actual piece of the HIV molecule, called reverse transcriptase. NARTIs get in the way of the viral enzyme, which leads HIV RNA through the chemical process that makes it easily reproduced in the genetic material (or DNA) of newly infected cells. NARTIs are used in combination therapy ("drug cocktail"). The NARTIs currently available include those in chart 1.

Non-nucleoside Reverse Transcriptase Inhibitors (NNRTIs)

Non-nucleoside reverse transcriptase inhibitors (NNRTIs) work by blocking the reverse transcriptase enzyme directly. These drugs are often used as the third or fourth drug in combination therapy since when used alone resistance develops quickly. See chart 2 for current NNRTIs available.

Protease Inhibitors (PIs)

Protease inhibitors shut down HIV replication by preventing the viral enzyme, called protease, from cutting other viral proteins into shorter pieces needed by HIV to make new viral copies for infecting new CD4+ cells. Protease inhibitors act at a later stage of the viral life cycle than NARTIs. New copies of HIV are still produced and push through the wall of the infected cell, but these new copies are defective, not completely formed, and cannot infect other new cells. See chart 3 for the PIs currently available.

CHART 1

NUCLEOSIDE ANALOGUE REVERSE TRANSCRIPTASE INHIBITORS (NARTIs)

Generic Name	Other Name	Brand Name
zidovudine	AZT, ZDV	Retrovir
zidovudine/lamivudine		Combivir
didanosine	ddI	Videx
zalcitabine	ddC	Hivid
stavudine	d4T	Zerit
lamivudine	3TC	Epivir
abacavir		Zigen

CHART 2

NON-NUCLEOSIDE REVERSE TRANSCRIPTASE INHIBITORS (NNRTIs)

Generic Name	Brand Name
efavirenz	Sustiva
delavirdine	Rescriptor
nevirapine	Viramune

CHART 3

PROTEASE INHIBITORS (PIs)

Generic Name	Brand Name
amprenavir	Agenerase
indinavir	Crixivan
nelfinavir	iracept
ritonavir	Norvir
saquinavir	Fortovase, Invirase

Other Considerations

If you do much research on your own about HIV treatment, you will find that there is much discussion about the use of complementary therapies. As specialists in HIV care, we recognize the usefulness of various supplementary therapies such as yoga, massage, visualization, acupuncture, psychological and spiritual support, and natural medicines. The psychological impact alone often provides the HIV-positive patient with some feeling of control and peace of mind. It is important, however, that you inform your physician if you are taking herbs/vitamins with your antivirals so that drug interactions can be avoided. Never forget that living a healthy life style, which includes proper nutrition, adequate rest, avoidance of substance abuse and unnecessary stress, and exercise, although not a cure, provides each person a solid foundation when developing a HIV treatment plan.

The Bottom Line

- HIV infection is not a death sentence.
- You can gain power over HIV by learning how it operates.
- Learn to monitor your health; understand the common lab tests.
- Get informed about your treatment options.
- Develop a treatment strategy that makes sense for you.

References

“After You’ve Tested Positive” (Discussion Paper), San Francisco Project Inform, 205 13th St. #2001, San Francisco, CA 94103, www.projinf.org.

Do You Know Your Options? An Updated Guide to Antiretroviral Therapies, The National Association of People with AIDS (NAPWA), 1413 K St., NW, Washington, D.C. 20005-3442, www.napwa.org.

**Love yourself first
and everything else
falls into place.**

—Lucille Ball

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using anti-HIV therapies with these products could lower the blood levels of the anti-HIV therapies (possibly putting people at risk for developing resistance to their anti-HIV drugs) or they could increase blood levels of the anti-HIV therapies (putting people at greater risk for serious side effects).” Herbs with reported effects on p450 enzyme include:

- St John’s Wort
- Garlic
- Ginseng
- Melatonin
- Geniposide
- Scullcap
- Milk Thistle (silymarin)

The article further lists herbs that have reported herb-drug interactions. These herbs include:

- Betel Nut
- St. John’s Wort
- Devil’s claw
- Yohimbine
- Garlic
- Ginseng
- Xiao chai hu tang
- Papaya
- Kava
- Psyllium
- Saiboku-to
- Sho-saiko-to
- Valerian
- Chili Pepper
- Dong quai
- Ginkgo
- Guar gum
- Shankhapushpi

ANAC
ASSOCIATION OF
NURSES IN AIDS CARE
11250 ROGER BACON DRIVE
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The 2001 Conference is fast approaching—just ask one of the committee members. Several speakers have been finalized including Barbara Aranda-Narajo speaking on Policy, Loretta Sweet-Jermott speaking on Prevention, and Laurie Garrett (www.lauriegarrett.com), author of *The Coming Plague* and *Betrayal of Trust*, opening the conference as keynote. The Call for Abstracts has been sent out and posted on the Web site. Keep watching the mail and Web site for more updates. We hope to see you there for this fun-filled educational offering.