



A Word from WISE

Since last November, there has been considerable discussion regarding reports that women may progress to HIV disease at lower viral levels than men. Too often, these discussions have been conflicting and confusing. Many people, particularly women living with HIV, have been left without a clear sense of how to best interpret this new information, let alone make it relevant to personal treatment decisions.

This issue of WISE Words is dedicated to sorting through the complex and uncertain issues these reports have uncovered. It offers you guidance in making your own decisions about how to apply this new information to your situation.

We've included a comprehensive review of study results as well as an article of the basic principles of viral load. Project WISE is continuing its advocacy efforts in getting researchers to further explore gender difference in viral load. Any new developments will be promptly reported in future issues of *WISE Words*, and in Project Inform's other information materials.

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Gender Difference in Viral Load?

In current medical practice, HIV levels and CD4+ cell counts are measured, interpreted and used to help guide anti-HIV therapy without regard to gender.

Two recently reported studies give pause to this standard of practice. They suggest that there may

be differences in the way HIV viral levels (viral load) relate to the risk of HIV disease progression among men and women.

Essentially, the studies suggest that women have progression of HIV disease (at least as measured by CD4+ counts) at lower viral levels than men. The question of how much lower, or what a lower viral level means, remains a bit unclear.

The Federal Guidelines Panel—the decision-making body which creates the guidelines for the use of anti-HIV therapy—recently reviewed the new information on gender differences in viral load. It concluded that, for the time being, no changes should be made in the guidelines with regard to the use of anti-HIV therapies in women. They concluded that these new data are not markedly different enough to warrant changing strategies for treating HIV, nor should they be cause for alarm for women living with HIV.

Still, some people remain concerned about the implications of these studies. They add fuel to the already controversial debate of when is the most effective time to start or switch anti-HIV therapy. This article walks through these two studies and discusses some of the ques-

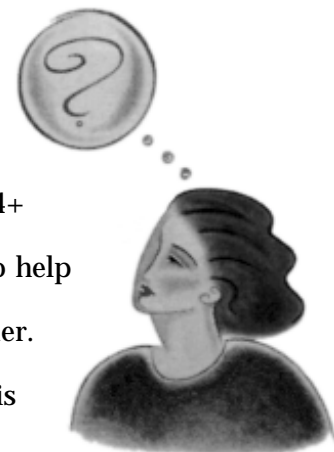
tions they have raised. No doubt you will be hearing more about this issue in the future.

The A.L.I.V.E. Study

The first of the two main studies was presented at the 1998 World AIDS Conference in Geneva, Switzerland and was recently summarized in the scientific journal, *The Lancet*. It is based on a large group of HIV-positive men and women with a history of injection drug use. Blood samples from 527 participants which have been collected since the late 1980s were compared to 285 blood samples collected at least three years later. Researchers examined levels of HIV and CD4+ cell counts at both time points. In addition, they gathered information about the general health of the study participants and looked to see if there were unique differences according to gender and/or race.

Differences based on gender did come forward. Women in the study had HIV levels 38–65% lower than those observed in men with similar CD4+ counts.

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Gender Difference in Viral Load, continued

In general, women's HIV levels were half that of men in the study.

To try to better understand this difference more thoroughly, researchers examined viral load with CD4+ cell

CD4+ cell counts provide useful measures of the risk of disease progression, and their meaning is not influenced by gender.

counts (0–200, 200–499 and greater than 500). Again, viral load was consistently lower in women than men across CD4+ cell count groupings.

This difference persisted after accounting for other factors that the researchers felt might influence the lower viral levels seen in women. Factors such as race, cur-

rent and previous use of anti-HIV therapy and use of street drugs were analyzed. None of these factors could explain the gender difference in HIV viral levels.

So, What Does this Mean?

According to this study, it seems that—despite having a lower viral load—women appear to progress to symptoms of HIV disease at a similar rate as men. To verify if this was indeed the case, researchers looked at the association of viral load, CD4+ cell count and time to AIDS between men and women.

What they found was that women and men with similar CD4+ cell counts had a similar time to AIDS. The differences in viral levels among men and women suggest women appear to progress to AIDS with approximately half the viral load as men. Respectively, women with the same viral load as men had a higher risk of AIDS. What is consistent between men

and women, however, is the predictive value of CD4+ cell counts. When CD4+ cell counts decline, people are at similar risk of HIV disease progression, regardless of gender.

Now, these findings are far from confirmed nor does everyone agree on how they should be interpreted. Nevertheless, they do raise important questions—like whether the relationship between HIV levels and progression to HIV disease is different among women and men. Several explanations for this difference have been proposed, including different biological dynamics of the virus in men and women, behavioral differences that might influence viral load and/or hormonal differences.

At this point, however, explanations seem premature. More information is needed to truly understand what the difference in viral load between men and women actually is, and even more information is needed to understand what this difference means.

The WIHS/MACS Study

A study presented at the recent Conference on Retroviruses and Opportunistic Infections adds dimension to these questions. Like the ALIVE study, it compared viral levels and CD4+ cell counts between men and women.

Stored blood samples in 1984–85 from 1,511 HIV-positive men enrolled in the Multicenter AIDS Cohort Study (MACS) were compared with blood samples obtained in 1994–95 from 1,262 HIV-positive women enrolled in the Women's Interagency HIV Study (WIHS). When the original blood samples were collected, no one from either group was using anti-HIV therapies.

Like the ALIVE study, differences in viral load emerged. The degree of difference, however, was less dramatic. Additionally, differences were associated with

specific CD4+ cell count levels. HIV levels were not different among men and women with CD4+ cell counts below 200. However, women whose CD4+ cell counts were between 200 and 500 had a 40% lower viral level compared to men with the same CD4+ cell count. For CD4+ cell counts above 500, viral levels were 24% lower for women than for men. Thus, accord-

| Differences in Viral Load According to CD4+ Cell Count (WIHS/MACS). | |
|---|-----------------------------|
| CD4+ Cell Count | at 16 weeks 287 patients |
| Less than 200 | insignificant |
| 200–500 | 40% |
| Above 500 | 24% |

ing to the WIHS/MACS comparison, women's overall viral load was approximately 20% lower than men's. However, this study found significant differences between women in three different CD4+ cell groupings, which is contrary to the findings of the A.L.I.V.E study.

Now, How Should One Interpret These Results?

The researchers conclude that HIV load is lower in women than men, but only at CD4+ cell counts above 200. They suggest that the use of the viral load tests, particularly when used as a starting point for beginning anti-HIV therapy, may need to be adjusted for gender to account for this difference. However, the Federal Treatment Guidelines discourage making initial treatment decisions solely on the basis of viral load numbers and always recommend that the CD4+ count also be a factor in the decision. In the case of women with CD4+ counts below 200, almost all sources recommend treatment regardless of viral load. Thus, the real impact of these findings, if they prove to be further confirmed, is how they affect women with CD4+ cell counts in the 200 to 500 range, who are making decisions about therapy based on viral load.

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Practical Questions for Women:

The Federal Guidelines for Starting and Switching Therapy

According to the Federal Guidelines, any HIV-positive adult who is not experiencing symptoms and whose CD4+ cell count is less than 500 should be offered therapy. This recommendation is independent of HIV viral load. In other words, regardless of your viral load, if you have a CD4+ cell count of—let's say—475, your doctor may suggest the start of anti-HIV therapy.

Not everyone with CD4+ cell counts below 500 chooses to initiate anti-HIV therapy, nor does every doctor recommend it. Nevertheless, there is sufficient data to say that every patient should be made aware of the option for treatment at this stage. The decision to start treatment, however, will still often take into account such other factors as the broad trends in CD4+ counts and viral load, as well as the patient's overall readiness and willingness to start therapy. There is no data, however, which suggest that patients will fare any better by waiting until later thresholds, such as 350 or 400 CD4+ cells. However, there are data that show that waiting until after CD4+ cell counts fall below 200 is probably harmful because of the risk of opportunistic infections at this level.

In light of these new studies, however, interpreting the Federal Guidelines can get even more complicated. That's because HIV levels above 10,000 copies/ml (see *The Basics of Viral Load Testing*, page 5) are used as a supporting factor for initiating therapy according to CD4+

cell count. Yet it is also a factor for initiating therapy independent of CD4+ cell count (even this number, though depends on which brand of viral load test your doctor uses, since one brand tends to read twice as high as the other).

So, if you have a CD4+ cell count of 475 and HIV levels of 6,000 copies/ml, should you start therapy? An aggressive anti-HIV therapy approach would support considering therapy based on your CD4+ cell count alone. A more conservative approach, however, might include postponing the start of therapy until HIV levels rose near or above 10,000 copies/ml or until the CD4+ count declines further.

The rationale behind postponing therapy is that, in addition to being otherwise healthy, your CD4+ cell count has been stable for several tests and your viral load is less than the 10,000 copies/ml threshold. This situation could remain stable for years to come, or it might change rapidly over the next several months. Thus, you and your doctor might decide together to delay beginning therapy and continue careful observation and monitoring to see which pattern you are following.

Now Here's the Catch . . .

According to both of these two new studies, a woman whose CD4+ cell count is 475 and who has a viral load of 6,000 copies/ml is roughly at the same risk of disease progression as a man with a similar CD4+ cell count whose viral load is 10,000 copies/ml. Therefore, a conservative interpretation of the Federal

Guidelines as it currently stands would support that a man could start anti-HIV therapy. A woman, on the other hand, according to the current recommendations, could be supported in a decision to wait and not start therapy, when in fact she is at same risk of disease progression as the man in this scenario.

In general, and to the Federal Guidelines committee, these differences appear to be relatively small and don't warrant changing the current recommendations based on gender. In either case, the decision about when to start therapy is a personal one. Choosing to briefly delay therapy is unlikely to make a large difference in long-term results. Based on existing data, both men and women at these stages are only in the early range at which treatment might be recommended. No one would say the decision is critical either way. In truth, at the viral load levels we're talking about, what's probably most important are trends and not absolute numbers. However, this information could be important information to you and your doctor as you evaluate the best strategy for your own situation.

As with the initiation of anti-HIV therapy, the decision to change therapies is approached with consideration of several factors. Among these factors are HIV viral levels measured on two separate occasions; CD4+ cell count; tolerance of and adherence to the current regimen; and overall general health.

More information is needed to truly understand what the difference in viral load between men and women actually is, and even more information is needed to understand what this difference means.

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!! SAVE THE DATE !!

1999 National Conference on Women & HIV

October 8 - 13, 1999
 Los Angeles City Convention Center
 Los Angeles, CA

For information, call toll-free at 877-266-3966.

Gender Difference in Viral Load, continued

The goal of anti-HIV therapy—to improve the length and quality of life for persons living with HIV—is thought best accomplished by suppressing

viral load to be low detectable levels for as long as possible while preserving immune function. Again, an aggressive anti-HIV therapy approach supports possibly changing anti-HIV therapy regimens whenever viral load is consistently in the detectable range of the test (on at least two consecutive tests). In practice,

however, the degree of detectability or increase in viral level is usually considered along with a sober assessment of the number of treatment options a patient has left to work with. Persons with low viral levels (e.g. 100–5,000 copies/ml) may choose not to change therapy immediately and simply decide to monitor further changes in viral load, CD4+ cell counts and measures of general health. Some people in this situation will maintain low levels of virus, sometimes dipping below the level of detection and sometimes having sporadic detectable readings.

Again, the new studies give pause to this practice where women are concerned. Low viral load is currently defined at 100–

5,000 copies/ml. Should a viral load of 3,000 copies/ml be viewed and responded to in the same way as 5,000 copies/ml in a woman with a CD4+ cell count between 200 and 500? How should this be interpreted in regard to switching therapy? At this point, the answer remains unclear. All existing data about how viral load affects the risk of HIV disease progression comes from natural history studies—studies of people who have not been treated for the disease. It is not at all clear that a certain viral load level has the same meaning after treatment as it did before treatment.

Certainly, these new studies point to the need for further study with regard to viral load in women and related risks of disease progression. These studies also remind us of two other points. CD4+ cell counts provide useful measures of the risk of disease progression, and their meaning is not influenced by gender. Moreover, the decision to start, add or change therapy should never be decided solely on the basis of one laboratory measure (e.g. just viral load, just CD4+ cell counts, etc.). Treatment decisions should factor in trends in viral load; trends in CD4+ cell counts; the number of available future options; side effects; ease of adherence; and measures of overall general health.

While the Federal Guidelines Panel has decided to make no recommenda-

tions for a different standard of care for women with HIV, women and their doctors should be aware of these data which may support starting and switching therapy at lower HIV levels than what is recommended for men. A notation to this effect will be put in the revised Guidelines document. Nevertheless, viral load alone is not the only factor to consider when making treatment decisions. Moreover, the differences in viral load between men and women would only impact the treatment decision for women in a very narrow range of viral load and CD4+ cell levels.

Over the next few months, a clearer picture of women and viral load is expected to unfold. *WISE Words* will continue to report on this new information. In the meantime, keep in mind that more harm than good can be done by making too hasty of choices when starting, switch-

ing or stopping anti-HIV therapy. A carefully considered choice regarding therapy is the best one anyone can make. Remember, there is support for you in making that choice.

For your own free copy of the Federal Guidelines (entitled *Guidelines for the Use of Anti-HIV Therapy Antiretroviral Agents in HIV-Infected Adults and Adolescents*) call: 1-800-458-5231 or 1-800-448-0440. For more information of strategies for anti-HIV therapy, call Project Inform's toll-free National HIV/AIDS Treatment Hotline at 1-800-822-7422 and request *Antiviral Strategies Discussion Paper*.

The decision to start, add or change therapy should never be decided solely on the basis of one laboratory measure.



Making Treatment Decisions?

Then Consider the Following:

- The trend in your viral load.
- The trend in your CD4+ cell count.
- Available future options.
- Current side effects.
- Ease of adherence to your regimen.
- How you feel physically.
- How you feel about starting therapy.



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The Basics of Viral Load Testing

Viral load tests can give important information about the disease status of HIV-infected people. These tests measure the amount of HIV circulating in the blood (sometimes referred to as HIV RNA). By measuring viral load, we get a picture of how active HIV is. The combined use of viral load and CD4+ cell count test results can help give a clearer picture of your stage of HIV disease and help develop a personal treatment strategy. A good way to think about these tests is that the CD4+ cell count provides a measure of immune health, whereas viral load provides a measure of how active the virus is.

There are two viral load tests commercially available: Q-PCR (called "PCR" or Amplicore®) and bDNA (called Quantiplex®). Although the Q-PCR test is as yet the only federally approved test, both versions are widely used. Both tests take a sample of blood and calculate the number of viral particles present in the blood sample. In general, the Q-PCR test is the most sensitive and can detect low levels of virus in the blood, whereas the bDNA test has been shown to be the most accurate for detecting high levels of virus. It's important to stick to the same test over time to get an accurate account of changes in viral load.

The How and Why of Testing

Initially, two viral load tests should be performed at 2–4 weeks apart to establish a "baseline" level. Using two tests to set the baseline helps rule out lab error. Lab errors can happen with any test, and it's important to ensure your initial treatment decisions are based on accurate information. If either test result differs by more than 100% from the other, it's a sign that one of them may have been in error. In this case, it's often recommended getting a third test to see which one of the earlier tests was more accurate. After-

wards, tests should be repeated every 3–4 months along with CD4+ cell counts. Ask your doctor for a copy of your test results. You are entitled to them.

Viral load tests are used most commonly for two different purposes. First, they are used to help patients and physicians determine the appropriate time to start treatment. The combined results of viral load testing and CD4+ cell count tests provide important input on this question (though they are not the only factors to consider). Secondly, viral load testing is commonly used to measure the effectiveness of treatment. If a treatment regimen is working, it should result in a rapid reduction in viral load. When it fails to do so, this is usually an indication that different drugs might be needed.

Interpreting the Results

Viral load test results can be difficult to interpret. A few general guidelines are provided here, but they may change

as more research is done and newer tests become available.

Viral load results are usually given as the number of HIV RNA "copies" in a milliliter (ml) of blood (about a teaspoon). As with CD4+ cell counts, what is most important is the trend of your viral load test results, not just the individual result. Changes in viral load are considered "significant" when they show a three-fold difference from previous results (this means three times larger or smaller than the last result). For example, a viral load test that goes from 20,000 to 30,000 is not considered significant, but a change of 20,000 to 70,000 is. This is because viral load levels can vary from day to day due to a variety of factors, including other active infections (flu, herpes, and sinusitis), vaccines, stress, malnutrition, and error level of the test.

Undetectability: To Be or Not To Be?

Viral load levels which fall below the level at which tests can measure them have been called "undetectable." This does not mean that the virus is not there, but only that it is present in too small of an amount for the

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Interpreting the Results

VIRAL LOAD TESTING

- Low, stable and/or decreasing viral load level is considered a good thing. A high or increasing level warrant attention. High or increasing viral levels for someone on anti-HIV therapy may indicate the development of drug resistance.
- Low viral load: generally below 10,000 copies/ml. This result indicates that HIV is not actively reproducing and that the risk of HIV progression is low.
- High viral load: above 100,000 copies/ml. This result indicates a higher level of viral activity and thus a higher risk for HIV disease progression. Remember to consider CD4+ cell count. The combined test results give a more accurate indication of risk for HIV disease progression than viral load results alone.
- When CD4+ cell counts fall below 50, the usefulness of viral load levels as a predictor of disease progression declines. Rather, the CD4+ cell count becomes the most reliable predictor.
- Remember: a single test does not make a trend! There is a great deal of natural variability in most test results, so you should avoid panicking if you happen to see a number you don't like. Generally, any time you get what appears to be an alarming result, the next step should simply be to repeat the test to determine its accuracy. Most physicians discourage people from making changes in their therapy based on any single test result. Instead, it is the change over time that should guide treatment decisions.

The Basics of Viral Load, continued

test to pick up. The Q-PCR test cannot accurately measure levels of fewer than 400 copies of HIV RNA in a blood sample. Newer “ultrasensitive” tests like the Ultrasensitive PCR test can accurately measure as little as 20–50 copies of HIV RNA. As these ultrasensitive tests become more available, people with results falling below the limit of detection on earlier tests may find they suddenly have detectable viral loads. This would not necessarily mean that viral load has increased, but rather that more advanced technology is better able to measure lower levels of virus.

Viral load testing has provided us with a great tool for monitoring HIV disease and the effectiveness of anti-HIV treat-

ments. At the same time, it can be an added stress! For many people, viral load tests can take a psychological toll: if the test results are good—which is often interpreted as undetectable—you feel great; if they are “bad”—you feel horrible.

The goal of “undetectability” can add to this stress, especially as the level of detectability decreases. Whether 400 copies/ml or 20 copies/ml, some people may never reach an “undetectable” HIV viral level. It’s important to remember that being “detectable” does not necessarily mean HIV is progressing or treatment is not working. Talk to your doctor about what your HIV viral level results mean about your health.

Getting Viral Load Tests

Both Roche and Chiron, the companies that make Q-PCR and bDNA respectively, offer Patient Assistance Programs to supply their tests free-of-charge to people who have no other means to pay for them (\$150–250 each). The availability of these programs may be limited geographically, but you can call the following numbers for more information:

Chiron (bDNA): 1-888-HIV-LOAD (448-5623)

Roche (Q-PCR): 1-888-TEST-PCR (837-8727)

Both tests are FDA-approved and most insurance providers and Medicaid will pay for tests once the FDA approves them.

For more information on viral load and other tests for monitoring HIV, ask for Project Inform’s *Diagnostics Fact Sheet*.



Glossary of Concepts and Terms (underlined words)

ADHERENCE Refers to the practice of accurately following (“adhering to”) the directions given for the use of a drug regimen, such as taking the prescribed number of pills at the appropriate times of the day and observing any specific meal requirements. Adherence plays a central role in determining the success of anti-HIV therapy and several reports have shown that resistance to HIV drugs can develop more quickly when a person makes a habit of missing doses of their medication. Therefore, it is important to try to make anti-HIV therapy as compatible with one’s life circumstances as possible so that there is little pressure to miss doses.

BASELINE VIRAL LEVEL The initial measurements (usually 2) of viral level, such as at the start of a study, which are used as a reference point for later measurements, allowing for an evaluation of the results.

CD4+ CELLS CD4+ (CD4 positive) cells are a type of white blood cell that have a marker on them called the “CD4” receptor. These cells play a critical role in managing the human immune response and controlling infection. Also called “T-helper cells,” “T4 cells,” or, less accurately, “T-cells.”

CD4+ COUNT CD4+ count is the number of CD4+ cells found in a particular blood test. This count is the most commonly used measure of immune health, but is by no means the only one. HIV infects and leads to a gradual loss of the body’s CD4+ cells. A significant drop in CD4+ cell count (below 500 or lower) reflects damage to the immune system. A drop below 200 usually indicates damage sufficient to lead to the risk of opportunistic infections.

DRUG RESISTANCE The ability of a disease-causing organism to continue growing and reproducing despite the presence and activity of a

drug or drugs designed to suppress that organism’s growth. In HIV, this happens when the virus mutates—or changes in process of reproduction—in a way that makes new copies of the organism insensitive or less sensitive to particular anti-HIV drugs. Once resistant mutants are produced, they can grow rapidly despite the continuing presence of the drug. People with higher HIV levels are more at risk for developing drug-resistant HIV, as are people with developed resistance to similar drugs.

HIV DISEASE PROGRESSION The process of growth, spread and development of symptoms and effects of HIV disease, including the general decline of the health of the immune system. Indications or “markers” of disease progression include HIV levels, CD4+ cell count, and the presence of several known symptoms of disease, opportunistic infections and overall general health. Individuals have a highly

variable rate of disease progression.

VIRAL LOAD The amount of virus measurable in blood or other fluid or tissue. The viral load number has been shown to be a good predictor of the rate of HIV disease progression.

“UNDETECTABLE” OR VIRAL LOAD BELOW THE LIMIT OF DETECTION A viral load measurement below the lower limit to which a particular form of viral load test can reliably count (for the most standard tests, the lower limit of detection is around 400–500 copies per cubic milliliter per blood). It does not mean the virus is not there, just that it is too low to measure in the bloodstream with the standard test. “Supersensitive” or ultra-sensitive versions of viral load tests are available which can accurately measure as low as 20–50 copies of virus. Suppressing viral load below the limit of detection is one of the most important ways of making sure that the benefits of therapy last as long as possible.



TREATMENT NOTES

New Anti-HIV Drug Approved by the FDA . . .

The Food and Drug Administration (FDA) recently approved abacavir (Ziagen®) to treat adults and children with HIV disease. Abacavir is the sixth nucleoside analogue drug approved by the FDA. Studies suggest that abacavir is very potent, especially when used by people not previously on any anti-HIV therapies. Its potency tends to drop for people who have used other anti-HIV therapies and who have developed resistance to

more than one nucleoside analogue drug.

Abacavir's dose recommendation is 300mg (a single pill) twice a day for a total daily dose of 600mg

(two pills per day). When abacavir is used in combination with AZT/3TC (Combivir®), the total daily regimen requires four pills (two pills twice a day). The simplicity of this regimen makes this combination very attractive. However, people weighing less than 110 pounds (50 kilograms) should use Combivir® with caution. The recommended dose of abacavir for children is 8mg/kg taken twice daily.

Possible Side Effects

The most commonly observed side effects from abacavir include nausea, fatigue, headaches and diarrhea. A more serious side effect affecting about 3% of people taking abacavir is a hypersensitivity reaction to the drug. The reaction

usually occurs throughout the body (systemic) and includes fevers, malaise, nausea, vomiting and sometimes a rash. Most symptoms are commonly seen in people with the flu. The hypersensitivity reaction appears relatively soon after starting abacavir (about two weeks) and resolves one or two days after stopping.

It is important not to try and take abacavir again if there was initial hypersensitivity. The subsequent reaction is potentially fatal.

Abacavir Recommended Dosing.

| Regimen | Dosing |
|----------------------|-----------------------|
| Abacavir Alone | 2 x 300mg/day |
| Abacavir + Combivir® | 4 x 300mg/day |
| Children | 8mg/kg, twice per day |



major surprises, amprenavir should be available through pharmacies by late spring. Studies suggest amprenavir has similar potency against HIV as the currently approved protease inhibitors, ritonavir (Norvir®), indinavir (Crixivan®), nelfinavir (Viracept®) and soft gel saquinavir (Fortovase®). The most common side effects seen with amprenavir include rash, nausea, vomiting and a numbing around the mouth (called oral paresthesia).

In lab studies (test tube studies as opposed to studies in people), amprenavir has a somewhat, but not completely, different pattern of **drug resistance** than other

protease inhibitors. As a result, amprenavir may be useful for some people who have 'failed' at least one other protease inhibitor-containing regimen. Alternatively, if people chose to use amprenavir as their first protease inhibitor, they may be able to successfully switch to another protease inhibitor-containing regimen if their HIV levels (viral load) start to increase while on amprenavir. However, almost all these observations have come from lab studies. Only large studies involving people can answer whether any of these observations are accurate.

Dosing Concerns

One drawback to amprenavir is that to get an effective dose of the drug, a large number of pills must be taken daily. The current formulation requires 16 pills

daily based on the dose that will most likely be recommended for approval (1,200mg twice a day; total daily dose of 2,400mg). Not only is the large number of pills a concern but they are large and difficult to swallow.

Amprenavir is currently available through an expanded access program for people who are unable to tolerate or who are failing to respond to their current anti-HIV therapies. For information about the program, call 1-800-248-9757.

. . . While Another Awaits Approval

For more information on these or other anti-HIV drugs, call Project Inform's National HIV/AIDS Treatment Hotline at 1-800-822-7422.



PROJECT INFORM CALENDAR OF EVENTS

Consult our website for updated calendar information.

MARCH

21 **Academy of Friends Gala**, San Francisco, CA; 6:00pm. Raffle tickets are \$20/book of 5, or \$5/ticket. To purchase raffle tickets, contact Julie Doherty at 415-558-8669 x230. To purchase Gala tickets, contact Stephen Conneely at 415-994-9890.

23 / 26 **National AIDS Update Conference**, San Francisco, CA; 9:00am - 6:00pm. Includes Project Inform speaker, Angela Garcia and Judy Leahy. Contact Krebs Convention Management Services, 415-920-7000, www.nauc.org.

APRIL

9 **Treatment Update at the 12th Annual Texas HIV/STD Conference**, Austin, TX; 11:00 - 12:00pm. Includes Project Inform speaker, Martin Delaney. For more information, contact Sylvia Watson at Texas Department of Health, 512-490-2535.

30 **Houston Conference on AIDS in America**, Houston, TX; Time TBD. Includes Project Inform speaker, Brenda Lein. Contact Paul Simmons at 713-527-8219.

MAY

8 **Ron Wilmot Bike Ride**, San Francisco, CA; Time TBD. Join other cyclists on a 7-mile fun ride through Golden Gate Park! For information on riding or volunteering, contact Julie Doherty at 415-558-8669, x223.

JUNE

12 **Alta Bates HIV Conference: Long Term Effects of Therapy**, Oakland, CA; 9:00am - 9:45am. Includes Project Inform speaker, Martin Delaney. For information, contact Deborah Royal at 510-437-4054.

OCTOBER

8 / 12 **1999 National Conference on Women & HIV**, October 8-12, 1999, Los Angeles City Convention Center, Los Angeles, CA. For information, call toll-free 877-266-3966.



Project Inform, established in 1985, is a national, nonprofit, community based HIV/AIDS treatment information and advocacy organization, serving HIV-infected individuals, their caregivers and their healthcare and service providers. We serve our constituents through the toll-free National HIV/AIDS Treatment Hotline, *PI Perspective*, *WISE Words* and other informational treatment publications, educational Town Meetings, online services, and research and drug access advocacy programs. All information is available free of charge. All programs depend on individual, foundation and corporate grants. Your support is strongly encouraged.

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| ACCOUNTING | Glen Tanking |
| VOLUNTEER GROUPS | Hotline, Project Immune Restoration, Internet Team, Board of Directors, Treatment Action Network (TAN), Institutional Review Board (IRB), Speaker's Bureau, Special Events, Mail and Office Assistance |

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Mr. / Ms. / Mrs. _____ Mr. / Ms. / Mrs. _____
 Address _____
 City _____ State _____ Zip _____
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WWRD

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Signature _____ Phone Number _____