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HIV treatment Alerts

inside:

MISSION

"The Center for AIDS Information & Advocacy empowers people living with HIV to make informed decisions about their healthcare by providing the latest research and treatment information and by advocating for accessible, affordable, and effective treatment options until there's a cure."

About *HIV Treatment ALERTS!*

HIV Treatment ALERTS! is a publication of The Center for AIDS Information & Advocacy (The CFA). This newsletter is intended for those affected by HIV and their caregivers. The statements and opinions expressed in this newsletter do not imply recommendations or endorsement. Always consult your doctor before altering a prescribed drug regimen or taking any drug or supplement.

HIV Treatment ALERTS! is currently published twice a year. The print version of the newsletter is available for free at The CFA's L. Joel Martinez Information Center, various AIDS service organizations, some physician offices and health clinics, or by mail. Access to the newsletter is available online from The CFA website (***www.centerforaids.org***).

The CFA also publishes Research Initiative/*Treatment Action!* (RI*TA!*). RI*TA!* is a literature-review journal that covers issues in HIV research and policy. This and other publications are available on The CFA website or can be requested by mail (see contact information below). CFA publications are supported in part with unrestricted funding from AIM Investments, CFP Foundation, Gilead Sciences, and GlaxoSmithKline.

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XVI International AIDS Conference

August 13 – 18, Toronto, Canada

Conference Highlights

The *16th International AIDS Conference* spotlighted several advances in HIV meds, including exciting developments in some new kinds of HIV meds!

Drugs in the Pipeline

The following experimental drugs are in clinical study and are not yet approved by the US Food and Drug Administration (FDA). If they become approved, they may offer new treatment options for people with HIV.

Bevirimat (PA-457) is an experimental drug from a new class of HIV meds called maturation inhibitors. These types of drugs work by interrupting the HIV life cycle at a later stage, causing immature (non-infectious) viruses to be produced. These harmless particles are broken down in the body without infecting T cells. Bevirimat is the first maturation inhibitor being studied and is being developed by Panacos Pharmaceuticals. Results presented at the conference focused on research performed in animals (abstract CDA0140), but this drug is currently being studied in humans in Phase 2 clinical trials.

Brecanavir is a new and promising HIV protease inhibitor (PI) that may be active against HIV that is **resistant** to other PIs. In a study (abstract CDB0376) of 31 HIV+ people, 6 of whom had HIV that was resistant to PIs, the drug led to increases in T-cell count along with decreases in viral load after 24 weeks of treatment. The most common side effects were tiredness, nausea, and upset stomach.

TRI-999 and TRI-1144 are 2 fusion inhibitors being studied. Currently, Fuzeon (enfuvirtide or "T-20") is the only FDA-approved fusion inhibitor. Unfortunately, a patient's HIV can become resistant to Fuzeon. An early study using cells grown in a laboratory (abstract THPE0021) showed that these 2 drugs stayed active against types of HIV that had become resistant to Fuzeon.

TNX-355 is an experimental **antibody** that binds to the CD4 receptor on T cells. This HIV med is considered a fusion inhibitor and is in the same drug class as Fuzeon. In one Phase 2 study (abstracts TUPE0058 and THLB0218), 82 HIV+ patients who had previously taken HIV meds were randomly assigned (by chance, like flipping a coin) to receive either a **placebo** or TNX-355 (at a dose of 10 mg/kg) every week for 9 doses, followed by TNX-355 every 2 weeks (at 10 mg/kg or 15 mg/kg). All patients also received other "background" HIV meds. (These are HIV meds that need to be taken with another HIV med called an "anchor" drug. Taken alone, background meds might not be powerful enough to keep the virus suppressed, but as "background" they provide support to an "anchor" drug where they work together to keep HIV suppressed.) After both 24 weeks and 48 weeks of treatment, patients receiving either dose of TNX-355 had a significant decrease in HIV viral load compared with patients who received the placebo. In addition, patients taking TNX-355 experienced increased T-cell counts. Another study (abstract THPE0024) done in cells found that TNX-355 was still active in HIV that was resistant to Fuzeon. This treatment is being developed by Tanox, Inc., a company in Houston.

MK-0158 is an experimental drug in a new class of HIV meds called integrase inhibitors. Integrase is a protein used by HIV to insert its **genetic** material into the DNA of a T cell. Once that occurs, the infected T cell can become a "virus factory" when the immune system is activated, producing many new copies of HIV that can then infect other T cells. Integrase inhibitors work by stopping integrase. MK-0158, which is being developed by Merck, is showing promise. Encouraging results from a Phase 2 study were reported at the conference (abstract THLB0214). In this study, 198 HIV+ patients who had never taken HIV meds before were randomly assigned (by chance, like flipping a coin) to receive either MK-0518 (100 mg, 200 mg, 400 mg, or 600 mg) twice a day, or Sustiva (600 mg) once a day, in combination with Viread and Epivir. This was a "double-blind" study, meaning that neither patients nor healthcare workers knew which treatment each patient was receiving. After 24 weeks of treatment, between 85% and 95% of the patients (depending on the MK-0518 dose they received) had an undetectable viral load (less than 50 copies). Suppression of HIV occurred faster with MK-0518 than with Sustiva. Among the people taking Sustiva, 90% had an undetectable viral load. MK-0518 was generally well tolerated. Side effects were similar to Sustiva and

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included nausea, dizziness, and headache. Currently, MK-0158 is in Phase 3 clinical trials. Merck has established an expanded access program for the medication. Those interested in finding out more about this program should call 1.877.327.6751 (1.877.EARMRK1) or visit ***www.earmrk.com***.

SMART update

The SMART study started enrolling people in January 2002. SMART stands for **S**trategies for the **M**anagement of **A**nti-**R**etroviral **T**herapy. The goal of the study was to determine if interrupted treatment with HIV meds (patients took HIV meds when T cells dropped to 250 or less and stopped taking meds when T cells reached 350 or higher) was better for HIV+ people than continuous therapy. The study was to enroll 6,000 patients and follow them for 8 years. Unfortunately, in January 2006, enrollment was stopped at 5,472 patients because the results showed that people in the treatment-interruption group were twice as likely to develop AIDS or die. Many researchers are interested in figuring out why this happened.

One study (abstract THPE144) described the characteristics of a group of 1,938 people in the treatment-interruption group who stopped taking HIV meds at the beginning of the study and then started them again when their T-cell count dropped. Of this group, 24% were women, 28% were Black, and 26% had previously been diagnosed with AIDS. The average starting T-cell count was 636 and 82% of the patients had a starting HIV viral load of 400 copies or less. In the first month of the study, the number of T cells dropped an average of 127 cells in these patients. By 2 months, the average drop was 188 cells. The researchers believe the dramatic drop in T-cell count was related to people who (1) had high T-cell counts when they joined the study, (2) had a low T-cell count in the past, (3) had been diagnosed with AIDS at anytime before joining the study, and/or (4) had a starting viral load less than or equal to 400 copies. This means that they may have had low T-cell counts in the past, which may have increased with HIV meds, and later dropped once they stopped taking their meds. The researchers found that race, sex, age, highest past viral load, and past use of HIV meds were not responsible for people in the treatment-interruption group developing AIDS at a faster rate than people in the continuous therapy group.

Though the SMART study is no longer enrolling people, researchers are using the large amount of collected data to further explore short breaks or "drug holidays" from HIV meds. Another study presented at the conference using SMART data (abstract THPE0145) showed that delaying or taking breaks from HIV treatment does not improve patients' quality of life, energy level, or perception of how healthy they are.

Staph increasing

"Methicillin-resistant *Staphylococcus aureus*" (MRSA) is a type of bacteria that can cause infections in different parts of the body. This type of "staph" infection is difficult to treat because it has become **resistant** to many antibiotics that used to work, including methicillin. MRSA was once confined to hospitals and situations where people shared close quarters or had skin-to-skin contact (for example, team athletes, military recruits, prisoners, and college students). However, "community-acquired" MRSA is becoming more widespread as cases are being seen in the general community. A study presented at the conference (abstract MOAB0304) examined the number of community-acquired MRSA (CA-MRSA) cases that occurred in HIV+ patients treated at their clinic during the years 1993 to 2005. Of the 425 HIV+ patients treated, 25 patients had CA-MRSA. Interestingly, for all cases after 2002, patients were 17 times as likely to become infected with CA-MRSA. Moreover, compared to the general population, HIV+ patients are 18 times as likely to develop CA-MRSA. Risk factors for developing CA-MRSA include recent use of B-lactam antibiotics (for example, the penicillins and cephalosporins) and high-risk sexual activity (as shown by infection with syphilis).

More is not always better

According to a large study presented at the conference (abstract TUAB0102), HIV+ patients are better off taking an HIV **regimen** containing 2 classes rather than 3 classes of HIV drugs. In this study, 1397 HIV+ individuals who had never before taken HIV meds were randomly assigned (by chance, like flipping coin) to take one of the following regimens: (1) a protease inhibitor (PI) plus nucleoside reverse transciptase inhibitors (NRTIs or "nukes"), (2) a non-nucleoside reverse transcriptase inhibitor (NNRTI or "non-nuke") plus nukes, or (3) a PI and non-nuke, plus nukes. Participants were studied for 5 years, and the results show that there was not much difference between the 2-class regimens (PI + nukes, or non-nukes + nukes), though the non-nuke-based regimen was somewhat better at suppressing HIV. However, patients receiving the 3-class regimen (PI+ non-nuke + nukes) did not do as well and tended to discontinue treatment more frequently because of side effects and drug toxicity.

treatmentnews

HIV-related **bone loss**

Bone mineral loss, or osteoporosis, is a serious risk for all HIV+ patients, in particular HIV+ women. Unfortunately, studies that have examined the risk of osteoporosis in HIV+ patients have typically included only men. A recent study published in the journal *Clinical Infectious Diseases* (42, p. 1014, 2006) examined bone loss in 263 HIV+ women and in a **control** group of 232 HIV-negative women with similar behavioral risk factors (for example, a history of recreational drug use or sexual contact with an IV drug user). All women were 40 years old or older. The researchers found that HIV+ women were significantly more likely to have osteoporosis in their hip and lower back compared with the HIV-negative women. These findings strongly indicate that having HIV increases the risk of developing osteoporosis. In addition to HIV, other risk factors include older age, being a race other than Black, lower body weight, past or current **estrogen** use, and experiencing previous bone fractures. Use of the drug methadone was associated with bone loss in the lower back only.

Treating HEART DISEASE

Heart disease and its associated complications affect many people living with HIV, but few studies have looked at the best way to treat these patients. In the HIV-negative population, a procedure known as angioplasty or "percutaneous coronary intervention" (PCI) is typically performed. In this procedure, a catheter (a thin flexible tube) guides a balloon into a narrowed artery as a way to open it and improve blood flow to the heart. In addition, a stent is frequently placed in the newly opened artery as a way to prop it open and prevent it from closing again. In a recent report published in the journal *Heart* (92, p. 543, 2006), researchers compared the use of PCI in 50 HIV+ and 50 HIV-negative patients (the **control** group) following a **cardiovascular** event such as a heart attack or **angina**. Following the procedure, HIV+ patients responded just as well as the HIV-negative patients. The vast majority of cases were successful in both groups and no deaths were reported in either group during the 20 months after the procedure. Rates of serious side effects, heart attacks, and restenosis (a common complication of angioplasty that involves the renarrowing of arteries once they are opened) were also similar between the 2 groups. The researchers believe that this type of treatment is effective and safe for HIV+ patients, but larger studies still must be done to confirm their findings.

♀ *Women's Issues*

Women are often under-represented in studies examining the side effects of HIV drugs, though they make up about 40% of HIV/AIDS cases worldwide. As a result, it isn't always clear whether women experience the same side effects as men. A recent study published in the *Journal of Medical Virology* (78, p. 1158, 2006) compared HIV drug side effects in 245 HIV+ women and 723 HIV+ men who were taking similar HIV drug **regimens**. Women were almost 2 times as likely to experience a **hypersensitivity reaction** and more than 2 times as likely to have lactic acidosis (a serious condition that occurs when levels of lactic acid become very high in the body). The majority of patients (both men and women) who experienced a hypersensitivity reaction were taking the HIV drug Viramune. Possible reasons why women experienced these 2 side effects more frequently include differences in body mass index (BMI), body fat composition, **hormones**, and the way men and women **metabolize** medications. The researchers also found that experiencing side effects like high blood sugar (hyperglycemia) and high cholesterol depended more on the age of patient, type of HIV drug regimen, and glucose and cholesterol levels at the start of the study, rather than being a man or woman.

DRUG INTERACTION: Buprenorphine and Reyataz + Norvir

A recent report published in the journal *AIDS* (20, p. 783, 2006) describes 3 HIV+ patients who experienced side effects after taking an HIV **regimen** containing Reyataz and Norvir in combination with buprenorphine (also known as "bupe" and marketed in the US as Subutex and Subozone). Buprenorphine is used to treat addiction to opioids (a class of drugs that includes heroin, oxycodone, hydrocodone, morphine, and oxycontin). Reyataz is a protease inhibitor, and Norvir is another protease inhibitor taken to **boost** levels of Reyataz in the body. The report describes how patients complained of drowsiness, dizziness, problems focusing and thinking, and feeling "high" or "doped up." Researchers believe these side effects were caused by a drug interaction between buprenorphine and Reyataz/Norvir. To explain, Reyataz and Norvir slow down the **metabolism** of buprenorphine. As a result, buprenorphine is not broken down or metabolized in the body and the patient is exposed to higher levels of this drug. In an attempt to lessen the side effects, the dose of buprenorphine was decreased or given every other day instead of daily, though this strategy was not always successful. The researchers recommend that combining buprenorphine with Reyataz and Norvir be done with caution.

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Changing causes of death

As HIV treatments improve, persons infected with HIV are living longer. Unfortunately, they are still dying, though the causes of death have changed somewhat. According to a large study conducted in New York City and published in the *Annals of Internal Medicine* (145, p. 397, 2006), about a quarter of patients with AIDS died from causes that were not related to HIV. In fact, this percentage rose from 19.8 % in 1999 to 26.3% in 2004. Using death certificates, researchers identified the causes of death for 68,669 New York City residents with AIDS. Deaths were considered HIV-related if the underlying cause of death was HIV disease or an **opportunistic infection**. The majority of non-HIV deaths were caused by heart disease, drug abuse, and non-AIDS defining cancers. (AIDS defining cancers are Kaposi's sarcoma, non-Hodgkin's lymphoma, and cervical cancer.) While deaths from HIV-related causes were still responsible for the majority of deaths, the results indicate that many of these non-HIV deaths, such as those caused by heart disease, may have been preventable. As a result, the researchers recommend behavioral changes such as stopping smoking, getting screened to detect cancer earlier, and monitoring chronic conditions such as **diabetes** and high blood pressure (hypertension).

Two vitamins a day...

According to a recent report in the *Journal of Acquired Immune Deficiency Syndromes* (42, p. 523, 2006), an HIV+ person's immune system may directly benefit with the help of a multivitamin. In this study, 40 HIV+ patients with **neuropathy** who were taking Zerit or Videx were randomly assigned (by chance, like flipping a coin) to receive a specially formulated multivitamin (that included 33 micronutrients or ingredients) or a **placebo** twice a day for 12 weeks. Those taking the multivitamin experienced a significant increase in T-cell count compared to the patients taking the placebo. Though not statistically significant, patients taking the multivitamin also had a decrease in HIV viral load and an improvement in neuropathy symptoms. Patients tolerated the multivitamin very well. Though this was a small study and more research is required, these findings suggest that vitamin supplements could one day become a standard component of the HIV drug **regimen**.

Initial success

Ten years ago, the potent combination HIV therapy (also called HAART) was introduced. It has since become the standard treatment for patients infected with HIV. Because of wider availability of more tolerable but potent medications, improved treatment guidelines, and knowledge about **resistance** and **adherence** issues, the risk of failing an initial (also called "first-line") HIV drug **regimen** has been cut nearly in half according to a study published in the *Archives of Internal Medicine* (166, p. 521, 2006). Researchers analyzed the medical charts from 3,825 people who started HIV treatment for the first time during the years 1996 and 2002. Specifically, they looked at each patient's HIV viral load and T-cell counts to see if the risk of failing first-line treatment decreased during that time. The results indicate dramatic improvements in initial treatment success and researchers cite several reasons that focus on both the role of the patient (improved adherence to HIV meds and knowledge about treatments) and of the healthcare provider (accumulated clinical experience and better management of patients). Reasons for treatment failure include poor adherence or infection with **drug-resistant HIV**. Heterosexual men and women and those infected by injection drug use (IDU) had a higher risk of treatment failure than homosexual men. Furthermore, younger people were at a higher risk of treatment failure than older people. Failure rates were also higher among people previously diagnosed with AIDS. In looking at the HIV meds, regimens containing Invirase tended to be associated with a higher risk of failure when compared with other single non-**boosted** protease inhibitors (PIs). (Invirase is an early PI with poor absorption when taken alone, but which is now taken with Norvir to boost its levels.) Boosted PI regimens and those containing Sustiva tended to be associated with a lowered risk.

SMOKING not permitted

A study published in the *American Journal of Public Health* (96, p. 1060, 2006) reported that potent combination HIV therapy (also called HAART) is not as beneficial for HIV+ smokers as it is for HIV+ non-smokers. Specifically, those patients who smoked have a lower chance of suppressing the HIV and improving their T-cell count, compared to the non-smokers. One reason may be that, at least in this study, smokers tended to have lower **adherence** to their HIV meds. However, even when researchers performed a special analysis on these findings, they still found that smokers did not respond as well to HAART as the non-smokers.

On a related note, with the exception of the AIDS-defining cancers (Kaposi's sarcoma, non-Hodgkin's lymphoma, and cervical cancer), lung cancer is the most frequently diagnosed cancer in HIV+ patients. Moreover, HIV+ patients are more likely to develop lung cancer and to die from it compared with the general population. Though the high **prevalence** of cigarette smoking in the HIV+ community is partly responsible, a recent study in the *Journal of Acquired Immune Deficiency Syndromes* (43, p. 47, 2006) may offer additional information. Researchers reviewed medical charts from 92 HIV+ patients with lung cancer and found these patients more likely to be younger, African American, IV drug users, and have more advanced cancer when first diagnosed. Survival was significantly shorter in the HIV+ patients than the general population, and the majority of HIV+ patients died from their lung cancer and not from AIDS. Surprisingly, these patients were in relatively good health (high T-cell counts and low HIV viral load), visited the clinic regularly, and had frequent physical exams. So why was survival so much shorter in HIV+ patients? Unfortunately, at the time of diagnosis, 87% of the patients had advanced lung cancer. In fact, 69% of the HIV+ patients were diagnosed with metastatic lung cancer, meaning that the cancer had become so advanced that it had spread to other parts of the body. Why were these patients diagnosed so late? The researchers believe that the patients' doctors may not have been suspicious enough of any chest-related complaints because of the relatively good health of these HIV+ patients. In addition, chest x-rays are frequently used to evaluate any chest-related complaints and while useful in many situations, they may not be sensitive enough to detect lung cancer. Still, some researchers also believe that cancer may be more aggressive in HIV+ patients.

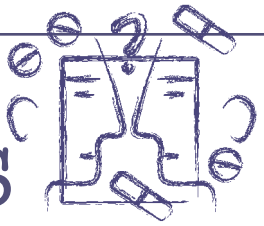
Prezista
DRUG INTERACTIONS

At the *46th Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC)* in September, researchers from Tibotec presented data on some important drug interactions between Prezista and a variety of medications (Abstracts #A-0367, A-0369, and A-0368). Prezista is a new HIV protease inhibitor that was approved by the Food and Drug Administration (FDA) this past summer (see FDA Bits on page 8). Tibotec researchers recommend that Kaletra and Prezista not be combined in the same **regimen** because blood levels of Prezista were dramatically reduced when combined with Kaletra. In addition, dose reductions for Viagra, Levitra, and Cialis are recommended when taking with Prezista. Finally, Prezista lowers the levels of **estrogen-**based birth control (oral contraceptives or other estrogen-based contraceptives such as the NuvaRing or the birth control patch). An additional or alternative method of birth control should be used. Please contact your healthcare provider if you are taking any of these medications with Prezista. For more information, such as important drug interactions and possible side effects, see the CFA's fact sheet on Prezista in this issue or at ***www.centerforaids.org/rita/facts/prezista.pdf***

Gene therapy for HIV

Recently, a small **pilot study** published in the *Proceedings of the National Academy of Sciences of the United States of America* (103, p. 17372, 2006) reported some very exciting results. In this study, 5 patients with **drug-resistant HIV** underwent gene therapy as a potential treatment for their HIV. Researchers removed immune cells from each patient and introduced another virus (called a lentivirus) into these immune cells that would stop HIV from reproducing inside of them. The modified immune cells were then infused back into each patient. After this procedure, all patients experienced stable HIV viral loads and T-cell counts. In fact, viral load decreased in one patient and T-cell counts increased in 4 patients. The treatment was well tolerated and appears safe. However, these patients will be studied for many years to determine if there are any long-term side effects. If shown to work against HIV, this treatment would only need to be done one time. While these findings are very encouraging, this was the first time this technique was performed in humans.

Two Expanded Access PROGRAMS



TMC 125 (also known as etravirine) is a non-nucleoside reverse transcriptase (NNRTI or "non-nuke") that has not yet been approved by the Food and Drug Administration (FDA). Previous studies have shown that this non-nuke may be active against HIV that is **resistant** to other non-nukes. Tibotec, the makers of TMC 125, recently announced they will provide an expanded access program (EAP) for this med. As a result, HIV+ individuals with few or no treatment options who need TMC 125 (as a way to create an effective multi-drug HIV **regimen**) can receive this med before it is FDA-approved. If you are in this situation, discuss TMC 125 with your healthcare provider. He or she can get more information about this program by emailing ***TMC125EAP@i3research.com*** or calling 866-889-2074. They can also search information on clinical trials at the ClinicalTrials.gov website at ***www.clinicaltrials.gov***.

MK-0518 is an integrase inhibitor that is not yet FDA-approved. Merck, the makers of MK-0518, has established an expanded access program for MK-0518 for patients with few or no treatment options. Those interested in finding out more about this program should contact EARMRK 1.877.327.6751 (1.877.EARMRK1) or visit ***www.earmrk.com***. For more information about MK-0518, see the Conference Highlights on page 3 of this issue.

What is an EXPANDED ACCESS PROGRAM?

In the United States, all experimental, over-the-counter medications, and prescription medications (but not alternative medications) must go through clinical trials before they are available to the public. These trials require the participation of a small number of people in the community who take the experimental medications so that researchers can see how safe they are and if they work when taken by people. Clinical trials require the people who participate in them to have certain characteristics (inclusion characteristics) and to not have certain characteristics (exclusion characteristics). Sometimes clinical trials that are looking at experimental (unapproved) medications will show good results. When this happens, researchers can decide to give the experimental drugs to others, who would not usually be eligible to participate in the clinical trial. This is done so that more people are allowed access to these medications, even though they are still not approved by the Food and Drug Administration (FDA) for everyone to take and doctors cannot yet write prescriptions for them. This is known as giving "expanded access" to the drug. For more information on expanded access, see the National Library of Medicine website at ***www.nlm.nih.gov/services/ctexpaccess.html*** and the AIDS Treatment Data Network at ***www.atdn.org*** ("The Access Project").

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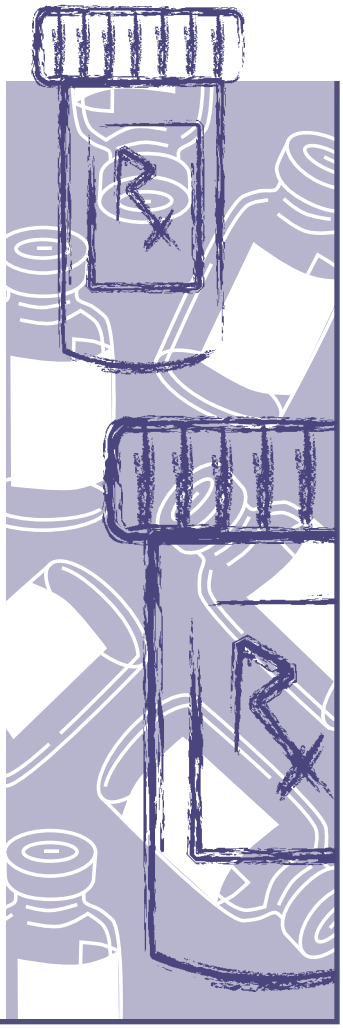
News Meds for OIs



Imagine going from being immobile, having headaches, and not being able to see, to being fully functional again with the help of one medication. This is what happened to 4 HIV+ patients diagnosed with progressive multifocal leukoencephalopathy (PML), a very serious type of **opportunistic infection**. Even in the era of potent combination HIV therapy (also called HAART), average survival with PML is only 4 months to 2 years. A recent report published in the journal *AIDS* (20, p. 791, 2006), describes how these HIV+ patients were admitted to the hospital with headaches and diagnosed with PML. All were given Vistide (cidofovir) intravenously (IV) for different amounts of time. After being treated with Vistide in addition to an HIV protease inhibitor, 3 of the 4 patients experienced dramatic recoveries. The study results also indicated that survival time was lengthened with this treatment. The researchers advise that PML must be treated aggressively, even if the patient is very ill when diagnosed. So far, none of the patients has developed side effects to Vistude, but these results must also be confirmed with larger studies. However, that may not be possible considering the small number of people diagnosed with PML each year.

According to a study published in the journal *Clinical Infectious Diseases* (42, p. 1179, 2006), a new treatment called posaconazole appears to be as effective as fluconazole in treating oral thrush (oropharyngeal candidiasis) in HIV+ people. Oral thrush is an infection in the mouth and is caused by a fungus. It is the most common opportunistic infection seen in HIV+ individuals. Topical (applied to a specific body part or surface), oral (taken by mouth), and IV treatments are available. Oral treatments are used when topical treatments are not effective. Current oral treatments include fluconazole (Diflucan), ketoconazole (Nizoral), and itraconazole (Sporanox). Though ketoconazole and itraconazole are effective treatments, previous studies suggest that fluconazole is the best treatment. In the current study, 350 HIV+ patients with oral thrush were randomly assigned (by chance, like flipping a coin) to receive posaconazole or fluconazole. After 14 days of treatment, the oral thrush was cured or improved in 92% of the patients treated with posaconazole and in 93% treated with fluconazole. There were no serious side effects from either medication. These findings indicate that posaconazole is just as good as fluconazole in treating oral thrush.

FDA**BITS**

New meds approved this summer

Two new HIV medications were approved by the Food and Drug Administration (FDA) this summer.

Prezista (TMC 114, darunavir) is an HIV protease inhibitor and must be used in combination with Norvir and other anti-HIV meds. Prezista is only approved for HIV+ people who are highly treatment-experienced or whose HIV is **resistant** to one or more HIV protease inhibitors. For more information, such as important drug interactions and possible side effects, see the CFA's fact sheet on Prezista in this issue or at ***www.centerforaids.org/rita/facts/prezista.pdf***

Atripla is a complete "all-in-one" HIV med for people starting HIV meds for the first time. Atripla contains 3 drugs (from 2 classes of HIV medications): Sustiva, Viread, and Emtriva. This combination pill does not need to be combined with any other HIV meds. The US Treatment Guidelines now list Atripla as a preferred medication for initial (also known as "first-line") treatment. Note that these are not new drugs. Atripla just combines all 3 meds into 1 convenient pill. Any of the 3 medications can still be purchased separately.

New Reyataz 300 mg capsules

In October, the Food and Drug Administration (FDA) approved a new 300-mg capsule form of Reyataz. Now, Reyataz is available as 100 mg, 150 mg, 200 mg, and the new 300 mg capsules. Treatment-experienced patients have the option of taking either one 300-mg capsule, or two 150-mg capsules of Reyataz, once a day with 100 mg Norvir and with food. For patients who have never taken HIV meds before, the recommended dose remains unchanged and is Reyataz 400 mg (two 200-mg capsules) once a day with food.

Update to **HIV** Treatment **Guidelines**

The US guidelines for treating HIV were updated on May 4, 2006 and October 10, 2006.

Among the changes were the following points:

MAY 4, 2006 UPDATES

- HIV+ patients who have never before taken HIV meds should be tested to find out if they are infected with **drug-resistant HIV**. These tests should be done before starting any HIV treatment. Though rare, patients can be infected with HIV that is already **resistant** to some HIV meds. Taking an HIV med that isn't effective is dangerous because the HIV will not be optimally suppressed, resulting in even more resistance.
- Recommendations for planned and unplanned short-term and long-term HIV treatment interruptions are included, along with the risks associated with interrupting HIV treatment.
- Recommendations for treating patients co-infected with HIV and HBV are discussed. Specifically, patients who are infected with both HIV and hepatitis B virus (HBV) need to be careful when switching or stopping any HIV meds. Certain HIV meds like Emtriva, Epivir, and Viread are also active against HBV. If a co-infected patient stops taking one of these drugs, he or she could experience an HBV flare-up. Importantly, patients who do not know they are infected with HBV can experience a flare-up if they stop taking one of these HIV meds.

OCTOBER 10, 2006 UPDATES

Medications you should start with:

The updated recommendations for HIV+ patients who have never taken HIV meds before are summarized in the table below. Your healthcare provider should pick one component from Column A and one component from Column B.

	Column A		Column B
	Non-nuke	Protease Inhibitor	2 Nukes
Preferred Treatment (in no particular order)	Sustiva	Reyataz + Norvir Lexiva + Norvir twice a day Kaletra twice a day	Viread/Emtriva Retrovir (AZT)/Epivir
Alternative Treatment (in no particular order)	Viramune	Reyataz (unboosted) Lexiva (unboosted) Lexiva + Norvir once a day Kaletra once a day	Ziagen/Epivir Videx/Epivir

What not to use:

- **regimens** that don't contain any nucleoside reverse transciptase inhibitors ("nukes")
- regimens that consist of 4 HIV drug classes: nuke, non-nucleoside reverse transcriptase inhibitor (NNRTI or "non-nuke"), protease inhibitor (PI), and an entry inhibitor like Fuzeon
- regimens that contain an entry inhibitor like Fuzeon as part of initial (also called "first-line") therapy in patients who have never taken HIV meds before
- regimens that consist of 3 drug classes (nuke, non-nuke, and PI) or a triple-nuke plus non-nuke regimen
- regimens that consist of one drug, even if it is **boosted** with Norvir
- triple-nuke regimens
- regimens that contain unboosted Invirase

ADVOCACY Update:

Science Evolves, but AIDS Denialists' Talks Are Stuck in a Time Warp

By **Nita Costello**

At what point can scientific controversies be considered settled? What are the responsibilities of HIV scientists, researchers, journalists, and editors in keeping the public informed about the discoveries, controversies, and progress of the HIV/AIDS pandemic?

At the *XVI International AIDS Conference* in Toronto, an international panel of scientists, journalists, editors, and pubic policy experts were assembled for the "HIV Science and Responsible Journalism" session, held on Sunday, August 13. Its purpose was to give feedback and address those critical questions.

"No doubt about this, this is dangerous stuff. AIDS denialism kills," said John Moore, PhD, Professor of Microbiology and Immunology at Weill Medical College of Cornell University. Dr. Moore shared his expertise about denialists, specifically how they operate and what journalists and the public need to be on the lookout for.

AIDS denialism was a hot topic at this year's conference, but what are the core beliefs in this controversial stance on HIV/AIDS? Different denialists choose to concentrate on different aspects. While some denialists do not accept the existence of HIV, others accept that it does exist, but believe it is harmless. Yet another group believes that HIV exists, but that it cannot be heterosexually transmitted. Another group believes that Retrovir (zidovudine or AZT) or other HIV meds actually cause AIDS.

"Thousands of South African adults and children have died of AIDS because of the flawed government policies on HIV and AIDS," Moore said. "The South African government has been heavily influenced over the past 6 or 7 years by AIDS denialists."

As a consequence, Moore cited examples where South Africans are being advised that it is not necessary to have safe sex or use clean needles. People are being encouraged to take alternative, unproven medicines, such as lemon, garlic, and potatoes, he said, in place of HIV meds. And people are also being discouraged from getting tested for HIV or counseled on whether to take a test.

"The AIDS denialists abuse . . . science," Moore said. For instance, denialists cite older and disproven studies as if they were still current, "state of the art" knowledge. They also argue that other illnesses cause false-positive test results for HIV, and they highlight legitimate scientific questions or uncertainties in HIV/AIDS as evidence of poor research.

"Science evolves, but the denialists' talks are still stuck in a time warp. They cherry-pick what suits them," he said. "Preferential citation is what it's known as in the technical language."

Oftentimes, AIDS denialists publish their materials using a fake name, Moore said. Additionally, much of the denialists' dialogue degenerates into personal insults and attacks on scientists, AIDS activists, and each other, he said.

One prime tenant of being a writer or journalist is the ability to report *on* a story, not *be* the story, he said. Yet, some denialists have conflicts of interest when their rhetoric appears as a precursor to a new book on denialism or accompanies a public relations campaign.

Many denialists also misrepresent their academic credentials, Moore said. Many claim to have degrees or education that they do not hold "to create the allusion of competence." Moore advises that research must be done to ensure any person releasing HIV/AIDS information has legitimate reasons and truthful facts. People must investigate and expose personal agendas to uncover the truth. Fortunately, there are many websites and resources that give people the tools to do this, including his website ***www.aidstruth.org***.

"I have dozens of cases on my desk of people who have suffered at the hands of charlatans, pseudo scientists, and quacks," said Nathan Geffen of Treatment Action Campaign, who spoke after Moore. "This is a scourge that is undermining the entire response to the African HIV epidemic."

There are 3 problems one finds in HIV/AIDS information, he said. The first major problem is a miscommunication of key scientific findings caused by a lack of scientific training. The second problem is the omission of important scientific findings, such as a critical message being buried because one does not understand the importance of such findings. Geffen said these issues can be fixed by having one person on staff being trained as an HIV/AIDS expert. Also, AIDS organizations need to do more training with the media. But along with this is a need for governments to make HIV/AIDS a high priori-

ty so that news outlets and their staffs can make HIV/AIDS a high-level priority as well, he said.

However, the worst problem is "pseudo science," Geffen said. This is when people report non-factual information, which can be easily debunked by the scientific community. Pseudo science is the worst, he said, since it occurs not from a lack of training but a lack of ethics. For instance, one South African newspaper reported that the current AIDS statistics were overexaggerated. Stories like these get into the mainstream press because editors lack HIV/AIDS knowledge or are sympathetic to AIDS denialism.

"These are all journalists who think that by doing a few hours of research on the Internet, they can overthrow millions of man hours or millions of person hours of research done by scientists, and that is a failure of ethics — that's an arrogance that demonstrates a failure [to understand] how science works, and a failure of one's own limitations," Geffen said.

One important role of the media and others is to report correct scientific findings to the public, he said. There is an ever-increasing need to report basic scientific findings, like explaining research that shows how HIV is the cause of AIDS.

Another important role is to report fraud. He questions, is it really the people's job to challenge scientific consensus? Is it one person's job to say that the scientists have it wrong? No, he answers, that is the role of other scientists to do in scientific journals, not individual members of society. People outside of the scientific realm do not even have the scientific expertise to assert challenges to the HIV information or science, he said.

For a list of sources of potentially harmful HIV/AIDS information, refer to GOTCHA: Grossly Over-exaggerated (or incorrect) "Treatments" or "Cures" for HIV or AIDS, a CFA fact sheet at ***www.centerforaids.org/rita/facts/gotcha.pdf***.

fact SHEET

Prezista (darunavir)

Prezista tablets are orange and oval-shaped. The tablets are labeled with "300" on one side and "TMC114" on the other side.

Also known as: darunavir, TMC 114

Background and description. Prezista is an anti-HIV drug manufactured by Tibotec, a division of Ortho Biotech. The drug is an HIV protease inhibitor (PI). In June 2006, the Food and Drug Administration (FDA) approved Prezista for use, in combination with other antiretroviral drugs, in treating HIV-infected adults who have used other anti-HIV drugs in the past.

Dose. Prezista is supplied in 300 mg film-coated tablets. Prezista must be taken with and at the same time as Norvir. The typical dose is 600 mg (2 tablets), taken with 100 mg of Norvir, twice daily. Prezista and Norvir should be taken in combination with other anti-HIV drugs.

Food restrictions. Prezista and Norvir should be taken with food. Prezista tablets should be swallowed whole with a drink such as water or milk. Do not chew the tablets.

Missed dose. If you miss a dose of Prezista or Norvir by less than 6 hours, take the missed dose immediately. If you miss a dose of Prezista or Norvir by more than 6 hours, wait and take the next dose at the regularly scheduled time.

Storage. Prezista tablets should be stored at room temperature (77°F).

Patient assistance. Tibotec provides a patient assistance program for those who qualify. For more information, call 866.836.0114.

Side effects. The most common side effects of Prezista are diarrhea, nausea, headache, and the common cold. Rash is also a side effect of Prezista and can sometimes be serious. If you develop a rash while taking Prezista, notify your doctor. If you have liver problems or hemophilia (a bleeding disorder), consult your doctor because these problems can become worse in patients taking Prezista. Pregnant women should not take Prezista.

Other side effects associated with all protease inhibitors include high blood sugar (hyperglycemia), diabetes, changes in body fat, and immune reconstitution syndrome.

Drug interactions. Prezista should not be taken with the following: ergot derivatives such as Cafergot, Wigraine, Migranal, Ergomar, Ergostat, and DHE 45; Halcion (triazolam); Versed (midazolam); Orap (pimozide); Propulsid (cisapride); antihistamines like Hismanal (astemizole) or Seldane (terfenadine); St. John's wort (Hypericum perforatum); anticonvulsants such as Dilantin (phenytoin), Tegretol (carbamazepine), or phenobarbital; Rifadin and Rifamate (products containing rifampin); and the cholesterol-lowering drugs Mevacor (lovastatin) and Zocor (simvastatin). In addition, it is recommended that Kaletra not be taken with Prezista.

The following medicines may require a dosing change of either Prezista or the other medicine: Sustiva; Viramune; Videx; Viread; Reyataz; Crixivan; Invirase; medicines for abnormal heart rhythms such as Cordarone (amiodarone), Lidoderm (lidocaine), Vascor (bepridil), and quinidine; Coumadin (warfarin); Desyrel (trazodone); Biaxin (clarithromycin); Nizoral (ketoconazole); Sporanox (itraconazole); Vfend (voriconazole); Mycobutin (rifabutin); the cholesterol-lowering drugs Lipitor (atorvastatin) and Pravachol (pravastatin); methadone; Viagra (sildenafil); Levitra (vardenafil); and Cialis (tadalafil); medicines to prevent organ transplant rejections; antidepressants such as Paxil and Zoloft; calcium-channel blockers to treat heart disease like Plendil (felodipine), Adalat (nifedipine), and Cardene (nicardipine); corticosteroids to treat inflammation or asthma (Decadron, Flonase, Advair Diskus, Flovent Diskus); and medicines to treat ulcers or heartburn such as Prilosec or Zantac. In addition, Prezista might reduce the effectiveness of estrogen-based birth control methods like oral contraceptives (the Pill), NuvaRing, or the birth control patch.

Bottom Lines

Herpes and HIV link

In those living with HIV, there is evidence that co-infection with the HSV2 virus (the virus that causes genital herpes) increases the risk of spreading HIV to others. Some researchers believe that HSV2 may help HIV or even increase the amount of HIV in a person's body, particularly in the blood and reproductive tract. (The amount of HIV in a woman's reproductive tract is sometimes referred to as HIV "genital shedding.") Therefore, lowering the amount of HIV in the reproductive tract and blood may reduce the risk of infecting a sexual partner. A report (abstract TUAC0501) presented at the *XVI International AIDS Conference* in Toronto, Canada last August describes 2 studies that examined the effect of Valtrex (a drug used to treat genital herpes) on HIV genital shedding and blood viral load in women co-infected with both HIV and HSV2. The first study focused on co-infected women who received Valtrex (1 gram) once a day for 3 months, but did not receive HIV meds. The second study examined co-infected women who received both Valtrex and HIV meds.

The women who took Valtrex alone experienced a significant reduction in HIV genital shedding and blood viral load. Valtrex also reduced the occurrence of genital sores in these women. (Sores can increase the likelihood of transmitting HIV to others.) However, the effect of Valtrex on blood viral load and HIV genital shedding was somewhat limited in women who took Valtrex + HIV meds, most likely because the HIV meds had already decreased the presence of HIV in the body. The exception was for those women experiencing genital shedding at the beginning of the study; in these women Valtrex did reduce HIV genital shedding. In addition, women who took Valtrex + HIV meds had no occurrence of genital sores while on this study (again, most likely because of the HIV meds). While these results show that controlling genital herpes has an effect on a person's HIV viral load, it is not clear if taking a drug to treat genital herpes would actually decrease the risk of transmitting HIV to others.

Bottom Line: Treating genital herpes infections in people who are co-infected with HIV and HSV2 may make it less likely for them to transmit HIV to others. However, there is still no evidence that taking a drug like Valtrex will prevent HIV transmission and practicing safe sex is still important. Also, these studies emphasize the importance of staying healthy and keeping all infections under control. Herpes may seem harmless, but it can affect your HIV viral load by activating your immune system. A higher viral load can increase your risk of transmitting HIV, as well as your risk of disease progression and death.

Drug abuse can kill

According to a recent study in the *American Journal of Epidemiology* (163 p. 412, 2006), HIV+ individuals who use recreational drugs persistently are twice as likely to develop an **opportunistic infection** (OI) and 3 times more likely to die than HIV+ individuals who do not use recreational drugs. In this study 1,851 HIV+ patients completed confidential questionnaires about their drug and alcohol use. Researchers specifically focused on use of cocaine and heroin and identified 235 persistent users, 588 intermittent users (use occasionally or intermittently), and 1,028 non-users. Though persistent users had the greatest risk of developing an OI or dying, intermittent users were also at increased risk depending on their drug use at the time. For example, during periods of no drug use, their risk of an OI or death was the same as for non-users. However, during times of active drug use, their risk was the same as that for persistent users. Why would drug use increase an HIV+ person's risk of an OI and death? Researchers believe that drugs like heroin and cocaine can negatively affect a person's immune system. In addition, people using drugs may have poor **adherence** to their HIV meds and may not visit their healthcare provider on a regular basis.

Bottom Line: Your immune system is a major part of your overall health and well-being. Drugs and toxins can harm your immune system and will affect how well you can control your HIV disease. In addition, abusing alcohol or drugs can affect your adherence to your HIV meds.

ClinicalTrialInformation

Heart Positive Study

Legacy Community Health Services (formerly the Montrose Clinic) and Baylor College of Medicine in Houston are participating in a study called "Heart Positive." The study aims to answer important questions about how to reduce heart disease and **diabetes** risk in people with HIV, especially those who show signs of **lipodystrophy**. The study is open to men and women with HIV, age 18 to 65, who have been taking combination HIV meds for at least 6 months. The study will look at lifestyle changes (diet and exercise) and the use of other meds to control levels of fats in the blood. The study is **placebo**-controlled (study participants may take pills, but only some people get real meds) and randomized (patients cannot choose a group, but are assigned randomly, like flipping a coin). These study rules help the doctors find out what will work or will not work in reducing the risk of heart disease and diabetes in people with HIV. As a Heart Positive participant, you may have the opportunity to join a gym for 6 months with a personal trainer, work closely with expert dietitians who will teach you how to make better food choices and methods of food preparation to lower your cholesterol intake, and receive 2 weeks worth of food delivered to you at the beginning of the study, all at no cost to the you. To find out more information or to discuss enrolling in the study, visit ***www.heartpositive.org*** or call 713-830-3034.

Interleukin-2 Study

This study will examine a type of interleukin-2 called aldesleukin (an experimental medication). Interleukin-2 is a type of cytokine, or chemical messenger, and assists the body in making T cells. The study will determine if interleukin-2 lowers HIV viral load better when given by itself or when it is given in combination with other HIV meds. This study is open to men and women with HIV who have never before taken interleukin-2 and whose T-cell count is 300 or more. In addition, patients must be able to begin taking an HIV treatment that includes 1 protease inhibitor and 2 non-nucleoside reverse transcriptase inhibitors (NNRTIs or "non-nukes"). In Houston, this study is available at several sites: Thomas Street Clinic, the Veteran's Administration Medical Center, and the University Clinical Research Center at UT. For more information, call Hilda Cuervo at 713-500-6751.

New maturation inhibitor being studied

For patients with **drug-resistant HIV**, an experimental drug called "PA 103001" may offer some hope. This drug is from a new class of HIV meds called "maturation inhibitors." These types of drugs work by interrupting the HIV life cycle at a later stage. PA 103001 is a version of another experimental HIV maturation inhibitor called Bevirimat (PA-457). Researchers want to learn how safe the medication is in people and how well it controls HIV reproduction. This study is open to men and women who are **resistant** to at least one class (non-nukes, nukes, protease inhibitors, or entry inhibitors) of HIV meds. In addition, participants must have a T-cell count of 200 or more and must NOT have any **opportunistic infections**. For more information, call Gerianne Casey at 409-747-0214 or 1-877-324-2288 at the AIDS Clinical Trials Unit (ACTU) at The University of Texas Medical Branch (UTMB) in Galveston.

Check it out: *The Houston Area HIV/AIDS Clinical Trials Directory* is produced by The CFA. This comprehensive publication is updated quarterly and is available on The CFA website at ***www.centerforaids.org*** under "Publications."

Useful **Resources**

Find out about a new wave of corporate responsibility to help support HIV/AIDS in Africa.
www.joinred.com

For information on everything from getting tested, to the HIV life cycle, and everything in between, check out the Fact Sheets at AIDS InfoNet (in English and Spanish). ***www.aidsinfonet.org***

A website dedicated to fighting HIV/AIDS in the Latino Community. ***www.latinoaids.org***

Powerful photographs and videos documenting the human face of HIV/AIDS.
www.musarium.com/aidsdecade

Brought to you by The Body—A Bulletin board for those infected or affected by HIV/AIDS.
www.thebody.com/cgi-bin/bbs/ubbthreads.php

For an extensive glossary of HIV/AIDS-related terms, visit ***www.sfaf.org/glossary***

Want reliable information on alternative therapies? Check out the information at the National Institutes of Health, National Center for Complementary and Alternative Therapies. ***nccam.nih.gov***

Definitions

Adherent (adherence): how well someone takes medication as directed, with respect to the number and timing of doses.

Angina: chest pain or tightness caused by inadequate blood flow to the heart.

Antibody: types of protein that specifically bind to a cell or virus; usually antibodies are produced by the body's immune system against viruses or bacteria.

Boost (boosted): to elevate levels of a medication in the body.

Cardiovascular: relating to the heart and blood vessels.

Control: a special situation in research where no drug is given or no test is done. For example, a control group that gets a sugar pill (or "placebo," see below) might be compared to an experimental group that gets a real medication to see what the effects of the medication are.

Diabetes: a disorder involving insulin (a substance in the body that helps regulate blood sugar) that results in too much sugar in the blood and urine. Symptoms include hunger, thirst, weight loss, and frequent urination.

Drug-resistant HIV: when HIV can reproduce itself in the presence of an HIV medication because of a genetic change (mutation) in the virus.

Estrogen: a hormone (see definition below) that promotes the growth and maintenance of the female reproductive system and stimulates the development of female characteristics (for example, breasts, body shape, and voice pitch). Synthetic versions are available that mimic the physical effects of natural estrogen.

Genetic: having to do with genes (which carry special biology blueprints made from DNA) and genetic information.

Hormone(s): a substance secreted by one part of the body that stimulates cells in another part of the body (for example, testosterone).

Hypersensitivity (hypersensitivity reaction): extreme sensitivity or allergic reaction to a specific food or drug.

Lipodystrophy: changes in body fat such as loss of fat in the arms and legs and accumulation of fat in the gut or at the back of the neck.

Metabolism (metabolize or metabolic): chemical reactions in the body that are part of life; for example, turning food into energy or breathing in oxygen and breathing out carbon dioxide.

Neuropathy: damage to nerves (usually peripheral nerves, such as those in the arms and legs) resulting in muscle weakness, pain, and numbness.

Opportunistic infection(s): a disease or infection caused by an organism that is usually harmless, but becomes activated when a person's immune system is impaired or damaged.

Pilot study: an initial study done in a few people to test a possible treatment or way to care for patients, to see if it is worth further study.

Placebo: sometimes just the act of taking a pill can make someone feel better; so, to watch for this, a placebo (a pill or substance with no effect, such as a sugar pill) is often used to compare with a real medication to see what the medication's true effects might be.

Prevalence: the proportion of people in a population who have a disease or condition at a specific point in time.

Regimen: a combination or schedule of medications.

Resistance (resistant): a genetic (see definition above) change that allows a virus (such as HIV) to reproduce itself in the presence of medication that targets that virus.

Community**spotlight**

Two of Houston's HIV-focused organizations, the Montrose Clinic and The Assistance Fund, have merged to create **Legacy Community Health Services**. As a Federally Qualified Health Center, Legacy Community Health Services offers the following:

- Primary medical care
- Eye care
- Acupuncture
- Chiropractic services
- HIV/STD counseling, testing, and education
- HIV prevention education
- Nutritional services
- Social services
- Clinical research
- Financial assistance
- Accepts many insurance plans

"A culturally sensitive, judgment-free, and confidential environment for clients"

Contact information: Main office: **(713) 830-3000**
Website: ***www.legacycommunityhealth.org***

Locations:

215 Westheimer
Houston, TX 77006
*On-site Walgreens Pharmacy

3311 Richmond, Suite 100
Houston, TX 77098

1116 Jackson Blvd.
Houston, TX 77006

5602 Lyons Avenue
Houston, TX 77020

The above information was obtained from the Legacy Community Health Services website on December 6, 2006.