COMMUNITY PRESCRIPTION SERVICE InfoPack

Vol. 4, No. 2
Fall 1995

The Mixed Bag of Interleukin-2 Research

By Timothy Healea

IN THIS ISSUE

The idea behind giving interleukin-2 to people with HIV is based on good common sense.

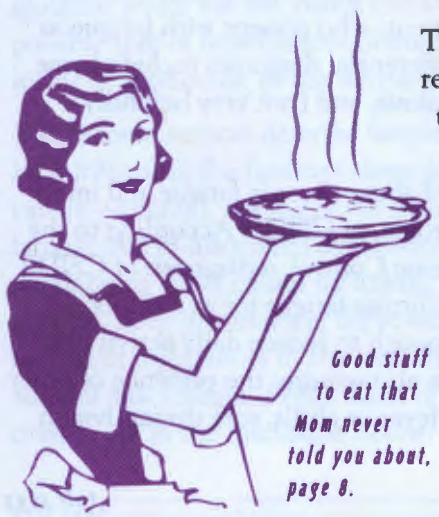
For years researchers have focused on treatments that control the spread of the virus or the opportunistic infections it causes, both yielding mixed results. So it's only natural that more attention is turning to drugs that will boost the body's normal immune response. The thought being that if we can't stop the virus from attacking the immune system, then let's try to shore up our defenses.

That may sound good on paper, but researchers have found that like other treatments used to combat AIDS, IL-2 doesn't always produce effective results for everybody. Ongoing clinical trials may soon lead to an acceptable treatment regimen that's safe and effective, but right now what we know for sure is people taking high doses of IL-2 suffer debilitating side effects and people with CD4 cell counts below 200 haven't benefited much from this particular immune system stimulation.

Why all the fuss about IL-2? It's just one of a number of immune system hormones called cytokines that regulate the various functions of the system's cells including when an immune response begins and how hard the cells fight intruders. Scientists have discovered, through 20 years of research, that IL-2 creates important chain reactions which cause immune system cells to multiply. Plus IL-2 stimulates all aspects of the immune system, an important attribute when researchers don't know exactly what specific parts of it need to be targeted.

If IL-2 succeeds in revving up the body's natural mechanism for making CD4 cells in people with HIV, then possibly their immune systems could be enhanced and their lives prolonged. According to a

(continued on page 14)



Good stuff to eat that Mom never told you about, page 8.

Fatigue and AIDS

By Rick Loftus

Fatigue, exhaustion, sleepiness, asthenia, malaise, lack of energy—whatever you call it, it is a common—and aggravating—experience for people battling HIV or AIDS. Because the experience of fatigue is subjective, its sufferers may be told by doctors or loved ones that their weariness is psychosomatic. Even if an organic cause is accepted, patients may be made to feel that since it is not life-threatening, their fatigue is not a big deal, and even must be accepted as an inescapable part of living with HIV. This view ignores the devastating effects of feeling constantly worn down. Chronic fatigue may force a person to stop working or participating in pleasurable day-to-day activities, leading to a downward spiral of withdrawal, depression, and further fatigue.

While chronic low energy can exasperate the person with AIDS, just as frustrating may be the difficulty in identifying and treating the problem. Because fatigue has numerous (often overlapping) possible causes, and because its symptoms vary from person to person, health care providers rarely have quick, easy answers. The following article will describe the nature of fatigue, its importance in HIV infection and AIDS, and ways for HIV+ people to get to the root of their fatigue and identify potential treatments.

Community Prescription Service *InfoPack*

Vol.4, No. 2 Fall 1995

Chairman ..... **Sean Strub**

CEO and Publisher ..... **Stephen Gendin**

Editor ..... **Adam Turner**

Writers ..... **Stephen Gendin**
Timothy Healea
Annette Henry, RD, CNSD
Tim Horn
Rick Loftus

Graphic Design ..... **Caramia Design, San Francisco**

Illustrations ..... **Barry Canter**

Community Prescription Service's InfoPack is provided free of charge to all active CPS customers, AIDS service organizations and referring doctors. For more information about CPS or to be placed on our mailing list, call (800) 842-0502.

349 West 12th Street, New York, N.Y. 10014

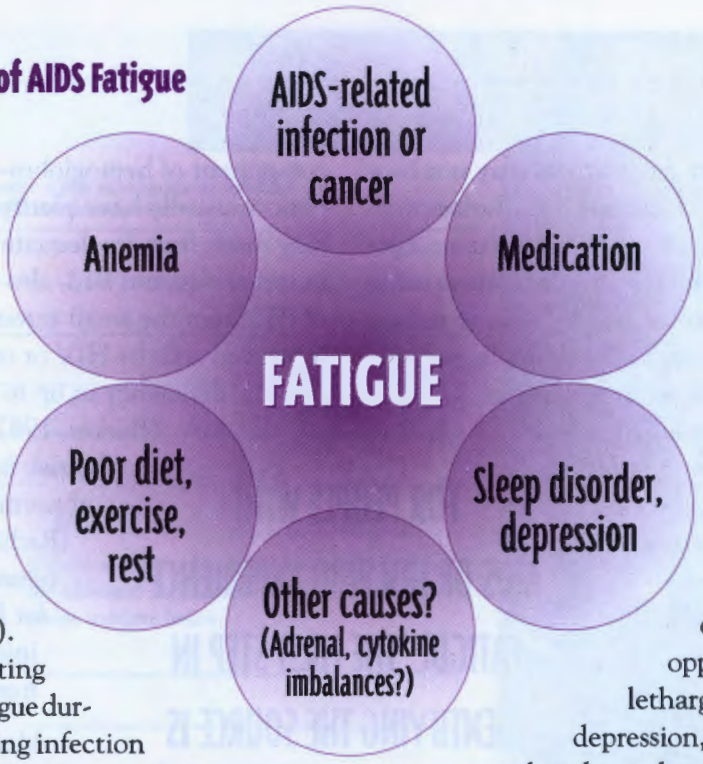
WHAT IS FATIGUE?

There are no reliable, clinically useful definitions of fatigue (Ruffin, 1994). In this way, fatigue is sort of like art—"I can't define it, but I know it when I see it." Various questionnaires have been used to measure fatigue or sleepiness among HIV-infected people (Darko et al, 1992), but all were originally devised to diagnose other problems, such as insomnia. For the purposes of this article, "fatigue" will be considered the subjective experience of low energy, tiredness, and/or sleepiness that results in restriction of daily activities. In Western medicine, fatigue is a symptom, not an illness in and of itself. Doctors rarely deliver a diagnosis of "fatigue" (except in the case of CFIDS, described below). Thus, you're more likely to find "energy boosters" at the corner deli than at your local pharmacy. Practitioners of alternative medicine such as Chinese medicine, on the other hand, may feel more comfortable treating fatigue as part of an overall health picture (see below).

Fatigue can be divided into three types: physiologic, acute, and chronic (Ruffin, 1994). Physiologic fatigue denotes tiredness in otherwise healthy people due to disruptions in exercise, rest, or diet. Acute and chronic fatigue cover exhaustion that has no identifiable medical cause, that does not resolve with bedrest, and that has persisted for, respectively, less than or more than six months. Fatigue has hundreds of potential root diagnoses, however, ranging from the effects of various medications, to infections or cancers, to hormonal, neurologic, or sleep disturbances (Epstein, 1995). For patients who present with fatigue as the major complaint, differential diagnoses include Lyme disease, syphilis, tuberculosis, and (not very helpfully) HIV infection (ibid).

Many people have heard about chronic fatigue and immune dysfunction syndrome, or CFIDS. According to the Federal Centers for Disease Control, a diagnosis of CFIDS requires persistent or recurring fatigue for at least six months that is severe enough to reduce daily activity by half. A CFIDS diagnosis also requires the presence of other symptoms such as mild fever or chills, sore throat, lymph

Possible Causes of AIDS Fatigue



node pain, muscle weakness, headaches, problems with thinking or memory, or sleep disturbance.

FATIGUE AND AIDS

As mentioned, HIV infection itself is considered a satisfactory explanation for fatigue, which highlights its prominent role as a symptom of the disease (Schietinger, 1986). Up to 67% of patients later testing positive for HIV experienced fatigue during the time immediately following infection (Tindall et al, 1988). It also affects those in the later stages of illness: one study reported significantly higher scores for fatigue among gay men with AIDS symptoms than among HIV+ asymptomatics or HIV-negative controls (Arkinson et al, 1988).

A survey of 58 HIV+ and 50 HIV-negative gay men (Darko et al, 1992) found that half the men with symptomatic infection had fatigue that interfered with their daily activities. Compared to their non-fatigued symptomatic counterparts, men with fatigue had significantly lower CD4+ T-cell counts, lower hematocrit values (that is, low levels of red blood cells, or anemia), and higher levels of globulins (defined as total blood proteins minus albumin). It is probably not surprising that patients with more advanced AIDS (lower T-cells) or anemia were more likely to experience fatigue. (Anemia will be discussed later in this article.) The correlation between AIDS fatigue and globulin levels was surprising and was attributed to the possible role of hypergammaglobulinemia, or excessive levels of antibodies, in the fatigue of AIDS.

While some authors describe fatigue as a direct result of HIV infection, the findings above hint at more subtle causes—after all, not everyone with HIV or AIDS has fatigue. AIDS-associated exhaustion may result from an overlapping set of causes including, but not limited to anemia, sleep disturbance, depression, cytokine imbalances, and/or imbalances in the hypothalamic-pituitary-adrenal axis (Siegel, 1994). Each of these factors will be considered in the discussion below.

AIDS FATIGUE: HOW TO APPROACH IT

For people with AIDS or HIV who experience fatigue, the first step in identifying the source is to consider the symptoms. Did the tiredness start suddenly? If so, this may point to an acute cause, such as starting a new medication or the arrival of a new opportunistic infection. Has the lethargy accompanied signs of depression, such as poor appetite or reduced mood or sexual function? If so, the fatigue may have its roots in depression-related sleep disturbances.

First things first: mild to moderate fatigue may be caused by inappropriate attention to the basics, meaning rest, diet, and exercise. Anyone, HIV-infected or not, who neglects essential self-care may feel worn out eventually. Many people diagnosed HIV-positive may push themselves to work too hard, despite— or even because of—feelings of exhaustion. Not to sound like your grandma, but long periods of intense work are often accompanied by not eating right or getting enough fresh air and exercise. Even if the fatigue has other causes, basic care is a first step in combating it. So if you're feeling rundown, ask yourself if you've been neglecting the essentials. A regular exercise program can help stave off fatigue, and doesn't require superhuman effort—even a brisk walk for half an hour, three times a week, may help.

Next stop, drugs. Fatigue is a potential side effect of numerous medications, especially AZT, alpha interferon, biologic response modifiers like Leukine (GM-CSF), cancer chemotherapies, and tricyclic antidepressants such as Elavil (amitrypryline) (Lynch, 1988). Drowsiness may be caused by over-the-counter products such as antihistamines and decongestants. Caffeine, nicotine, and alcohol use should also be considered; all are known to affect sleep patterns, which may in turn lead to problems with fatigue. Chronic overuse of alcohol can lead to decreased sleep continuity even in non-alcoholics (Neylan, 1995).

(continued from page 3)

While using certain prescription medications may not be a completely free choice, you should discuss other choices with your care provider if you think a new medication is unacceptably debilitating. Even if discontinuing the medicine or using an alternative is not an option, there may be ways to reduce the inconveniences of the side effects. For example, patients using thalidomide to combat wasting are advised to take the drug right before bedtime, when its sedating effects may actually be helpful rather than an annoyance. Also, if your fatigue has been accompanied by trouble sleeping, try to cut down on caffeinated drinks, alcohol, and smoking, especially in the evening.

Certain infections and cancer have been associated with chronic fatigue. Tuberculosis has been mentioned; others include fungal infections such as histoplasmosis and coccidioidomycosis,as well as parasitic diseases such as toxoplasmosis and amebiasis (Epstein, 1995).

FOR PEOPLE WITH AIDS OR HIV WHO EXPERIENCE FATIGUE, THE FIRST STEP IN IDENTIFYING THE SOURCE IS TO CONSIDER THE SYMPTOMS.

Fatigue is also a frequent symptom of cancer, such as lymphoma. Sudden onset of exhaustion may be a warning of the arrival of a new or resurgent O.I. or malignancy and should be a signal to visit the doctor.

AIDS FATIGUE AND ANEMIA

A major source of fatigue in people with HIV or AIDS is anemia, or low red blood cell levels. Red blood cells, also called erythrocytes, are made in the bone marrow and carry oxygen from the lungs to the rest of the body using a molecule called hemoglobin. The measure of the total volume of erythrocytes in the blood is known as your "hematocrit," and it is a standard test performed as part of a blood work up. Normal hematocrit values for men range from 40-52%, and for women, 35-46%. When disease causes red blood cell levels to fall below this range, due to underproduction or destruction, the body has a harder time supplying itself with oxygen needed for normal energy. The result is fatigue and headaches, sometimes accompanied by a pale or yellowish complexion. A person with severe anemia may feel breathless after exercise.

Anemia in AIDS has several possible causes. While many associate anemia with low levels of iron—an essential component of hemoglobin—people in modern Western nations usually have plenty of iron in their diet. Anemia may result from inadequate levels of another nutrient, however: vitamin B12, also called cobalamin. Malabsorption of B12 from the small intestine, due to destruction of intestinal cells by HIV or other pathogens, may lead to deficiency in up to 20% of people with AIDS (Burkes, 1987). B12 depletion may increase the risk for anemia and other blood abnormalities during AZT treatment (Richman, 1987), as well as peripheral neuropathy (Kieburtz, 1991). Tests for B12 levels, as well as B12 injections, may be obtained from your doctor.

Many pathogens can cause anemia. HIV has been blamed, although the mechanism is unclear. Some researchers have claimed HIV directly destroys the cells that grow into red blood cells. Others believe anemia results from HIV-mediated imbalances in the immune system, such as high levels of substances called cytokines that inhibit red blood cell production or antibodies that destroy erythrocytes. Other infections and cancers that can cause anemia include tuberculosis or MAC, fungal infections, B19 parvovirus, or lymphoma.

Many drugs can cause anemia, the most important being AZT (Glaspy, 1994). Other drugs associated with bone marrow suppression include Bactrim/Septra, ganciclovir, foscarnet, dapsone, alpha interferon, pyrimethamine, trimetrexate, and 5-flucytocine. For all forms of anemia, treatment may involve blood transfusions, although today the more common choice is Epogen (recombinant erythropoietin). Epogen, given in self-administered shots under the skin, has been used with great success for AIDS anemias attributed to HIV or AZT (Glaspy, 1994).

AIDS FATIGUE AND SLEEP DISORDERS

Fatigue may also result from sleep disorders. Even when asymptomatic, HIV+ men, compared to HIV-negative controls, show significant changes in their "sleep architecture," with periods of wakefulness, deep or "slow-wave" sleep, and REM sleep (associated with dreaming) more spread out through the night (Norman, 1992). The survey

InfoPack Subscription Card

To receive a free subscription to InfoPack please fill out the information below:

Name *(please print)* _____

Organization *(if applicable)* _____

Address _____

Street _____

City _____ State _____ Zip _____

Phone Day ( ) _____ Night ( ) _____

I want a subscription to InfoPack
(check most appropriate category)

- ☐ for my own or a friend's use.
- ☐ because I work in a community-based organization.
- ☐ because I am a health care professional.
- ☐ other: _____.

If there are particular topics you would like to see addressed in future issues of the InfoPack, please indicate below.

_____

_____

_____

NO POSTAGE
NECESSARY
IF MAILED
IN THE
UNITED STATES

BUSINESS REPLY MAIL

FIRST CLASS MAIL PERMIT NO 481 NEW YORK NY

POSTAGE WILL BE PAID BY ADDRESSEE

Stephen Gendin
CPS
OLD CHELSEA STATION
P.O. BOX 1274
NEW YORK NY 10114-0773

by Darko found that people with ARC or AIDS, compared to HIV-negatives, were more troubled by grogginess during the day and slept more. Another study found alterations in sleep more common in people with advanced AIDS (Moeller, 1991).

Medications may disrupt normal sleep patterns and lead to fatigue. Drugs that can interfere with sleep include diuretics, antihistamines, decongestants, and theophylline, as well as the aforementioned caffeine, nicotine, and alcohol (Buysse, 1991).

Sleep disturbance may be preceded or accompanied by depression (Neylan, 1995). People with unipolar depression may complain of decreased sleep time, difficulty in getting to sleep or staying asleep, and daytime fatigue. In other forms of depression, a person may sleep more at night and still feel sleepy during the day.

Managing sleep problems begins with the basics: regular exercise and avoiding stimulants like caffeine. Some researchers advise problem sleepers to restrict the time they spend awake in bed; if you can't get to sleep after 15 minutes, move into another room until you feel ready to try again (Bootzin, 1992; Neylan, 1995). Relaxation techniques such as meditation, yoga, biofeedback, visualization therapy, and tai chi may help reduce insomnia (Nicassio, 1982). For sleep problems due to depression, benzodiazepines are the drug of choice, with alternatives including low-dose sedating antidepressants such as trazodone (NIH, 1984). For moderate drinkers who continue to use alcohol, non-benzodiazepines should be considered (Neylan, 1995).

OTHER POSSIBLE CAUSES OF AIDS FATIGUE

Adrenal insufficiency has been suggested as a source of AIDS fatigue (Siegel, 1994). The adrenal glands sit above the kidneys and secrete many hormones, including corticosteroids. Adrenal insufficiency may occur when people stop using corticosteroid drugs, such as prednisone. This "corticosteroid withdrawal" fatigue is a common experience for people with AIDS, who use these drugs for a wide range of conditions. This kind of fatigue may be accompanied by orthostatic hypertension—that is, feeling dizzy when standing or sitting up quickly after lying down. A more gradual reduction in corticosteroid doses may alleviate the symptoms.

Lowered adrenal activity may also occur as part of a disease process. Siegel has suggested that in some diseases, high levels of the inflammatory cytokine interleukin-1 may inhibit a normal release of natural corticosteroids, resulting in symptoms of adrenal insufficiency. Whether this applies to AIDS is controversial, since some researchers have published evidence that HIV+ people have adrenal hyper-

(continued on page 16)

Oral Manifestations of HIV Infections

Tim Horn, Information Manager, AIDS Treatment Data Network

For people with HIV, the mouth is very often the first place where infections will begin to manifest themselves. Infections in the mouth can potentially mean that HIV disease is progressing. Left unchecked and untreated, many of these early manifestations can cause severe discomfort and pain. Progressive and bothersome oral infections, no matter how dull or chronic, can seriously interfere with one's sense of well being. Furthermore, these infections can often result in inadequate food and nutritional intake, two crucial factors in maintaining the overall health of people with HIV.

Most diseases developing in your mouth can be easily detected by your dentist or a routine examination by your doctor. However, it is important for you to pay close attention to the general health of your mouth and treat it with the utmost importance. As with all questions regarding HIV, don't hesitate to bring any concern to your doctor or dentist. Your doctor should be able to refer you to a dentist who is well versed in the clinical care of HIV-infected people. If not, consult with a local AIDS/HIV community-based organization who may be able to give you a referral. Many local dentistry schools provide free or low-cost care to HIV-infected people.

Personal care of your mouth is always important. Whether you have 8 or 800 T-cells, maintaining good oral hygiene is essential. As we're all aware, dentists are hygiene happy and will jump at the opportunity to explain what this means. Also, do your own regular examinations. You don't need to be very creative or a graduate of dental school to check your own gums, lips, tongue, palate, cheeks and other mucous membranes in your mouth. A dental mirror will allow you to get in touch with the parts of your mouth you may never have experienced before!

Following is an overview of the typical oral infections associated with HIV. Also summarized are the various treatments indicated to treat these infections.

DRY MOUTH

Lets start with a dry mouth. While a chronic dry mouth can possibly mean disease of the salivary gland (xerostomia), it is more commonly associated with side effects from various medications. Antidepressants, antihistamines, AZT and antivirals like foscarnet have all been shown to slow down salivary gland function and cause dry mouth. Chronic dry mouth can be very unpleasant. Fungal infections, like candidiasis, find warm, dry areas very inviting and a perfect place to manifest themselves.

Most cases of dry mouth can be immediately soothed by sipping water or juices. Chewing gum is also a good way to activate the salivary glands and to regulate saliva acids. For people with chronic dry mouth, there are a number of commercial saliva substitutes available without a prescription. Liquid forms include Salivart, Sali-Synt and V.A. Dralube. Spray forms include Moi-Stir, Xero-Lube and Orex. Oral drugs like pilocarpine, which increase salivary flow, are available with a prescription from your doctor.

CANDIDIASIS

Candidiasis is an infection caused by the fungus Candida albicans. While it is usually the first symptomatic infection to be diagnosed in 95% of people with HIV, it can be caused by a number of secondary influences like antibiotics, corticosteroid therapy (i.e., prednisone), poor oral hygiene, dentures, and anemia. Although it is commonly associated with infections of the oral cavity, it is also a prominent infection of the esophagus, vagina and in the digestive tract. The most common form of diagnosis, other than sight examination by your doctor or dentist, is the examination of cultures, collected from the mouth or throat using a cotton swab and examined under a microscope. Because oral levels of Candida albicans are increased in people with HIV, a positive culture is not in itself a definitive diagnosis of candidiasis.

There are four different types of candidiasis. Thrush, or pseudomembranous candidiasis, is the most common oral fungal infection in people with HIV. They can be identified as creamy-white lesions. These lesions can usually be treated with various topical treatments and can also be scrapped away by a dentist. A second form of candidiasis, Erythematous (atrophic) candidiasis, appears as pinkish-red lesions on the palate or tongue's surface. Angular cheilitis, a third form, manifests itself as cracks or ulcers in the mouth. The fourth and most chronic type, hyperplastic candidiasis, can either be red or white lesions anywhere in the mouth. However, hyperplastic candidiasis has not been found to be a common occurance in people with HIV.

There are several approved topical and systemic treatments available for all types of oral candidiasis. Oral treatments are usually available in lozenge and liquid rinse formulas, whereas systemic treatments are available in pill and IV forms. Approved topical treatments available include clotrimazole (lozenges) and nystatin (lozenges and liquid). Creams that are available include clotrimazole, miconazole and ketaconazole. Creams are sometimes recommended for the treatment of angular cheilitis. While side effects of topical treatments are minimal, elevated liver enzymes have been reported with topical clotrimazole use.

Approved systemic treatments include fluconazole, ketaconazole and clotrimazole. If treated systemically, pill doses of these three drugs are commonly prescribed. While there is an approved IV form of fluconazole, it is used systemically to treat more severe fungal infections, and wouldn't normally be used to treat candidiasis.

All drugs appear to be equally effective. Oral fluconazole has been found to be an effective prophylaxis regiment against oral candidiasis. An oral form of itraconazole is currently being investigated as a treatment as well. Possible side effects of all three drugs include possible gastrointestinal disturbances and nausea.

Oral amphotericin B, a drug that has been shown to be effective in treating oral candidiasis that is unresponsive or resistant to standard drugs, is not approved in the United States. However, it is available through buyers' clubs. One buyers' club in particular, the PWA Health Group in New York, sells both the liquid and lozenge form of oral amphotericin B. You can call the PWA Health Group at (212) 255-0520 to learn more. Furthermore, a clincal trial of oral amphotericin B has been planned and should be enrolling particpants soon. To learn more about this and other trials, you can call the AIDS Treatment Data Network at 1-800-734-7104.

In people with fluconazole or other azole-resistant candidiasis, intravenous amphotericin B can be administered effectively. Amphotericin B can be highly toxic. A liposome-encapsulated (bubbles of fat surrounding the drug) form of amphotericin B is being investigated (amphotericin B lipid complex) as a possible treatment that may be easier to tolerate than standard amphotericin B infusions.

ORAL HAIRY LEUKOPLAKIA

Oral hairy leukoplakia (OHL) appears as white, fuzzy lesions on the bottom and sides of the tongue. While it is commonly associated with Epstein-Barr virus (EPV), it has also been linked to Human Papilloma Virus (HPV). OHL usually remains localized and can spontaneously disappear. It usually does not cause complications, but can be uncomfortable and cause interference with speech and eating. Approved drugs like oral acyclovir (Zovirax) and topical podophyllin resin have been shown in clinical trials to

(continued on page 17)

Evaluating Weight Gain Powders, Foods, and Bars

Stephen Gendin

More and more companies are entering the HIV nutritional market. These companies want you to use their products; drinks, shakes, soups, and candy bars are just some of the specific products now being marketed toward people with HIV. Up until a couple of years ago, these products tasted really awful, but today there are a number of products that are actually tasty. This is good news for people who need to use them.

The bad news is that these products are still very expensive. And most insurance companies won't pay for them. Given that many of these products can cost between $5 to $10 a day when used as directed, people with HIV need to carefully consider whether buying these products is the most appropriate use of limited financial resources.

The advantage to these products is that they are nutritionally complete: they have carbohydrates, protein, fat, and vitamins and minerals all in the right proportions. Also some of the products have the fat or protein in forms that are more easily digested than those found in regular foods. And they might not have lactose or other ingredients that can cause reactions in people with HIV.

This is all good — if you need it. Really the only time you should consider these products is if you are below your normal weight or you are having problems with diarrhea. If not, just stick to eating your normal foods. If you want to gain more weight just to gain more weight, try exercising more, eating more of your regular foods, or taking commercially available weight gain products which usually cost a lot less. (And for those people with HIV interested in putting on lots more muscle, remember that most medical products have a lot of fat in them — good if you are wasting, but bad if you're trying to get better muscle definition.)

The following chart compares Clintec's Nubasics Bar against your ordinary Snickers candy bar. The Nubasics bar is pretty good tasting, but at only one ounce is not very filling. It also costs about twice as much as a regular candy bar. The Nubasics bar also has lots of vitamins and minerals, but you can just as easily get those from taking a multi-vitamin which costs a lot less. The Snickers bar has more carbohydrates and more fat. Both bars have about the same amount of protein, but ounce for ounce, the Nubasics bar has about twice the protein. ●

Nubasics™ Bars vs. Snickers

Product	1/2 Serving NUBASICS BAR (1 Bar)	1 Serving NUBASICS BAR (2 Bars)	1 Serving SNICKERS BAR (1 Bar)
Type of Diet	Nutritional Bar	Nutritional Bar	Candy Bar
Source	Clintec Nutrition Company	Clintec Nutrition Company	M & M Mars
Serving Size	1 Bar	2 Bars	1 Bar
Form	Bar	Bar	Bar
Calories	125	250	280
Protein (gm)	4.4	8.8	4
Protein-% kcal	14%	14%	6%
Protein Source	Casein, Whey, Soy Protein Isolate	Casein, Whey, Soy Protein Isolate	Milk, Peanuts, Egg Whites, Soy Protein
Carbohydrate (gm)	16.6	33.2	36
Carbohydrate-% kcal	53%	53%	51%
Carbohydrate Source	High Fructose Corn Syrup, Maltodextrin, Sugar, Crisp Rice	High Fructose Corn Syrup, Maltodextrin, Sugar, Crisp Rice	Sugar, Corn Syrup, Lactose
Fat (gm)	4.6	9.2	14
Fat-% kcal	33%	33%	45%
Fat Source	Partially Hydrogenated Palm Kernel Oil, Canola Oil, Soy Lecithin	Partially Hydrogenated Palm Kernel Oil, Canola Oil, Soy Lecithin	Cocoa Butter, Chocolate, Milkfat, Peanuts, Butter

Nubasics™ Bars vs. Snickers (con'd)	1/2 Serving NUBASICS BAR (1 Bar)	1 Serving NUBASICS BAR (2 Bars)	1 Serving SNICKERS BAR (1 Bar)
Osmolality (mOsm/Kg)	N/A	N/A	N/A
mLs to meet 100% RDA	N/A	N/A	N/A
Flavors	Mocha Supreme, Chocolate Deluxe	Mocha Supreme, Chocolate Deluxe	Chocolate Covered Caramel and Peanuts
NPC:N	153:1	153:1	421:1
Fiber Content (gm)	0.8	1.6	1
Fiber Source	Cocoa	Cocoa	Peanuts
MCT:LCT	N/A	N/A	N/A
n6:n3	4:01	4:01	N/A
% Free H20	N/A	N/A	N/A
Vitamin A (IU)	375	750	72
Beta-Carotene (mg)	0.125	0.25	N/A
Vitamin D (IU)	26	52	N/A
Vitamin E (IU)	2.6	5.2	N/A
Vitamin K (mcg)	4.7	9.4	N/A
Vitamin C (mg)	13	26	1
Thiamine-B1 (mg)	0.2	0.4	0.03
Riboflavin-B2 (mg)	0.25	0.5	0.11
Niacin (mg)	2.6	5.2	1.8
Vitamin B6 (mg)	0.35	0.7	0.11
Folic Acid (mcg)	50	100	24
Pantothenic Acid (mg)	1.3	2.6	0.36
Vitamin B12 (mcg)	0.75	1.5	0.25
Biotin (mcg)	37.5	75	N/A
Choline (mg)	42.5	85	N/A
Taurine (mg)	0.75	15	N/A
L-Carnitine (mg)	N/A	N/A	N/A
M-Inositol (mg)	N/A	N/A	N/A
Sodium (mg)	135	270	150
Sodium (mEq)	5.9	11.8	6.5
Potassium (mg)	220	440	199
Potassium (mEq)	5.6	11.2	5.1
Chloride (mg)	160	320	N/A
Chloride (mEq)	4.5	9	N/A
Calcium (mg)	100	200	70
Calcium (mEq)	5	10	3.5
Phosphorus (mg)	100	200	129
Magnesium (mg)	40	80	36
Iron (mg)	1.1	2.2	0.48
Iodine (mcg)	9.5	19	N/A
Copper (mg)	0.13	0.26	0.15
Zinc (mg)	1.3	2.6	0.7
Manganese (mg)	0.25	0.5	0.3
Selenium (mcg)	4	8	N/A
Molybdenum (mcg)	11	22	N/A
Chromium (mcg)	4	8	N/A

This chart was created by Chris Kruzel of Clintec Nutrition Company.

User's Guide for Nutritional Supplements

Annette Henry, RD, CNSD

Whether your goal is weight gain, finding a form of nutrition that will be easy on your gastrointestinal system or you're searching for a way to balance out your nutrient intake, nutritional supplements may be just what the doctor ordered. The terms nutritional supplement, formula diet or medical nutritional all refer to the same thing; a food or beverage that has been formulated to provide a concentrated form of nutrients or nutrients that are tailored to meet the needs of someone with special nutritional needs.

There are many nutritional supplements available so finding the right product can be a daunting task. The most important factor to consider when choosing a supplement is your ultimate goal in using the product. If you need a nutritional supplement because your physician has determined that you are not absorbing nutrients properly, the product you choose will be very different than one recommended for someone with a healthy gastrointestinal system. Other factors to consider are how you like the taste of the supplement, how you tolerate it and cost of the product compared to similar supplements.

There is no perfect product for everyone living with HIV infection but it is possible to choose a product to meet your individual needs based on your nutritional goals. The following chart should help you through the maze of nutritional supplements. There are several products listed in each category, so if one product doesn't work for you, try another supplement within that same category. Remember that the supplements are manufactured by different companies that may use varying processing techniques and flavorings, resulting in different tasting products. Consult with your doctor or registered dietitian regarding the amount of supplement you should use. Do not expect one serving a week to make a difference in your weight. It is probably necessary to use at least 500 calories each day to make a significant impact on your weight. ●

Product	Manufacturer	Calories Per Ml	Grams Protein Per 1000 Calorie	Grams Fat Per 1000 Calorie	Vol.in Ml to Meet 100% USRDA	Cost 8 oz
If your goal is to gain weight or you need a supplement to provide a balanced source of additional calories, but you have no gastrointestinal problems and can tolerate milk (or lactose, the sugar in milk) try one or more of the following products. These products are made to supplement the diet, not replace a well balanced food intake.						
Carnation Inst. Breakfast (with milk)	Clintec Nutr. Co	.93	48	20	n/a	56
Forta shake (with milk)	Ross Labs	1.2	59	28	948	n/a
Sustacal Powder (with milk)	Mead Johnson	1.5	58	26	n/a	n/a
Dynamic Weight Gain (with milk)	Joe Weider	1.26	59.5	30	1000	.93
Gainer's Fuel 1000 (with milk)	Twin Labs	2.0	46	18	2000	1.65
If you have a gastrointestinal intolerance to lactose, the sugar found in milk, or need a more nutritionally complete formula, try the following lactose free products. These products can be used in place of a meal, when consumed in adequate amounts.						
Ensure	Ross Labs	1.06	35	35	1887	1.42
Ensure Plus	Ross Labs	1.55	26.5	35.5	1420	1.62
NuBasics	Clintec	1.0	35	37	2000	1.35
NuBasics Plus	Clintec	1.5	39	49	2000	1.45
Resource	Sandoz	1.06	35	35	1890	
Resource Plus	Sandoz	1.5	37	35	1400	
Sustacal	Mead Johnson	1.06	61	23	1080	1.48
Sustacal Plus	Mead Johnson	1.5	41	39	1200	1.75

	Manufacturer	Calories Per Ml	Grams Protein Per 1000 Calorie	Grams Fat Per 1000 Calorie	Vol. in Ml to Meet 100% USRDA	Cost 8 oz
For people who want a nutritional supplement but would like something other than a beverage, the following options offer texture and taste variety and are lactose free and nutritionally comparable to the above supplements.						
Nubasics Bar	Clintec	2 bars = 250 kcal	35	37	16 bars	1.35
NuBasics Soup	Clintec	1 pkg = 250 kcal	35	37	4 pkgs.	1.35
Gastrointestinal intolerance can also be caused by too much fat. If you need a lactose free product that is a good source of calories and protein, but you can't tolerate the fat, try one or all of the following products.						
NuBasics VHP	Clintec	1.0	62.5	33	2000	1.55
Sustacal	Mead Johnson	1.0	61	23	1080	1.48
Occasionally, when someone has diarrhea or a gastrointestinal disease their ability to absorb nutrients is impaired. Lactose and fat are commonly the nutrients that aren't absorbed, or are malabsorbed. Medium chain triglycerides are a type of fat that is used to treat such malabsorptive disorders because it is absorbed much more easily than the type of fat that is found in most of the foods we eat or long chain triglycerides. The following product contains MCT oil as a majority of its fat source.						
Lipisorb (powder)	Mead Johnson	1.0	35	48	2000	3.75
If you have a severe gastrointestinal disease, it may severely impair your ability to absorb all nutrients. The following products are formulated with nutrients that are in a very easy to absorb form, or a predigested form. They are also called elemental or semielemental products. They are generally more expensive because of their specialized formulation.						
Opti HealthGain	Metagenics	1.5	38.2	<2%	n/a	1.58
Vital HN	Ross Labs	1.0	41.7	10.8	1500	7.80
Peptamen	Clintec	1.0	40	39	1500	4.85
Vivonex TEN	Sandoz	1.0	38	2.8	2000	
One product has been designed for people with HIV infection. It has features that may be beneficial for someone with diarrhea including partially digested protein, lower fat content and fiber. It also contains higher levels of certain vitamins and deodorized fish oil which are features that may theoretically enhance ones immune system. The benefit of these nutrients to someone with HIV is unclear at this point.						
Advera	Ross Labs	1.28	47	18	1184	1.95

The Centers for Disease Control and Prevention publishes guidelines for when and how to initiate anti-HIV therapies. Most physicians, however, offer individualized therapies for each patient. The diagram below represents a range of options and common practices currently available.

AZT(Retrovir)

Officially, GlaxoWellcome's AZT taken alone is first-line treatment for patients whose T-cells drop below 500. Some physicians prescribe AZT—alone or in combination—for early HIV infection. Discuss with your doctor the risks and benefits.

ddI(Videx)

Bristol-Myers Squibb's ddI, taken alone, may benefit some. Large, chewable tablets, awkward food restrictions, and potential peripheral neuropathy can make this option less attractive.

d4T(Zerit)

This newly approved drug lacks long-term data. Still, no food resttrictions and minimal side effects make this drug, by Bristol-Myers Squibb, a logical choice for second-line therapy.

If AZT is not for you:

If you cannot tolerate AZT, or if your T-cells begin to decline, or if your viral load significantly increases, or if you begin to experience symptoms, it may be time to consider other antiretroviral options. There are official government recommendations, but only you and your doctor—together—can decide what's best for you. Here are a few alternatives you may consider.

ddI + AZT

This highly studied combo may be more effective than either drug alone. Food restrictions still apply to ddI.

3TC(lamivudine)

Not yet FDA-approved, this investigational drug is available from maker Glaxo Wellcome. Limited effectiveness alone, but a winner in combination with other antiretrovirals.

ddC(Hivid)

This drug, by Hoffman-La Roche, has limited effectiveness taken alone. Relatively high chance of developing peripheral neuropathy. Risks may not be worth minimal benefits.

ddC + AZT

This much-studied combo may be better than AZT or ddC taken alone. Be mindful of ddC's tendency to cause peripheral neuropathy.

d4T + 3TC

Still considered experimental, this combo is very popular among some doctors. In time, may prove to be a good match.

3TC + AZT

Clearly, the best combo yet — with long-lasting benfits. Resistance patterns of 3TC may boost the benefits of AZT — even for those who have already taken AZT for years. A promising combo.

Other combinations to note

AZT + d4T

Studies say these two drugs cancel each other. More testing is needed.

ddI + ddC

Similar side effects make this a bad combo; not recommended.

d4T + ddI

Likely to produce neuropathy, but the company is testing this combo anyway.

d4T + ddC

Bristol-Myers Squibb says absolutely do not combine these two.

3TC + ddI

In theory, this combo could work, but no one really knows at this point.

3TC + ddC

Inter-company studies will soon determine if this combo has promise.

Nevirapine

Boehrihnger-Ingelheim's foot dragging delayed FDA approval. The wildcard, this drug in combo may have some benefit.

This chart was created by Brett Grodeck and originally published in Positively Aware.

The HIV/AIDS Treatment Information Service offers information at a toll free number to PWHIV, their families, and care providers. Developed by a number of agencies working as the Public Health Service Coordinating Group and offered through the CDC National AIDS Clearinghouse, the service is run by information specialists answering confidential calls from 9:00 am to 7:00 pm, EST. The National Library of Medicine database of HIV/AIDS treatment information is used to answer questions. Spanish-speaking reference specialists are also available. Call 800-448-0440. For TDD/Deaf Access, call 800-243-7012. Or write for information: PO Box 6303, Rockville, MD 20849-6303

Burroghs Wellcome (Glaxo-Wellcome) is now offering a free education program regarding the warning signs and treatment of what is *still* the most common opportunistic infection and one of the leading causes of death in people with AIDS, **Pneumocystis carinii pneumonia (PCP).** The program is titled *Understanding PCP: AIDS Pneumonia* and features a fifteen minute video discussing symptoms and diagnosis with PWAs, counselors, and physicians. Individuals and health care professionals interested in the program should call 1-800-722-9292, ext. 54511.

Good Doctors, Good Patients: Partners on HIV Treatment is a new book available free of charge to PWHIV, service providers, and educators. Published by NCM Publishers, the book explores the dynamics of a good working relationship between the patient and physician. The authors, Judith Rabkin, PhD, MPH; Robert Remien, PhD; Christopher Wilson, RN, MPH, are mental health and AIDS care experts who used a number of interviews with PWAs and physicians as a basis for the book. Other topics addressed include the role of families and friends, the realities of late-stage illness and the critical issues faced by long-term survivors. NCM only asks for checks to cover the cost of shipping. Send $4.50 for a single copy to: NCM Publishers, Inc., Dept. JL, 200 Varick Street, New York, NY 10014. Or call NCM for rates for multiple copies at 212-691-9100.

AIDS Treatment Data Network offers information about approved and experimental treatments, treatment counseling, referrals, and case management support to PWHIV and service providers. Membership is free but an annual donation of at least $25 is suggested and appreciated. The Network publishes a quarterly directory of experimental treatments in clinical trials, a handbook entitled *Should I Join an AIDS Drug Trial?*, and *Treatment Review* — a treatment newsletter. These publications are supported in part by the New York State Department of Health AIDS Institute and member donations. Another of their services, The Access Project, has information on treatments available through ADAP or Medicaid and through pharmaceutical company-sponsored payment assistance programs. For further information, contact AIDS Treatment Data Network at 800-734-7104.

After much hullabaloo from the activist community about Abbott's lack of an expanded access program for **ABT-538, the company's protease inhibitor**— currently only available to 900 people in Abbott's study, the company will offer one soon. According to Mabry Whigham of the International Association of Physicians in AIDS Care, Abbott will be announcing an expanded access program similar to the ones currently being offered by Hoffmann-La Roche and Merck for their protease inhibitors, saquinavir and CRIXIVAN (formerly MK-639) respectively. "The announcement should be made in late August 1995 and then begin about six weeks or so later," said Whigham. Call 312-755-1241 for further information.

Registration for the first round of lottery appointments to **Hoffman-La Roche's compassionate use program for saquinavir** finished in late July 1995. The company has enough of the drug to allow 2,280 U.S. participants to begin the program in August. The Roche staff hope that more drug will become available for another lottery in September. Names will then be chosen from the remaining applicants from the initial lottery and new registrants. Hoffman-La Roche hopes saquinavir will be granted FDA approval by January of 1996. Physicans or patients interested in registering for the potential second lottery should call 800-332-2144 for information.

Merck's protease inhibitor, formerly known as MK-639, has been named CRIXIVAN and is being offered to 1,100 U.S. participants in an open-label clinical study. Similar to Roche's program, these participants were chosen at random. If those chosen from the registration period that ended on August 11, 1995 do not meet the study criteria, they will be replaced by people on the waiting list. The waiting list is comprised of applicants not initially chosen and people who applied after August 11th. For information about being placed on the watiting list and further CRIXIVAN studies, please call 1-800-497-8383. ●

(continued from page 1)

recent clinical trial conducted by Drs. Joseph Kovaks and Clifford Lane at the National Institute of Allergy and Infectious Diseases (NIAID), six out of ten patients with CD4 cell counts above 200 experienced a jump in CD4 levels by 50 percent after one year of IL-2 treatment.

The NIAID study involved 25 HIV-positive participants who each received a high-dose infusion of IL-2 for five days then rested for eight weeks before another infusion. This process was repeated for up to three years. As the researchers predicted, with every cycle of therapy, the IL-2 stimulated the production of more CD4 cells.

However, when the IL-2 was stopped, the participants fell into two camps. For some, the CD4 counts, while at levels higher than what they started with, began declining more quickly than before they began the trial. For relatively few others, the CD4 counts stayed up and three of these patients have maintained counts greater than 1,000. Each of the three now receive maintenance IL-2 therapy whenever their CD4 count drops too low, about every eight months.

RESEARCHERS HAVE FOUND THAT LIKE OTHER TREATMENTS USED TO COMBAT AIDS IL-2 DOESN'T ALWAYS PRODUCE EFFECTIVE RESULTS FOR EVERYBODY

Unfortunately, Lane said there's a "considerable downside" to IL-2 infusion therapy, especially for people with very few T-cells. After each IL-2 infusion there is a major burst of virus production. For those with higher CD4 counts, this jump in viral load was transient and went down once the infusion was over. But for people who had low CD4 counts the viral titer just kept going up and up, Dr. Lane said.

Combine that fact with the finding that people with fewer than 200 T-cells did not receive sustained gains in T-cells from the IL-2, and it looks pretty clear that IL-2 therapy could do more harm than good for these people.

Moreover, the side effects of the NIAID IL-2 5-day regimen are nothing short of grueling. Dr. Lane described it as "the worst case of the flu you could imagine." The laundry list of symptoms include fever, severe flu-like symptoms, liver, kidney and gall bladder disorders, neutropenia (low neutrophils, a type of white blood cell), thrombocytopenia (low platelets), glucose intolerance and dermatological problems.

Another study, conducted by Dr. Kendall Smith at The New York Hospital–Cornell Medical Center, hopes to rein in the side effects of IL-2 therapy by lowering the dose. The study is designed to see if daily low-dose subcutaneous injections of IL-2 will provide any therapeutic benefit to the patients.

At a recent forum in New York, Dr. Smith explained that the toxic effects of IL-2 depend on the dose of the drug. When IL-2 saturates the immune system, it stimulates an inflammatory response that can lead to tissue and organ damage. However, research done by Smith and other researchers has shown that this inflammatory response can be decreased or eliminated if the dose of IL-2 remains below a certain threshold.

Dr. Smith would like to show that low-dose, continuous IL-2 therapy provides significant jumps in CD4 cell counts for the trial participants. Until now, low doses of IL-2 have only been given for up to one month. But Smith points to research done by Dr. Jerome Ritz at the Dana Farber Cancer Institute which showed that even low doses of IL-2 produced increases in CD4 counts for a short period of time.

The Phase I trial being conducted at The New York Hospital–Cornell Medical Center has enrolled a cohort of asymptomatic HIV-positive individuals who have between 200 and 500 CD4 cells and are taking an antiviral drug. These patients so far have received a very low dose of IL-2 for six months and none has experienced a change in CD4 count, nor has any suffered side effects or a rise in viral load, Dr. Smith said.

The next step for Dr. Smith and his colleagues working on low-dose IL-2 is to increase the dosage until the T-cells go up while not increasing viral load or causing the toxic side effects of too much IL-2.

What all of this research won't tell us is whether a CD4 cell count artificially lifted by IL-2 provides any therapeutic benefit to people with HIV. One patient in the NIAID study developed *Pneumocystis carinii* pneumonia (PCP) at a CD4 count of 374, which is above normal for most people who get that opportunistic infection. It may take years to discover if an IL-2 influenced count of 500 is equivalent to a natural count of 500, but many don't have the time to wait.

IL-2 researchers acknowledge anecdotal reports of people with HIV trying to mimic the clinical trials by getting their doctors to prescribe Proleukin, an IL-2 product manufactured by Emeryville, Calif.-based Chiron Corp. that's approved for use against metastatic renal cell carcinoma, a cancer of the kidney.

Unfortunately, people with low CD4 counts looking for a way to bolster their fight against HIV are probably the worst candidates for IL-2 treatment. As the NIAID trial showed, in people with fewer than 200 CD4 cells the viral load went up when receiving IL-2 and stayed up, without a significant rise in T-cells.

Both Drs. Lane and Smith emphasize that people taking IL-2 should also receive antiviral therapy simultaneously because of the drug's effect on viral load. In fact, a new study of people with fewer than 100 CD4 cells by Dr. Lane and his NIAID colleagues combines IL-2 with the Merck protease inhibitor. All participants will undergo the five-day infusions of IL-2, but some will take the protease inhibitor throughout the trial and the others will take it only during the infusion.

Preliminary studies of the protease inhibitor have shown it can be effective in people with late-stage HIV infection, and if it can suppress viral production during IL-2 treatment, the therapeutic benefit of the immune stimulant may be more pronounced for these patients than earlier trials have shown.

Plus, with the problem of HIV becoming resistant to most antivirals after prolonged use, Dr. Lane's new study may prove to be an important step forward if it can show those receiving the protease inhibitor only during the infusions experienced the same therapeutic benefits as the other patients.

As with all experimental treatments designed to prolong the lives of people with HIV, there's still a lot unknown about the actual benefits of IL-2 therapy. Recent findings that show a number of people have experienced sustained CD4 cell increases from IL-2 are encouraging. Still, the toxicity associated with the immune system stimulant and its ability to increase production of HIV are causes for concern. At this point in the development of IL-2, common sense dictates that any person with HIV thinking of taking it proceed with caution. ●

Numerous clinical trials of IL-2 are currently underway. For more information about the NIAID trials in Maryland, call (800) 243-7644, or call (800) TRIALS-A for a limited update on trials nationwide.

(continued from page 5)

activity. Your doctor can perform tests for adrenal function. Still, the potential role of cytokine imbalances as a direct or indirect source of AIDS fatigue cannot yet be ruled out. Darko has noted that people with HIV or AIDS have shown elevations in cytokines such as alpha interferon (DeStefano, 1982), tumor necrosis factor (Lahdevirta, 1988), and interleukin-1 (Lepe-Zuniga, 1987). All of these substances have been shown to enhance or induce sleep and may act through a common pathway (Krueger, 1986). More research is needed before any conclusions can be drawn about the role of cytokines in AIDS fatigue.

ALTERNATIVE THERAPIES

Obviously, Western medicine can help by offering other choices for problematic medicines or by using sophisticated tests to diagnose infections, cancers, or nutrient or hormonal imbalances and treating these causes appropriately. Many people with AIDS also use alternative medicine for help with fatigue.

Chinese medicine practitioners may help with AIDS fatigue with no known root cause. For example, San Francisco General Hospital and the Quan Yin Center recently announced results of a blinded, placebo-controlled study of an herbal preparation for HIV infection called Enhance/Clear Heat. The 30 participants had CD4 counts from 200-500 and had symptoms of HIV infection but did not have AIDS. Compared to those on placebo, people taking the herbs reported significant ($p<0.05$) improvements in fatigue, as well as gastrointestinal and neurological symptoms. CD4 counts, hemoglobin, weight, and other symptoms remained unchanged (Cohen, 1995). Some people with AIDS turn to other herbal "energy tonics" such as Chinese ginseng (Panax ginseng), American ginseng (P. quinquefolius), gotu kola (Centella asiatica), huang qi (Astragalus membranaceus), or other herbs, as well as bee pollen or vitamin supplements. While there are no results of trials for these items for AIDS fatigue, they may help—but again, success is more likely if one considers the source of the fatigue before blindly trying out alternative approaches. For example, if fatigue is related to B12 deficiency, then B12 shots should result in improvement. (Vitamin pills may not help if malabsorption is the problem.) If fatigue is related to sleep disturbance, you may do better to try an herbal sleep-aid such as hops (Humulus lupulus), skullcap (Scutellaria lateriflora), or wood betony (Stachys officinalis).

CONCLUSION

Combating fatigue will be less frustrating if you consider the many possible causes and look for clues in your overall health picture. Start with simple explanations—are you neglecting basic diet or exercise? Next consider the effects of medications. If, in working with your doctor, you can trace your fatigue to an AIDS-related condition such as an infection, cancer, or anemia, prompt treatment is the obvious next step. For fatigue due to sleep disturbance or depression, consider behavior changes, relaxation techniques, and/or drugs. Alternative therapies can be helpful but, if possible, should be targeted at the suspected root cause. A common-sense approach should reduce the stress of dealing with this complex, important, and all-too-common aspect of AIDS. ●

Sources

Arkinson JH, Grant I, Kennedy KJ, Richman DD, Spector SA, McCutchan JA. Prevalence of psychiatric disorders among men infected with human immunodeficiency virus. Archives of General Psychiatry. 1988; 45:859-864.

Bootzin RR, Perlis ML. Nonpharmacologic treatments of insomnia. Journal of Clinical Psychiatry. 1992;53(suppl 6):37-41.

Burkes RL, Cohen H, Krailo M, et al. Low serum cobalamin levels occur frequently in the acquired immune deficiency syndrome and related disorders. European Journal of Hematology. 1987;38:141-7.

Cohen M, Burack J."Results from Enhance/HIV Study," presentation at HIV/AIDS and Chinese Medicine Third International Conference, June 16-18, 1995, Clumbia University, New York, NY.

Buysse DJ. Drugs affecting sleep, sleepiness, and performance. In: Monk TH, ed., Sleep, Sleepiness, and Performance. New York, NY: Wiley Press; 1991:249-306.

Darko DF, McCutchan JA, Kripke DF, Gillin JC, Golshan S. Fatigue, sleep disturbance, disability, and indices of progression of HIV infection. American Journal of Psychiatry. 1992;149:514-520.

DeStefano E, Friedman RM, Friedman-Kien AE, et al. Human leukocyte interferon in homosexual men with Kaposi's sarcoma and lymphadenopathy. Journal of Infectious Diseases 1982;146:451-5.

Epstein KR. The chronically fatigued patient. Medical Clinics of North America. 1995; 79:315-327.

Glaspy JA, Chap L. The clinical application of recombinant erythropoietin in the HIV-infected patient. Hematology and Oncology Clinics of North America. 1994;8:945-959.

Kieburtz KD, Giang DW, Schiffer RB, et al. Abnormal vitamin B12 metabolism in human immunodeficiency virus infection; association with neurological dysfunction. Archives of Neurology. 1991;48:312-314.

Krueger JM, Shoham S, Davenne . Immune modulators as promoters of slow wave sleep. Clinical Neuropharmacology. 1986;9 (suppl 4): 462-464.

Lahdevirta J, Maury CP, Teppo AM, et al. Elevated levels of circulating cachectin/tumor necrosis factor in patients with acquired immunodeficiency syndrome. American Journal of Medicine, 1988;85:289-91.

Lepe-Zuniga JL. Idiopathic production of interleukin-1 in acquired immunodeficiency syndrome. Journal of Clinical Microbiology. 1987;25:1695-1700.

Lynch M, Yanes L, Todd K. Nursing care of AIDS patients participating in a phase 1/2 trial of recombinant human granulocyte-macarophage colony-stimulating factor. Oncology Nursing Forum. 1988;15:463-469.

Moeller AA, Oechsner M, Backmund HC, et al. Self-reported sleep quality in HIV infection: correlation to the stage of infection and zidovudine therapy. Journal of Acquired Immune Deficiency Syndromes. 1991;4:1000-3.

National Institutes of Health (NIH), Consensus Development Conference Statements. Drugs and insomnia:the use of medications to promote sleep. Journal of American Medical Association. 1984;251:2410-14.

Neylan TC. Treatment of sleep disturbances in depress patients. Journal of Clinical Psychiatry. 1995;56 (suppl 2):56-61.

Nicassio PM, Boylan MB, McCabe TG. Progressive relaxation, EMG biofeedback and biofeedback placebo in the treatment of sleep-onset insomnia. British Journal of Medical Psychology. 1982;55:159-166.

Norman SE, Chediak AD, Freeman C, et al. Sleep disturbances in men with asymptomatic human immunodeficiency virus (HIV) infection. Sleep. 1992;15:150-5.

Richman DD, Fischl MA, Grieco MH, et al. The toxicity of azidothymidine (AZT) in the treatment of patients with AIDS and AIDS-related complex. A double-blind, placebo-controlled trial. New England Journal of Medicine. 1987;317:192-7.

Ruffin MT, Cohen M. Evaluation and management of fatigue. American Family Physician. 1994; 50:625-34.

Schietinger II. A home care plan for AIDS. American Journal of Nursing. 1986;86:1021-1028.

Siegel RD, Melby J. Fatigue: the role of adrenal insufficiency. Hospital Practice. 1994; 29:59-63, 67, 71.

Tindall B, Barker S, Donovan B, et al. Characterization of the acute clinical illness associated with human immunodeficiency virus infection. Archives of Internal Medicine. 1988;148:945-949.

PLACE
POSTAGE
HERE

Attn: Subscription Department
P. O. Box 1965
Danbury, CT 06813-1965

(continued from page 7)

effectively treat oral hairy leukoplakia. Treatment with Zovirax begins with 800 mg five times a day for two weeks. Once the lesions have disappeared, a maintenance dose of 400 mg three times a day has been shown to effectively keep lesions from returning. Surgical removal of lesions is also an option, but rarely recommended. People taking other approved treatments like aerosolized pentamidine for PCP prevention, ganciclovir for CMV and AZT for HIV have also reported clearance of OHL.

HERPES INFECTIONS

Herpes simplex virus can be a recurrent problem for many people infected with HIV. It can manifest itself anywhere in the mouth, particularly the palate and gums. Herpes simplex, which often begins as small lesions, can erupt into painful ulcers. Diagnosis is often made by sight, but can be confirmed through a viral culture. While herpes zoster (shingles) is less commonly associated with oral infections, it can cause lesions to occur on the face, lips and oral areas.

Herpes simplex and herpes zoster lesions are commonly slower to heal in HIV-infected people, however high dose acyclovir (800 mg five times a day) may shorten the healing time of individual episodes. Acyclovir-resistant oral herpes simplex can be treated with intravenous foscarnet. Because pain is commonly reported, particularly associated with herpes simplex ulcers, therapies that assist in pain management may be recommended.

HUMAN PAPILLOMA VIRUS (HPV)

Oral warts, resembling smooth, raised lesions in the mouth, are associated with Human Papilloma virus. These warts, or papillomas, appear to be of a different strain than those found on the skin or genital areas. While we know that HPV is more common amongst people infected with HIV, it does not serve as a marker of disease progression. Using a local anesthetic, oral papillomas can be treated successfully using carbon dioxide laser surgery.

KAPOSI'S SARCOMA

Kaposi's sarcoma (KS) is a neoplasm commonly associated with HIV. Predominantly in gay and bisexual men, it appears as red to purple lesions on the skin, and can sometimes be diagnosed as a systemic disease. Oral lesions are often the first lesions observed. While for the most part painless, these lesions can make it hard to maintain oral hygiene. Thus, bacterial infections can occur around the site(s) of infection. Furthermore, ulcerations due to the lesion can occur. In the mouth, KS is commonly found on the palate and gums.

Because the official cause of KS has yet to be recognized, a definitive cure has not been identified. However, there are a number of ways to reduce the size and numbers of KS lesions. Oral lesions are commonly treated the same way as other lesions. Systemic chemotherapy, intralesional treatment, and radiation are all used to treat oral KS. The decision to undergo treatment for KS is often a very personal one, realizing the side effects that many treatments cause. For example, while radiation therapy has shown to be a very effective treatment for oral KS, the side effects can include mucous membrane inflammation (mucositis) and severe discomfort and pain. Furthermore, it has been reported from various studies that oral KS lesions can reoccur, even after extensive local or systemic therapy.

GUM DISEASE

HIV-gingivitis, or gum disease, is a common problems in people with HIV. It can occur virtually at any stage of infection. While most people in general are susceptible to some form of gum disease, it can often lead to more complex problems in HIV-infected people who let it go unchecked. If left unchecked, gum disease can lead to progressive and destructive deterioration of the gums and bone. Bone depletion has also been categorized as necrotizing stomatitis, a rapid destruction of alveolar bone. While no one is really sure what causes these diseases, they are commonly associated with bacterial infections. Treatment should be initiated quickly and aggressively. Very often an antibiotic, usually metronidazole (flagyl) or tetracycline, will be prescribed. Glucocorticosteroids like chlorhexidine gluconate can also be used to assist in the treatment of these infections.

ORAL ULCERS

Aphthous ulcers are common in HIV-infected people. These ulcers can be painful and very difficult to heal. The cause of these ulcers is unknown. However, research has implicated stress, decreased immune function, cytokine imbalances and infectious agents (usually bacterial or

(continued on page 18)

Oral Manifestations of HIV

(continued from page 17)

fungal) as potential pathogens. In terms of treatments, various antibiotics, antifungals and glucocorticosteroids have been reported to aid in the scarring and healing of these ulcers. An oral rinse called Mile's mixture, consisting of hydrocortisone, nystatin and tetracycline, is commonly used to treat aphthous ulcers. Prednisone and levamisole, both oral treatments, have shown to be effective treatments. Topical treatments such as Lidex ointment, usually mixed with Orabase, have also shown to be effective. Thalidomide, an oral sedative withdrawn from the market due to a large number of birth defects being associated with its use, is currently in development as a treatment for aphthous ulcers. It has shown to be most effective in treating ulcers of non-fungal, non-bacterial origin.

At the present time, thalidomide can only be obtained through an emergency access program set up by the FDA or through buyer's clubs. To learn more about the FDA program, medical doctors can enroll their patients by calling the FDA at: (301) 442-9553. To obtain thalidomide through the buyers' clubs, please call the PWA Health Group. ●

State AIDS Drug Assistance Programs

The numbers listed below are for each state's AIDS Drug Assistance Program (ADAP). These programs are designed to help people without insurance or whose insurance doesn't cover the cost of AIDS drugs. Contact the information line listed for your state to find out eligibility criteria and to get a listing of the treatments covered by your state's program.

ALABAMA 205-613-5357	ALASKA 907-276-1400	ARKANSAS 501-661-2292
ARIZONA 602-230-5819	CALIFORNIA 916-327-6784	COLORADO 303-270-7894
CONNECTICUT 203-424-4908	DELAWARE 302-739-3032	DISTRICT OF COLUMBIA 202-724-5206
FLORIDA 904-487-3684	GEORGIA 404-657-3100	HAWAII 808-732-0315
IDAHO 208-334-6526	ILLINOIS 217-524-5983	INDIANA 317-920-3190
IOWA 515-284-0245	KANSAS 913-296-0201	KENTUCKY 502-564-6539
LOUISIANA 504-568-7474	MAINE 207-287-5060	MARYLAND 410-767-6535
MASSACHUSETTS 617-262-0889	MICHIGAN 517-335-9333	MINNESOTA 612-297-3344
MISSISSIPPI 601-960-7723	MISSOURI 314-751-6470	MONTANA 406-444-3565
NEBRASKA 402-471-2937	NEVADA 702-687-4800	NEW HAMPSHIRE 603-271-4502
NEW JERSEY 609-984-6125	NEW MEXICO 505-827-2400	NEW YORK 518-459-1641
NORTH CAROLINA 919-733-6298	NORTH DAKOTA 919-733-6298	OHIO 614-466-6669
OKLAHOMA 405-271-4636	OREGON 503-731-4438	PENNSYLVANIA 717-772-6057
RHODE ISLAND 401-464-2183	SOUTH CAROLINA 803737-4110	SOUTH DAKOTA 605-775-3364
TENNESSEE 615-741-7308	TEXAS 512-490-2510	UTAH 801-538-6495
VERMONT 802-241-3064	VIRGINIA 804-225-3897	WASHINGTON 206-586-7388
WEST VIRGINIA 304-558-2950	WISCONSIN 608-267-5287	WYOMING 307-777-5800

ADAP list compiled by Betsy Nolan, Project Inform.

Payment Assistance

Most of these programs provide a free supply of drugs to people who don't have insurance and can't qualify for other programs. Others provide a payment cap on expensive drugs: after a certain dollar amount has been spent within a given year, the program will provide the drug for free. In almost all cases you need to have your doctor call these numbers; you will not be able to sign yourself up. However, most numbers will be happy to give you eligibility information.

NAME OF DRUG	MARKETING NAME	MANUFACTURER	INDICATION	PHONE NUMBER
Acyclovir	*(Zovirax)*	Glaxo Wellcome	Herpes	800.722.9294
Aerosolized Pentamidine	*(Nebupent)*	Fujisawa	PCP prophylaxis	800.888.7704 x8607
Albendazole		SmithKline Beecham	Microspridiosis	800.366.8900
Atovaquone/566c80	*(Mepron)*	Glaxo Wellcome	PCP	800.722.9294
Azithromycin	*(Zithromax)*	Pfizer	Bacterial infections	800.742.3029
Ciprofloxacin	*(Cipro)*	Miles	Antibiotic	800.468.0894 x5170
Clarithromycin	*(Biaxin)*	Abbott	Antibiotic/MAC	800.688.9118
Clofazimine	*(Lamprene)*	Ciba Pharmaceuticals	MAC	800.257.3273
ddC	*(Hivid)*	Hoffman-LaRoche	Antiviral	800.285.4484
ddI	*(Videx)*	Bristol-Myers Squibb	Antiviral	800.788.0123
d4T	*(Zerit)*	Bristol-Myers Squibb	Antiviral	800.788.0123
DaunoXome		Vestar, Inc.	KS	800.247.3303
Diclazuril		Janssen	Cryptosporidiosis	800.521.AIDS
Dronabinol	*(Marinol)*	Roxane Labs	Weight loss, wasting	800.274.8651
Erythropoietin/EPO	*(Procrit)*	Ortho Biotech	Antianemia	800.553.3851
Ethambutol	*(Myambutol)*	Lederle Labs	MAC	800.533.2273
Filgrastim/G-CSF	*(Neupogen)*	Amgen	Antineutropenic	800.272.9376
Fluconazole	*(Diflucan)*	Pfizer	Antifungal	800.646.4455
Foscarnet	*(Foscavir)*	Astra	CMV	800.488.3247
Ganciclovir	*(Cytovene)*	Hoffman LaRoche/Syntex	CMV	800.444.4200
Interferon alpha-2A	*(Intron)*	Schering-Plough	Kaposi's sarcoma	800.521.7157
Interferon alpha-2A	*(Roferon)*	Hoffman-LaRoche	Kaposi's sarcoma	800.443.6676
Itraconazole	*(Sporonox)*	Janssen	Antifungal	800.544.2987
Ketoconazole	*(Nizoral)*	Janssen	Antifungal	800.544.2987
Lamivudine	*(3TC)*	Glaxo Wellcome	Antiviral	800.248.9757
Megestrol acetate	*(Megace)*	Bristol-Myers Squibb	Wasting, weight loss	800.788.0123
Octreocide	*(Sandostatin)*	Sandoz	Antidiarrheal	800.447.6677
Pyrimethamine	*(Daraprim)*	Glaxo Wellcome	Toxoplasmosis	800.722.9294
Rifabutin	*(Mycobutin)*	Adria/Pharmacia	MAC	800.795.9759
Sargramostim/GM-CSF	*(Leukine)*	Immunex	Antineutropenic	800.334.6273
Trimethoprim/sulfamethoxale TMP/SMZ	*(Bactrim)*	Hoffman-LaRoche	PCP	800.443.6676
Trimethoprim/sulfamethoxale TMP/SMZ	*(Septra)*	Glaxo Wellcome	PCP	800.722.9294
Trimetrexate glucuronate	*(Neutrexin)*	U S Bioscience	PCP	800.887.2467
Zidovudine/AZT	*(Retrovir)*	Glaxo Wellcome	Antiviral	800.722.9294

COMMUNITY PRESCRIPTION SERVICE

AN IMPORTANT MAIL-ORDER SERVICE FOR PEOPLE WITH HIV.

ASK ABOUT OUR NEW CASH PRICING; IT'S VERY, VERY COMPETITIVE

Dear Friend:

Does it ever seem like managing your medical needs is becoming just too much? Too much time? Too much hassle? Too much money?

It can get truly overwhelming. But you put up with it because it seems you have no choice — you have to do what you have to do to stay healthy and alive.

Enter Community Prescription Service (CPS). CPS is a gay/HIV+ owned and operated mail-order prescription service. We're in business to save you time, money and hassle. While we can't make all your medical problems go away, CPS will make it super easy for you to get the medication you need.

We're a complete prescription service. We'll do everything for you: from placing the initial call to your doctor to get your medication authorized, to filling out your insurance paperwork, and keeping track of when to send your refills. Best of all, we'll minimize your out-of-pocket expenses. We work with you and your insurance company to keep your costs low. And in most cases we won't charge you anything upfront for your medications. Plus, we offer fast, and totally confidential shipping.

Joining the service is free, and anyone can use us, regardless of what your medical needs are. Enrollment is easy — just call toll free at 800-842-0502 and ask to speak with me or Ronnie.

Stephen Gendin

Stephen Gendin, CPS co-founder

Community Prescription Service is for you. Benefits include:

Minimize Your Out-of-Pocket Expenses

Free Delivery

Totally Confidential

Prescription Card Valid at 25,000 Locations Nationwide

Friendly, Experienced Pharmacists

Personalized Service

No More Insurance Paperwork Hassles

Free, Exclusive Treatment Newsletter

For more information on Community Prescription Service, call 800-842-0502.

349 West 12th Street, New York, N.Y. 10014