AIDS and HIV Support

Acquired immunodeficiency syndrome (AIDS) is a condition in which the immune system becomes severely weakened and loses its ability to fight infections. Most scientists believe that the disease results from infection with the human immunodeficiency virus (HIV). AIDS is an extremely complex disorder, and no cure is currently available. Certain pharmaceuticals appear to be capable of slowing the progression of the disease. In addition, various nutritional factors may be helpful. However, because of the complicated nature of this disorder, medical supervision is strongly recommended with regard to dietary changes and nutritional supplements.

**Dietary changes that may be helpful:** Individuals with AIDS often lose significant amounts of weight or suffer from recurrent diarrhea. A diet high in protein and total calories may help a person maintain his or her body weight. In addition, whole foods are preferable to refined and processed foods. Whole foods contain larger amounts of many vitamins and minerals, and individuals with HIV infection tend to suffer from multiple nutritional deficiencies. Nonetheless, no evidence currently suggests that dietary changes are curative for people with AIDS or even that they significantly impact the course of the disease.

**Nutritional supplements that may be helpful:** Because individuals with HIV infection or AIDS often have multiple nutritional deficiencies, a broad-spectrum nutritional supplement may be beneficial. In one study, HIV-infected men who took a multivitamin supplement had slower disease progression, compared with men who did not take a supplement.\(^1\)

Vitamin A deficiency appears to be very common in people with HIV infection. Low levels of vitamin A are associated with greater disease severity\(^2\) and increased transmission of the virus from a pregnant mother to her infant.\(^3\) However, little research has explored whether vitamin A supplements are helpful. In one trial, giving people an extremely high (300,000 IU) amount of vitamin A one time only did not improve short-term measures of immunity in women with HIV.\(^4\)

Beta-carotene levels have also been found to be low in HIV-infected individuals, particularly those with more advanced disease.\(^5\) However, studies on the effect of beta-carotene supplements have produced conflicting results. In one double

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1. Ince S. Vitamin supplements may help delay onset of AIDS. Med Tribune 1993;November 9:18.
blind study, supplementing with 300,000 IU per day of beta-carotene significantly increased the number of CD4+ cells (an infection-fighting type of white blood cell that is low in inpatients with AIDS). In another study, the same amount of beta-carotene had no effect on CD4+ cell counts or various other measures of immune function.

Thiamine (vitamin B1) deficiency has been identified in nearly one-quarter of people with AIDS. It has been suggested that a deficiency of this vitamin may contribute to some of the neurological abnormalities that are associated with AIDS. In another study, vitamin B6 deficiency was found in more than one-third of HIV-positive men, and a deficiency of this vitamin was associated with decreased immune function. Low blood levels of folic acid and vitamin B12 are also common in HIV-infected individuals.

Vitamin C has been shown to inhibit HIV replication in test tubes. Some doctors recommend large amounts of vitamin C for patients with AIDS. Reported benefits in vitamin C preliminary research include greater resistance against infection and an improvement in overall wellbeing.

In test tube studies, vitamin E improved the effectiveness of the anti-HIV drug zidovudine (AZT) while reducing its toxicity.

Blood levels of coenzyme Q10 were also found to be low in individuals with HIV infection or AIDS. Six people with HIV infection received 200 mg per day of coenzyme Q10. Five of these individuals experienced no further infections for up to seven months, and the white blood cell count improved in three cases.

In the category of minerals, both zinc and selenium levels are frequently low in people with HIV infection, and iron deficiency is often present in HIV-

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infected children.\textsuperscript{17} Zinc supplements have been shown to reduce the number of infections in individuals with AIDS.\textsuperscript{18} HIV-infected people who received selenium supplements experienced fewer infections, better intestinal function, improved appetite, and improved heart function (which had been impaired by the disease).\textsuperscript{19}

The amino acid N-acetyl cysteine (NAC) has been shown to inhibit the replication of HIV in the test tube.\textsuperscript{20} In a double blind study, supplementing with 800 mg per day of NAC slowed the rate of decline in immune function. NAC may work better when glutamine (another amino acid) is also supplied. In combination, these two amino acids promote the synthesis of glutathione, a naturally occurring antioxidant that is believed to be protective in people with HIV infection.\textsuperscript{21}

The nonpathogenic yeast \textit{Saccharomyces boulardii} in the amount of 1 gram three times per day has been shown to help stop diarrhea in HIV positive people in double blind research.\textsuperscript{22}

\textbf{Are there any side effects or interactions?} Refer to the individual supplement for information about any side effects or interactions.

\textbf{Herbs that may be helpful:} Many different herbs have been shown in test tube studies to inhibit the function or replication of HIV. Few of these studies have been followed up with any kind of investigation in infected humans. Some notable exceptions to this rule are discussed below.

One double blind study has found that 990 mg per day of an extract of boxwood (\textit{Buxus sempervirens}) leaves and stems could delay progression of HIV infection as measured by decline in CD4 cell counts.\textsuperscript{23} No adverse effects were reported due directly to the extract. Taking twice the dose of boxwood extract did not lead to further benefits and may have actually decreased its usefulness.

Garlic may be helpful. In one study, administration of an aged garlic extract

reduced the number of infections and relieved diarrhea in a group of patients with AIDS.\textsuperscript{24}

Licorice has shown the ability to inhibit reproduction of HIV in test tubes.\textsuperscript{25} Studies on injections of glycyrrhizin isolated from licorice show it could have a beneficial effect on AIDS.\textsuperscript{26} Preliminary evidence on orally administered licorice has also found it to be safe and effective for long-term treatment of HIV infection.\textsuperscript{27} A physician should monitor the blood pressure of anyone taking licorice or glycyrrhizin long term. Deglycyrrhizinated licorice (DGL) will not inhibit HIV. Approximately 2 grams of licorice root should be taken per day in capsules or as tea.

Immune-modulating plants often used by doctors of herbal medicine include Asian ginseng, eleuthero (Siberian ginseng), ashwagandha, and the medicinal mushrooms shiitake and reishi.

Maitake mushrooms contain polysaccharides, including beta-D-glucan, which is currently under review as a supportive tool for HIV infection.\textsuperscript{28, 29}

Bitter melon contains two proteins—alpha- and betamomorcharin—that inhibit the AIDS virus in test tubes. Very early reports indicate bitter melon juice or enemas may be beneficial for people infected with HIV,\textsuperscript{30} but much more research is necessary before the effect of bitter melon is known for certain.

An open trial of a combination naturopathic protocol (consisting of multiple nutrients, licorice, lomatium, a combination Chinese herbal product, lecithin, calf thymus extract, lauric acid monoglycerol ester, and St. John’s wort) found that it could possibly slow progression of mild HIV infection and reduce some symptoms.\textsuperscript{31} These results can be seen as preliminary at best and need to be repeated in controlled studies. It does begin to suggest that using several natural products in combination can be safe and potentially helpful.

\textsuperscript{29} Nanba H. Immunostimulant activity in-vivo and anti-HIV activity in vitro of 3 branched β-1-6-glucans extracted from maitake mushrooms (Grifola frondosa). VIII International Conference on AIDS, 1992 [abstract].
Are there any side effects or interactions? Refer to the individual herb for information about any side effects or interactions.

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