



HIV Wasting Syndrome

A common problem among HIV-infected people is the HIV wasting syndrome, defined as unintended and progressive weight loss often accompanied by weakness, fever, nutritional deficiencies and diarrhea. The syndrome, also known as cachexia, can diminish the quality of life, exacerbate illness and increase the risk of death for people with HIV.

Wasting can occur as a result of HIV infection itself but also is commonly associated with HIV-related opportunistic infections and cancers. HIV wasting syndrome is diagnosed in HIV-infected people who have unintentionally lost more than 10 percent of their body weight. Most patients with advanced HIV disease and AIDS eventually experience some degree of wasting.

The National Institute of Allergy and Infectious Diseases (NIAID) supports basic and clinical research aimed at better understanding and improving treatments for this debilitating condition. Several studies of therapies and nutrition for HIV wasting are being conducted in NIAID's AIDS clinical trials research network. The AIDS Clinical Trials Group (ACTG), one component of this network, has established the Wasting Pathogen Study Group. Monthly, this group of preclinical and clinical investigators discusses research ideas and priorities as well as ongoing and planned clinical trials.

Many approaches have been used to reverse weight loss in HIV-infected people, including appetite stimulants, anabolic agents, cytokine inhibitors and hormones. Goals of therapy include both increase in body weight and increase in lean body mass (muscle).

Currently, the precise causes of the HIV wasting syndrome are not well known, and probably vary among individuals. However, a growing body of evidence suggests that many factors may contribute to wasting including inadequate dietary intake, malabsorption of nutrients, abnormalities in metabolism and energy expenditure, and HIV-related infections.

Reduced caloric intake among HIV-infected people is often the result of a loss of appetite, frequently because of nausea. A number of agents to enhance dietary intake have been evaluated in NIAID clinical trials; two of them -- megestrol acetate (megace) and dronabinol (marinol, which

contains the active ingredient of marijuana, THC) -- are currently approved by the U.S. Food and Drug Administration (FDA) for the treatment of HIV wasting syndrome. Nutritional supplements also have a role in boosting caloric intake and currently are being assessed in NIAID's clinical trials research network.

Many HIV-infected people suffer from aphthous ulcers of the mouth or esophagus that make eating difficult. A recent NIAID-supported study demonstrated that the drug thalidomide can safely and effectively heal these ulcers. This finding promises to remove a major impediment to adequate nutrition for HIV-infected people who suffer from these painful sores.

Despite ingesting sufficient calories, many people with HIV lose nutrients because of diarrhea, vomiting or malabsorption of nutrients in their intestines. Malabsorption may be caused by HIV itself as well as by enteric infections associated with HIV disease. Research into HIV's effects on the gastrointestinal tract and into diseases such as cryptosporidiosis and microsporidiosis may help explain the causes of HIV-associated diarrhea and wasting.

Increased calorie usage, and in some cases the breakdown of muscle and other tissues, also contributes to HIV wasting. Agents that reverse metabolic abnormalities, such as testosterone and growth hormones, have been studied by NIAID-supported investigators and others. One such drug, a growth factor known as somatropin (Serostim), was approved by the FDA in 1996 for the treatment of HIV-associated wasting. Researchers also have found that increased levels of immune-signalling molecules (cytokines) such as interleukin-6 and tumor necrosis factor-alpha (TNF-alpha) are associated with HIV wasting. Drugs that block TNF-alpha may have a role in the treatment of this condition.

A number of clinical trials of potential therapies for HIV wasting syndrome are ongoing or imminent in the NIAID-supported ACTG and Terry Bein Community Programs for Clinical Research on AIDS (CPCRA).

- CPCRA investigators are comparing the effectiveness of three nutritional regimens in increasing lean body mass and improving absorption of nutrients:

whole protein and long-chain triglycerides plus a multivitamin;

partially hydrolyzed protein and medium-chain triglycerides plus a multivitamin;

a multivitamin alone.

- Another CPCRA trial compares:

an oral anabolic agent, oxandrolone;

an anabolic agent plus an appetite stimulant (megace);

megace alone. As part of this study, some patients will take part in an exercise regimen. The investigators anticipate that this study will provide insights into the impact of increases in lean body mass and weight on survival and disease progression.

- In the ACTG, protocol 892 will attempt to correlate changes in viral load with changes in body composition and total body weight.
- ACTG 313 is comparing a regimen of megace and testosterone enanthate vs. megace alone. The primary objective of this study is to assess whether treatment with megace and testosterone leads to increased lean body mass, rather than the accrual of fat seen with megace alone.
- ACTG 329, a study enrolling women with HIV wasting syndrome, is assessing whether treatment with nandrolone results in weight gain and increases in lean body mass. Nandrolone is a male hormone called androgen with minimal masculinizing effects.

For enrollment information about AIDS-related clinical trials, call 1-800-TRIALS-A from 9 a.m. to 7 p.m. Eastern Time, Monday through Friday.

NIAID, a component of the National Institutes of Health, supports research on AIDS, tuberculosis and other infectious diseases as well as allergies and immunology.

Prepared by:
Office of Communications and Public Liaison
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Bethesda, MD 20892

Public Health Service
U.S. Department of Health and Human Services
May 1997

[NIAID Home](#) | [Publications](#)