

**Privacy Statement:**

Visionary Health Concepts maintains databases for the sole purpose of distributing free HIV & Hepatitis treatment education materials. We don't sell or market any product; names in our database are never traded, rented or sold. Any person listed in our databases will be immediately removed at their request. Mailed materials are always sent in confidential packaging.

The LipoWatch program from Visionary Health Concepts is designed to support providers and patients with education that integrates a "real world" focus with scientific data. This month we discuss the role of exercise in treating the metabolic complications of HIV-1 and antiretroviral therapy. NOTE: LipoWatch faxes are archived on the web at [http://www.vhconcepts.com/edu\\_progs.cfm](http://www.vhconcepts.com/edu_progs.cfm)

The health benefits of physical exercise for the general population are well documented. Research on these benefits is presented in the U.S. Surgeon General's Report on Physical Activity.<sup>(1)</sup> They include physiologic effects on the cardiovascular and musculoskeletal system, and benefits on the functioning of the metabolic, endocrine and immune systems.

These benefits address some of the direct and indirect effects of HIV disease and treatment. For example, physical exercise reduces serum triglyceride levels, improves insulin sensitivity, and decreases the risk of osteoporosis and of mortality due to cardiovascular disease (especially coronary heart disease). In addition, physical exercise appears to relieve symptoms of depression. Patients with depression may have lower levels of adherence to antiviral therapy, so physical activity could indirectly lead to improved therapeutic outcomes.

As with other therapeutic interventions for lipodystrophy, sufficient research in affected patients is lacking. Recommendations on physical exercise are based on the general population, which seems reasonable given the wide range of benefits and the lack of serious adverse consequences. There is, however, a small but growing body of literature on physical exercise, HIV, and lipodystrophy. Many of these studies are quite small and fol-

lowed patients for only a few months.

Some researchers first verified that physical exercise in HIV patients is well tolerated, and stimulates the immune response without increasing viral load.<sup>(2,3)</sup> Further research addressed the specific benefits of exercise. Both aerobic and progressive resistance exercise have been studied and are recommended for HIV-positive patients with central or generalized fat accumulation.<sup>(4)</sup> Research consistently documents increases in muscle strength and lean body mass, and reductions in fat, primarily visceral.<sup>(5,6,7)</sup>

One of the major difficulties in conducting research on lifestyle interventions such as increased physical activity is that their impact may be quite modest. For example, a study of 61 HIV-infected men with low testosterone levels showed that while testosterone replacement, resistance exercise, or both led to increased body weight, strength, and lean body mass, the combined therapy was no more effective than either intervention by itself.<sup>(8)</sup> These results, however, should be interpreted as very encouraging, because they underscore the value and effectiveness of exercise in and of itself—especially in populations for whom testosterone usage would be inappropriate (i.e. women). In addition, it is extremely difficult to quantify and standardize the amount of physical exercise done by participants in a trial. The challenges in measuring both the amount of exercise intervention and mental health status outcomes may explain the lack of research on the impact of physical exercise in reducing depression among people with HIV.

Many clinicians find it difficult to motivate patients to increase their physical activity and maintain new exercise regimens. Two community-based websites may help in this effort. The website "HIV Fitness Guidelines" at <http://www.tbrewi.com/hivfitness/> contains information and exercise recommendations. The site is edited by Timothy M. Brewi, Certified Personal Trainer, and includes contributions from several registered dietitians. Another community-based web site is Medibolics at <http://www.medibolics.com/>. Medibolics is the newsletter of the Program for Wellness Restoration (PoWeR), a Houston-based community organization. PoWeR advocates exercise along with the appropriate use of testosterone and anabolic steroids for building bodies and rebuilding overall health. They have published a guide to the medical use of anabolic therapies, nutrition and exercise for HIV-positive men and women.<sup>(9)</sup>

<sup>1</sup> U.S. Department of Health and Human Services. Physical Activity and Health: A Report of the Surgeon General. Atlanta, GA: U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, 1996.

<sup>2</sup> Rigsby LW, Dishman RK, Jackson AW, et al: Effects of exercise training on men seropositive for the human immunodeficiency virus-1. Med Sci Sports Exerc 1992;24(1):6-12

<sup>3</sup> Roubenoff R, Skolnik PR, Shevitz A, et al. Effect of a single bout of acute exercise on plasma human immunodeficiency virus RNA levels. J Appl Physiol 1999; 86:1197-1201.

<sup>4</sup> Schambelan M, Benson CA, Carr A, et al. Management of Metabolic Complications Associated With Antiretroviral Therapy for HIV-1 Infection: Recommendations of an International AIDS Society-USA Panel. JAIDS Journal of Acquired Immune Deficiency Syndromes 2002; 31(3):257-275.

<sup>5</sup> Roubenoff R, McDermott A, Weiss L, et al., Short-term progressive resistance training increases strength and lean body mass in adults infected with human immunodeficiency virus. AIDS 1999; 13:231-9.

<sup>6</sup> Yarasheski KE, Tebas P, Stanerson B, et al., Resistance exercise training reduces hypertriglyceridemia in HIV-infected men treated with antiviral therapy. J Appl Physiol. 2001 Jan; 90(1):133-8.

<sup>7</sup> Smith BA, Neidig JL, Nickel JT, et al. Aerobic exercise: effects on parameters related to fatigue, dyspnea, weight and body composition in HIV-infected adults. AIDS 2001; 15:693-701.

<sup>8</sup> Bhasin S, Storer TW, Javanbakt M, et al. Testosterone replacement and resistance exercise in HIV-infected men with weight loss and low testosterone levels. JAMA 2000; 283:763-70.

<sup>9</sup> Mooney M and Vergel N. Built to Survive:

Next month's LipoWatch will be an update from the 10th Conference on Retroviruses and Opportunistic Infections.

Order now upcoming FREE VHConcepts' programs and fax 800-407-2505, or register at [www.freehivinfo.com](http://www.freehivinfo.com)

<b>Name</b>		<b>Title</b>		
<b>Organization</b>		<b>Type</b> (i.e. ASO, CBO, clinic, drug treatment)		
<b>Street Address</b>		<b>City</b>		<b>State</b>
<b>Zip</b>	<b>Phone</b>	<b>Ext.</b>	<b>Fax</b>	
<b>E-mail</b>		<b>Website</b>		
<b>Approx. Total # of clients</b>	<b># HIV+</b>	<b># HCV+</b>	<b># HIV/HCV+</b>	
Population served: African-American _____ %	Hispanic _____ %	Asian _____ %	White _____ %	Gay _____ %
Woman _____ %	Trans _____ %	Substance user _____ %	IVDU _____ %	Other (write in) _____ %
What other topics are you interested in?				



Available now  
or coming soon  
from your friends  
at VHConcepts

**To Order:**

fax: 800-407-2505  
or register online at:  
www.freehivinfo.com



**Look Before You Leap:**

The Guide to the Ins and Outs of Antiviral Dosing©

A 16-page patient booklet that assists readers in understanding how various antiretroviral

dosing strategies affect HIV treatment and what considerations are necessary to make wise choices. Written at a 5th-grade reading level in English and Spanish.



**All the Pieces:**

Making Antiviral Choices Count©

A 32-page booklet that helps secondary providers assist patients construct a successful, long-term HIV strategy that supports adherence and avoids the accumulation of

resistance mutations. Written at a 9th grade reading level in English and Spanish, it includes a step-by-step outline of the preparation involved in thinking about treatment initiation or change and discusses issues including ease of use, resistance patterns, side effects, tolerability and potency.



**Nukes!©**

A 32-page, graphically exciting patient comic book written in English and Spanish at a 5th grade

reading level that helps readers to understand how HIV infects a cell, how NRTIs work, and how adherence affects resistance and long term effectiveness of treatment.



**Adventures in Adherence**

Learning the Basics in HIV©

A 32-page, graphically exciting patient comic book written in English and Spanish at a 5th grade reading level that educates

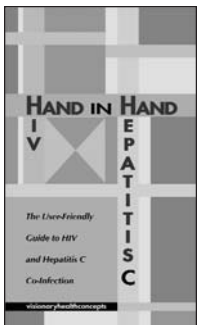
patients about—and promotes understanding of—the reasons for utilizing HIV treatment. Also includes helpful discussion about the ins and outs of effective adherence to antiviral therapy.



**Vital Lines:**

Clinical Insights into HIV/HCV Co-Infection©

A 2-page legal-size, double-sided direct-mail piece primarily for physicians and secondary providers designed to provide a “state-of-the-state” update on HIV/HCV co-infection.

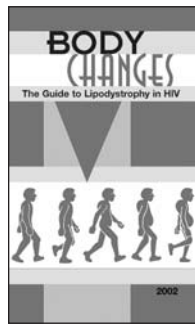


**Hand in Hand:**

The User-Friendly Guide to HIV and Hepatitis C Co-Infection©

Written by the author of “Double Jeopardy: The HIV/HCV Co-Infection Handbook”. This 40-page booklet gives an up-to-date overview of HIV/HCV

co-infection and its treatment. Written at a 9th grade reading level in English and Spanish to assist secondary providers and peers in translating information easily to anyone. Information on complementary therapies and harm reduction also included.

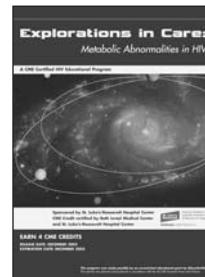


**Body Changes:**

The Guide to Lipodystrophy in HIV

A 32-page booklet that provides a helpful overview of

lipodystrophy as it pertains to body changes, including management tools that promote wellness for those suffering from these symptoms.



**Exploration in Care:** Metabolic Abnormalities in HIV©

A 32-page, CME-accredited monograph that provides up-to-date information about metabolic complications of antiretroviral treatment, with an emphasis on fat

redistribution, by leading experts in the field of HIV research. Includes special sections for discussion of antiviral strategies and other management tools to enhance the quality of life and retain patients on treatment.



**Dosing Matters:**

Getting the Most Out of Your HIV Regimen©

A 1-page patient pamphlet that provides a simple overview of HIV antiretroviral dosing considerations for patients. Written at a 5th grade reading level in English and Spanish.



**Fat in the Blood©**

A must-read 1-page patient pamphlet for people on anti-HIV medications at risk for dangerous levels of fat (i.e. cholesterol and/or triglycerides) in the blood. Available in both English and Spanish.



**What's New?**

A User-Friendly Guide to the HIV Guidelines 2003© This 32-page booklet is designed to assist people who want to understand how HIV treatment “Guidelines” fit into the overall planning and design of the best healthcare strategies for HIV-positive individuals