Menopause, Tenofovir and Didanosine Increase Bone Loss

October 14, 2008

Working out with weights and maintaining high albumin levels protected against bone loss, while completing menopause or taking tenofovir (found in Viread, Truvada and Atripla) or didanosine (Videx) led to bone loss in HIV-positive patients, according to a study published online October 3 in the *Journal of Acquired Immune Deficiency Syndromes*.

Mild to moderate loss of bone mineral density (BMD), known as osteopenia, has been found in some studies to be more common in HIV-positive patients. Few studies, however, have followed people over longer periods of time while controlling for a number of potential factors, such as smoking, diet, age and menopausal status. Therefore, it has been difficult to pinpoint what specific factors may be contributing to increased bone loss in people living with HIV.

To better identify those factors, Denise Jacobson, PhD, MPH, from the Harvard School of Public Health in Boston, and her colleagues conducted intensive surveys of people's diets and medical records in addition to period scans of bone density using dual energy X-ray absorptiometry (known as DXA or DEXA) scans. Dr. Jacobson's study included 379 people living with HIV; 283 were men, 76 were premenopausal women and 20 were postmenopausal women. The men were on average a bit younger than the women, less likely to be overweight or obese, and much more likely to do regular strength training. The DXA scans were taken at least 12 months and no longer than 24 months apart.

Jacobson's team found that several factors protected against bone loss. These included maintaining a higher body mass index (a composite measure of height and weight), maintaining higher albumin levels (a measure of kidney function) and engaging in strength training (working out with weights). The factors most associated with bone loss were taking tenofovir, didanosine or a steroid such as prednisone or hyrdrocortisone, and completing menopause in women.

Overall, the total amount of bone loss in most patients was relatively small, regardless of the associated risks. The authors, however, encourage people living with HIV to maintain proper nutrition and body weight and to engage in strength training exercise.

© 2026 Smart + Strong All Rights Reserved.