LTNP? UB2

Can your body control HIV sans drugs? Bruce Walker shoots a vaccine into the sky.

April 1, 2001 By Richard Jefferys

Long-term nonprogressors (LTNPs) -- those few HIVers infected for more than 10 years who remain healthy without treatment -- are blessed with a unique two-pronged immune-cell defense: They're programmed to use not only their *helper* (CD4) T cells but their *killer* (CD8) T cells, which are highly efficient at offing HIV-infected cells. Sadly, most HIVers have progressive disease, and their HIV-specific CD4s are fewer and weaker, so the CD8s have to go it alone -- and eventually fail. Bruce Walker, MD, who made this discovery, has been hot on the LTNP trail for years, hoping to crack the mystery of their immune systems' awesome anti-HIV response. He and his team at Harvard Medical School have even made progress toward turning immune-sick HIVers into LTNPs by boosting their virus-targeting CD4s and so reinvigorating the CD8s' attack on infected cells.

In a study by Walker colleague Eric Rosenberg, MD, five of eight newly infected HIVers on HAART went off drugs and, after a brief spike, still have undetectable viral loads after six months. Rosenberg found that all five have a wealth of HIV-specific helper- and killer-Ts, which supports the idea that these immune responses improve the body's control of HIV. *POZ* caught up with the fast-advancing Walker for the latest on these breakthroughs.

POZ: At the international AIDS conference in 1998 you boldly stated, "Eradication is not required. The immune system can control HIV." Still think so?

Bruce Walker: We feel more strongly than ever that eradication does not have to be the ultimate goal. There are clearly people who control HIV without eradication, and based on what we know about the virus, the notion that it can be eradicated is unrealistic.

What are the prospects for controlling HIV in people infected for a long time?

This will be much more difficult, for two reasons. First, it is harder to induce helper-T-cell responses. Second, the virus is much more diverse -- the immune system is trying to defend against multiple armies, each with slightly different tactics. It is also possible that in long-term infection, when the virus may have already escaped from critical immune responses, the therapeutically boosted responses will simply be more of the same -- that is, not working. The challenge will be to direct the immune system to target new regions of the virus that have not yet mutated.

Tomas Hanke, an inventor of the experimental Oxford vaccine DNA-MVA, recently said

you’re interested in studying it as a potentially new treatment.

We believe that therapeutic immunization has to be brought back to the front burner as a real possibility for augmenting effective immunity. We know that the immune system does not target all potential regions of HIV, and there is a good chance that the right vaccine will trigger more responses to help in the fight. We are planning to work on the DNA/MVA vaccine as soon as safety issues are resolved.

The other issue is, the Remune trial that recently received so much bad press does little to answer questions of the vaccine’s effectiveness as a treatment because the trial endpoints were not appropriate. The endpoints considered it a failure if there were *any* increases in viral load in vaccinees. In our recent structured treatment interruption (STI) trial, in which we were able to get a significant number of people off therapy, each would have been considered a failure by the Remune criteria because they experienced increases in viral load -- some to more than 100,000 copies -- before it was ultimately controlled. So we have to be cautious not to measure therapeutic vaccines in that way.

There’s much interest in HIV-specific immunity and STIs, but few trials to enroll in. Are larger studies feasible?

Larger studies are coming. I think STIs alone will show little long-term benefit in chronic infection, and therapeutic immunization looks like the best thing to pursue. We ask that any long-term nonprogressors with a viral load of less than 50 copies off therapy join our study. They can provide us with many important insights about the body’s HIV-controlling potential.

For more information on his research, call Bruce Walker at 617.724.8332.

© 2026 Smart + Strong All Rights Reserved.

http://beta.docker.poz.com/article/LTNP-UB2-1147-4426