

# Therapeutic HIV Vaccines

## What is a vaccine?

A vaccine is a medical product designed to stimulate your body's immune system in order to prevent or control an infection. An effective vaccine trains your immune system to fight a particular **microorganism** so that it can't make you sick.

Although there are currently no vaccines to prevent or treat HIV, researchers are developing and testing potential HIV vaccines. HIV vaccines designed to prevent HIV infection in HIV negative people are called *preventive* vaccines (see [Preventive HIV Vaccines Fact Sheet](#)). HIV vaccines designed to help control HIV infection in people who are already HIV positive are called *therapeutic* vaccines. This fact sheet focuses on therapeutic HIV vaccines.

## What is a therapeutic HIV vaccine?

A therapeutic HIV vaccine (also known as a treatment vaccine) is a vaccine used in the treatment of an HIV infected person. Therapeutic HIV vaccines are designed to boost the body's immune response to HIV in order to better control the infection.

Currently, there are no therapeutic HIV vaccines approved by the Food and Drug Administration (FDA). However, therapeutic HIV vaccines are being tested in **clinical trials** to find out if they are safe and effective in treating people with HIV.

Researchers hope that if therapeutic vaccines are able to strengthen the body's natural anti-HIV immune response, people with HIV will not have to rely exclusively on the **antiretroviral** drugs now used to treat HIV infection. Currently, antiretroviral drugs must be taken for life, and some cause serious side effects.

All experimental therapeutic HIV vaccines are in very early stages of research, and no therapeutic vaccine is anticipated to be available to the general public for many years, if at all.

### *Terms Used in This Fact Sheet:*

**Antiretroviral:** a medication that interferes with replication of retroviruses. HIV is a retrovirus.

**CD4 Count:** CD4 cells, also called T cells or CD4<sup>+</sup> T cells, are white blood cells that fight infection. HIV destroys CD4 cells, making it harder for your body to fight infections. A CD4 count is the number of CD4 cells in a sample of blood.

**Clinical trial:** a scientifically designed study testing the safety and effectiveness of a medication or other treatment in human volunteers.

**Microorganisms:** small life forms that can be seen only through a microscope, including bacteria, protozoa, viruses, and fungi.

## Will a therapeutic HIV vaccine be able to cure HIV?

Probably not. If therapeutic vaccines are effective, they may be able to help keep HIV infection under control. However, most researchers do not think therapeutic HIV vaccines will be able to completely eliminate HIV infection, because the virus hides in certain cells of the body where it can last for decades.

## Will a therapeutic vaccine rule out the need for antiretroviral drugs?

Even an effective therapeutic HIV vaccine probably won't be able to replace antiretroviral drugs entirely. At best, a therapeutic HIV vaccine may help control HIV infection and keep people healthy while minimizing the need for antiretroviral drugs.

## Therapeutic HIV Vaccines (continued)

### Who is eligible to receive a therapeutic vaccine?

Therapeutic vaccines are designed specifically for HIV positive people who have healthy immune systems. Therapeutic vaccine recipients must have strong immune systems for the vaccine to generate an effective anti-HIV immune response. Clinical trials of therapeutic vaccines are recruiting volunteers with **CD4 counts** greater than 250 cells/mm<sup>3</sup>, and most studies require a CD4 count greater than 350 cells/mm<sup>3</sup>. People with weaker immune systems may be unable to produce a good immune response to a therapeutic HIV vaccine, and are therefore not eligible for these trials. Most trials require that therapeutic vaccine recipients continue taking antiretroviral drugs during the study.

### What are the side effects of therapeutic vaccines?

Because testing is ongoing, not all of the side effects of therapeutic vaccines are known. However, side effects observed so far in clinical trials have been similar to the side effects that occur with FDA-approved vaccines. These side effects include:

- Soreness, swelling, redness, or pain at the site of injection
- Mild flu-like symptoms (fever, chills, muscle pain or weakness, nausea, headache, and dizziness)

### I am interested in participating in a therapeutic HIV vaccine trial. How do I find a study near me?

Contact *AIDSinfo* toll-free at 1-800-448-0440 to speak to a Health Information Specialist, who will help you locate therapeutic vaccine trials in your area. You can also locate research sites using the *AIDSinfo* Vaccine Web page at <http://aidsinfo.nih.gov/Vaccines/>. On the left side of the screen, under "Therapeutic AIDS Vaccine Trials," click "New and

Recruiting Trials" for a complete list of currently recruiting therapeutic HIV vaccine studies.

Enrolling in a clinical trial isn't the only way to help the therapeutic HIV vaccine effort—there are other ways to participate. Consider serving on an Institutional Review Board overseeing therapeutic HIV vaccine trials. Lobby your elected officials to support therapeutic HIV vaccine research and development. Or volunteer in other HIV/AIDS treatment and support efforts—all are valuable ways to contribute.

### For more information about HIV vaccines:

Contact your doctor or an *AIDSinfo* Health Information Specialist at 1-800-448-0440 or <http://aidsinfo.nih.gov>.