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Yerkes researcher **Harriet Robinson** has been working on creating a vaccine for HIV for more than 20 years. Her work is now moving into trials with high-risk subjects.

Medical: HIV Vaccine Advances to Human Trial Stage

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Posted: 11/21/06

The DNA-based HIV vaccine developed by a team at Emory's Yerkes National Primate Research Center recently moved from small control group studies to trials involving high-risk human subjects.

Research leader Harriet Robinson's findings will be published in the Dec. 15 issue of the Journal of Infectious Diseases.

Researchers will give half of the high-risk volunteers the vaccine and the other half a placebo. They can then compare the infection rates of the treated group with the untreated group to see the effectiveness of the vaccine. Previous studies in rhesus macaque monkeys and humans have already established the safety of the vaccine, according to a Yerkes press release.

Robinson's DNA approach is a novel one. Most other vaccines, like the polio or smallpox vaccine, contain dead or weakened viruses. Since they require an injection of the virus itself into the patient, such treatments can actually induce the disease. Because only pieces of the HIV DNA are used with Robinson's vaccine, the patient is never placed at risk.

Don Hildebrand, president of the vaccine's licensing company GeoVax, said in April that the results observed in monkeys are encouraging.

"So far, these responses have been strong enough to protect against HIV in monkeys," he said. "We've had a success rate of 96 percent protected for over three and a half years. Twenty-two of 23 of the monkeys were protected against the virus."

A successful HIV vaccine could potentially spare more lives than any other single discovery, except perhaps penicillin. Since HIV attacks the very cells sent to destroy it, a vaccine would "warn" these cells of the danger by providing them with a mug shot of the virus. The DNA included in the vaccine gives the immune system the information needed to fight the incoming virus.

James Curran, the dean of the Rollins School of Public Health and director of the Center for AIDS Research, said in April that developing an effective vaccine would impact not only Emory but the entire world.

"An HIV vaccine would be perhaps one of the most important breakthroughs in science for the world," he said.

Robinson pioneered the use of DNA in vaccines. Yerkes drew Robinson in as one of the few places where she could test her new approach, with its own breeding colony of rhesus monkeys.

Yerkes, one of only eight national primate research centers funded by the National Institutes of Health, has the production of an HIV vaccine as one of its major goals.

The vaccine's potential financial impact on Emory is difficult to predict, said Holly Korschun, interim director of media relations for Woodruff Health Sciences Center.

Robinson said in an Emory Magazine interview that it will take seven years after the vaccine is proven to work before it can be marketed and mass produced.

"I have great hopes," she said.

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