

## **New Subdermal Implant Hold Great Promise in HIV Treatment – Helen Thomas**

A new subdermal implant administering a powerful antiretroviral drug is [holding great promise in halting the spread of HIV](#), according to researchers at the Oak Crest Institute of Science in California. The new implant is as small as a matchstick and delivers medication in a similar fashion to contraceptive implants. It allows for a controlled, sustained release of ARV drugs for up to 40 days in tests on animals, with no harmful side-effects. The aim is to create a longer-lasting implant for use in human patients.

The scientists, who recently published their findings in *Antimicrobial Agents and Chemotherapy*, have developed the first implant that is used to deliver ARV drugs. They claim that [the device is a total breakthrough](#) in terms of the treatment and prevention of HIV/AIDS, since it contains powerful HIV-stopping medications while tackling one of the biggest problems in prevention: the adherence to prescribed doses. Currently, [daily administration of topical or oral medications to at-risk HIV negative individuals](#) is [considered a valid strategy](#) to keep HIV at bay. In 2011, a landmark study showed that early administration of antiretroviral treatment in for HIV-positive partners in serodifferent couples reduced HIV transmission to the HIV-negative partner by 96 per cent; this led scientists to the realization that treatment can be used as part of a valid 'test and treat' strategy, by lowering the viral load in a community. However, the strategy often fails because patients fail to adhere to dosage prescriptions.

Studies have shown that the erratic consumption/application of HIV medications affect the positivity of outcomes. Therefore, the idea of an implant developing steady, regular doses, holds great promise. Researchers note that the subdermal implant has all the benefits of contraceptive implants, which first went on the market in 1993: they are easy to implant and to remove, and they consistently release tenofovir alafenamide, which is 10 times more powerful against HIV than tenofovir disoproxil fumarate, another drug that has been shown to stop the sexual transmission of HIV when used prior to exposure. The scientists are currently working on an implant which will remain effective for a full year.

Some groups considered at a higher risk of contracting the HIV virus include the youth, those who are incarcerated, sex workers, and even [older Americans](#). Often, the reason for inadequate protection is a lack of awareness of HIV prevention, as well as the many myths and misconceptions about how HIV is transmitted. In a recent samples of 12 to 17 year olds, almost 90 per cent of teens did not think they were at risk of infection and alarmingly, one third did not know HIV was transmitted through sexual activities. Reports by the Centers for Disease and Control Prevention have shown that around 60 per cent of young people who test positive for HIV are completely surprised by the diagnosis. The same misconceptions also stop older Americans from exercising caution during sexual activity.

## **HIV Less Infectious Soon After Transmission than Thought – Helen Thomas**

[Another study carried out by scientists at the University of Texas at Austin](#), has shown that persons who have recently contracted HIV may not be as highly infectious as originally thought. The 'acute phase' was previously linked to a higher risk for spreading HIV. This phases involves the first few weeks after a person is infected with HIV, when virus levels spike in the bloodstream. New analyses show that previous estimates could be as much as 20 times higher than reality, indicating that people are less likely to transmit the HIV virus during the acute phase. The findings are vital, since they show that new strategies to control HIV can be even more effective than thought, and it can help communities save many lives.

Around two million people a year become infected by HIV; treating them with antiretroviral drugs not only stops the onset of AIDS, it also makes treated individuals less likely to infect others. One of the biggest challenging to stopping HIV is diagnosis before a person has had a chance to infect others. The new findings reveal that newly infected persons are less likely to undermine 'treatment as prevention' strategies. These strategies commonly involve the use of antiretroviral medication to prevent the spread of HIV.