

## **STUDY TITLE: IMPACT OF DEPO-PROVERA ON HIV SUSCEPTIBILITY IN THE FEMALE GENITAL TRACT**

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This project aims to understand the impact of synthetic progesterone-based Depo-Provera contraceptive on the female genital tract that may predispose to increased transmission HIV-1. In sub-Saharan Africa, Depo-Provera contraception is high so is HIV-1 prevalence. This has led to concerns being raised on whether Depo-Provera increases HIV-1 transmission during heterosexual exposure. Epidemiological studies carried out to date to delineate the any association between the use of Depo-Provera and HIV-1 transmission have continued to give conflicting results; with some reporting association while others have failed to demonstrate any link between Depo-Provera contraception and increased acquisition of HIV-1 among women. This study seeks to demonstrate mechanism through which Depo-Provera may enhance transmission of HIV-1 in the mucosal layer of the genital tract under the hypothesis that Depo-Provera reduce the thickness of the mucosal barrier and recruit HIV target cells in the female genital tract rendering the cells readily accessible to HIV and favor HIV-1 transmission.

The study will recruit Depo-Provera naïve female volunteers choosing Depo-Provera as a method of family planning and voluntarily will to provide mucosal samples for determination of frequencies of innate immune and expression of key target molecules on mucosal HIV-1 target cells. The study will compare through in-vitro studies, the transmission efficiency of laboratory accustomed HIV-1 pseudo virus on mucosal HIV-1 target cells. The study seeks to recruit 60 female volunteers residing in Nairobi County and the recruitment begins in August 2014. This is a collaborative effort between the University of Nairobi, University of Toronto Canada and Kenya Medical Research Institute. The principal investigators are James Onyango Obila of University of Nairobi, Kenya and Vineet Joag of University of Toronto, Canada. The entire work will be supervised by a team from the University of Nairobi; including Professor Omu Anzala, Dr. Marianne Mureithi and Dr Julius Oyugi and from Kenya Medical Research Institute; Dr Nelly Mugo and University of Toronto; Professor Rupert Kaul.