

Research highlights new parameters for study of HIV

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A research article co-authored by Brenna Anderson, MD, director of Reproductive Infectious Diseases Consultation in the Division of Maternal-Fetal Medicine at Women & Infants Hospital of Rhode Island, was included in the recently published special issue of the *American Journal of Reproductive Immunology*.

The publication is an outgrowth of a workshop on the human immunodeficiency virus (HIV) that took place at Dartmouth Medical School in the summer of 2010. The workshop, sponsored by the National Institutes of Health and National Institute of Allergy and [Infectious Diseases](#) for invited attendees only, was designed to bring together HIV researchers who specialize in mucosal immunity. Mucosal immunity is one of the body's way of protecting itself against disease and is the next frontier for HIV researchers.

Dr. Anderson's article - co-written with Susan Cu-Uvin, MD, of The Miriam Hospital – is entitled "Clinical Parameters Essential to Methodology and Interpretation of Mucosal Responses." It explores the clinical characteristics that are important for researchers to consider when they study the female genital tract in the quest for cures for HIV.

With more than 30 million people diagnosed with HIV across the world, millions of dollars continue to be spent on research aimed at fighting the disease. While the advent of antiretroviral therapy to treat HIV has not slowed the spread of infection, research has helped health care providers understand the disease, which has changed the life expectancy of an

individual diagnosed with HIV in the United States from terminal to chronic illness.

Over the past few years, research attention has shifted from blood to the genital tract as the major point-of-entry for the virus. To effectively produce results, however, the proper guidelines must be established for research into the genital tract's mucosal immunity, Dr. Anderson noted.

"The normal values for the measurement of immune globulins, for example, vary by approximately 100-fold based on the site and method of collection within the human female genital tract," explained Dr. Anderson, who is also assistant professor of obstetrics and gynecology at The Warren Alpert Medical School of Brown University. "More efforts are needed to standardize both sampling methods and assays of female genital tract immunity."

"Research attention has shifted from management of HIV to a focus on the most common site of acquisition – the female genital tract," she explained. "If researchers do not consider specific clinical parameters when enrolling subjects into their studies, it could lead to faulty interpretation of results."

Important topics for researchers to consider, the article notes, are the method and source of sample collection, the individual patient characteristics, and, when recruiting HIV-infected women, [HIV](#) disease characteristics.

There are a number of clinical characteristics that are known to alter genital immunity, Dr. Anderson said. These include a woman's menstrual cycle, age, race, body mass index, any contraception being used, and recent intercourse.

"Contraception containing progesterone, for example, alter the cervical

mucous and the uterine lining. Given that sex hormones alter many components of genital immunity, it is likely that hormonal contraception has some impact on the innate immunity within the female [genital tract](#)," she said. "This should be considered when conducting research."

Provided by Women & Infants Hospital

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