Sterile Uterine Sampler Cover

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Technology description

This device allows for improved methods of diagnosing and treating Pelvic Inflammatory Disease (PID). PID is a polymicrobial infection of the female reproductive tract that is associated with pelvic pain, abnormal uterine bleeding, and tubal damage that can lead to ectopic pregnancies and infertility. The disease is one of the most common causes of morbidity in women worldwide, affecting nearly one million in the United States. Current diagnosing efforts are limited, due to the difficulty of procuring uncontaminated endometrium samples above the naturally contaminated vagina and distal cervix. Treatment options are also incomplete as PID is commonly treated syndromically, without the full extent of the infection being properly assessed. Additionally, there is a growing need for targeted drug delivery as to minimize adverse side effects for the patient. Our inventors have devised a new SUSC device capable of collecting uncontaminated samples from the endometrium for a more accurate diagnosis of PID. The device is composed of a long sterile cannula with a lubricated elastic silicone cover that easily stretches to fit over the cannula in a protective manner. Once the technology has been gently introduced into the cervix, a standard endometrial sampler device is inserted into the cannula to collect a specimen and then is carefully removed from the cannula without the risk of contamination. A working prototype has been developed and analyzed for optimal performance.
The University of South Florida has developed a novel, single-use sterile uterine sampler cover (SUSC) device that can be used to collect uncontaminated samples from the uterus. This invention has the added benefit of delivering nano-encapsulated drugs directly to the site of infection.

Application area

gynecology, obstetrics, biopsy, hormonal therapy, diagnosis and treatment tools

Advantages

Safely and effectively collects uncontaminated samples from the uterus Releases nano-encapsulated drugs at the site of infection for targeted drug delivery Allows characterizing and comparing intrauterine microbes with the vaginal flora

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