



[www.drstevihilgers.com](http://www.drstevihilgers.com)

May 7, 2023 · Steve Hilgers, MD

---

## Silent Impact of Endometriosis on Sperm Health

*Study shows endometriosis-associated antibodies have a negative impact on healthy sperm parameters - likely a “silent” factor impacting fertility.*

### Endometriosis is Related to Infertility

It has been well documented that the presence of endometriosis is a causative factor in couples experiencing infertility.

Endometriosis is a benign, yet often aggressive gynecologic disorder where the cells composing the endometrium (the lining of the uterus) are located in abnormal locations throughout a woman's body often impacting the ovaries, uterus, fallopian tubes, and pelvic organs.

The disease impacts nearly every aspect of human reproduction through various pathways of fertility disruption.

For example, endometriosis is known to negatively impact egg quality; inhibit normal ovulation; disrupt fallopian tube transport; block early fetal implantation; and even prevent fertilization.

Most of the discussion surrounding endometriosis and its impact on fertility largely focuses on the impact the disease has on the female reproductive system, but just as important is the impact endometriosis has on the male component of fertility - the seminal fluid.

An important study by Pillai et al. sheds light on the negative impact endometriosis has on healthy sperm parameters; and in doing so introduces a “silent” fertility factor that goes unnoticed during a traditional infertility evaluation.

### Traditional Seminal Fluid Analysis Potentially Limited

The most common test done to evaluate the male component of fertility is a semen analysis.

This examination is done in the laboratory setting where various seminal fluid parameters are evaluated including motility, volume, count, viscosity, and morphology.

But such an analysis is inherently limited given this test does not take into account the negative impact additional reproductive factors have on sperm health that can ultimately impact a couple's chances of conceiving.

To put this important concept another way, it is not the fitness of the sperm viewed under the microscope that results in natural conception, but rather the fitness of the exact same sperm after interacting with the unique environment of the female reproductive system that ultimately results in conception.

### **Study Reveals “Silent” Endometriosis Impact on Sperm Health**

The study performed by Pillai et al. specifically reveals the impact endometriosis has on healthy sperm parameters.

Specifically, the authors found that women with endometriosis have antibodies to endometrial transferrin and alpha 2-HS glycoprotein.

An antibody is an important component of the body's immune system. It is a protein created by the body in response to a triggering antigen (for example, a foreign invader such as a cold virus), which facilitates the immune-system to develop a targeted response against the offending antigen itself.

This immune response ultimately results in the destruction and elimination of the targeted antigen (in this example, the cold virus).

In this case, the two antibodies produced by women with endometriosis - endometrial transferrin and alpha 2-HS glycoprotein - were found to adversely affect sperm motility and survival.

These antibodies are present in the female pelvis and likely the fallopian tubes; and both trigger a woman's immune system in such a way that is detrimental to the health and function of the sperm necessary for conception.

Thus, it is possible for seemingly normal male sperm parameters to become abnormal following intercourse when the female reproductive system is affected by endometriosis.

Such an impact on male fertility would be “silent” in the sense that a traditional infertility evaluation, which relies solely on a laboratory-performed evaluation to determine overall seminal fluid fitness would fail to account for the negative impact endometriosis-related antibodies have on sperm following natural intercourse and during attempted conception.

## ***True Health Matters Summary***

Endometriosis impacts human fertility in multiple ways making it a complex component of a couple's infertility evaluation. The most common test performed to evaluate male infertility is a laboratory-based seminal fluid evaluation. The current study reveals the presence of certain antibodies in women with endometriosis that negatively impact seminal fluid motility and survival. Such an impact would not be detectable by a traditional seminal fluid analysis alone.

Thus, the negative impact of endometriosis on sperm health is likely underappreciated in the evaluation of couples experiencing undiagnosed infertility.

## **References:**

[1] Pillai S, Rust PF, Howard L. Effects of antibodies to transferrin and alpha 2-HS glycoprotein on in vitro sperm motion: implications in infertility associated with endometriosis. *Am J Reprod Immunol.* 1998 Apr;39(4):235-42. doi: 10.1111/j.1600-0897.1998.tb00359.x. PMID: 9553647.