

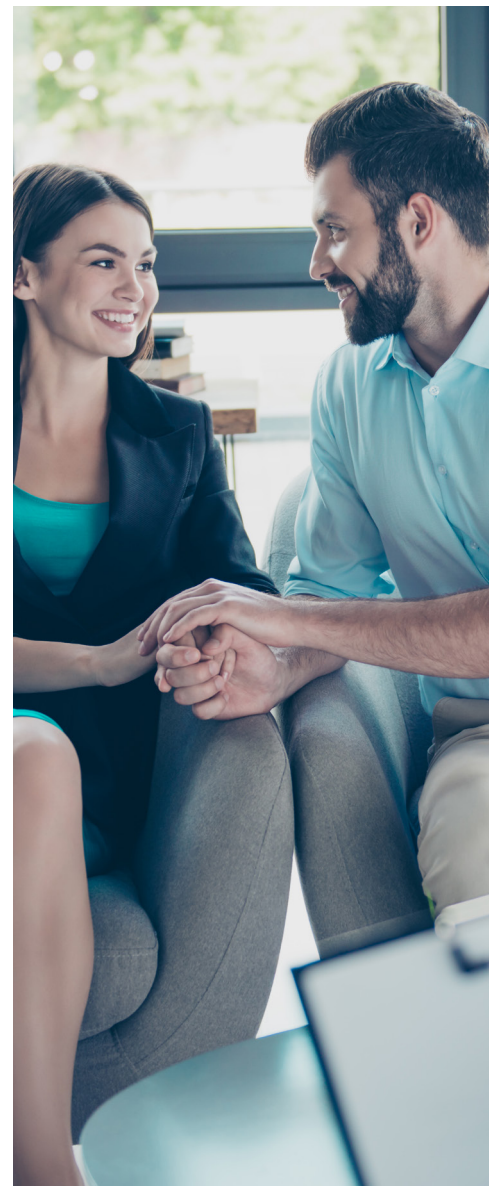
New Research Can Save Time and Money for Patients with Male-Factor Infertility

Research Analyzing Relationship between Total Motile Sperm Count (TMSC) and Clinical Pregnancies Reinforces the Importance in Fertility Testing of Both Partners Upfront

Cori Tanrikut, M.D., a board-certified urologist who is fellowship trained in Male Reproductive Medicine and Surgery and treats patients at Shady Grove Fertility's (SGF) Center for Male Fertility, along with the SGF research team use new findings from another SGF study to counsel patients about treatment strategies following a semen analysis. A total of 92,471 insemination cycles from 37,553 patients performed at a single institution from 2002 through 2018 were reviewed in this study.¹

Before an intrauterine insemination (IUI) procedure, SGF performs sperm wash to prepare the sample for insemination. Sperm washing separates the most motile, healthy sperm for insemination. Similarly, physicians can order a semen analysis with a diagnostic wash prior to recommending fertility treatments to define total motile sperm count (TMSC), or the number of sperm that are motile in the ejaculate.

(continued next page)



Relationship between Pregnancy Rates and TMSC

Total Motile Sperm Count (millions)	Number of Insemination Cycles	Number of Clinical Pregnancies	Clinical Pregnancy Rate per Cycle
<0.25	263	11	4.18%
0.25-0.49	341	14	4.11%
0.50-0.99	627	23	3.67%
1.00-1.99	1611	120	7.45%
2.00-3.99	4561	462	10.13%
4.00-4.99	2845	331	11.63%
5.00-5.99	3109	400	12.87%
6.00-6.99	3474	484	13.93%
7.00-8.99	6810	976	14.33%
≥9	68830	11496	16.70%

New Research Can Save Time and Money for Patients with Male-Factor Infertility *(continued)*

While a diagnostic semen analysis calculates the TMSC, the wash reveals the true number of highly motile sperm.

"While IUIs are oftentimes associated with lower pregnancy rates compared to more high-tech treatments like IVF, the idea is to optimize success for clinical pregnancy by inseminating the uterine cavity with the most motile, healthy sperm," says Dr. Tanrikut.

➔ A total motile sperm count (TMSC) of 9 million or greater has a 16.7% clinical pregnancy rate per cycle.

Based on the largest study of its kind, the research shows that a successful clinical pregnancy was optimized with a post-wash TMSC of 9 million. If the count was more than 9 million, the same success rates were observed, even if the sample had upwards to 20 million moving sperm. Although not as common, pregnancies were still achieved even with a TMSC of less than 250k.

"Knowing this, we can take that same principle of diagnostic testing used in preparation for IUI and repurpose the process as a counseling tool for male patients whose initial semen analysis results don't yield a strong TMSC," explains Dr. Tanrikut. "Depending on the results, we can counsel patients to either move forward with IUI or recommend more advanced treatment options to help patients save precious time and expense with other treatment strategies."

¹Muthigi A, et al. Clarifying the relationship between total motile sperm counts and intrauterine insemination pregnancy rates. *Fertil Steril*. 2021 Jun;115(6):1454-1460. doi: 10.1016/j.fertnstert.2021.01.014. Epub 2021 Feb 18. PMID: 33610321.

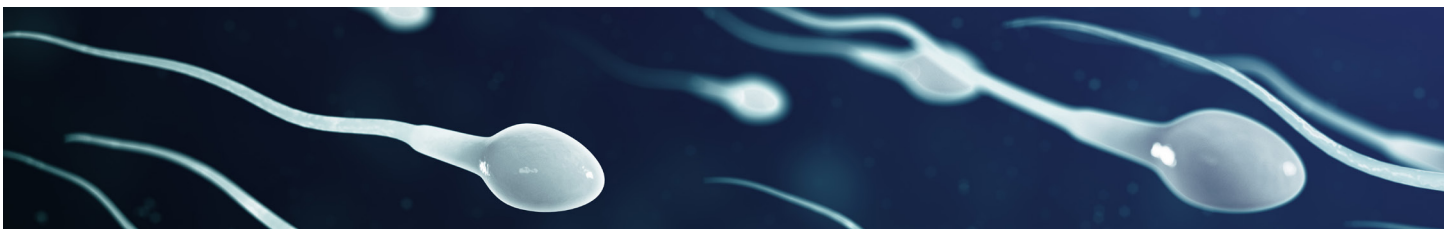
Male Factor Infertility Causes 40-50 Percent of Infertility Cases

June is Men's Health Month, a time dedicated to heightening awareness of preventative healthcare, as well as early detection and treatment of predominately male diseases, conditions, or health risk factors. One such condition that is very real for our community is male factor infertility, affecting 40 to 50 percent of couples who are struggling to conceive.

With the prevalence of male factor infertility so high, SGF reminds of the importance of early testing for both female *and* male partners when working to identify potential obstacles that are preventing a couple from getting pregnant.

A Shady Grove Fertility (SGF) study revealed that 44 percent of couples did not complete fertility testing of both partners at the same time before seeing a fertility specialist – and, in some cases, fertility treatment was initiated before the male partner was even tested.

When infertility is suspected, SGF encourages an initial semen analysis – a non-invasive, low-cost test that assesses a patient's sperm count, motility, and morphology – to coincide with female fertility testing. Identifying a male factor early helps save your patients significant time, money, and heartache.



My Patient's Semen Analysis Results Are In: What Next?

With 1 in 8 couples of reproductive age struggling with infertility, the goal when using assisted reproductive technology (ART) is to "upgrade" their fertility status. When a semen analysis shows a borderline or low sperm count, patients can undergo a diagnostic sperm wash to give a more accurate expectation of TMSC expected to be obtained for IUI treatment, and thereby obtain a refined understanding of their chances of success.

Layers of Male Testing

SEMEN ANALYSIS

Provides insight to overall quality and quantity of sperm by focusing on four parameters: volume, count, motility, and morphology.

SEMEN ANALYSIS WITH DIAGNOSTIC WASH

Washes the sperm sample to its most concentrated form with the healthiest and most motile sperm.



How to Interpret Semen Analysis Results

VOLUME

Normal ≥ 1.5 to 5 mL

A lower semen volume can deliver fewer sperm to the cervix whereas a higher volume can dilute sperm concentration.

CONCENTRATION

Normal ≥ 15 million sperm/mL

A low concentration implies natural conception will likely be difficult. Assisted reproduction or a male factor evaluation may be needed.

MOTILITY

Normal $\geq 40\%$ motile

Higher numbers of forwardly progressive motile sperm suggest the sperm will be able to swim through the reproductive tract to reach the egg.

MORPHOLOGY

Normal $\geq 4\%$ normal forms

Abnormal sperm morphology may affect the sperm's ability to bind with and fertilize an egg.

VISCOSITY

Normal = Low to Moderate

Higher viscosity can hinder the ability for the sperm to travel to reach the egg.



85,000
babies born



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How Sperm Counts are Valuable Counseling Tools

The Center for Male Fertility at SGF, led by board-certified urologists who are fellowship trained in male infertility, Paul R. Shin, M.D., and Cori Tanrikut, M.D., in collaboration with SGF's medical research team, use new findings from a study analyzing 16 years' worth of intrauterine insemination (IUI) cycles to better counsel patients about treatment options.

SGF's research clarifies the relationship between total motile sperm count after IUI preparation and the chance of pregnancy. In men with borderline or poor semen analysis results, we can perform sperm washing as an additional diagnostic test to guide decision-making, potentially saving patients precious time and expenses.

LEARN MORE ABOUT SPERM HEALTH AND SGF'S LATEST MALE FERTILITY RESEARCH >>>

Suspecting Infertility?

When to recommend a semen analysis for men and an infertility workup for women

At 1 year

of regular unprotected intercourse (if the woman's age is <35)

At 6 months

of regular unprotected intercourse (if the woman's age is ≥ 35)

Before starting medication to treat anovulation