

[« Back](#)[Print Campaign](#)

April 2004

Volume 7 Issue 4

Bruce R. Gilbert, MD, PhD, PC Newsletter

in this issue

- **Is SCSA the Ultimate Male Fertility Test?**
- **Viagra® Impairs Male Fertility?**
- **Diabetes and FAA Medical Certification**

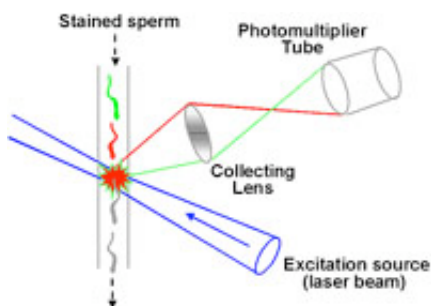
Greetings!

Welcome to our Newsletter! Our continued goal is to provide a forum for discussing exciting new developments, office research protocols and answers to frequently asked questions in male fertility, male and female sexual function and complementary approaches for Urologic disease.

I appreciate all the great suggestions I continue to receive. Please e-mail me any questions, comments or suggestions for future topics.

Viagra® Impairs Male Fertility?

Is SCSA the Ultimate Male Fertility Test?



What happens when sperm number, motility and morphology is normal, the woman's evaluation is unrevealing and the couple still has difficulty conceiving or maintaining a pregnancy? This common occurrence is one of the most frustrating scenarios for couples. However, a new test called the Sperm Chromatin Structure Assay (SCSA) may give an answer to the couple's infertility when all other tests have not.

The SCSA can detect sperm samples that have a high degree of DNA fragmentation (small breaks in the sperm chromosomes). Highly fragmented sperm (>30%) has been associated with a nearly "four-fold reduction in term pregnancies and a doubling of



Viagra®, first introduced in 1998, has been prescribed to over 16 million men. The intended use was for older men with

erectile dysfunction. More recently the use has expanded to younger men with "situational erectile dysfunction." These younger men are of reproductive age and might unknowingly be taking a drug that might interfere with their fertility. In men taking Viagra®, a routine semen analysis might demonstrate a normal number of very motile (active) sperm...but possibly functionally impaired due to their use of Viagra®.

NewScientist.com's news service reports on work from Dr. David Glenn and his group in the Department of Obstetrics and Gynaecology at Queen's University in Belfast, Northern Ireland. The work was presented at the Annual British Fertility Society Meeting in Cheltenham. The work of these investigators suggests that the PDE5 inhibitor Sildenafil (Viagra®) increases sperm motility and speeds up the acrosome reaction. The acrosome reaction is necessary to release enzymes that allow the sperm to penetrate the egg (oocyte) in the process of fertilization. Impairment of the acrosome reaction would result in decreased oocyte fertilization. Although these in vitro (test tube) studies are preliminary they are supported by previous work by the group in mice. "Male mice

pregnancies and a doubling of miscarriages". The SCSA does not correlate with the sperm's ability to fertilize the oocyte and is independent from semen analysis as an indicator of fertility.

The assay uses a sophisticated technique (flow cytometer) to quantitate the percentage of sperm with intact vs. fragmented chromatin (DNA). The use of the SCSA was first described by Evenson and Jost in 2000 (Methods Cell Sci. 2000;22(2-3):169-89) and has been shown to be an independent indicator of male fertility in several studies.

Indications for the SCSA assay still need to be defined.

Nonetheless the SCSA is an exciting new test in our quest to better understand and give solace to our patients seeking answers to their infertility.

[for additional information...](#)

given Viagra and then mated with females produced 40 per cent fewer embryos than those given a control pill. And in culture, these embryos were also less likely to survive to the five-day blastocyst stage."

In Dr. Glenn's study, half of the 45 semen samples from subfertile men were treated with Viagra® and half served as a control. They used a blood plasma concentration of a single 100 milligram dose. They noted an increased motility (as compared to control) from 15 minutes to 135 minutes. In addition, at 2 hours 79% more sperm incubated with Viagra® were fully acrosome reacted. Glenn speculates that Viagra triggers the acrosome reaction early by increasing the movement of calcium into the cell, which changes intracellular pH. Glenn also speculates that Viagra® blocks an enzyme (phosphodiesterase) involved in intracellular energy processes, resulting in increased sperm motility.

It should be stressed that this report is preliminary and not yet published in a peer reviewed journal. Nonetheless, this report points up the need to rigorously test these "quality of life drugs" for reproductive effects prior to widespread usage.

[the New Scientist article... »](#)

Diabetes and FAA Medical Certification

Quick Links...

- [Register for the Newsletter!](#)
- [Newsletter Archives](#)
- [Ongoing Clinical Research](#)
- [Medical Practice Website](#)
- [New York Cryo Website](#)
- [Pilot Information](#)



A student pilot writes: "I have been diagnosed with Type 2 Diabetes (maturity onset). I have been placed on the oral medications Glucophage and Glyburide twice daily. Does this

prevent me obtaining a medical certificate?"

Not necessarily! Although Diabetes Mellitus is a disqualifying condition...it doesn't mean that you can't get a medical certificate. A Special Issuance Medical Certificate can be granted by the FAA (see the link below for additional information).

[Additional information... »](#)

email: bruce.gilbert@verizon.net
voice: 516-487-2700
web: <http://www.BruceGilbertMD.com>

Bruce R. Gilbert,MD,PhD,PC • 900 Northern Blvd. • Suite 230 • Great Neck • NY • 11021

[Forward email](#)

Powered by



 **SafeUnsubscribe™**

This email was sent to bruce.gilbert@verizon.net, by [Bruce R. Gilbert, MD, PhD, PC](#).
[Update your profile](#) | Instant removal with [SafeUnsubscribe™](#) | [Privacy Policy](#).

