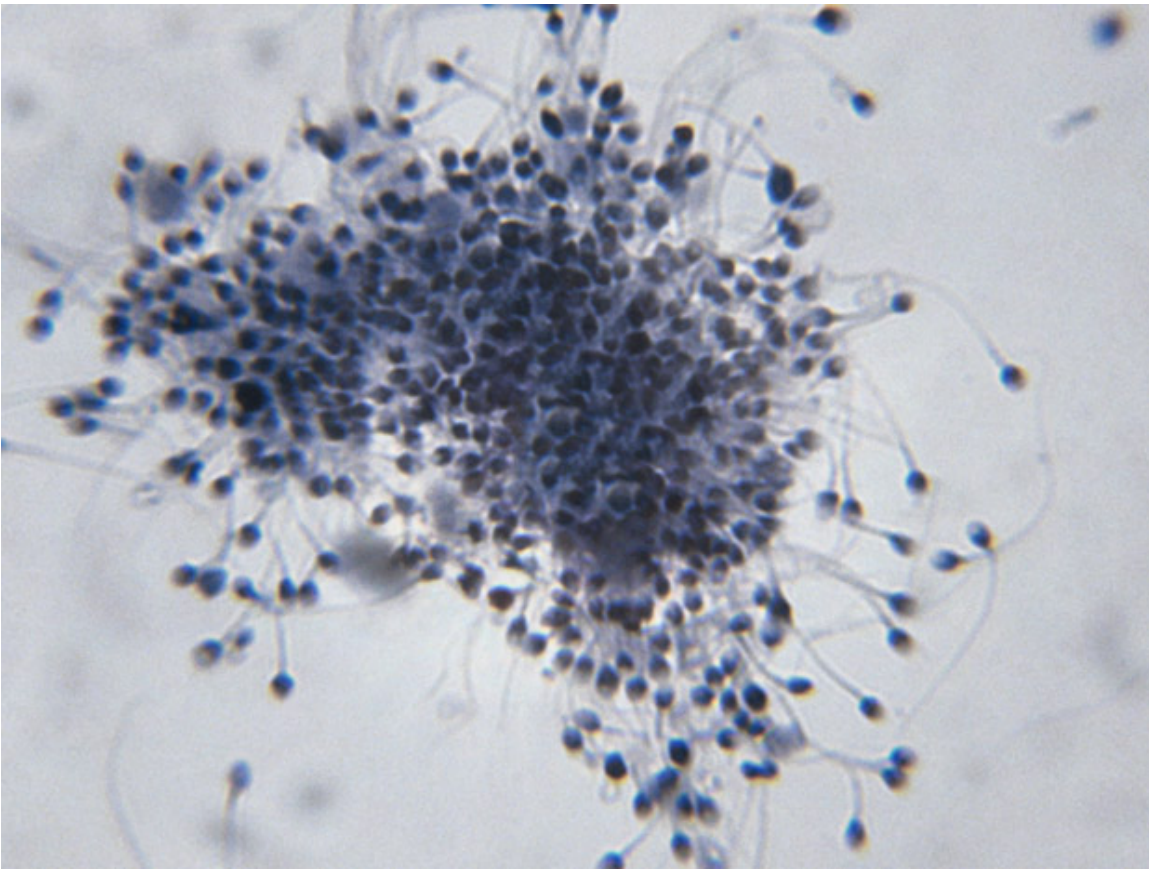


Laptops might be damaging sperm: studies



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The findings are preliminary but Dr. Sergey Moskovtsev, a male-fertility expert who did one of the studies at Toronto's CReATe fertility clinic, said he suspects computers are one of a number of factors in modern life that are feeding high levels of infertility.

Tom Blackwell, National Post · Oct. 28, 2010

They are a fixture of modern human existence, but laptop computers may actually be limiting propagation of the species, suggest two new studies, one of them Canadian.

Being close to heat or other radiation from the devices seems to undermine the quality of sperm in some instances, possibly hindering fertility as a result, the research from Toronto and Argentina concluded.

The small Canadian study found that sperm exposed in a laboratory to a laptop computer had lower levels of motility — the capacity to squirm toward eggs and start the reproductive process — than unexposed sperm.

The Argentine research, presented this week at the American Society for Reproductive Medicine conference in Denver, found reductions in motility and potentially more serious DNA damage for sperm kept close to a laptop — and suggested WiFi radio waves were to blame.

The findings are preliminary but Dr. Sergey Moskovtsev, a male-fertility expert who did one of the studies at Toronto's CReATe fertility clinic, said he suspects computers are one of a number of factors in modern life that are feeding high levels of infertility.

Although there is no conclusive evidence yet that laptops cause sperm damage, Dr. Moskovtsev, who is also a scientist at Mount Sinai Hospital, suggested men limit use of them.

“It's our culture right now. Everything is computerized, you shop by going online, you can go to school online,” he said. “I think it has to be a healthy balance between the virtual world and reality.... Right now, it's really over the top, the use of computers.”

The new findings follow on an American study published in 2004, which concluded that using a laptop computer for an hour raised the temperature of the scrotum by close to three degrees. Heat is known to compromise sperm production and quality.

The paper Dr. Moskovtsev and colleagues presented at the Canadian Fertility and Andrology Society conference earlier this month suggested the sperm changes were a result of thermal radiation — heat — meaning that keeping the computer off the lap might avoid problems. But he said it is possible that other factors are at play.

His study, not yet published in a peer-reviewed journal, took semen samples from 15 patients and placed some under a device that kept the heat at average scrotum temperature and others under a laptop, finding the difference in motility. The laptop heat was not linked, however, to another type of sperm damage, called DNA fragmentation, that might affect the health of the resulting offspring as well as ability to conceive.

Dr. Moskvtsev's team is conducting a further study on the impact of laptops on the semen of men who already have fertility problems, speculating their sperm is more likely to suffer DNA harm from computers.

The Argentine study, headed by Dr. Conrado Avendaño of the Nascentis reproductive medical centre in the city of Cordoba, compared semen incubated for four hours with no computer nearby, and for four hours close to a laptop. They found the computer sperm had lower motility and more DNA fragmentation.

"We speculate that keeping the laptops [in WiFi mode] on the lap near the testes may result in decreased male fertility," the scientists say in a summary of the research.

Dr. Moskvtsev said he believes that male infertility generally — which accounts for 50% of reproductive problems faced by couples — has been given short shrift by the medical-scientific community. A number of unknown environmental factors may be affecting sperm, he said, citing a Florida study that found crocodiles living near a plastics plant had unusually small penises.

"Everyone is talking about the female factor. It's like in the old days: everyone would blame the wife that she could not get pregnant," he said. "We have to educate not only our patients, but also our physicians because ... we sometimes see that someone has treated a female [for infertility] for years, but no one checked the guy."

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