

## This STD is more common than gonorrhea, but few people know about it. Researchers are hoping to change that

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Johns Hopkins researchers are spearheading efforts to raise awareness and learn more about a sexually transmitted disease few people know about but scientists believe makes people infertile.

Many people infected with <u>mycoplasma genitalium</u>, or Mgen for short, don't show symptoms and might not know they are carrying the <u>disease</u>. There's no approved <u>test</u> for it, which makes it difficult to track, but doctors believe it's more common than gonorrhea, infecting about 1 to 3 percent of the population.

While scientists have known about the bacterial infection since 1980, the U.S. Centers for Disease Control and Prevention officially acknowledged the disease only in 2015, including it for the first time in their assessment of STDs. But there is rising concern about the risk of the infection's spread given the lack of symptoms and because some strains have been found to be resistant to antibiotics, limiting treatment options.

At the Johns Hopkins Bloomberg School of Public Health, researchers are conducting a trial on a test that can detect Mgen.

Dr. Maria Trent, a professor of pediatrics and <u>public health</u> at Johns Hopkins Medicine, got involved in the work through her interest in studying fertility preservation in high-risk youth. She's also looked at the disease's link to <u>pelvic inflammatory disease</u> and how prevalent the disease is in the general population.

"Our research really suggests that if nothing else, we should think carefully about how we might begin to incorporate testing for Mgen on a regular basis," Trent said.

The test Trent is analyzing was developed by Australia-based SpeedX and is being used in Europe, the United Kingdom, Australia and New



Zealand. Her research will help determine its effectiveness so it can get approval from the U.S. Food and Drug Administration for use here.

The test also checks for biomarkers linked to antibiotic resistance, so doctors can determine whether a patient needs something other than the common treatment, which is the antibiotic azithromycin.

"The diagnostic testing has not always been there until the advent of genetic testing," SpeedX CEO Colin Denver said. "Now we can determine if there needs to be a second line of treatment."

Clinical trials analyzing the test also are being conducted at the University of Alabama at Birmingham and TriCore Reference Laboratories in Albuquerque, N.M.

The Massachusetts-based company Hologic is seeking FDA approval for a different diagnostic test.

When people with Mgen do develop symptoms, they are often similar to those brought on by chlamydia and gonorrhea. Men can develop watery discharge from the penis and painful urination. Women might have vaginal discharge, pain during sex and bleeding after, and pain in the pelvic area.

Patients are often misdiagnosed and given antibiotics for other STDs rather than Mgen, mainly because doctors aren't as familiar with the disease. The real disease might be left untreated.

Research has linked Mgen to infertility, but more large-scale studies need to be done to gather more conclusive evidence, researchers said.

Some studies have shown, for instance, that it can lead to urethritis—inflammation of the urethra, which carries urine from the



bladder to the penis—in men, but the CDC said it is not yet clear enough whether it leads to male infertility.

The federal agency said the data are even less conclusive on women. The Mgen bacteria are found in the cervix or the uterus lining of women with pelvic inflammatory disease, a common cause of infertility, more often than women without it. How often women experience pelvic inflammatory disease has been understudied, the CDC said.

Some researchers believe women who develop multiple cases of pelvic inflammatory disease might have been treated for the wrong STD.

Studies also found that women with infertility caused by scarring of the fallopian tubes, which carry eggs from the ovaries to the uterus, also are more likely to have antibodies related to Mgen than fertile women, suggesting that this organism might cause female infertility, the CDC said.

However, more research is needed.

While Mgen is thought to affect only a small fraction of the population, the incidence increases for high-risk populations, such as young people with multiple partners, said Lisa Manhart, a professor of epidemiology and global health at the University of Washington who has studied Mgen for many years. It is believed to affect as much as 20 percent of that population, she said.

Because Mgen doesn't show symptoms and there is not standardized test, people might be damaging their reproductive system without knowing it.

"With (Mgen) there is this vile inflammation that a woman isn't aware of," Manhart said. "But it is the inflammation that causes the damage that can cause the infertility."



Other countries have been ahead of the curve with treating Mgen. This past summer, the British Association of Sexual Health and HIV published guidelines to better detect and treat the disease.

In the United States, tracking of the disease is spotty with most data coming from smaller research studies. Doctors aren't required to report the disease to local health departments the way they are other STDs.

But the disease has been pushed more to the forefront in the United States in recent years as more research has been conducted on it, giving some scientists hope.

The CDC's decision to designate Mgen as an STD—although the agency didn't go as far as to recommend routine testing—will help bring more attention to the disease.

A routine test could help generate more data to better understand Mgen, researchers said.

"How can you talk about treating mycoplasma if you don't have a way to test for it," said Charlotte A. Gaydos, a professor in the division of infectious diseases at Johns Hopkins University School of Medicine, who is working on the <u>research</u> with Trent. "We have our fingers crossed that we get approval."

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