

Does COVID cause erectile dysfunction? Recent studies have answers to this question

Lindy Washburn

Published 4:30 a.m. ET Aug. 8, 2022

Men are hit harder by COVID. They are more likely than women to become severely ill, and more likely to die of the disease. Now a growing body of research shows that COVID also affects them in ways they may not want to talk about; COVID can cause erectile dysfunction and infertility.

Recent studies have shown that the virus can lower testosterone levels and sperm counts. The good news is that these effects, for most, are temporary. Treatments are available.

And specialists in urology and reproductive health emphasize that vaccines for COVID have no such side effects. They highly recommend that all men get vaccinated as a way to avoid these complications.

“I’ve seen patients who never had troubles with erections, orgasm or their sex drive and then they got COVID,” said Dr. Danielle Velez, a specialist in male infertility and sexual dysfunction at Robert Wood Johnson Medical School in New Brunswick.



Dr. Danielle Velez, a urologist specializing in male infertility and sexual dysfunction, at Robert Wood Johnson University Hospital in New Brunswick. *Shelley Kusnetz*

The link between COVID and erectile dysfunction is real

“When you have acute COVID, for a variety of reasons you can have a much higher chance of erectile dysfunction,” said Dr. Hossein Sadeghi-Nejad, a physician with New Jersey Urology, director of the Center for Male Reproductive Medicine at Hackensack University Medical Center and a professor at Rutgers New Jersey Medical School.

“Part of it is the anxiety and stress of being confined to home,” he said, referring to the early days of pandemic lockdowns and the isolation periods after a positive test result.

But there are also physiological reasons. “There are a lot of things that have to go into a good erection,” said Velez. “It’s not just being in the right mindset — it’s a delicate interplay of hormones firing at the right time, adequate blood flow, and functional nerves sending signals to the penis.”

A study titled “Mask up to keep it up” surveyed 100 sexually active men in Italy during the pandemic’s early months. It found “a significant effect of COVID-19 on the development of erectile dysfunction,” even after correcting for the men’s psychological state, obesity and age.



Dr. Hossein Sadeghi-Nejad, director of the Center for Male Reproductive Medicine at Hackensack University Medical Center, professor of urology at Rutgers New Jersey Medical School and physician with New Jersey Urology, part of Summit Health. Courtesy Hackensack Meridian Health

COVID infection can reduce testosterone levels. Testosterone, a hormone produced in the testes, is important because it affects libido and muscle strength, among other functions. When the virus attacks, “it sort of shuts the factory down,” said Sadeghi-Nejad. That’s because cells in the testes, like those in the lungs, heart and blood vessels that have been vulnerable to COVID, have a protein on their surface where the virus likes to bond. The virus’s spike protein fits into this surface protein like a key into a lock, allowing it to invade the cell. Evidence suggests that the more severe the COVID infection, the greater the reduction in testosterone, Sadeghi-Nejad said.

The virus can affect the blood vessels of the penis. The SARS-CoV-2 virus also bonds with epithelial cells that line the blood vessels of the penis. That can affect the blood flow essential to a good erection. Epithelial cells line blood vessels elsewhere in the body and the lungs, where COVID’s effects on clotting and inflammation have been well-documented. The effect is similar.

The virus also can cause swelling of the testicles and epididymis, the sperm-producing organ next to the testis. Several small studies found that 10% to 22% of men with active, severe COVID illness suffered these effects.

Those who had preexisting erectile dysfunction also were more likely to get severe illness with COVID, it found. The conditions that predispose men to erectile dysfunction — high blood pressure, diabetes, obesity and a history of heart disease — also increase the risks of COVID.

COVID's impact on sex drive can have long-term consequences

Their experiences “run the gamut,” she said, “from ‘It’s really crept up on me; I have less and less interest in sex and worse erections,’ to some who said it was like a light switch. Suddenly they couldn’t get an erection and had zero interest in sex anymore.”



A positive COVID test can cause anxiety, but there are also physiological reasons why men's health is affected. David Dermer, AP

For a 40-year-old ex-Marine and police officer who chose not to get vaccinated, a COVID infection in March 2021 had life-changing consequences.

James, who asked that only his middle name be used, to protect his privacy, was sick for three weeks and developed bronchitis and pneumonia, but did not seek hospital care. “When I started to get a little bit of my energy back,” he said, “it was very difficult to be intimate with my wife.”

Over time, his continuing symptoms, which also included a cough, tightness in his chest and fatigue, led him to seek care for long COVID symptoms at Robert Wood Johnson University Hospital. After a referral to Velez, he began treatment with testosterone and another medication intended to help preserve fertility.

But by that time, his wife had left him.

There were other reasons for the end of their 18-year marriage, James said, but COVID’s impact on their sex life was part of it.

“I feel like an old, fat man,” he said. “I get tired just going up the stairs with laundry.” He is focused on increasing his testosterone levels to reduce his fatigue, and has applied for early retirement from the police department.



Sperm are affected in three ways by COVID — their concentration, travel speed (motility), and shape (morphology). Noipornpan, Getty Images/Stockphoto

Does COVID affect pregnancy?

In addition, COVID causes temporary infertility in some men.

“We know that COVID infections can turn off, or down-regulate, sperm production,” said Dr. Eric Seaman, a urologist and male fertility expert at New Jersey Urology, part of Summit Health. But “unless they’re so sick they’re hospitalized, in three months men are

pretty much back where they started from.”

Fever and inflammation can influence sperm production. Experts say sperm are affected in three ways by COVID: their concentration, travel speed (motility) and shape (morphology). Said Sadeghi-Nejad: “All of these can affect fertility rates.”

COVID infection “was associated with slightly longer time-to-pregnancy among couples where the male partner had recently tested positive for COVID19,” researchers at the Boston University School of Public Health found, in a study published in January. “The association went away after 60 days.”

The couples were 18% less likely to conceive within 60 days of the man’s positive COVID test, but there was no difference if the infection had occurred more than two months before, according to the study, funded by the National Institutes of Health. It analyzed data from more than 2,000 couples who were trying to get pregnant from December 2020 through September 2021 and participated in the PREgnancy STudy Online (PRESTO).

Any delay can be difficult for couples eager to have a baby. “The hardest part about fertility, once a couple decides they want to have a baby, they want to be pregnant yesterday,” said Velez. “It can take a while to see a positive pregnancy test.”

Men with concerns about the long-term effects of COVID on their sexual or reproductive health should see a specialist, said Sadeghi-Nejad. “There are solutions.”

For James, the ex-Marine being treated for low testosterone, fertility has not been an issue. He has signed on as a sperm donor with an online app, he said, and was approached by a lesbian couple who wanted to have a baby.

“I have helped a couple couples conceive,” he said.

Current research suggests that the risk of sexual transmission of COVID by men who are fully recovered is negligible, a study published in February reported.

Does the COVID vaccine affect pregnancy?

COVID vaccines, in contrast to COVID disease, do not affect fertility or men’s sexual function, according to several studies.

The study of more than 2,000 couples, funded by the National Institutes of Health, “found no differences in the chances of conception if either male or female partner had been vaccinated, compared to unvaccinated couples.”

The results were similar regardless of the type of vaccine, whether one or two doses had been received by either the man or the woman, how recently they’d been vaccinated, or whether they were health care workers or had a history of infertility, the NIH said.

The American Society for Reproductive Medicine, which includes specialists in both male and female reproductive health as well others, strongly urges people who are trying to get pregnant to get vaccinated. “There is no current credible evidence to support that COVID-19 vaccines may impact fertility,” its recap of the research said in March 2021. “However, there may be a negative impact of COVID-19 disease on male fertility.”



The Moderna COVID-19 vaccine. Rogelio V. Solis, AP

And the Centers for Disease Control and Prevention says there is currently no evidence that COVID vaccines cause fertility problems in women or men.

Specialists in the field get questions about this all the time, they said.

“That’s a very important take-home message,” said Sadeghi-Nejad. “We as a community of reproductive endocrinologists and male fertility specialists very much encourage our patients to get vaccinated.”