

COVID-19 Vaccine & Fertility

There is no evidence that any of the COVID-19 vaccines can cause infertility. The [American College of Obstetricians and Gynecologists](#) (ACOG), [Johns Hopkins Medicine](#), the [American Medical Association](#), and [Harvard Medical School](#) are just a few of the organizations that have addressed favorable comments towards the topic of COVID-19 vaccination and pregnancy. The links highlighted provide further depth.

Can you tell me more about the COVID-19 vaccine and infertility claim?

The Claim:

The Pfizer and Moderna mRNA COVID-19 vaccines work by providing our cells with temporary instructions for how to make a protein found on the surface of the virus that causes COVID-19, which is called the spike protein. Our cells then present these spike proteins to our immune system, which will teach the body how to recognize and destroy the virus that causes COVID-19 if you are ever exposed in the future. Syncytin-1, also known as enverin, is a protein that is found in the brain and is also needed for placental formation. It is fundamental for successful pregnancies in humans and other mammals. The claim spread widely on social media suggests that mRNA COVID-19 vaccines may cause the body's own immune system to target and attack syncytin-1 because it has some similarities to the spike protein, and this could theoretically lead to infertility.

Addressing the Misinformation:

In reality, the coronavirus spike protein and syncytin-1 share only a few similarities (just a few amino acid sequences). Luckily, our immune system responds to proteins as a whole, not to the very short amino acid sequences that comprise them. The amino acid sequence shared among the spike protein and syncytin-1 is too short and does not make up a complete protein, so it is

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not plausible that our immune system would cross react and attack the placental protein following vaccination. Additionally, given that there are only 20 different types of amino acids that make up proteins, it is not surprising that many proteins share some similarities. Synctin-1 shares short amino acid sequences with many proteins, not just the SARS-CoV-2 spike protein.

Dr. Stephanie Langel, an immunologist and expert in maternal and neonatal immunity at Duke University, has [stated](#): "The two proteins share only a minuscule stretch of material; mixing them up would be akin to mistaking a rhinoceros for a jaguar because they are wearing the same collar."

Where did this claim come from?

The claim that COVID-19 vaccine causes infertility appears to originate from a blog called Health and Money News in December of 2020. The blog's unfounded claims and the misinformation it presented has been shared thousands of times on social media and continues to circulate even though the claim has been [widely debunked](#).

The original post includes comments attributed to Michael Yeadon. The original blog post states that Yeadon is the "Head of Pfizer Research". This is not true. Michael Yeadon is not, nor has he ever been, the head of Pfizer Research. He is actually a retired British doctor and former Pfizer employee who has been repeatedly criticized for his [misleading views on coronavirus](#). Additionally, according to his [Linkedin profile](#), Yeadon worked on allergy and respiratory research for Pfizer - NOT vaccine research and development. Further, he left the company in 2011, eight years before the start of the COVID-19 pandemic.

Do we have any data on the use of COVID-19 vaccine and infertility?

COVID-19 vaccines are both safe and effective. Over 452 million doses of vaccine have been administered in the U.S. under the most intensive safety monitoring in [our history](#). Results from these monitoring efforts are reassuring that COVID-19 vaccine is [not associated](#) with infertility, as [thousands of women](#) have become pregnant following vaccination. Additionally, the CDC is monitoring over 177,000 pregnant women who have received a COVID-19 vaccine. No unexpected pregnancy or infant outcomes have been [observed](#), including miscarriages, related to COVID-19 vaccination during pregnancy.

Development and reproductive toxicity (DART) studies, which use animal models, were conducted to ensure safety of vaccines prior to use in pregnant women. [Results](#) from DART studies for the Pfizer, Moderna, and Johnson & Johnson COVID-19 vaccines showed no safety concerns in pregnancy.

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It is also important to consider that compared to non-pregnant women with COVID-19 who are the same age, pregnant COVID-19 patients are at [higher risk](#) for ICU admission, use of mechanical ventilation, preterm birth, [stillbirth](#) and death. The [CDC](#), [ACOG](#), and [SMFM](#) have stated that pregnant women should receive COVID-19 vaccine and have strongly refuted the claim that the vaccine may cause infertility.

Does the COVID-19 vaccine affect sperm count?

There are claims that the COVID-19 vaccine decreases sperm count in individuals who receive the vaccine. Multiple studies, [here](#) and [here](#), have found no significant decrease in sperm count in individuals who received the vaccine.

Another [study](#) studying the effect of the Pfizer vaccine on male fertility through semen analysis parameters found that the vaccine had no negative effects on semen volume or concentration.

Can you tell me more about the COVID-19 vaccine and menstrual cycle changes?

There have been anecdotal reports of temporary changes in menstruation patterns (e.g., heavier menses, early or late onset, and dysmenorrhea) in individuals who have recently been vaccinated for COVID-19. While environmental stresses can temporarily impact menses, vaccines have not been previously associated with menstrual changes

A [study](#) found a temporary, non-clinically significant change in cycle length of less than one (1) day and no change in the length of menstrual bleeding. The data support that any effect of the COVID-19 vaccines on menstruation is minimal and temporary and should not be a reason for individuals to avoid vaccination

Additionally, a [study](#) using electronic health registry data assessing the risks of menstrual cycle changes after COVID-19 vaccination showed that there was very weak and inconsistent associations between COVID-19 vaccination and menstrual cycle changes in pre- and post-menopausal women that lead to contact with healthcare. Findings in this study did not support any association between COVID-19 vaccination and healthcare contacts due to menstrual cycle changes.

Where can I find more information?

There are a number of reputable resources which have addressed the topic of COVID-19 vaccine and infertility. For more information check out the following link.

- [COVID-19: No evidence that vaccines can affect fertility, says new guidance | The BMJ](#)
- [Medical Experts Continue to Assert that COVID Vaccines Do Not Impact Fertility | ACOG](#)
- [Information about COVID-19 Vaccine for People who Are Pregnant or Breastfeeding | CDC](#)

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