

## **COVID-19 Vaccine Myths Debunked part 2**

**Myth: More people will die as a result of a negative side effect to the COVID-19 vaccine than would actually die from the virus.**

**Fact:** Circulating on social media is the claim that COVID-19's mortality rate is 1%-2% and that people should not be vaccinated against a virus with a high survival rate. However, a 1% mortality rate is 10 times more lethal than the seasonal flu. In addition, the mortality rate can vary widely and is influenced by age, sex and underlying health condition.

While some people that receive the vaccine may develop symptoms as their immune system responds, remember that this is common when receiving any vaccine and not considered serious or life-threatening. You cannot get COVID-19 infection from the COVID-19 vaccines; they are inactivated vaccines and not live viruses.

It's important to recognize that getting the vaccine is not just about survival from COVID-19. It's about preventing spread of the virus to others and preventing infection that can lead to long-term negative health effects. While no vaccine is 100% effective, they are far better than not getting a vaccine. The benefits certainly outweigh the risks in healthy people.

**Myth: The COVID-19 vaccine was developed as a way to control the general population either through microchip tracking or nano transducers in our brains.**

**Fact:** There is no vaccine "microchip" and the vaccine will not track people or gather personal information into a database. This myth started after comments made by Bill Gates from The Gates Foundation about a digital certificate of vaccine records. The technology he was referencing is not a microchip, has not been implemented in any manner and is not tied to the development, testing or distribution of the COVID-19 vaccine.

**Myth: The COVID-19 vaccine will alter my DNA.**

**Fact:** The first [COVID-19](#) vaccines to reach the market are likely to be messenger RNA (mRNA) vaccines. According to the CDC, mRNA vaccines work by instructing cells in the body how to make a protein that triggers an immune response. Injecting mRNA into your body will not interact or do anything to the DNA of your cells. Human cells break down and get rid of the mRNA soon after they have finished using the instructions.

**Myth: COVID-19 vaccines were developed using fetal tissue.**

**Fact:** Neither the Pfizer/BioNTech COVID-19 vaccine nor the Moderna COVID-19 vaccines contain fetal cells nor were fetal cells used in the development or production of either vaccine.

**Myth: COVID-19 vaccines cause infertility or miscarriage.**

**Fact:** No, COVID-19 vaccines have not been linked to infertility or miscarriage.

A sophisticated disinformation campaign has been circulating online, claiming that antibodies to the spike protein of COVID-19 produced from these vaccines will bind to placental proteins and prevent pregnancy. This disinformation is thought to originate from internet postings by a former scientist known to hold anti-vaccine views.

These postings are not scientifically plausible, as COVID-19 infection has not been linked to infertility. Also, no other viral infection or vaccination-inducing immunity by similar mechanisms has been shown to cause infertility. Antibodies to the spike protein have not been linked to infertility after COVID-19 infection. There is no scientific reason to believe this will change after vaccination for COVID-19.

While there are no formal studies, the best evidence comes from women who got sick with COVID-19 while pregnant. While data clearly indicate pregnant women are at higher risk of hospitalization due to COVID-19 infection, there is no evidence of increased miscarriage rates.

During natural infection, the immune system generates the same antibodies to the spike protein that COVID-19 vaccines would. Thus, if COVID-19 affected fertility, there already would be an increase in miscarriage rates in women infected with COVID-19. This has not happened.

**Myth: I am allergic to eggs so I shouldn't get the COVID-19 vaccine**

**Fact:** Neither the Pfizer/BioNTech COVID-19 vaccine nor the Moderna COVID-19 vaccines contain egg nor were eggs used the development or production of either vaccine. However, those with severe allergic reactions to eggs or any other substance (i.e., anaphylaxis) are encouraged to remain after vaccination for 30 minutes for observation.

**Myth: COVID-19 vaccines must be stored at extremely low temperatures because of preservatives in the vaccines.**

**Fact:** Pfizer/BioNTech and Moderna have reported that their vaccines contain no preservatives.

Different vaccines have different storage requirements. For instance, the [Pfizer/BioNTech](#) vaccine must be stored at minus 94 degrees Fahrenheit (minus 70 degrees Celsius), while [Moderna](#) has said that its vaccine needs to be stored at minus 4 degrees Fahrenheit (minus 20 degrees Celsius). Both of these vaccines use messenger RNA, or mRNA, to teach your cells how to make a protein that will trigger an immune response to COVID-19. However, messenger RNA is fragile and can break down easily. Storing messenger RNA vaccines, like these COVID-19 vaccines, in an ultracold environment keeps them stable and safe.

You should not worry about these temperatures. Vaccines are thawed before injection.

**Information in this post was accurate at the time of its posting. Due to the fluid nature of the COVID-19 pandemic, scientific understanding, along with guidelines and recommendations, may have changed since the original publication date.**

**For the safety of its patients, staff and visitors, Mayo Clinic has strict masking policies in place. Anyone shown without a mask was recorded prior to COVID-19 or in an area not designated for patient care, where social distancing and other safety protocols were followed.**