

COVID-19 VACCINE & PREGNANCY

Top 7 concerns answered

The vaccine is safe

Pregnant people were deliberately excluded in the first round of COVID-19 vaccine clinical trials. This is normal practice. However, as of June 14, 124,597 pregnant people have received the vaccine. And the CDC is closely following 5,102 volunteers who got vaccinated during pregnancy:

- No unexpected pregnancy or infant outcomes have been observed related to COVID-19 vaccination during pregnancy
 - Among the 827 who had a completed a pregnancy, 86.1% resulted in a live birth and 13.9% resulted in a pregnancy loss
 - Pregnancy loss, preterm birth, babies size, congenital problems, and death was not different among those with the vaccine compared to the usual background rate
- Also, 36 individuals who got pregnant during vaccine trials had no complications from the vaccine

The baby gets protection, too

- Mounting scientific evidence shows that babies get some level of protection from maternal vaccination
- Protection comes through the placenta and through breastmilk.
- This is encouraging given that babies will not likely be eligible for a vaccine until 2022.

There is a need

Unvaccinated pregnant people (and unborn babies) are at high risk for severe COVID-19 disease. If infected, they are...

- ...more likely to go to the ICU, need ventilation, and/or need oxygen
- ...more likely to have preeclampsia
- ...more likely to die from COVID-19
- ...more likely to have babies born preterm or stillborn
- ...more likely to have their babies admitted to the neonatal unit

The vaccine was not rushed

Speed does not mean rushed. It meant leveraging a whole lot of smart people, money, and decades of previous work to get us a vaccine in 9 months. This included:

1. Previous research (which started in 2003 thanks to SARS, COVID19's cousin);
2. Lots of money and resources for scientists around the world;
3. Production started before clinical trials were complete because the government financially supported the effort;
4. Although vaccines went through Phase I, II, and III, phases were overlapped to remove white space. This is standard practice;
5. High rates of disease in the community (unfortunately) meant we didn't have to wait for a minimum number of COVID19 cases during clinical trials;
6. Over 150,000 people flooded to participate in the U.S. trials. This couldn't have been done without each and every one of them

mRNA does not change DNA

It's biologically impossible for messenger RNA (mRNA) to alter DNA. In order for a mRNA vaccine to alter someone's DNA, several events would have to occur...

1. mRNA cannot enter the cell nucleus, where DNA lives. mRNA does not have the "secret door code" (called nuclear access signal) that would allow it to enter. mRNA vaccines can't get in.
2. mRNA can't be converted to DNA. This would require a tool called "reverse transcriptase", which the vaccine doesn't have.
3. mRNA cannot insert itself into the DNA. The mRNA would need a tool called "integrase" to do this, which the vaccine doesn't have.

The biotechnology has never been approved by the FDA before. It's NOT because the past mRNA vaccines (for cancer, allergies, and SARS) have been deemed unsafe. It's because past mRNA vaccines haven't been very effective. mRNA breaks down very quickly, so it needs to be transported by something. Finding that something has been a challenge. For COVID19, scientists found that fat bubbles for COVID19 worked great

Long term side effects are highly unlikely

We do not know the long term effects of mRNA COVID19 vaccines. Theoretical risk must be weighed against the established benefits. Based on our knowledge of mRNA and the human body, we do not expect long term side effects because:

- Vaccine ingredients are cleared from the body very quickly. mRNA is very fragile and degrades within 72 hours of injection. The "fat bubbles" or lipids leave within days
- mRNA vaccines are not made up of the actual pathogen. This means that they don't contain weakened, dead, or noninfectious parts of a virus
- In the history of vaccines, serious adverse side effects have only popped up in the first 2 months of receiving the vaccine

Previously recovered people still need the vaccine

Efficacy of "natural" immunity is high, but people still need the vaccine because:

- Getting a vaccine, even for people who have already recovered from COVID-19, strengthens your immune response (antibody and T-cell protection)
- The vaccine better protects against variants of concern
- The immune system is messier from natural infection. Its not as focused as vaccine immunity.

For more information, follow Your Local Epidemiologist (Dr. Katelyn Jetelina, MPH PhD) on Facebook or Substack