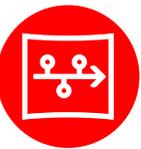
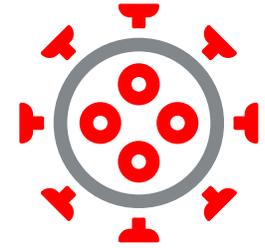


Common COVID-19 Vaccine Questions Answered



Question: #1: Were the vaccines rushed and shortcuts taken?

Answer:

- mRNA (Pfizer and Moderna) technology is new in vaccine development but has been studied for other uses for more than a decade.
- mRNA technology was previously used to develop vaccines against Zika, CMV, influenza and rabies, all of which went through human trials and were found to be safe (CDC1).
- Adenovirus viral vector (Johnson & Johnson) technology has been used to develop a successful Ebola vaccine (CDC4)
- Went through same rigorous safety procedures (e.g., internal review boards, scientist review, independent advisory committees) as ALL FDA approved vaccines- NO SHORTCUTS!
- Had over 70,000 (Moderna & Pfizer) and over 44,000 (Johnson & Johnson) individuals safely participate in the trials before receiving Emergency Use Authorization (EUA) by the FDA.



Question: #2: Does mRNA somehow rearrange my DNA?

Answer:

- mRNA is injected into your muscle, usually the upper arm and enters into the cytoplasm (the water part) of your muscle cells, where it triggers your body to produce protective antibodies to the COVID “spike protein.”
- It does not (and cannot) enter into the nucleus, where our DNA is housed (CDC1).
- mRNA vaccines do not contain any of the key enzymes necessary for mRNA to be converted to or inserted in DNA.
- mRNA is broken down and eliminated after it is used by the cell (CDC1).



Question #3: Can vaccines induce sterility in women?

Answer:

- Infertility is not identified as an adverse outcome from natural COVID-19 infection, and is therefore not expected to be an adverse outcome from COVID-19 vaccination (FDA).
- Male or female Infertility is not identified as an adverse outcome in any of the COVID-19 vaccine trials performed to date (CDC2).
- ACOG recommends vaccination of individuals who are actively trying to become pregnant or are contemplating pregnancy and meet the criteria for vaccination based on ACIP prioritization recommendations. Additionally, it is not necessary to delay pregnancy after completing both doses of the COVID-19 vaccine (ACOG).
- There is no evidence that COVID-19 vaccines cause an increased risk of infertility (ACOG). Concerns found in popular media linking COVID-19 vaccines to infertility, touting the dangers of “the spike protein,” or vaccine antibodies attacking the placenta have not been established in research (CDC1).

Continued on back 



Question #4: If I am pregnant (or trying), can the vaccines be harmful for my unborn child?

Answer:

- Pregnant women are NOT usually included in initial trials for vaccines or medications including the COVID-19 vaccine. However, some women enrolled in the vaccine trials did become pregnant, and no maternal or fetal adverse events linked to the COVID-19 vaccines have been reported in these women.
- Forthcoming safety data in pregnant individuals who have received the COVID-19 vaccine are available from vaccine manufacturers and the CDC's V-safe Program. To date, there have been no identified safety concerns or pregnancy risks associated with vaccination. The current V-safe data from over 3,900 pregnant women show that the rates of adverse pregnancy outcomes are similar to normal background rates of these events in the general population (SMFM11).
- Pregnant women are at an increased risk of severe illness from COVID-19 including respiratory failure, need for mechanical ventilation (or ECMO), and death. There may also be an increased incidence of adverse outcomes of pregnancy, including preterm births and stillbirths (CDC2).
- The clinical efficacy of vaccination is high in pregnant individuals. SMFM recommends vaccination as the best method to decrease maternal and fetal complications associated with COVID-19 infection (SMFM11).
- Future clinical trials will look specifically at outcomes in pregnant women who receive the COVID-19 vaccine.
- Pregnant women are encouraged to speak with their healthcare provider if they are pregnant or are considering pregnancy.
- Pregnant women should routinely and safely receive vaccines that are not live viruses, e.g. annual flu and Tdap. The mRNA COVID vaccines are NOT live vaccines.

References • • • • •

- Centers for Disease Control and Prevention (2021). Understanding and Explaining mRNA COVID-19 Vaccines. Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/mrna.html>
- Centers for Disease Control and Prevention (2021). COVID-19 Vaccines While Pregnant or Breastfeeding. Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/recommendations/pregnancy.html>
- American College of Obstetricians and Gynecologists (2021). COVID-19 Vaccination Considerations for Obstetric-Gynecologic Care. Retrieved from <https://www.acog.org/clinical/clinical-guidance/practice-advisory/articles/2020/12/covid-19-vaccination-considerations-for-obstetric-gynecologic-care>
- Centers for Disease Control and Prevention (2021). Understanding Viral Vector Vaccines. Retrieved from <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/viralvector.html>
- Rasmussen S, Kelley C, Horton J Jamieson D. Coronavirus Disease 2019 (COVID-19) Vaccines and Pregnancy - What Obstetricians Need to Know. *Obstet Gynecol.* 2020. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7884084/>
- Infectious Disease Society of America (2021). Vaccines FAQ. Retrieved from <https://www.idsociety.org/covid-19-real-time-learning-network/vaccines/vaccines-information--faq>
- Food and Drug Administration (2021). Pfizer-BioNTech COVID-19 Vaccine Frequently Asked Questions. Retrieved from <https://www.fda.gov/emergency-preparedness-and-response/mcm-legal-regulatory-and-policy-framework/pfizer-biontech-covid-19-vaccine-frequently-asked-questions>
- Male V. Are COVID-19 vaccines safe in pregnancy?. *Nat Rev Immunol.* 2021; 21 (4): 200-201. <https://www.ncbi.nlm.nih.gov/pubmed/33658707>.
- Kloc M, Uosef A, Kubiak JZ Ghobrial RM. Exaptation of Retroviral Syncytin for Development of Syncytialized Placenta, Its Limited Homology to the SARS-CoV-2 Spike Protein and Arguments against Disturbing Narrative in the Context of COVID-19 Vaccination. *Biology.* 2021; 10 (3): 238. <https://www.ncbi.nlm.nih.gov/pubmed/33808658>.
- Rubin, R. Pregnant People's Paradox-Excluded From Vaccine Trials Despite Having a Higher Risk of COVID-19 Complications. *JAMA.* 2021; 325 (11): 1027-1028. <https://www.ncbi.nlm.nih.gov/pubmed/33625462>.
- Society for Maternal-Fetal Medicine (2021). Provider Considerations for Engaging in COVID-19 Vaccine Counseling with Pregnant and Lactating Patients. Retrieved from <https://www.smfm.org/covidclinical>
- Shimabukuro TT, Kim SY, Myers TR, et al. Preliminary Findings of mRNA Covid-19 Vaccine Safety in Pregnant Persons. *N Engl J Med.* 2021; 384 (24): 2273-2282. <https://www.ncbi.nlm.nih.gov/pubmed/33882218>.