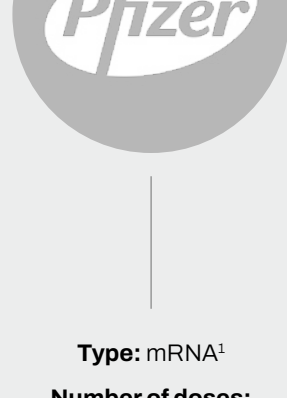


# VACCINE HESITANCY

As emerging health professionals, it is imperative that we are able to participate in conversations pertaining to COVID-19. We have the potential to prevent a significant amount of COVID-19 related deaths by discussing people's fears and thoughts regarding vaccines.



**Type:** mRNA<sup>1</sup>

**Number of doses:**  
2 (21 days apart)<sup>1</sup>

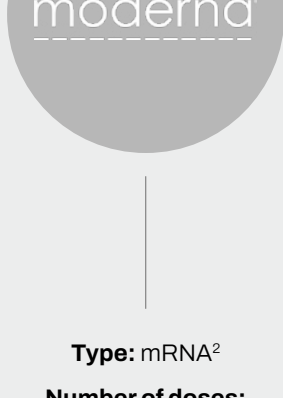
**Efficacy (Alpha):** 91%<sup>1</sup>

**FDA approved for Ages:** 16+<sup>1</sup>

**EUA for Ages:** 12+<sup>1</sup>

**No contradictions for pregnant and breastfeeding patients:**<sup>1</sup>

**Delta variant efficacy:** 80%<sup>4</sup>



**Type:** mRNA<sup>2</sup>

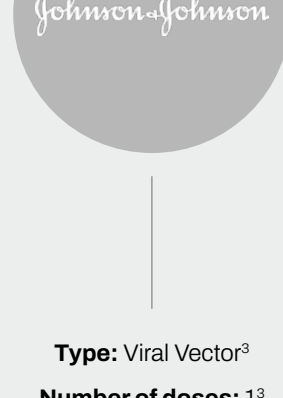
**Number of doses:**  
2 shots (28 days apart)<sup>2</sup>

**Ages:** 18+<sup>2</sup>

**Efficacy (Alpha):** 94%<sup>2</sup>

**No contradictions for pregnant and breastfeeding patients:**<sup>2</sup>

**Delta variant efficacy:** 95%<sup>4</sup>



**Type:** Viral Vector<sup>3</sup>

**Number of doses:** 1<sup>3</sup>

**Ages:** 18+<sup>3</sup>

**Efficacy (Alpha):** 66%<sup>3</sup>

**No contradictions for pregnant and breastfeeding patients:**<sup>3</sup>

**Delta variant efficacy:** 60%<sup>4</sup>

**Note:**<sup>1,2,3</sup>

<sup>1</sup>All are effective at preventing hospitalization and death from COVID-19 = Less likely to experience a life-threatening illness

<sup>2</sup>All vaccine manufacturers and vaccine providers are required to report to the Vaccine Adverse Event Reporting System

<sup>3</sup>Pfizer, Moderna, and Johnson & Johnson vaccines do not contain egg, preservative, or latex.

<sup>4</sup>All COVID-19 Vaccines are contraindicated in patients with a history of immediate allergic reactions to any other vaccine or injectable therapy (IM, IV, Subcutaneous) and in patients with a polysorbate (emulsifier used in food/pharmacology) allergy.

<sup>5</sup>Research is ongoing for use in pregnant and breastfeeding populations

<sup>6</sup>Efficacy with alpha variant measured as preventing infection 14 days after the final dose.

<sup>7</sup>Efficacy with delta variant measured based on preventing hospitalization.<sup>4</sup>

## VACCINE BOOSTER SHOTS

*Pfizer boosters have been approved for 18-64-year-olds who fulfill one or more of the following: considered immunocompromised, have frequent institutional or occupational exposure to SARS-CoV-2, and individuals who are 65+ years old.<sup>1,2</sup>*

*Visit the FDA's website for the most up-to-date Information related to boosters for Pfizer and other COVID-19 vaccines.*

## NAVIGATING CONVERSATIONS WITH PATIENTS AND FAMILY<sup>5</sup>



Ask open-ended questions exploring personal experiences, feelings, and beliefs.



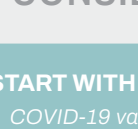
Reflect and affirm concerns, while summarizing key points.



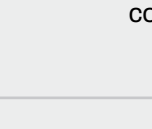
Use double-sided reflective statements to weigh advantages and disadvantages.



Offer information, but ask permission before sharing. Sharing unwanted information can make the patient feel pressured and increase resistance.



Education and risk benefit analysis should be individualized.



Have compassion for everyone who has a genuine fear of the COVID-19 vaccine. Do not silence concerns, but explore and address them.

## CONSIDER USING THIS STRUCTURE WHEN ADDRESSING CONCERNS<sup>6</sup>

### START WITH THE FACT

COVID-19 vaccines are extremely safe and effective.

### WARN BEFORE THE MYTH IS COMING

Say "there's misinformation about \_\_\_\_\_"

### MENTION THE FALLACY (MYTH) THAT YOU ARE ADDRESSING.

### END WITH THE FACT

Show why the myth is not true.

The most important thing is to "replace the misinformation with the correct information. Remember to lead with empathy, connect with their values, and most importantly listen and always circle back to the facts.

## FAQS

### WHAT ARE BREAKTHROUGH INFECTIONS?<sup>7</sup>

COVID-19 infections that occur in fully vaccinated individuals

*COVID-19 infections that occur in fully vaccinated individuals. Currently there is no clear nationwide data on the number of breakthrough infections. However, It is uncommon for breakthrough infections to cause severe illness - As of September 13, 2021 the CDC estimates vaccinated individuals account for 0.009% (15,790 out of 178,000,000) have been hospitalized due to COVID19. Remember, no vaccine is 100% effective and breakthrough infections are expected.*

### WHAT ARE SOME COMMON SIDE EFFECTS?

Local shoulder pain,  
Redness  
Swelling  
Headache  
Muscle pain/ body aches  
Chills  
Fever  
Nausea

**\*\*Serious adverse reactions are rare.<sup>8</sup>**

### CAN I GET SICK FROM RECEIVING THE VACCINE?

*Anaphylactic reactions (side effects) have been reported within minutes of vaccination in some cases, which is the reason you are asked to wait around 15-30 minutes after being vaccinated. Otherwise, there have been no reports of life-threatening allergic reactions.*

*You cannot get sick directly from the vaccine. All 3 FDA-approved vaccines do not contain the live virus, meaning you cannot acquire covid from the vaccine.<sup>9</sup>*

### CAN I STILL CATCH COVID-19?<sup>9</sup>

*Yes it is still possible to get COVID-19 post vaccination. But the vaccine greatly reduces the risk of hospitalization and death.*

*Complete vaccination against COVID-19 will greatly reduce your chances of becoming sick or dying from COVID-19. Note that full immunization is considered only 2 weeks after your second dose!*

### WHY SHOULD I GET THE VACCINE?<sup>9</sup>

*The vaccine greatly reduces your chances of being hospitalized or experiencing severe symptoms by helping your immune system create antibodies that can recognize and fight off the virus. However it does not make you immune from infection.*

## COMMON MISCONCEPTIONS

### COVID-19 VACCINES CAUSE INFERTILITY IN WOMEN.<sup>10,11,12,13</sup>

No, contradictory to what's spreading around on social media - there is no evidence that any vaccine, including COVID-19 vaccines, can affect fertility in women or men.

*This rumor is based on the misconception that the spike protein on coronavirus was the same as another protein called syncytin-1 that is involved in the growth and attachment of the placenta during pregnancy.*

### I ALREADY HAD COVID SO I DON'T NEED TO BE VACCINATED.<sup>10,11,12,13,14,15</sup>

Untrue, reinfections do occur. It is unknown if immunity gained from the vaccine or natural infection is equal, however those who do get vaccinated after having COVID19 have been shown to have a more robust immunity response.

*Studies have been unclear on how long immunity lasts after having COVID-- most experts believe anywhere from 90 days to six months, though it could be longer.*

### I DON'T HAVE HEALTH INSURANCE, SO I CAN'T AFFORD A COVID-19 VACCINE.<sup>16</sup>

COVID vaccines are free of charge and no insurance is required

*If you do receive a bill, first speak to the person or facility that sent the bill and if they do not cancel it, contact the HHS Office of Inspector General Hotline at 1-800-HHS-TIPS to file a complaint.*

### COVID-19 VACCINES AFFECT YOUR DNA.<sup>14,18</sup>

mRNA vaccines work by triggering your cells to make the spike protein found on the surface of the SARS-COV-2 virus. This response produces antibodies which keep you protected against the virus. mRNA is different from DNA, it never enters the nucleus of the cell, where DNA is kept. And the cell breaks down mRNA soon after it is finished using the instructions.

### THE VACCINES WERE DEVELOPED TOO QUICKLY.<sup>13,15</sup>

Vaccine developers didn't skip any steps in testing but conducted some of the steps on overlapping schedules to gather data.

*Additionally, mRNA vaccines research began decades ago.*

### CHILDREN DON'T NEED TO BE VACCINATED BECAUSE THEY DON'T BECOME SICK FROM COVID.<sup>19,13,17</sup>

It is true children do not become as sick as adults, however, some children do still become severely sick when infected. Since the pandemic began, children represented 15.5% of total cases. For the week ending September 9, children were 28.9% of reported weekly COVID-19 cases (children, under age 18, make up 22.2% of the US population).

### THE COVID-19 VACCINE CAUSES BLOOD CLOTS.<sup>18</sup>

The overall safety and efficacy of the JJ vaccine compared to the risk of mortality from COVID-19 disease was thought to far outweigh the very low risk of TTS. The updated incidence as of the CDC review was two per million for the JJ vaccine, based on a total of 15 cases reported following 7.98 million doses administered.

## REMEMBER TO PROMOTE COVID-19 PRECAUTIONS



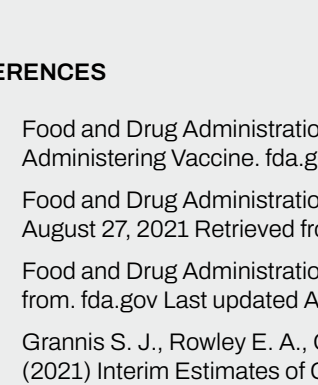
Stay home if you are feeling sick



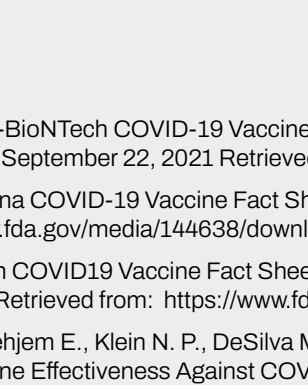
Avoid crowded indoor spaces



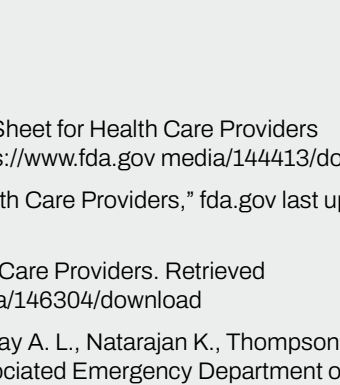
Stay at least 6 feet apart from others



Wear a mask over your nose and mouth



Wash your hands with soap and water



Use 60+% alcohol hand sanitizer if soap and water aren't available

IMAGE SOURCE: mercermcmedicine<sup>19</sup>

## REFERENCES

- Food and Drug Administration. (2021) Pfizer-BioNTech COVID-19 Vaccine EUA Fact Sheet for Health Care Providers. Available at: <https://www.fda.gov/media/144413/download>
- Food and Drug Administration (2021) Moderna COVID-19 Vaccine Fact Sheet for Health Care Providers, "fda.gov last updated August 27, 2021. Retrieved from: <https://www.fda.gov/media/144638/download>
- Food and Drug Administration (2021) Jassen COVID19 Vaccine Fact Sheet for Health Care Providers. Retrieved from: <https://www.fda.gov/media/146304/download>
- Grannis S. J., Rowley E. A., Ong T. C., Stenehjem E., Klein N. P., DeSilva M. B., Naleway A. L., Natarajan K., Thompson M.G. (2021) Interim Estimates of COVID-19 Vaccine Effectiveness Against COVID-19-Associated Emergency Department or Urgent Care Clinic Encounters and Hospitalizations Among Adults During SARS CoV-2 B.1.617.2 (Delta) Variant Predominance — Nine States, June–August 2021. MMRW, 70(37) Retrieved from: <https://www.cdc.gov/mmwr/volumes/70/wr/pdfs/mm7037e2-H.pdf>
- Motivational Interviewing. Foundations of Clinical Medicine. Columbia University Vagelos College of Physicians and Surgeons; April 2018; New York, NY, USA.
- Rich M., UNICEF. (2021) How to talk to your friends and family about COVID-19 vaccines: Tips for handling tough conversations with your loved ones. Available at: <https://www.unicef.org/coronavirus/how-talk-about-covid-19-vaccines>
- Center of Disease Control (2021) COVID-19 Breakthrough Case Investigations and Reporting. Last updated September 17, 2021 Available at: <https://www.cdc.gov/vaccines/covid-19/health-departments/breakthrough-cases.html>
- Center of Disease Control (2021) Benefits of Getting a COVID-19 Vaccine. Last updated August 8, 2021 Available at: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/vaccine-benefits.html>
- Food and Drug Administration. (2021) Pfizer-BioNTech COVID-19 Vaccine Frequently Asked Questions. Last updated September 1, 2021 Available at: <https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/pfizer-biontech-covid-19-vaccine-frequently-asked-questions>
- Food and Drug Administration. (2021) Moderna COVID-19 Vaccine Frequently Asked Questions. Last updated August 12, 2021 Available at: <https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/moderna-covid-19-vaccine-frequently-asked-questions>
- Food and Drug Administration. Janssen COVID-19 Vaccine Frequently Asked Questions. Last updated July 29, 2021. Available at: <https://www.fda.gov/emergency-preparedness-and-response/coronavirus-disease-2019-covid-19/janssen-covid-19-vaccine-frequently-asked-questions>
- Most D., (2021) Myths vs. Facts: Making Sense of COVID-19 Vaccine Misinformation. The Brink - Boston University. Published August 13, 2021. Available at: <https://www.bu.edu/articles/2021/myths-vs-facts-covid-19-vaccine/>
- Mayo Clinic Health System. (2021) COVID-19 vaccine myths debunked. Published September 2, 2021. Available at: <https://www.mayoclinichealthsystem.org/hometown-health/featured-topic/covid-19-vaccine-myths-debunked>
- Stamatatos L., Czartoski J., Wan Y., Hornad L. J., Rubin V., Glantz H., Neradilek M., Seydoux E., Jennwein M. F., Maccamy A. J., Feng J., Mize G., De Rosa S. C., Finizi A., Lemos M. P., Cohen K. W., Moodie Z., Moelrath M. J., McGuire A. (2021) mRNA vaccination boosts cross-variant neutralizing antibodies elicited by SARS-CoV-2 infection. Science, 372(6549), 1413-1418. Retrieved from: <https://www.science.org/doi/10.1126/science.abg9175>
- Limaye R., Sell T. K., Stuart E. (2021) How Can I Talk to My Friends and Family About Getting Vaccinated for COVID-19? John Hopkins University - Bloomberg School of Public Health. Published May 06, 2021. Available at: <https://publichealth.jhu.edu/2021/how-can-i-talk-to-my-friends-and-family-about-getting-vaccinated-for-covid-19>
- Center for Disease Control. (2021) Understanding mRNA COVID-19 Vaccines. Last updated March 4, 2021. Available at: <https://www.cdc.gov/coronavirus/2019-ncov/vaccines/different-vaccines/mrna.html>
- American Academy of Pediatrics. (2021) Children and COVID-19: State-Level Data Report. Last updated September 13, 2021 Available at: <https://www.aap.org/en/pages/2019-novel-coronavirus-covid-19-infections/children-and-covid-19-state-level-data-report/>
- Bussell J. B., Connors J. M., Cines D. B., Dunbar C. E., Michaelis L. C., Kreuziger L. B., Lee A. Y. Y., Pabinger-Fasching I., Thrombosis with Thrombocytopenia Syndrome (also termed Vaccination-induced Thrombotic Thrombocytopenia). American Society of Hematology. (2021) Last updated August 12, 2021. Available at: <https://www.hematology.org/covid-19/vaccine-induced-immune-thrombotic-thrombocytopenia>
- Mercer Medicine Clinic. (2021) COVID-19 Precautions. Last updated September 2021. Available at: <https://www.mercermcmedicine.com/patient-resources/covid-19-precautions/>

Advocacy in Medicine (AIM) is the only student-member directed workgroup at the New York Academy of Medicine. AIM's work includes hosting an annual conference, organized in partnership with the Center for Health Equity and Community Wellness of the New York City Department of Health and Mental Hygiene, designed to provide skills to integrate advocacy and humanism into all areas of healthcare practice, bring together healthcare advocates and trainees from across the New York area, and create a sustainable student alliance to organize future healthcare professionals to bring about change.

For questions, comments and more information, please contact: [aim@nyam.org](mailto:aim@nyam.org)