

COVID-19 Vaccines and Variants

As COVID vaccines become more available, it is important to know not only the differences between the individual products but also understand how the emerging variants are affected by the vaccines.

Overall, the vaccines are well tolerated and highly effective. Most common adverse effects are injection site reactions and general malaise, especially after the second dose. Two weeks after the first dose, protection against infection is 85%, and after the second dose protection is 95%. Johnson & Johnson is reporting 66% effectiveness with a single dose.

COVID-19 Vaccine Comparison

Manufacturer	Pfizer, Inc.	Moderna TX, Inc.	Johnson & Johnson
Vaccine Name	Pfizer-BioNTech COVID-19 Vaccine	mRNA-1273	JNJ-78436735
Number of Shots	2	2	1
Days Between Shots	21	28	0
Storage Temperature	-112° to -76° F	-4° F	36° to 46° F
Delivery Method	Synthetic Messenger RNA (mRNA)	Synthetic Messenger RNA (mRNA)	Single-stranded RNA
Alters Patients' Genes?	No	No	No
Ages Authorized	16+	18+	Likely 18+
Contains Live Virus?	No	No	No
Effectiveness	95% (Estimated)	94% (Estimated)	66% Overall
Side Effects	Pain at the injection site, fever, fatigue, muscle and joint pain.	Pain at the injection site, fever, fatigue, muscle and joint pain.	Pain at the injection site, fever, fatigue.
How Does it Work?	The Pfizer vaccine consists of genetic material called mRNA, or messenger RNA, that stimulates the immune response to make antibodies that protect against COVID-19.	The Moderna vaccine uses mRNA to stimulate the immune system, to make antibodies that protect against the COVID-19 virus. The main difference between the Pfizer and Moderna vaccines is in the temperature required for storage. The Moderna vaccine can be stored at a slightly warmer temperature.	The Johnson & Johnson vaccine works by using a modified adenovirus to enter cells, allowing the body to create antibodies. This vaccine only requires one dose and does not require ultra cold temperatures for storage.

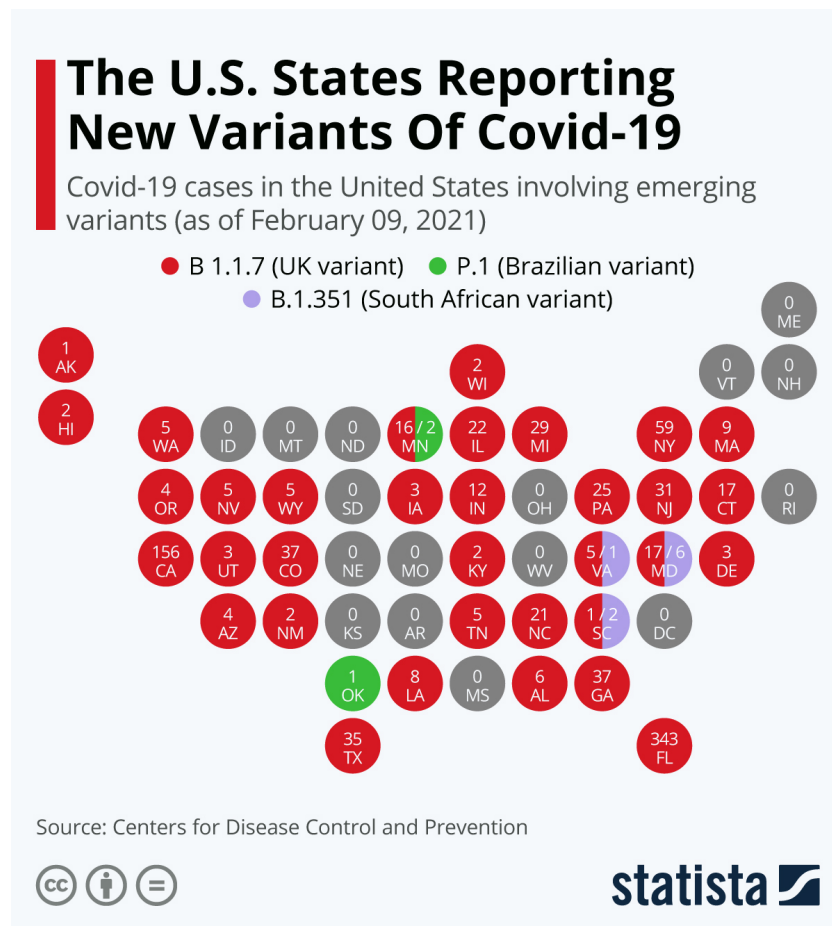
https://www.ynhhs.org/-/media/images/callouts_video_structuredcontent/hospitals/ynhh-system/covid/17824_vaccine_differences.png?la=en&hash=5A74307D8BCF8C5C8082CABCF1EF1464940C69A

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Unfortunately, the COVID virus is mutating quickly and a number of variants are spreading. Although both the Moderna and Pfizer vaccines are highly effective against the virus, precautions should still be in place as not all variants are as susceptible to vaccines as others. This being said, the vaccine could decrease the severity and/or duration of infections caused by these variants.

Impaired Awareness of Hypoglycemia

Variant	B.1.1.7	B.1.351	P.1
Origin	United Kingdom	South Africa	Brazil
In US?	Yes	Yes	Yes
Severity Risk	Increased risk of death	No impact	Increased re-infection risk
Transmission Risk	Increased	No impact	Possibly increased
Vaccine Efficacy	No change, covered	No change, covered	Moderna reports 6 fold decrease in efficacy; Pfizer and others have not reported any specifics

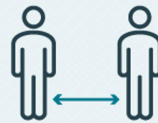


<https://www.statista.com/chart/24148/cases-in-the-us-involving-emerging-variants/>

ACT NOW!



WEAR A MASK



STAY 6 FEET APART



AVOID CROWDS

References

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7. What are the differences between the COVID-19 vaccines? . (2021). Retrieved 16 February 2021, from <https://www.ynhhs.org/patient-care/covid-19/vaccine/differences-between-the-vaccines.aspx>

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