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COVID-19 Variants and Vaccine Efficacy

Coronavirus Disease 2019 (COVID-19)

COVID-19 is a respiratory disease caused by SARS-CoV-2; a novel coronavirus discovered in 2019. The virus is thought to spread mainly from person to person through respiratory droplets produced when an infected person coughs, sneezes, or talks. Some people who are infected may not have symptoms. For people who have symptoms, illness can range from mild to severe. Adults 65 years and older and people of any age with underlying medical conditions are at higher risk for severe illness.

Common Symptoms

- Fever/Chills
- Cough/Sore throat
- Shortness of breath/difficulty breathing
- Fatigue
- Muscle or body aches
- Headache
- New loss of taste or smell
- Congestion/runny nose
- Nausea/vomiting
- Diarrhea

COVID-19 Vaccinations (US only)

Vaccines available from our pharmacy include:

- **Pfizer-BioNTech (Comirnaty)** - Contains nucleoside-modified messenger RNA (modRNA)
- **Moderna** - Made up of a synthetic messenger RNA (mRNA)
- **Janssen (J&J)** - a monovalent vaccine composed of a recombinant replication-incompetent human adenovirus type 26 (Ad26) vector, constructed to encode the severe acute respiratory syndrome coronavirus-2 (SARS-CoV-2) spike (S) protein.

References: CDC @ www.cdc.gov, Clinical Pharmacology @ www.clinicalpharmacology.com, Pharmacist's Letter @ www.pharmacistsletter.com, WHO @ www.who.int, Yale University @ www.yalemedicine.org

COVID-19 Variants

- **Alpha** - First identified in the UK and spreads much faster than other variants. Likely associated with an increased risk of serious illness or death. Currently authorized vaccines are effective against this variant.
- **Beta** - First identified in South Africa. May spread faster than other variants. Current data does not indicate more severe illness or death than other variants. Currently authorized vaccines are effective against this variant.
- **Gamma** - First identified in Japan/Brazil. Spreads faster than other variants. Current data does not indicate more severe death or illness than other variants. Currently authorized vaccines are effective against this variant.
- **Delta** - First identified in India. Spreads much faster than other variants. May cause more severe cases than the other variants. Infections happen in only a small proportion of people who are fully vaccinated. Preliminary evidence suggests that fully vaccinated people who do become infected with the Delta variant can spread the virus to others.
- **Breakthrough infections in fully vaccinated people are rare with all of these variants. All vaccines are particularly effective against severe illness, hospitalization, and death.**

Conclusion

- Variants are expected. The best way to slow the emergence of new variants is to reduce the spread of infections by taking measures to protect yourself including getting a COVID-19 vaccine when available.
- Vaccines keep you from getting sick, being hospitalized, or dying from COVID-19.
- All COVID-19 tests can detect all variants, but they will not tell you which variant you have.