

PUCILLO FAMILY PRACTICE P.A.
WELLNESS CENTER



Family Medicine & Bariatrics

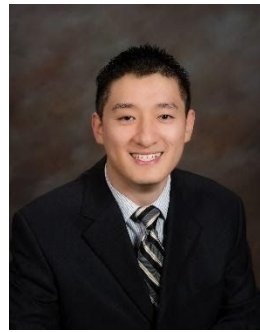
PFP CMPS February Newsletter: COVID variant & COVID vaccines



Happy Lunar New year. Year of the ox.



Dr. Ron Pucillo, M.D.



Dr. Brian Tong, M.D.

As the winter of 2020-2021 continues, we continue to learn more about COVID 19. 3 new variants were found in the world - UK, Brazil and South Africa. While in the U.S., we are continuing the effort to provide vaccinations for everyone.

Outline of this month's newsletter:

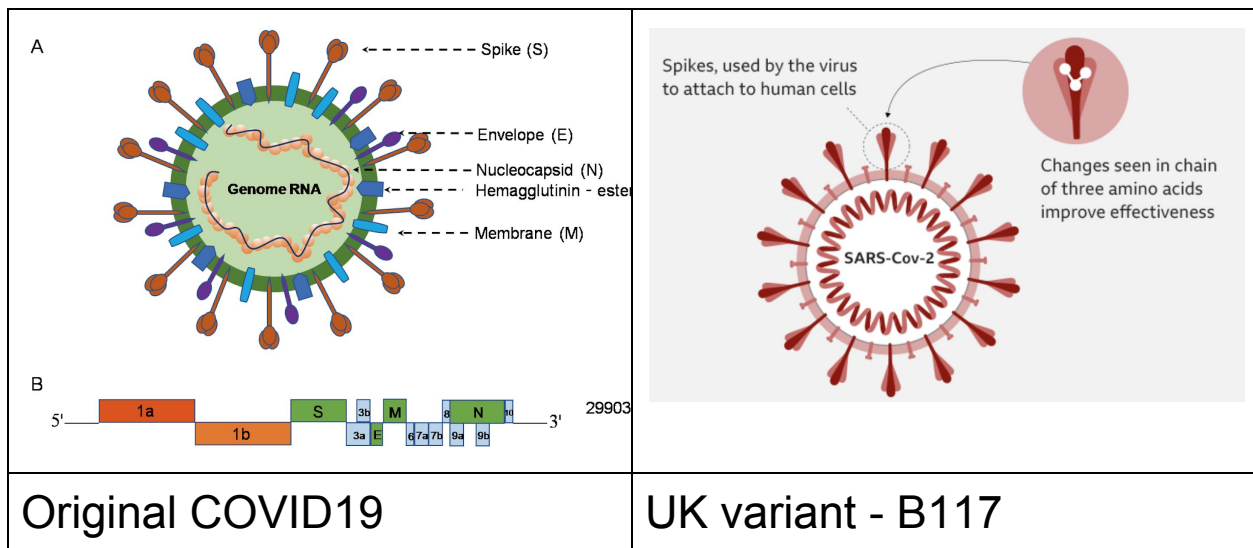
- COVID variants
- How does COVID mutation occur
- Vaccine updates

Vaccines Variants and Characteristics

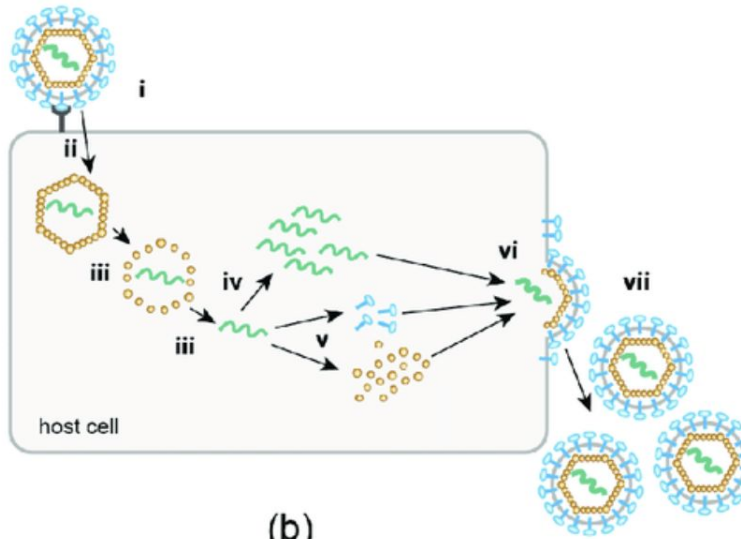
Types

Characteristics

- | | |
|---|--|
| <p>1. UK
*B.1.1.7</p> | <p>-Notable mutation - N501Y, virus binds more tightly to ACE2 receptor
 -50% more transmissible and more lethal
 -found in multiple states in the U.S.A
 -Pfizer & Moderna will protect, more analysis under study</p> |
| <p>2. South Africa
*B.1.351</p> | <p>-Notable mutation - E484K - spike protein on the surface make it more difficult for antibodies to bind
 -Maryland, South Carolina
 -Decreased effectiveness of Pfizer and Moderna vaccines from preliminary study. May need a booster for adequate protection.</p> |
| <p>3. Brazil (2 variants)
*P.1 & P2</p> | <p>-2 variants - ongoing studies continues
 -P1 - mutations help virus to evade antibodies generated by previous infections or vaccine
 -P2 - more studies needed
 -Minnesota</p> |



How Do Viral Mutations Occur



1. Virus enters our cells
2. Makes copies of itself
3. Exits



- While making copies of its own DNA millions/billions of times, it will naturally make errors.
- Imagine us writing the follow:

"It is a beautiful Sunday"
 "It is a beautiful Sunday"
 "It is a bee full Sunday"



- Some mutations cause very different strain than the original.
- This is = variant.

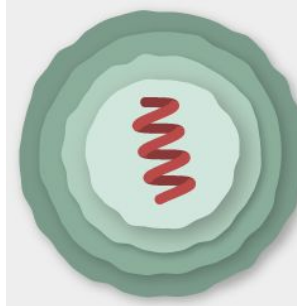
Vaccine updates

Characteristics

Type

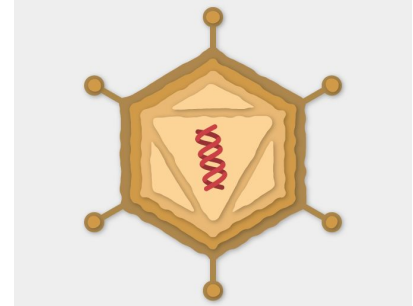
Pfizer & Moderna

mRNA vaccine



Johnson & Johnson

Vector vaccine



How does it work

messenger RNA vaccines use viral genetic software that instructs cells to make coronavirus spike protein.

Vector vaccines use Adenovirus to carry in the genetic instructions to make the spike protein.

Emergency Use Authorization

Yes

No,

How many doses are needed?

2 doses 3 weeks apart

1

Effective rate in preventing moderate to severe disease

95%

65-72%

Storage

-20 to -70 C

-20 C - stable for 2 years
36-46F - stable for 3 months

Of note, CoronaVac, created by Sinopharm in China vaccine has been approved for emergency use in China, Bahrain and UAE on 01-20-2021. It is a 2 dose vaccine. Has an effective rate of 79-86%. Need to be stored at -8 C. Link - <https://cn.nytimes.com/health/20201229/sinovac-covid-19-vaccine/>.

We wish you all to continue to be safe. Please feel free to contact us if you have any questions.

Sincerely,
Staff at Pucillo Family Practice