

## Be COVID Correct: Vaccine Facts vs. Fiction

Medical miracle or rushed experiment? Since mRNA and other COVID-19 vaccines became available under emergency use authorization and later as fully Food and Drug Administration-approved vaccines, clinicians faced an onslaught of emergent information — and misinformation — about their development, use, and efficacy. In a two-part series, an expert settles the science behind the vaccines.

*This CE course is relevant to all healthcare professionals.*

### Episode 2 – COVID-19 Vaccine Safety and Efficacy

Of all the misconceptions that surrounded COVID-19 vaccines, anecdotal reports of side effects captured Americans' imaginations. But how sound were these stories, from a statistical standpoint? An internationally known expert crunches the numbers on vaccine adverse events to reveal the reality.

#### Guest

Daniel Griffin, MD, PhD

- Board-certified in internal medicine and infectious disease
- Expertise in global health, tropical medicine, parasitology, and virology
- International speaker for organizations such as the University of Glasgow, the University of Minnesota, the Peace Corps, the Foundation for International Medical Relief for Children, Floating Doctors, and Remote Care Education
- Podcast co-host of *This Week in Virology* by the American Society for Microbiology
- Co-author, *Parasitic Diseases*, 7<sup>th</sup> edition

#### Host

Deborah Martin, DNP, MBA, RN, NE-BC, FACHE

- Director of Learning Innovation, Elite Learning
- Certified nurse executive and fellow of the American College of Healthcare Executives
- More than 25 years in healthcare, including as system director of professional practice and development at a large healthcare system

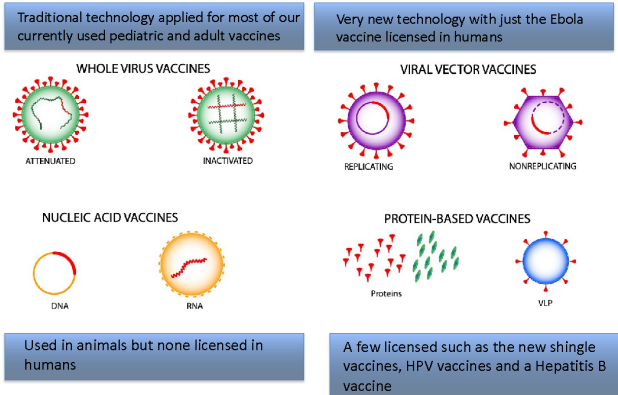
#### Reviewer

Lisa Simani, APRN, MS, ACNP

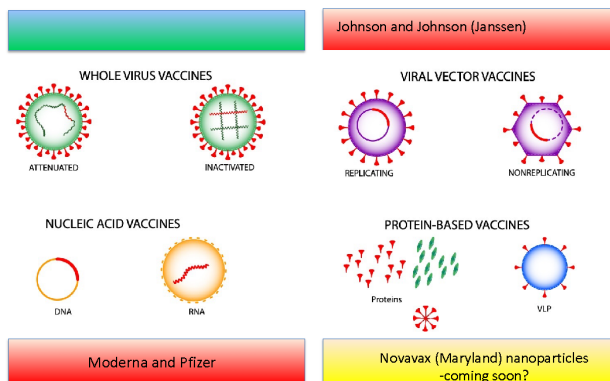
- Editor, Nurse Regulatory/Compliance Planner for Elite Learning
- 20 years of publishing experience
- Lead author of peer-reviewed articles for print- and web-based nursing continuing education provider companies

#### Episode Key Points

## Vaccines Types Compared



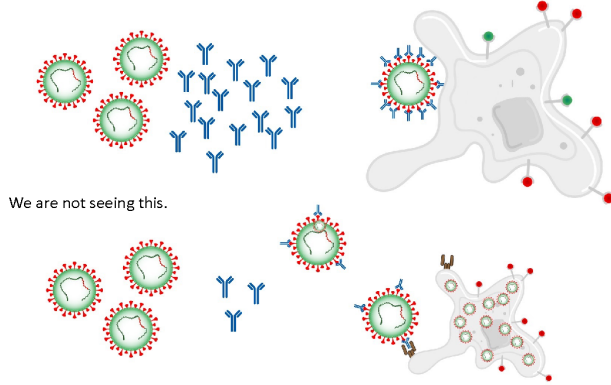
## Vaccines in the U.S.



### Decisions About Vaccines

- Minor adverse effects
- Serious adverse effects
  - o Death
  - o Myocarditis (more commonly seen with Moderna)
  - o Vaccine induced Thrombotic Thrombocytopenia (described with Adenovector vaccines, such as J&J)
  - o Guillain-Barré syndrome (GBS)
  - o Transverse Myelitis
  - o Encephalitis
  - o Antibody dependent enhancement (ADE)

## Antibody Dependent Enhancement



Antibody-dependent enhancement (ADE) of SARS-CoV-2 infection in recovered COVID-19 patients: studies based on cellular and structural biology analysis (on MedRxiv by a group in China)

### Types of Efficacies

- Vaccine efficacy against infection (VE-I)
- Vaccine efficacy against disease (VE-D)

## Vaccine Eligibility/Choices

Vaccine Manufacturer	Age of recipient (years)	Vial cap color denoting formulation	Primary Series			Booster Dose	
			mRNA µg or viral particles per primary series dose (injection volume)	Number of doses in primary series (interval between doses)	Additional primary dose in immunocompromised people (interval since second dose)	Interval between last primary series dose (including additional) to booster dose	mRNA µg or viral particles per booster dose (injection volume)
Pfizer-BioNTech	5–11	Orange	10 µg (0.2 ml)	2 (21 days)	1 (≥28 days)	≥5 months	NA
Pfizer-BioNTech	12–17	Purple	30 µg (0.3 ml)	2 (21 days)	1 (≥28 days)	≥5 months	NA
Pfizer-BioNTech	≥18	Purple	30 µg (0.3 ml)	2 (21 days)	1 (≥28 days) <sup>1</sup>	≥5 months	30 µg (0.3 ml)
Moderna	≥18	Not applicable	100 µg (0.5 ml)	2 (28 days)	1 (≥28 days) <sup>1</sup>	≥6 months <sup>2</sup>	50 µg (0.25 ml)
Janssen	≥18	Not applicable	5×10 <sup>10</sup> viral particle (0.5 ml)	1 (Not applicable)	Not applicable	≥2 months <sup>2</sup>	5×10 <sup>10</sup> viral particles (0.5 ml)

<sup>1</sup> Additional dose preferably with vaccine from same manufacturer  
<sup>2</sup> Booster dose may be from either mRNA vaccine or Janssen vaccine

## References

Griffin, D. O., Brennan-Rieder, D., Ngo, B., Kory, P., Confalonieri, M., Shapiro, L., Iglesias, J., Dube, M., Nanda, N., In, G. K., Arkfeld, D., Chaudhary, P., Campese, V. M., Hanna, D. L., Sawcer, D., Ehresmann, G., Peng, D., Smorgorzewski, M., Armstrong, A., . . . Marik, P. (2021). The importance of understanding the stages of COVID-19 in treatment and trials. *AIDS Reviews*. <https://doi.org/10.24875/AIDSRev.200001261>

Griffin, D. O., Jensen, A., Khan, M., Chin, J., Chin, K., Saad, J., Parnell, R., Awwad, C., & Patel, D. (2020a). Cytokine storm of a different flavor: The different cytokine signature of SARS-CoV2 the cause of COVID-19 from the original SARS outbreak. *Journal of Global Antimicrobial Resistance*. <https://doi.org/10.1016/j.jgar.2020.11.005>

Griffin, D. O., Jensen, A., Khan, M., Chin, J., Chin, K., Saad, J., Parnell, R., Awwad, C., & Patel, D. (2020b). Pulmonary embolism and increased levels of d-Dimer in patients with coronavirus disease. *Emergence of Infectious Diseases*, 26(8), 1941-1943. <https://doi.org/10.3201/eid2608.201477>

Lyng, G. D., Sheils, N. E., Kennedy, C. J., Griffin, D. O., & Berke, E. M. (2021). Identifying optimal COVID-19 testing strategies for schools and businesses: Balancing testing frequency, individual test technology, and cost. *PLoS One*, 16(3), e0248783. <https://doi.org/10.1371/journal.pone.0248783>

Warkentin, T. E., Weisser, K., Kyrle, P. A., & Eichinger, S. (2021). Thrombotic thrombocytopenia after ChAdOx1 nCov-19 vaccination. *New England Journal of Medicine*, 384(22), 2092-2101. <https://doi.org/10.1056/NEJMoa2104840>

## Resources

[Parasites Without Borders](#)

[This Week in Virology](#)

[Email Dr. Griffin](#)

© 2022 Elite Learning by Colibri Healthcare. All Rights Reserved.