

**WorkCare Briefing: Preventing and Managing COVID-19 in the Workplace  
Questions & Answers – Week 39  
December 9, 2020**

*The following questions were asked during WorkCare’s weekly webinar series on Preventing and Managing COVID-19 in the Workplace – Week 39. This week’s topic was “Debunking Vaccine Myths.” Anthony Harris, M.D., M.B.A., M.P.H., WorkCare’s Chief Innovation Officer and Associate Medical Director - Onsite Clinical Operations, presented the webinar and provided these answers. If your question is not answered here, it was answered in a previous Q&A.*

*Here are links for your reference:*

- [December 9 Webinar](#)
- [December 2 Webinar Recording](#)
- [Questions & Answers from the December 2 Webinar](#)

**VACCINE**

**Q:** Can you give us a brief tutorial on mRNA vaccine technology? How does it work?

**A:** The mRNA vaccines are, in short, the building blocks for the antibodies that are produced by our immune system. When mRNA enters the cell and is recognized, it helps produce antibodies that then exit the cell and cascade through the body. That is true for both the Pfizer and Moderna vaccines. The AstraZeneca vaccine is an adenovirus-produced vaccine, which is more classical with regard to how vaccines are produced. We presented that pathway during a previous webinar – proteins from the SARS-CoV-2 virus are extracted and placed into a culture that allows those proteins to be replicated. Those proteins are then introduced to individuals to produce antibodies.

**Q:** In the studies of both mRNA vaccines showing high levels of effectiveness, what is the outcome they measure as “success?”

**A:** A math formula is used to determine vaccine efficacy. To learn more, we suggest you refer to this Dec. 13, 2020, *New York Times* article: [What Does 95% Effective Mean? Teaching the Math of Vaccine Efficacy.](#)

**Q:** What does AE and SAE mean when it used on a chart about adverse reactions? What are some of the AEs and SAEs associated with COVID-19 vaccines?

**A:** AE is an adverse event and SAE is serious adverse event. FDA Emergency Use Authorization (EUA) includes Conditions of Authorization which specify applicable adverse event reporting requirements. An adverse event may be any unfavorable or unintended medical event that occurs after administration of the vaccine, including abnormal laboratory findings, disease temporally associated with the use of a study vaccine or exacerbations of pre-existing conditions. Examples include pain or tenderness at the injection site or symptoms such as fever, chills, headache or fatigue. A serious adverse event is a life-threatening reaction, such as anaphylactic shock or loss of consciousness (an allergic reaction), and in rare cases, fatality.

**Q:** How can we be certain that the vaccine hasn’t been compromised due to exposure to higher than recommended cold temperatures for a length of time during the shipping process?

**A:** The logistical records must be captured and are required for anyone who is distributing and administering the vaccine. It’s called the cold chain. Manufacturers and distributors have to ensure through records that the vaccine has not been in a condition that would compromise its efficacy.

- Q:** Is it possible to have a reaction to the vaccine if you're allergic to penicillin? What about seasonal allergies or food allergies, including eggs? Does having a smallpox vaccination and the scar to show for it have any impact at all on this vaccine?
- A:** At this point, there is no data to suggest that those types of allergies predispose individuals to an adverse event from the mRNA Pfizer or Moderna vaccines. When we talk about individuals who have had a history of substantial immune response to other vaccines, that's the main concern around the Pfizer vaccine and holding off on receiving it if you are an individual who falls into that category. Regarding the smallpox vaccine, there's no evidence to suggest that it predisposes an adverse reaction for either of the vaccines before the FDA right now.
- Q:** Is aborted fetal tissue used in any of the COVID vaccines? What about other additives such as thimerosal, aluminum and formaldehyde?
- A:** The components of the vaccines are available in FDA documentation for Pfizer. With an upcoming Dec. 17 meeting on the docket, the FDA will publish the data on the Moderna vaccine, as well, along with some of the non-proprietary items that you speak of. There is no list that I have to show with regard to the full makeup of the vaccine and how it was produced. The propriety nature of how some of that was produced will perhaps not be available to the general public. However, contents that could cause a negative response, such as a formaldehyde, will likely be disclosed in the FDA documentation. That information was made available in preparation for the Dec. 10 decision on the Pfizer vaccine by the FDA.
- Q:** How long do we expect the vaccine's effectiveness to last after the second dose has been administered? Will the vaccine be given once (like shingles) or will it be an annual vaccine?
- A:** The vaccines currently being introduced will be given periodically, similar to the annual flu vaccine to ensure ongoing protection against infection.

#### **IMMUNITY**

- Q:** Can you speculate on how immunity conferred by the anticipated vaccines will compare to immunity conferred by having recovered from COVID? More effective? Less effective? Longer lasting vs. shorter?
- A:** The first part of that question I don't have to speculate about because we actually have objective data comparing natural immunity from COVID-19 to acquired immunity. The data shows they are almost equivalent. When I say almost equivalent, we're talking non-significant differences in the immune response to the vaccine vs. to the native virus itself. So, that's positive news we're seeing among multiple vaccines in their phase III clinical trials. At 90 to 120 days post-infection, we see a degradation in the antibodies that are in the immune system specific to SARS-CoV-2. We can articulate that differently by saying the immunity that wanes over time is primarily antibodies. We still see B-cells exist for prolonged periods of time beyond the waxing of the antibodies after natural immunity from COVID-19. It's not studied yet with those who have received vaccinations. Obviously, that data will be forthcoming, but we know that there is hope that the B-cells will confer longevity for immunity to COVID-19. However, that's not yet conclusive.
- Q:** Should a person who has had COVID and/or tested positive for antibodies get vaccinated?
- A:** Yes, vaccination it is recommended by public health authorities. While reinfection is not prevalent, it is possible for a person to become infected more than once. It is not yet known exactly how long natural protective immunity is afforded after having COVID-19. A vaccine may also enhance immunity from the initial infection.

## TESTING

- Q:** What is the accuracy of the COVID-flu combo diagnostic test? Is there anything new on COVID-19 diagnostic testing that we haven't covered in a previous webinar?
- A:** There are multiple COVID-flu combo tests available. The one I presented is novel in that it's for home collection. That is a huge game-changer in terms of quickly getting more tests to more people. The efficacy and accuracy of each of those tests has not changed – in the 90s for sensitivity and specificity. Similarly, for flu, those numbers have not changed. Flu testing is actually a little less accurate – in the 80s and 90s, depending on which diagnostic test and which manufacturer. Is there anything new regarding COVID testing diagnostics? The answer is, yes. The FDA continues to approve EUAs for both serologic testing as well as diagnostic nucleic acid testing. There are nearly 300 tests available. We'll continue to highlight one that stand out with regard to safety in your workforce.

## RESOURCES

- Q:** Can you share a link to the Deloitte report you referred to during the webinar?
- A:** Refer to [Global Vaccine Safety Blueprint 2.0 Background Research](#), July 2019, prepared by Deloitte Consulting LLP for the World Health Organization.
- Q:** Do you have any materials yet on what partnering with WorkCare for the vaccine would look like for employers?
- A:** Yes, please write to [info@workcare.com](mailto:info@workcare.com) or contact your WorkCare Account Manager for information.