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Update 55 - COVID-19 – From Office of the Medical Director 18JAN2021 0800

To: All EMS Personnel in the EMS System for Metropolitan Oklahoma City & Tulsa

Key Content:

- **The Evolving Understanding of SARS-CoV-2 Variants
The Osterholm Update Episode 39 & The Washington Post**
- **Helpful (against COVID-19) or Harmful (to Your Wallet)?
Dr. G's Best Take on Vitamins C & D**
- **The Second Dose of the COVID-19 Vaccine – Dr. G's Thoughts**

Jumping right in...

The Evolving Understanding of SARS-CoV-2 Variants The Osterholm Update Episode 39 & The Washington Post

More and more about these “mutants” that are most scientifically accurately referred to as “variants” of the SARS-CoV-2 virus. So, we’ll use variants, but if you prefer something else, go for it. Can you believe one of my American College of Emergency Physicians (ACEP) member colleagues threatened to quit their membership in the College because ACEP called it a strain instead of a variant in a news item? Well, gotta pick those hills willing to die on in life, but I’m gonna say that this is flat ground for me. Probably is for you as well. So, between patients, you might want to read up some more on these “variants” using this article from *The Washington Post*: https://www.washingtonpost.com/health/coronavirus-variant-dominant-us/2021/01/15/4420d814-5738-11eb-a817-e5e7f8a406d6_story.html

Another good resource to hear about our continually growing knowledge about these variants is the latest update from Dr. Michael Osterholm at the Center for Infectious Disease Research and Policy at the University of Minnesota. This one is Episode 39 – “Places We’ve Never Been – Part 2.” Yes, I skipped over Part 1 in these Updates, but I did listen to it and there’s some nice content there, too if you’re a regular listener of these podcasts.

In this latest episode (release date January 14) from Dr. Osterholm, he shares his thoughts about SARS-CoV-2 variants, and specifically his concerns that they *could* prove 1) more infectious; 2) more deadly; and 3) reduce the effectiveness of the immunotherapy drugs and vaccines developed.

My readings to date sure seem to include an increasing number of reports that these variants are more infectious (easier to spread from person to person, with these only taking 4-5 minutes exposure – maybe even less - if not wearing masks and for us, PPE) AND if they spread to more people, while they may not be more deadly yet, the fact is that more people infected almost certainly leads to more deaths, even when the fatality rate (% of those infected that die) remains the same.

The numbers of variants are growing, joining the two initially of concern identified, one in the United Kingdom and one in South Africa. Now there are concerning variants identified in Brazil and Japan, though the Japanese version may well be the Brazil that has traveled there.

Here's the link to Dr. Osterhom's podcast: <https://www.cidrap.umn.edu/covid-19/podcasts-webinars/episode-39>. It's 58 of the best minutes I spent learning this week. Remember it doesn't all have to be listened to at once. These podcasts can also be found on [Apple Podcasts](#), [Spotify](#), and now on [YouTube](#) as well.

Helpful (against COVID-19) or Harmful (to Your Wallet)? Dr. G's Best Take on Vitamins C & D

Who hasn't read something about **Vitamin C**? This is a frequent article topic in health and fitness magazines. It is widely available either as a single supplement, part of an endless array of multivitamin/multimineral formulations on store shelves and online sites, and/or even an additive in foods. Check the grocery store the next time you are briefly there, masked of course, and you'll see a number of juices and foods that are tagged with "Vitamin C added" on their packaging. Must be good for us. Well, it is to an extent.

One good thing about Vitamin C is that it does help our immunity. Does it help it so much that it can prevent COVID-19? Not likely and there is no evidence of such benefit to date. However, what I really like about Vitamin C from a lack of toxicity standpoint is that it is water-soluble, meaning that if you take in too much of it, you'll just pee out the excess. Vitamin C is the most likely cause of your highlighter yellow pee when that happens. So, although our bodies do a good job of protecting us from too much of it, that also means we should keep Vitamin C supplementation in check, otherwise we're just literally flushing our money down the drain!

Here's a nice, quick summary about Vitamin C from the National Institutes for Health (NIH) at: <https://www.covid19treatmentguidelines.nih.gov/adjunctive-therapy/vitamin-c/>

Men's Health magazine ran a "one pager" graphic in its December 2020 issue that I found a helpful read as well. Its key takeaway was its sub-headline of "COVID-19 has spiked the sales of vitamin C products. The nutrient does have some powerful health benefits – it's just that preventing colds and the flu (let alone COVID) isn't one of them."

What about **Vitamin D**? The answer right now is really more of a we don't have a definitive answer... yet. But as you'll read in this article from *The Washington Post* there are dozens of active trials happening in the US to help answer whether Vitamin D supplements, and what form(s) of Vitamin D, are helpful in preventing COVID-19 or lessening its severity.

An important distinguisher from Vitamin C, is that Vitamin D is not a water-soluble vitamin. It's fat-soluble, meaning that excess amounts of it attach to fat and hang on it. This is key that we understand which vitamins act like this so we don't overdo it on supplements we choose to take. The fat-soluble vitamins of note are: A, D, E, and K. The best way to avoid toxic levels of fat-soluble vitamins, and the clinical term for that condition is called vitaminosis or some might say hypervitaminosis, is to eat a well-balanced diet (yes, I know that's a huge challenge when working a career in EMS!) and if choosing to take a nutritional supplement, limiting it to a single multivitamin/multimineral choice and only per the manufacturer instructions in dosing. As long as you are NOT suffering chronic liver or kidney disease, that should get you a safe amount of vitamins and minerals daily in addition to your thoughtful choices in foods and liquids.

Here's the Vitamin D article I mentioned: https://www.washingtonpost.com/lifestyle/wellness/vitamin-d-treatment-immune-covid/2021/01/08/ca92a87e-4f99-11eb-b96e-0e54447b23a1_story.html

Bottom line: vitamins C & D in the amounts you need are likely already in your diet and no reason to spend those hard-earned dollars on them in any attempt to protect yourself from COVID-19.

More supplement review to follow. I've got zinc and quercetin on the list next. Feel free to send me requests for specific supplements of your interest and I'll do my best to put them through the "science-o-meter" and share the results I think accurate and helpful.

The Second Dose of the COVID-19 Vaccine – Dr. G's Thoughts

Second dose gladly received with photo proof! I'm sending my huge thanks to the Tulsa Health Department's great team of clinicians and administrators. Both vaccinations were painless and super smooth logistically as well.



I hope you can already say the same in being "double dosed" or are quickly on the way to that point. For those of you awaiting your second dose, I'll share that this time around I noticed mild deltoid soreness (2/10 let's say) the late evening and early next morning. A brief chill that quickly went and stayed away, too. And that was it. I was actually quite happy to have any symptoms because to me it validated my immune system was up and running and something was changing since that first vaccine dose. It doesn't mean that absence of symptoms means you aren't getting the benefit of the vaccine, but most folks will experience mild and transient symptoms like these after the second dose of the COVID-19 vaccine.

Please, please be sure to get the second dose. One dose alone only gives you an average of 50% protection against severe COVID-19 whereas the full 2-vaccine regimen is what gives you a significant boost to the 95% protection against severe COVID-19 as validated in the research trials that formed the basis of Emergency Use Authorization (EUA) by the Food and Drug Administration for both the Pfizer/BioNTech and Moderna COVID-19 vaccines.

And there's emerging good news about the vaccines. We just won't know how long the benefits of vaccination will last until more time occurs as researchers continue to study the folks that got the earliest vaccines and their subsequent health – whether they got COVID-19 and when they did and how severe it was. Obviously, we are all hoping for lasting immunity and protection against any COVID-19, especially against severe, life-threatening symptoms.

Here's some links to encouraging resources about this:

<https://www.verywellhealth.com/length-of-covid-19-vaccine-immunity-5094857>

<https://www.technologyreview.com/2021/01/06/1015822/covid-19-immunity-likely-lasts-for-years/>

And if you've already had COVID-19, well, there's some good news for you too in protection for several months to follow from the Associated Press: <https://apnews.com/article/health-coronavirus-pandemic-78ee6a51a7fe48e063f0803da611cb84>

And CNN: <https://www.cnn.com/2021/01/14/health/covid-immunity-antibodies-intl/index.html>

With the New England Journal of Medicine study link:

https://www.nejm.org/doi/full/10.1056/NEJMoa2034545?query=featured_home

And the other study referenced as published on medrxiv:

<https://www.medrxiv.org/content/10.1101/2020.12.18.20248336v1>

Stay tuned for much, much more to come. We'll soon cover what test results to expect, or not once you are vaccinated.

Vigilance. Safety. Evidence-Based Service to Others.

Let's be careful out there.

Dr. Goodloe