

# November health news updates



**Vitamin D for autoimmunity:** Recently, I did a podcast on natural therapies for autoimmunity. There we discussed supplements that help turn down the volume on runaway immune reactions. Vitamin D was among the key nutrients we enumerated.

Now comes confirmation from a 5-year study of almost 17,000 adults. Subjects were given 2000 IU of vitamin D a day, or 1 gram of Omega-3 per day, or both. There was a 25 to 30 percent reduction in the incidence of autoimmune disease in supplement recipients vs. a control group.

To my mind, the results would have been even more robust if the subjects had been given higher doses of D, targeting a 25-OH vitamin D level of 55-90 ng/dl, a range I target in my autoimmune disease patients. Also, the Omega-3 supplementation was rather paltry; I might have patients with autoimmune conditions strive to take 4-6 1000 mg capsules of fish oil per day to invoke its anti-inflammatory effects.

**Testing for COVID—timing may affect results:** Testing for COVID is a vital part of an overall strategy to contain the disease. Shortages of test kits impaired our initial response to COVID in 2020. Now, the government is underwriting an extensive program to staunch the spread by making tests widely available. I've noticed that mobile testing sites are popping up all over my hometown of New York City; you can hardly walk six blocks without passing one.

Some labs are offering mailer kits with quick turnarounds so people can test at home. They may eventually supplant pricey home kits with sometimes sketchy results. But throughout the pandemic, we've heard stories of people who've tested positive and then negative when more accurate PCR tests are employed. So what gives?

A new study suggests that the *timing* of testing has a big impact on accuracy. Researchers at Vanderbilt University Medical School found that study participants were up to twice as likely to receive an accurate positive result if they got tested in the middle of the day and not at night; there were more false positives at night.

The differences in accuracy were not trivial: The analysis revealed a 1.7-fold variation in the likelihood of a positive result over a 24-hour period.

In line with more accurate readings, the implication is that midafternoon is the time of day at which both symptomatic and asymptomatic individuals are most likely to pass on the SARS-CoV-2 virus to others. It's suspected that viral shedding is less active at night.

Meanwhile, the first home COVID-19 antigen test approved by the FDA, Ellume, has been recalled due to a higher than acceptable false-positive rate.

**Ben Franklin was right:** "Early to bed, early to rise . . ." you know, *the thing*. It's difficult to maintain sleep discipline with all the binge-worthy offerings on TV. Plus, flexible remote work schedules are allowing more Americans to skip the commuter grind of daily 9-5 office attendance.

A recent study shows that going to sleep between 10:00 and 11:00 pm is associated with a lower risk of developing heart disease compared to earlier or later bedtimes.

That's because the body has a circadian clock that aligns with natural light. When we subvert that rhythm, as with shift work, it places strain on self-regulatory biological patterns.

It's a no-brainer that sleep deprivation is bad for the body; it elevates cortisol, worsens insulin resistance, and limits time for the **glymphatic system** to rid the brain of the day's accumulation of toxic byproducts. Appetite increases, and poor dietary choices are made during late-night "witching hours", with consequent weight gain.

But there's a Goldilocks effect when it comes to sleep: It's less well-known that oversleeping, too, is bad for the heart. In a recent study, participants who slept less than six hours or more than seven hours had a higher chance of death due to cardiac causes.

I pretty much adhere to this rule in my sleep routine. Tempted as I might be to cue up another episode of my favorite guilty pleasure, it's usually lights out around 10:30. Since I live on the east coast, it puts me at a disadvantage when watching sports events. After the 7th inning or the 3rd quarter, I pull myself away. I'm OK with getting the scores in the morning when I wake up refreshed.

**A cuppa Joe can hike your blood sugar:** After a bad night's sleep, it's common to offset fatigue with a bracing cup of coffee. A recent study **sought to determine** whether sleep deprivation in combination with a cup of strong coffee before breakfast could hike glucose and insulin responses to a sugar challenge.

Surprisingly, one night of fragmented sleep *did not* affect blood sugar response to a sugar challenge (although it's known that chronic sleep deprivation impairs blood

sugar regulation); on the other hand, combining sleep deprivation with an energizing cup of caffeinated Joe caused blood sugar to soar *50% higher* after the simulated “breakfast”.

The take-home is that, while coffee might feel bracing after inadequate sleep, the tradeoff for your temporary jolt might be soaring blood sugar later on.

There are implications for **routine blood tests**. When seeing new patients, I used to tell them to fast in case we wanted to do a blood test. But after too many encounters with irritable, headache-y patients, I revised my instructions to allow them a cup or two of black coffee or tea—skipping the milk and sugar, of course. After I learned that caffeine could transiently raise blood sugar, I came to the conclusion that it was better to forego the blood test and have a well-fed patient, not crashing through caffeine withdrawal at that crucial first visit. If a fasting blood test were to be necessary, we could always have the patient return, or report to a local blood lab first thing in the morning on another day.

(Not all blood tests require fasting; **find out which ones do here.**)

Anyway, it’s a good idea to go easy on caffeine before seeing the doctor. I recently saw a healthy, athletic 24-year-old late in the afternoon. His exam was pretty boring, except when I listened to his heart—it was bounding along at around 90 beats per minute. My first question: “How many cups of coffee have you had today?” Turns out he’d had 6 or 8 mugs so far. He agreed it was time to cut back.