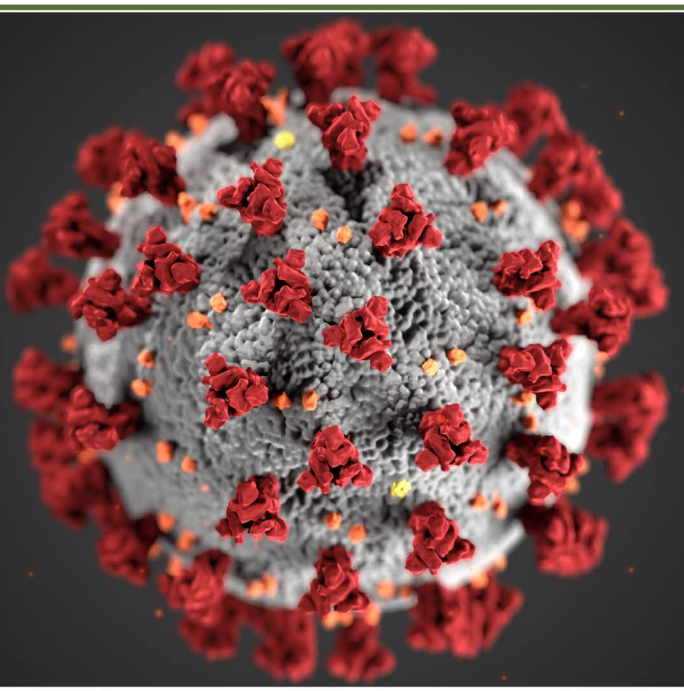
Heart TALK

Heart-healthy and Stroke-free Living with Dr. Amy L. Doneen, DNP, ARNP

March 2020

Thoughts from Dr. Amy

Coronavirus: How Worried Should You Be?



For weeks, the global outbreak of the new coronavirus — also known as COVID-19 — has dominated the news. More than 100,000 cases — and over 3,300 deaths — have been reported worldwide, the vast majority of them in mainland China. In the U.S., 17 states have confirmed their first cases, pushing the nation's total to over 400 as of March 8, with 14 deaths linked to the virus as of March 6. As the U.S. ramps up testing for the virus, the number of cases is expected to grow rapidly.

Fueling fear are reports of person-to-person spread of the virus — one of the factors that have prompted the CDC to declare that "the potential public health threat posed by COVID-19 is high, to the United States and globally." The CDC also cautions that older people and those with certain medical conditions, such as heart disease, diabetes and lung disease, seem to be at higher risk for serious illness, while the disease is likely to be mild in most healthy people. Here is the latest on the virus, including the answers to frequently asked questions and the best ways to protect yourself and your family.

WHAT IS THE NEW CORONAVIRUS AND WHERE DID IT COME FROM?

Coronaviruses are a family of viruses that cause respiratory illnesses ranging from the common cold to more severe infections, such as Middle East Respiratory Syndrome (MERS) and Severe Acute Respiratory Syndrome (SARS). COVID-19 is a new strain that has not been previously detected in people. The name "coronavirus" comes from crown-like projections on the viruses' surface.

Coronaviruses are zoonotic, meaning that they can be spread between people and animals, including camels, cattle, cats, rats and bats. Initially, people at the epicenter of the outbreak — Wuhan, China — had some connection to a large seafood and live animal market, suggesting that the virus may have started through exposure to infected animals, the CDC reports. Later cases have shown that COVID-19 also spreads from person to person.

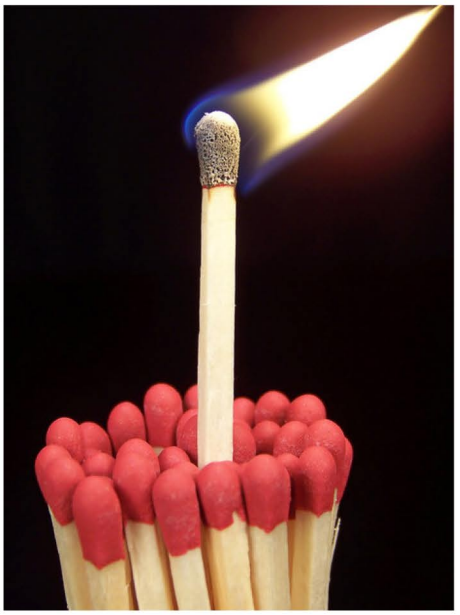
WHAT ARE THE SYMPTOMS OF COVID-19 AND HOW LIKELY IT IS TO CAUSE SERIOUS ILLNESS?

Symptoms vary considerably, and some people who get it may have few or no signs of illness. Common symptoms are fever, shortness of breath and cough. More severe cases can cause pneumonia, severe acute respiratory syndrome, kidney failure and even death.

On February 17, 2020, the Director-General of the World Health

CONTINUED ON PAGE 4

Is Chronic Inflammation the No. 1 Threat to Your Health?



As fear of coronavirus is prompting Americans to stock up on food, hand sanitizer and other supplies, 22 leading scientists have spotlighted a far greater threat to public health: chronic systemic inflammation. In a new Perspective article published in *Nature Medicine*, they report that this fiery condition is "the most significant cause of death in the world," accounting for more than half of deaths around the world. These disorders include cardiovascular disease (CVD), diabetes, cancer, high blood pressure and dementia, among others.

The scientists advocate for an increased emphasis on early diagnosis, prevention and treatment of systemic chronic inflammation (SCI), which we call "fire." They also say it's imperative for the public to be aware of the risk factors for developing this dangerous disorder and the best ways to avoid it. The authors also call for improvements in how medical providers screen patients for chronic inflammation and offer new recommendations on how to manage it. Here's a closer look at the findings, plus key takeaways from the BaleDoneen Method you can use to enhance and protect your health, all of which could help add years to your life.

WHO WROTE THE ARTICLE AND WHAT ARE THE KEY FINDINGS?

After an extensive analysis of the scientific evidence, researchers from the National Institutes of Health, Harvard Medical School, Columbia University Medical Center, Stanford University and other world-renowned centers in the U.S., Europe and South America start their report by stating:, "One of the most important medical discoveries of the past two decades has been that the immune system and inflammatory processes are involved in not just a few select disorders, but a wide variety of mental and physical health problems that dominate present-day morbidity and mortality worldwide."

Titled "Chronic inflammation in the etiology of disease across the life span," the article ties fire raging in the body to such mass murderers as heart disease, stroke, type 2 diabetes, chronic kidney disease, non-alcoholic fatty liver disease, and autoimmune and neurodegenerative diseases (such as Alzheimer's disease, other dementias and Parkinson's disease). "It's also important to recognize that inflammation is a contributor not just to physical health problems, but also mental health problems such as anxiety disorders, depression, PTSD, schizophrenia, self-harm and suicide," the study's lead author, George Slavich, director of the UCLA Laboratory for Stress Assessment and Research, said in a news release.

The article adds to a large body of scientific literature suggesting that SCI may be the root of most — or all — chronic diseases and may even accelerate the aging process. To address this deadly global health threat, the scientists strongly recommend new strategies and more research to advance early diagnosis and treatment of SCI and to prevent it from occurring in the first place. This approach, they report, would "not only extend life but also help reduce chronic disease worldwide and improve health."

WHAT SPARKS CHRONIC SYSTEMIC INFLAMMATION?

Acute inflammation is a healthy response to injury and infection. For example, if you stepped on a rusty nail, cells in the affected area would issue a molecular call to arms, summoning the body's defenders to fight the invading bacteria. This would launch an immune-system reaction called "the inflammatory cascade" in which more than 20 proteins would blast the invaders with toxins to kill them and blood flow increases around the wound to create the familiar signs of warmth, swelling and redness as it starts to heal.

SCI harms rather than heals, because the immune-system reaction never stops. It's like being shot by "friendly fire" during an endless war raging in the body. Triggers for SCI include obesity or a large waistline, smoking, an unhealthy diet, lack of exercise, chronic stress, social isolation, and poor oral health. For example, a landmark BaleDoneen study was the first to identify oral bacteria from periodontal (gum) disease as a contributing cause of CVD.

These oral bacteria frequently enter the bloodstream and spread throughout the body, which can result in SCI. The BaleDoneen study also found that bacterial villains from periodontal disease (PD) frequently gang up to create a triple threat to arterial health that can lead to heart attacks and strokes:

1. People with gum disease have twice as much small, dense LDL cholesterol (the most dangerous kind) in their blood as those with healthy gums. The size of cholesterol particles matters: Some are big and buoyant, so they tend to bounce off vessel walls. Others are small and dense, making it easier for them to penetrate the arterial lining. Think of the difference between beach balls and bullets.

2. Chemicals produced by high-risk oral bacteria make the arterial walls more permeable, so it's easier for bad cholesterol to invade. Since people with PD due to these pathogens also

CONTINUED ON PAGE 3

March Recipe • Chicken Skillet with Rosemary Cherry Balsamic Sauce

Ready in just 20 minutes, this tangy, gluten-free recipe is easy enough for a midweek family dinner but elegant enough for a festive occasion. Cherries are rich in antioxidants called anthocyanins, which help lower risk for cardiovascular disease by reducing levels of LDL (bad) cholesterol, blood pressure and inflammatory markers. Cherries also contain melatonin, a hormone that contributes to sound, refreshing sleep. Studies have linked eating chicken (as part of a diet that is high in plant foods) to lower risk for becoming overweight or obese. To complete the meal, serve the chicken with steamed or sautéed dark greens, other veggies of your choice or your favorite salad. For a flavor variation, replace rosemary with thyme.

INGREDIENTS

- 4 skinless, boneless chicken breasts
- 1 tablespoon extra-virgin olive oil, plus extra for brushing
- 6 sprigs fresh thyme, with stems removed and leaves chopped
- Pepper
- 2 cloves of garlic, minced
- ½ cup low-sodium chicken broth
- 1 cup red wine
- 6 sprigs of fresh rosemary, stems removed and leaves chopped
- 2 cups fresh or frozen cherries, pitted
- 3 tablespoons of balsamic vinegar

PREPARATION

Pound chicken breasts with a rolling pin to an even thickness. Brush with extra-virgin olive oil on both sides and season with thyme and pepper. Preheat a large, nonstick skillet over medium-high heat, then sauté chicken in the hot skillet until browned on both sides (about 5 minutes for each side). Transfer chicken to a serving platter and tent with foil to keep warm. Add one tablespoon of olive oil to the skillet, reduce heat to medium and sauté the garlic for 2 minutes. Add all remaining ingredients and simmer until sauce is reduced by half (about 4 minutes). Top the whole or sliced chicken breasts with sauce and enjoy! Serves four.

Adapted from fedandfit.com, iowagirleats.com and heatherchristo.com.

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have higher blood concentrations of small, dense LDL cholesterol and other disease-causing lipoproteins, this creates a one-two punch on the arteries, much like a gang assault on a house with broken windows or doors.

3.Substances produced by high-risk bacteria can also make the inner layers of the arterial wall (where plaque forms) stickier, much like Velcro, so bad cholesterol is more likely to get trapped there and create plaque deposits, resulting in a triple threat to arterial health.

WHY IS CHRONIC INFLAMMATION SO DANGEROUS — AND WHAT CAN YOU DO TO AVOID IT?

The Perspective article reported that CSI leads to "a constellation of energy-saving behaviors commonly known as 'sickness behaviors,' " such as sadness, fatigue, reduced sex drive, altered sleep patterns and social withdrawal, accompanied by increases in blood pressure, insulin resistance and abnormal levels of lipids (such as cholesterol). On a short-term basis, these changes, the article reports, "can be critical for survival during times of physical injury and microbial threat."

Over the long term, however, chronic inflammation has the opposite effect, and sets the stage for non-infectious chronic diseases that can shorten our lives, including those that a Harvard paper has called "the four horsemen of the medical apocalypse: coronary artery disease, diabetes, cancer and Alzheimer's." As we recently reported, other new research finds that targeting brain inflammation may be the best way to prevent Alzheimer's and stroke, along with following ten healthy lifestyle steps that have been shown to cut dementia risk by 35 percent.

For more ideas on how to avoid inflammation-related diseases, check out these articles from our blog: "Arteriology: A Revolutionary New Approach to Preventing and Reversing Arterial Disease," "The Hidden Cause of Most Heart Attacks," "Top Ten Tips to Prevent Type 2 Diabetes," and "The Oral-Systemic Connection: How Bacteria in Your Mouth Can Hurt Your Heart."

CONTINUED FROM PAGE 1

Organization (WHO), Tedros Adhanom Ghebreyesus, presented the following information on the severity of COVID-19, based on an analysis of data from 44,000 confirmed cases in China:

- More than 80 percent of people with COVID-19 experience mild illness from which they can recover
- About 14 percent developed severe illness that caused breathlessness and pneumonia
- About 5 percent had critical illness that included septic shock, respiratory failure and multi-organ failure
- About 2 percent died
- Relatively few children developed COVID-19
- The risk appears greatest in people who are elderly or have underlying medical conditions

HOW DOES THE DANGER OF COVID-19 COMPARE TO THAT OF THE FLU?

In March, Tedos released updated information from WHO reporting a 3.4 percent global death rate from COVID-19. That is much higher than seasonal flu (which kills about 0.1 percent of those who get it), but still means that more than 96 percent of those who catch the new coronavirus will survive the infection.

A new article in *New England Journal of Medicine*, coauthored by Anthony Fauci, MD, director of the National Institute of Allergy and Infectious Disease, offers a more optimistic view, stating that the true fatality rate of the COVID-19 "may be considerably less" than 1 percent and "may ultimately be more akin to those of a severe seasonal influenza (which has a case fatality rate of approximately 0.1%) or a pandemic influenza (similar to those in 1957 and 1968) rather than a disease similar to SARS or MERS, which have had case fatality rates of 9 to 10% and 36%, respectively."

Moreover, flu is vastly more common than COVID-19. During the current flu season, the CDC estimates that 34 to 49 million Americans caught influenza, leading to 350,000 to 620,000 hospitalizations and 20,000 to 52,000 deaths. Not only can getting vaccinated against the flu dramatically lower these risks, but for those with heart disease, flu shots have been shown to lower heart attack and stroke risk over the next 12 months by 61 percent, according to a recent analysis of studies of nearly 7,000 patients.

PHOTO BY ALLIE SMITH ON UNSPLASH

Similarly, getting vaccinated against pneumonia, which the CDC advises for everyone age 65 or older and younger people with certain medical conditions, also helps protect against cardiovascular events. That's because both vaccines help people avoid inflammation, the fire in the arteries that can ignite heart attacks and strokes in people with heart disease (plaque).

HOW IS THE VIRUS TRANSMITTED?

While there is a lot that is not yet known about the new virus, it is thought to spread through large airborne droplets released when an infected person coughs or sneezes. Since this is a virus that infects the lungs, exposure could occur if an infected person coughs or sneezes near your unprotected face and you inhale the droplets. Because the droplets are relatively heavy, they don't linger in the air long — but can contaminate surfaces and objects a sick person has touched.

Therefore, anything a sick person may have touched could be contaminated and potentially infectious for up to a week, according to some experts. That means your nose or mouth could get infected via your hands through contact with infected objects and surfaces. Most of us touch our noses and mouths 90 times a day, on average, highlighting the supreme importance of frequent hand washing as one of the best ways to avoid getting coronavirus and other germs. Studies show that overall, 80 percent of infectious diseases are spread by touch!

HOW EFFECTIVE IS HAND WASHING?

Numerous studies have shown that clean hands save lives! To wash away germs, follow these simple steps before and after preparing food, after changing diapers or using the toilet, after sneezing, coughing or blowing your nose, after touching an animal, and after touching garbage or any surface or object that may have been contaminated by a sick person:

- Wet your hands with clean, running water (warm or cold) and remove jewelry. A recent study compared bacteria counts on the hands of 50 healthcare workers who wore rings to 50 who didn't. Hand washing lowered levels of staph bacteria by nearly 50 percent for those without rings, but only 29 percent among ring wearers.
- Lather up with soap. Avoid antibac-

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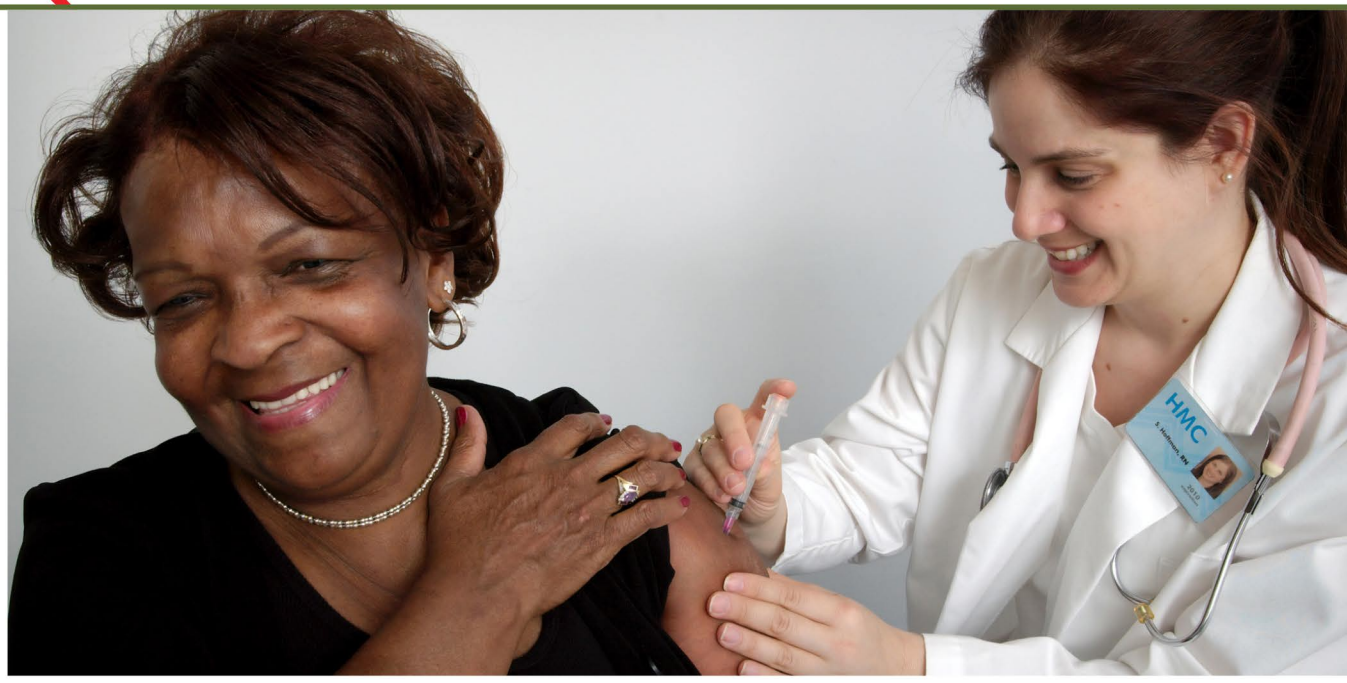

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terial products, which don't work any better than regular soap, according to the Mayo Clinic, and can even lead to bacteria becoming resistant to that antimicrobial ingredient.

- Rub hands together for at least 20 seconds. To get the timing right, kids can recite the alphabet as they scrub or sing the "Happy Birthday" song twice. Pay equal attention to all surfaces of both hands: Research shows that righties don't wash their right hand as carefully as the left, while the opposite is true for lefties. Fingernails and fingertips typically harbor the most microorganisms.
- Rinse thoroughly under running water; the force of the stream sweeps dirt and germs down the drain. And be sure to dry well, which helps rub away remaining microbes. A study published in *Epidemiology and Infection* found that when people touched someone else with freshly washed, but damp, hands, they transferred a whopping 68,000 microorganisms, compared to just 140 when their hands were dry.
- The CDC says that while soap and water is best, hand sanitizers containing at least 60 percent alcohol can do in a pinch.

WHAT ELSE CAN YOU DO TO PROTECT YOURSELF AGAINST COVID-19?

Although several manufacturers are working on a vaccine against the new coronavirus, it is not expected to be available for at least a year or longer. Meanwhile, along with frequent hand washing, these smart steps from health authorities, medical providers and virologists can help you and your family protect yourselves against COVID-19, flu, and other infectious diseases:

- Avoid close contact with people who are sick.
- No hand shaking! Switch to non-contact greetings, such as a friendly nod, hand wave or slight bow.
- Use only your knuckle to touch light switches, elevator buttons and other frequently touched public surfaces.
- Open doors with your closed fist or hip — do not grasp the handle unless that's the only way to open the door. This is especially important with bathroom doors, given that a recent study found that only 26 percent of men and 17 percent of women wash their hands after using a public toilet.
- Use disinfectant wipes at stores, when available, or bring your own. Wipe down the handles and child seats of grocery carts. Also avoid contact with payment touchscreens and cash when possible: Consider using electronic payment methods, such as Apple Pay.
- Cover your cough or sneeze with a tissue, then throw it in the trash.
- Keep a bottle of hand sanitizer at each of your home's entrances AND in your car for use after getting gas or touching other potentially contaminated objects when you can't immediately wash your hands.
- Avoid touching your nose, eyes and mouth, particularly when out in public.
- Clean and disinfect frequently used objects in your home. The EPA has released a list of disinfecting products and chemicals that it says are strong enough to ward off "harder-to-kill" viruses than COVID-19. These include products from Purell, Clorox, Lysol and other well-known sanitizers.
- Follow the CDC's recommendations for using a facemask. These are not currently advised for protection against COVID-19, but should be used by people with symptoms of the disease, as well as health workers and caregivers for the elderly and ill. Also check the CDC website for more tips, updates and advice for travelers.
- Get your annual flu shot if you haven't done so already. The CDC cautions that rates of flu remain high in the U.S. and may continue into the late spring. Being vaccinated cuts the risk that you'll need to go to a medical office or hospital (which could expose you to people with coronavirus or other infectious diseases) for treatment of flu symptoms by 55 percent. If you are 65 or older and haven't yet been vaccinated against pneumonia, or under 65 and smoke or have other risk factors for pneumonia, also get that shot. Visit the CDC website to learn more about pneumococcal vaccination.