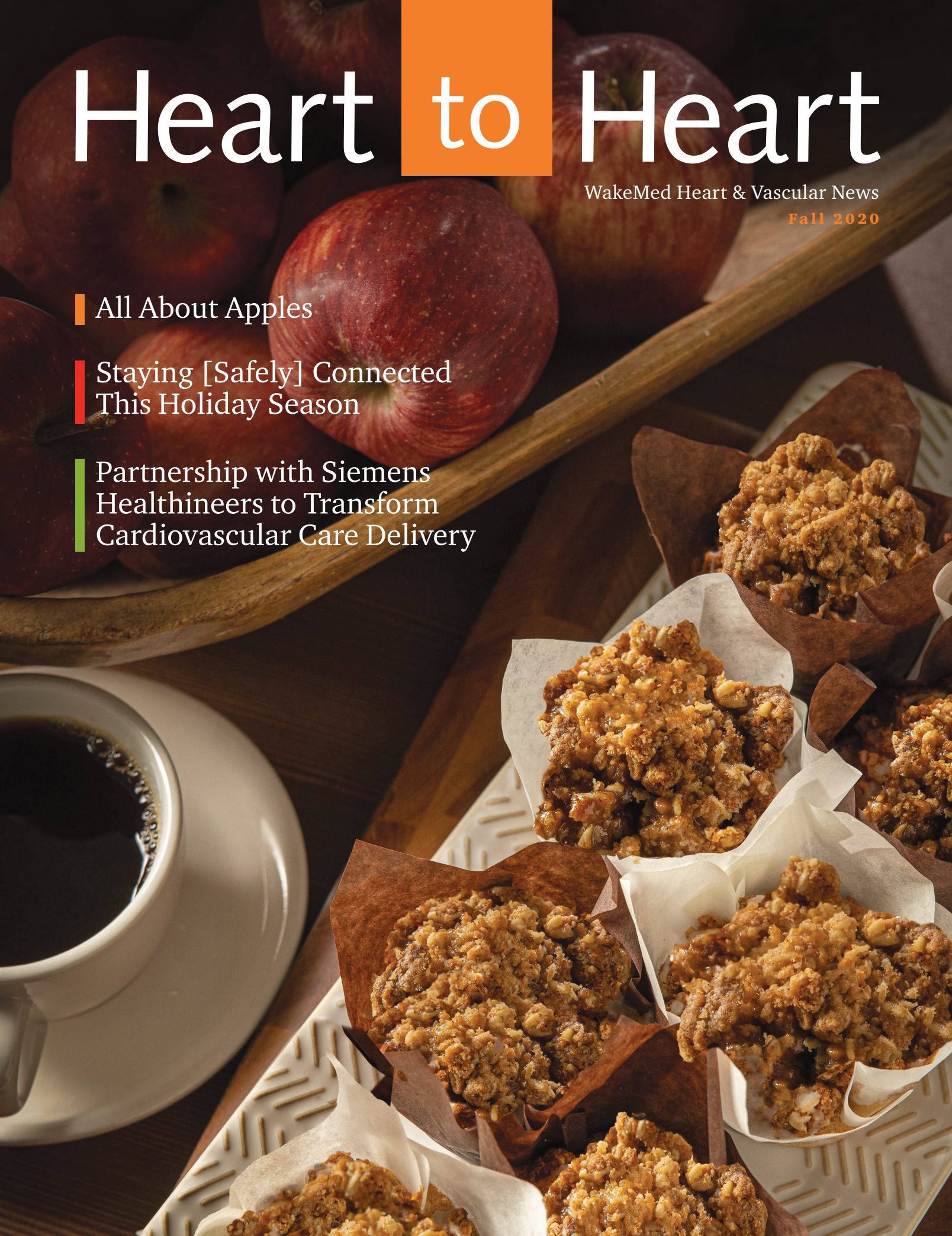
Heart to Heart

WakeMed Heart & Vascular News

Fall 2020



- All About Apples
- Staying [Safely] Connected This Holiday Season
- Partnership with Siemens Healthineers to Transform Cardiovascular Care Delivery

TAKE 5 with...

AMANDA THOMPSON, MHA, BSN, RN, NEA-BC

Executive Director, Heart & Vascular Services and Critical Care Nursing

Amanda Thompson joined WakeMed in August 2018 and is the leader for WakeMed's Heart & Vascular procedural, diagnostic, cardiac nursing and critical care units. Here, Amanda tells us a little about her career, her favorite fall traditions, how COVID-19 has impacted her, and some exciting innovations coming for heart and vascular patients.

Q: What are some of your favorite fall traditions?

Fall is my very favorite time of year – I love the crisp cool air, football (especially Appalachian State), game night with my family, coffee with a little pumpkin spice, and anything made with crisp mountain apples. I missed the North Carolina State Fair this year as it's a favorite tradition, but instead we'll enjoy making new traditions and being so thankful for what we have been given, the gift of time and family!

ALWAYS SAFE. FOREVER HERE.

Q: Tell us about what you do every day.

My job is to ensure our exceptional staff have the tools they need to do what they do best – care for our patients. I am a servant leader, a problem-solver, a partnership-builder and a cheerleader. Making sure my teams know they are supported, valued and respected is one of my top priorities. Finally, and most importantly, although my work isn't at the bedside – putting our patients first and at the center of every decision we make is what I love most about what I do every day.

Q: Tell us about your career path into nursing leadership.

Ironically, when I was younger – my dream was to be an accountant. Today, I know that I would have never made a good accountant. In my early career, I worked in a 20-bed cardiac intensive care unit and learned from some of the best nurses who have supported and mentored me during my career. In that role, I began to understand that nursing really is a calling. Throughout the years, I transitioned into leadership – a role I love for the perspective it provides. As leaders in healthcare, we all come from a different point of view – whether it's as a nurse, a doctor or another member of the team. We get together around a table and solve real problems that make a difference in people's lives and that's very rewarding.

Q: What is something that excites you about your job today?

There are so many things, but right now I'm thrilled we've just established a major collaboration with Siemens Healthineers that will provide us with the most advanced technology available to provide the highest level of care to our heart and vascular patients across the system through the use of robotics, advanced 3D imaging technology, artificial intelligence and workforce training. I traveled to Germany with the Siemens team and I am in awe of how far technology has come in just the past few years. This agreement will bring equipment and training that is currently only available at very few centers in the country – reiterating WakeMed's commitment to leading the way in heart and vascular innovation.

Q: How has COVID-19 affected you both personally and professionally?

Personally, it's taught me to slow down and spend more time with my immediate family. Time is very precious, and I believe that many years down the road, this is what I'll remember and treasure most from this year. My grown children both work in healthcare, so we've been able to spend time sharing our perspectives and challenges, which has been helpful for all of us during this difficult time.

Professionally, it has given me a renewed faith in our healthcare team. There have been many challenges that our teams have endured over the past six months – and through it all, they have remained so incredibly resilient through months of constant change, professional and personal stress – and their commitment to our patients has never wavered. I couldn't be prouder of them!

Heart to Heart
FALL 2020

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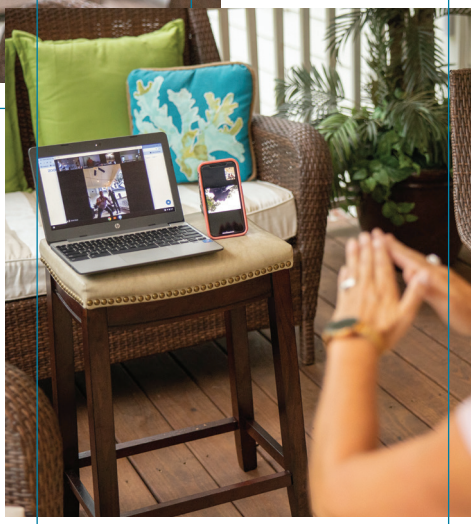
What's Inside

ZOOM-ing Into Fitness!



Bright and early three days a week, approximately a dozen motivated Safeway to Fitness participants log onto Zoom to get their exercise – thanks to WakeMed Healthworks fitness instructor Susie Davis, BS, CWWS. Less than two weeks after in-person classes were cancelled due to COVID-19, Susie took to her driveway or porch to keep these committed heart patients healthy, connected and active!

New Siemens Healthineers Collaboration to Transform Cardiovascular Care & Delivery at WakeMed

WakeMed and Siemens Healthineers leadership teams gather for the signing of the Value Partnership agreement.

This fall, WakeMed and Siemens Healthineers announced a new Value Partnership designed to innovate care delivery and help improve patient outcomes through the use of robotics, advanced 3D imaging technology, artificial intelligence and workforce training within WakeMed's existing cardiovascular intervention and imaging programs. As the first health system in NC to establish this innovative type of agreement, WakeMed will introduce new cardiovascular robotic and diagnostic capabilities as well as state-of-the-art imaging equipment.

Specifically, this agreement will bring new technologies that put WakeMed on the leading edge of innovative and care delivery. From our cardiac catheterization and electrophysiology labs to our operating rooms, new, state-of-the-art Siemens equipment will allow WakeMed to provide the most advanced care available for the region's heart and stroke patients. In November, we'll introduce the new ARTIS Icono biplane imaging equipment used for neurovascular interventions, which will allow us to establish a world-class hybrid operating room that provides care teams with the ability to diagnose and treat life-threatening conditions with precise imaging, accuracy and speed. The combination of advanced imaging and robotic technologies will also provide significant reductions in scan times and radiation exposure for our patients.

"I am extremely excited about this forward-thinking collaboration, which allows us to combine top imaging technology with real-time training and feedback for our teams."

JUDSON WILLIAMS, MD, MHA
Executive Medical Director,
WakeMed Heart & Vascular

From left: David Pacitt, President & Head of Americas, Siemens Healthineers and Donald Gintzig, WakeMed President & CEO.

Later this year, a new PET CT scanner will be installed at the new Medical Park of Cary. This technology will allow us to offer PET stress tests, which will enhance cardiac imaging studies and allow us to predict significant coronary disease while decreasing radiation exposure. In the coming year, WakeMed's cardiac catheterization and electrophysiology labs will also be upgraded with the latest equipment available to enhance diagnosis, intervention and patient outcomes.

Also as part of this agreement, WakeMed and Siemens will create a Corindus training academy in Cary, which will allow our healthcare teams and professionals from across the country to learn new and innovative imaging and robotic intervention techniques. Finally, using artificial intelligence will enhance our ability to identify disease earlier, reduce variance and participate in the development of new clinical approaches.

"I am extremely excited about this forward-thinking collaboration, which allows us to combine top imaging technology with real-time training and feedback for our teams," explains Dr. Judson Williams, executive medical director, WakeMed Heart & Vascular. "This partnership places patients and providers at the center of innovative care – and combines the equipment, artificial intelligence and physical designs and work-space all needed to provide the most advanced care you'll find in the region."

WakeMed's work with Siemens will continue to expand over time and engage in additional innovations including the use of remote technologies and other transformational initiatives and clinical capabilities.

Dr. Williams concludes, "This partnership is yet another example of WakeMed's continued commitment to innovation as evidenced by other existing initiatives such as our ERAS cardiac surgery program, drone delivery program and Clinical Research Institute. We know that when we innovate and move beyond traditional models – both our patients and our care teams thrive."

New Stent Technology Promotes Optimal Healing, Improves Outcomes for Complex Cases

SAROJ NEUPANE, MD

WakeMed Heart & Vascular

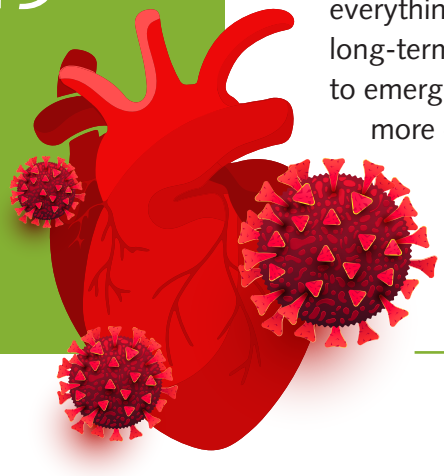
Like most technologies, stent technology is always improving. WakeMed recently adopted a new Synergy XD 48mm BP stent and our very own Dr. Saroj Neupane was the first interventional cardiologist in the Southeast to use these innovative stents for several patients undergoing complex percutaneous coronary interventions (PCIs) and chronic total occlusion (CTO) procedures. The Synergy XD is a single, long stent that can often do the job of two traditional, overlapping stents, which reduces procedure time, radiation exposure and contrast and cost. The Synergy stents feature a fast-absorbing polymer for optimal healing and their conforming design minimizes vessel straightening that can lead to restenosis and other adverse cardiac events. In clinical trials, the stents had a 100% success rate and resulted in a lower major adverse cardiac event (MACE) rate for the three years following placement.

Top Cardiovascular Hospital Recognition

Dr. Chuck Harr, Chief Medical Officer – Raleigh Campus; Donald Gintzig, WakeMed President & CEO; Dr. Judson Williams, Executive Medical Director of WakeMed Heart & Vascular; Dr. Jason Haag, Medical Director of WakeMed Heart & Vascular

WakeMed's Heart & Vascular leadership team proudly accepts recognition as one of the nation's 50 Top Cardiovascular Hospitals by IBM Watson Health. While we earned this award last fall, the awards presentation was delayed due to COVID-19. Congratulations to our incredible team for this high honor, which is based on a comprehensive analysis of clinical, operational and patient satisfaction metrics and data.

COVID-19 and the Heart
PART 2



As COVID-19 continues to impact people of all ages, researchers and doctors are working tirelessly to learn everything they can about the virus and its short- and long-term impacts – as well as how patients are responding to emerging treatments. While in many cases, there are still more questions than answers about the virus, we have learned a great deal about COVID-19 since earlier this spring. We've compiled some of the latest findings and feedback from WakeMed cardiologists and experts.

SENTHIL SUNDARAM, MD, MPH
WakeMed Heart & Vascular

What long-term effects on the heart are we seeing in patients who have recovered from COVID-19?

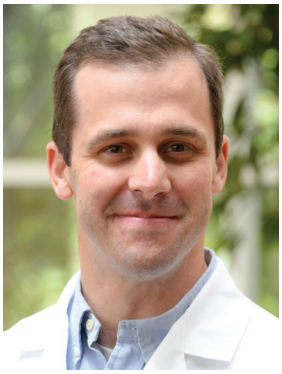
It's important to note that this virus is still in its earliest stages, so 'long-term' for us at this point is fairly limited. With that said, doctors are seeing increased incidence of both myocarditis (inflammation of the heart muscle) and thromboembolic complications such as deep vein thrombosis (DVT) in patients who have recovered from COVID-19. These findings are not limited to patients who had severe COVID-19 or to those with previous history of cardiac disease. While preliminary studies have brought light to these potential complications, the data is still very early and we likely need another 6-12 months of data before we can make sound conclusions. What we do know is that anyone who has had COVID-19 and experiences lingering symptoms should be closely followed by their primary care physician, or a cardiologist, if needed. In the coming year, we should know a lot more about what the long-term effects may be.

How can patients boost or strengthen the immune system as we continue through a combine flu/COVID-19 season?

The recommendations for social distancing, wearing a mask and frequent hand-washing remain some of the best ways to protect yourself. In terms of boosting or strengthening the immune system, there is no official "evidence-based" guidance, but I like to tell my patients to get enough sleep, minimize stress and exercise regularly. More importantly, minimize or avoid high-risk behaviors. The American College of Cardiology actually lists going to eat at a restaurant as a high-risk behavior, so I'd also recommend sticking to takeout and avoiding large gatherings.

Finally, patients often ask me about vitamins and supplements. Some data suggests Vitamin C and Zinc could help the immune system. While we don't have 'hard evidence', they certainly can't hurt, so it's an option I leave up to my patients. There are some early studies that show a Vitamin D deficiency could increase your risk of severe COVID-19 by as much as 50%. Since there's also evidence that a Vitamin D deficiency could also increase the risk of heart disease, patients may consider having their Vitamin D levels checked – either by a primary care physician or cardiologist. If your levels are low, supplementing is easy, and your physician can guide you on the appropriate dosage.

Where are we in terms of effective treatments for COVID-19?



DANIEL FOX, MD
WakeMed
Pulmonology &
Critical Care
Medicine

Over the past several months, our treatment strategies to support our COVID patient population have continued to evolve. The mainstay of our treatment for hospitalized patients has been a steroid called Dexamethasone. We believe that this steroid works by helping to decrease the body's inflammatory response to the virus. We also have access to Remdesivir, an antiviral agent that works to help decrease the circulating viral particles in the body. By treating early, we see some success at decreasing the rates of deterioration of our sickest patients. We are privileged to participate in several clinical trials evaluating treatments for severe COVID pneumonia, ranging from stem-cell based therapies to convalescent plasma.

In addition to medications, we are deploying a full range of therapies to help support patients suffering with COVID. First, because of the way that the lungs can be injured in COVID pneumonia, we help patients spend time in the "prone" position. By laying on the belly or side, this allows the lung to be expanded a bit easier, which tends to help as patients battle this disease. As patients recover from COVID pneumonia, the deconditioning and fatigue that we are seeing is substantial. Many patients require ongoing pulmonary rehabilitation to get back to normal life. Our WakeMed Pulmonary Rehabilitation program has been a tremendous asset as we continue to care for patients across the entire spectrum of this disease.

CHRIS DERIENZO, MD
WakeMed Senior Vice President
of Quality & Chief Medical Officer

What are the medical experts really saying about the feasibility of a vaccine?

While I am incredibly hopeful the White House's *Operation Warp Speed* program to develop a vaccine will hit its January 2021 goal, it's important to note that there is a big difference between "a vaccine has been proven to be safe and effective in the short-term" and "there is enough safe and effective vaccine for anyone who wants it." We are getting close to the former, with several vaccines in late-stage clinical trials that look quite promising, but the latter will still take many months to produce, distribute, and then vaccinate billions of people. In the meantime, we're fortunate to have numerous treatment options available as highlighted by Dr. Fox.

THE BOTTOM LINE?

Please keep in touch with us! Getting the care you need means you will get better faster and limit long-term damage to your heart, lungs and overall health. Our teams are available for video or in-person visits or to answer questions via WakeMed MyChart.

Cardiovascular ICU and WakeMed Clinical Research Institute staff review study protocol for WakeMed's first COVID-19 clinical trial.

Innovation in Action – WakeMed Studies Stem Cell Treatment in COVID-19 Trial

In late August, WakeMed proudly began participating in a COVID-19 clinical trial known as the "Mesenchymal Stem Cells for the Treatment of Moderate to Severe COVID-19 Acute Respiratory Distress Syndrome" trial (for short, MSCs for COVID-19 ARDS). In small preliminary clinical studies, MSCs have shown to be promising in decreasing inflammatory markers and improving clinical outcomes in patients with ARDS. This study will be enrolling patients through at least March 2021 in WakeMed's cardiovascular intensive care unit and allows qualifying patients with COVID-19 to receive either MSCs or placebo in addition to any standard care measures. WakeMed is among a select group of hospitals across the nation who were chosen to participate in this leading-edge trial, and thanks to our participation in the Cardiothoracic Surgical Trials Network. The trial is led by Dr. Judson Williams, executive medical director, Heart & Vascular Services and WakeMed's Clinical Research Institute. Many thousands stand to benefit from the knowledge generated from this trial.

Don't Ignore Heart Symptoms, Don't Delay Care

Studies and statistics continue to show that patients are delaying their care due to fears related to COVID-19. Wake County EMS and WakeMed Heart & Vascular urge patients – especially those with a heart condition – not to delay care in an emergency or if you experience signs of a stroke or heart attack. The American College of Cardiology (ACC) recommends the following: **Immediately call 911 if you are experiencing any of the following symptoms:**

Heart Attack Symptoms

- Chest pain
- Difficulty breathing
- Discomfort in chest, arms, back, neck, shoulder or jaw

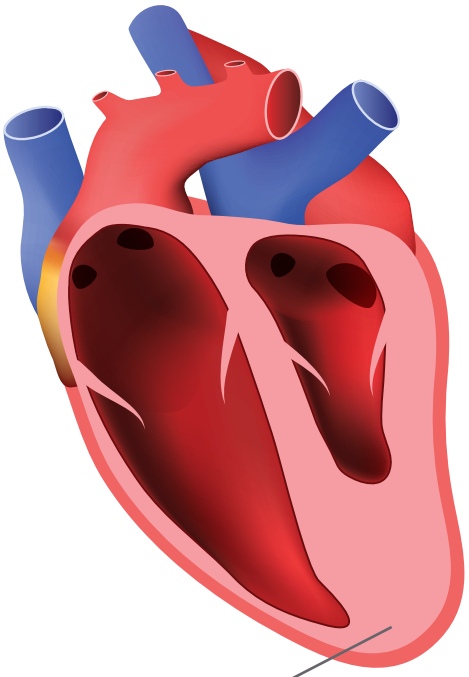
Stroke Symptoms

- Numbness, weakness or loss of movement in face, leg or arm, especially on one side.
- Confusion, trouble speaking or understanding
- Loss of balance

The ACC also recommends calling your doctor if you have a heart condition and have any questions or think you need a health visit.

Finally, don't delay routine care. WakeMed Heart & Vascular offers virtual visits and the ability to send a secure message to your provider using WakeMed MyChart. To sign up, visit mychart.wakemed.org.

Cardiomyopathy – A Common Precursor to Heart Failure



When most of us think about strength and muscles, we think of lifting weights to build external muscles like biceps, triceps and calves – but the most important muscle in our body is actually on the inside.

"The heart is arguably the most powerful muscle in the body because it has the critical job of pumping the blood that provides our body with the oxygen and nutrients needed to function," explains Dr. Matthew White, WakeMed Heart & Vascular. "Unfortunately, keeping our heart strong isn't quite as straightforward as building other muscles in the body since factors like genetics and many others play into our heart health."

MATT WHITE, MD, FACC
WakeMed Heart & Vascular

Dr. White explains that when the heart muscle weakens or fails, a wide variety of major health problems can ensue. One of such problems is cardiomyopathy, which is a fairly common disease of the heart muscle that can make it difficult for the heart to do its job. While cardiomyopathy can cause problems on its own, it also quite often leads to congestive heart failure (CHF). Congestive heart failure occurs when your heart isn't pumping blood as well as it should – in many cases due to a heart muscle that's too weak to pump effectively.

"While cardiomyopathy and congestive heart failure are often confused – the distinction is in the presentation of clinical symptoms," explains Dr. White. "Cardiomyopathy is the disease, and congestive heart failure is the most common effect of the disease. When cardiomyopathy patients start feeling shortness of breath, fatigue or weakness, swelling in the legs, ankles or feet, trouble with exercising – it has progressed to congestive heart failure."

Types & Causes of Cardiomyopathy

Cardiomyopathy can be caused by weakening of the heart muscle or due to an abnormal structure of the heart muscle. It's diagnosed using an echocardiogram that allows the cardiologist to see the size and thickness of the heart, its squeezing function, how well it relaxes or how stiff it is. Once diagnosed with cardiomyopathy, determining the root cause and type of the disease is the first step toward establishing a treatment plan.

The most common type of cardiomyopathy is **ischemic cardiomyopathy,** which is caused by coronary artery disease (CAD), or the narrowing of heart arteries caused by plaque buildup. A stress test or diagnostic heart catheterization can confirm if CAD is present – and if so, most patients will undergo either a cardiac catheterization and stenting procedure or a heart bypass surgery to improve bloodflow to the heart before treating the cardiomyopathy itself.

Hypertrophic cardiomyopathy is often caused by either a genetic mutation that causes the heart muscle to be thicker than normal and thus makes it harder for the heart to pump effectively. This is the most common cause of sudden cardiac death in young athletes who are often otherwise young and healthy. Hypertrophic cardiomyopathy can also be caused by long-term, uncontrolled blood pressure (hypertension), since this leads to increased stress on the heart that can cause weakening of the muscle over time.

Dilated cardiomyopathy is perhaps the most elusive kind and its cause is often unknown. It most often affects men, aged 20 to 50 but can also occur in women. Other risk factors include family history, prior heart attack, immune system problems like lupus or neuromuscular disorders such as muscular dystrophy.

Peripartum cardiomyopathy affects women toward the end of pregnancy or just after delivery. While it can cause serious complications, once diagnosed and treated, this type of cardiomyopathy often gets better after a few months.

Finally, **viral cardiomyopathy** is caused by viral infections such as COVID-19 and other coronaviruses (i.e. the common cold) that can cause inflammation of the heart muscle. This cardiomyopathy will also often reverse itself fairly quickly after treatment is given and the infection clears up.

Stress cardiomyopathy, also referred to as Broken Heart Syndrome or takotusubo cardiomyopathy is a rare, temporary condition that often mimics the signs and symptoms of a heart attack. Patients typically have no prior heart problems, but they have been set off by a stressful event such as the death of a loved one. It's treated with medications and patients normally return to normal after a few days or weeks.

TIP

Patients with cardiomyopathy and/or heart failure typically want to aim for a diet of less than 2000 mg of salt per day, and no more than 2-3 liters of liquid intake a day.

On the Path to a Stronger Heart

Patients with cardiomyopathy and/or heart failure are typically followed closely by a cardiologist – particularly over the first several weeks and months, during which time patients are usually given common blood pressure medications that can help slow down the heart rate and relax the arteries. The goal of treatment is to keep patients' symptoms under control so they can stay out of the hospital and reduce the risk of sudden cardiac death.

"We start patients off with a variety of medical treatments which may include beta blockers, ACE inhibitors, ARBs and new medications as they are introduced," explains Dr. White. "Over the first few months, we'll continue to increase the dosage to the highest amount that can be tolerated as we work to improve the heart function and reduce symptoms." Improvements are tracked by monitoring a combination of the patient's symptoms and their ejection fraction, which is a measure of how well your heart is pumping.

"A normal ejection fraction ranges from 55-60%, but patients with cardiomyopathy may go as low as 35% which significantly increases the risk of sudden death. That's why we're so aggressive with medical therapy until we see improvements in heart function." Certain cardiomyopathy patients at higher risk for sudden cardiac death may be given a wearable, external defibrillator that can shock the heart back into rhythm if needed.

> "Caring for patients with cardiomyopathy requires staying in close contact."

While medical therapy is the most important aspect for treating cardiomyopathy, patients are also encouraged to follow a low sodium diet and to minimize their fluid intake. Above all else, cardiomyopathy patients are encouraged to take their medications as prescribed and check in with their physician regularly – particularly as symptoms change.

"Caring for patients with cardiomyopathy requires staying in close contact," explains Dr. White. "We want to know how our patients are doing with their medications, how their symptoms are progressing, and how well their heart is functioning. Using a combination of in-person visits, virtual visits and MyChart messaging, we can conveniently help our patients keep their cardiomyopathy under control and feel their best," concludes Dr. White.

Staying (Safely) Connected Throughout the Holidays

The holiday season is here – a time of year where most of us look forward to family gatherings, parties, gift exchanges and loved ones assembled around a table for festive meals. This year, though – the holiday season comes amidst a global pandemic right in the middle of flu season. While COVID-19 has put a damper on everyone's plans for this year and may require some adjustments to your typical holiday plans – it doesn't mean you can't stay connected with family and friends.

To help patients and their families navigate these confusing and difficult times, we've consulted some WakeMed experts for some sound guidance on how to stay safely connected this holiday season.

The Importance of Staying Connected

While some patients think they might need to completely isolate and stay away from family members due to COVID-19, that's not always the case.

HEMANT SOLOMON, MD, FACC, RPVI
WakeMed
Heart & Vascular

WakeMed cardiologist Dr. Hemant Solomon explains, "Cardiac patients need emotional and physical support due to their underlying chronic illness. Common heart disease symptoms such as shortness of breath, weakness and swelling can make it difficult for some patients to care for themselves. Who better to receive some extra love and care from their close family members and friends than those with heart disease?"

To achieve this while keeping higher-risk family members safe, Dr. Solomon recommends keeping visits short, limiting gatherings to less than 10 people and wearing a mask when possible. He also urges patients to get their flu vaccine, which can at least reduce your risk for one of the season's common illnesses.

"When compared to the general population, cardiac patients are more susceptible to coronavirus and its complications. Being careful to wash your hands routinely, eat properly, get exercise and plenty of rest are important," Dr. Solomon continues. He also emphasizes that making memories and sharing the holidays is important for both mental and physical health – and that stressing too much about contracting the virus isn't healthy, either.

As such, he recommends talking to your cardiologist to discuss your individual risk. Understanding your condition, risk factors and health history will help you and your cardiologist determine what options for staying connected might be best for you and your family. While your doctor can't make these decisions for you, having a serious conversation about the risks and benefits of getting together with loved ones can help you and your family feel more comfortable making the right decision for your personal situation.

Comparing the Risk

Just as no two health situations are alike, different kinds of interactions come with different levels of risk. To help you and your family consider your comfort levels with different kinds of holiday plans, here are some scenario comparisons that may support your decision-making.

Lower Risk	Higher Risk
Driving to visit loved ones is a safer way to travel since you can control the environment and you're not navigating crowded public transportation spaces.	*Flying* to visit loved ones involves confined spaces with limited "air exchanges."
Attending a holiday gathering allows you to limit how long you're there and means you can leave if you begin to feel uncomfortable if others aren't following recommendations.	*Hosting* a holiday gathering means people and their germs are coming to you, which might make it more difficult to control your exposure.
Visiting *outside* allows for greater ventilation and may mean you can better social distance and feel better about longer visits.	Visiting *inside* limits the amount of ventilation which can increase the risk of transmission.
Wearing a mask during a visit is recommended by the Centers for Disease Control and Prevention as an important way to prevent transmission. Remember that ALL parties need to be masked – you wearing one while everyone else is unmasked isn't helpful.	*Not wearing* a mask during a visit can increase the likelihood of transmission, particularly if you're going to be within six feet of one another.
Attending a gathering with *less than 10 people* is recommended. When in doubt, smaller numbers are always better – particularly if someone becomes ill and you need to inform others that they've been exposed.	Attending a gathering with *more than 10 people* can increase your risk exponentially.
Visiting for *less than 2 hours* is preferred. Less is more when it comes to the duration of a visit – shorter visits can help reduce your risk.	Visiting for *more than 2 hours* may increase your risk. Public health guidance issued by the CDC suggests that longer exposure time is likely to increase the exposure risk.

CHRIS DERIENZO, MD

Tips for Safer Gatherings

Dr. Chris DeRienzo, senior vice president of quality and chief medical officer for WakeMed has been leading many of WakeMed's COVID-19 safety efforts for the past several months. He offers the following advice for families who want to get together this holiday season. "We know a lot more about COVID-19 than we did just six months ago in terms of both transmission and treatment. For most people who don't fall into the highest risk categories, we can follow simple, evidence-based precautions that will allow us to visit with one another and celebrate in a safe way."
His suggestions include:

Talk About COVID. Before getting together, be sure everyone who is planning to attend is on the same page about *everything*. Whether your family decides to wear masks, social distance, gather outdoors, limit the number of guests, etc. – have these discussions before any gathering and make sure everyone understands the plan and agrees. This will help eliminate any confusion or frustration during what should be a festive time for everyone.

Keep It Clean. Deep cleaning before and after any gathering is recommended. Antibacterial products, alcohol-based cleaners and bleach can all kill coronaviruses. On the day of the gathering, have plenty of hand sanitizer and places for people to wash their hands thoroughly – and don't hesitate to gently remind people to do so throughout the festivities. If you have extra masks, offer them to anyone who shows up without one.

Understand the guidelines. Knowledge is power. The CDC defines close contact for COVID-19 as being within six feet for 15 minutes or more without a mask. While no one expects a family member to have COVID-19, asymptomatic cases are always possible. Even if someone does fall ill after the event, if everyone keeps their mask on, respects social distancing and keeps visits short the risk of transmitting of COVID-19 can be significantly decreased.

Ventilation is key. Gathering outdoors is always preferable, but in December this obviously isn't always ideal. Increasing air exchange by increasing ventilation (e.g., keeping windows open) is recommended especially at times when wearing a mask isn't possible (e.g., during a meal).

Spread Out. When possible, spread chairs and/or tables so they're 6 feet apart. If space is limited, you may want to consider staggering visits. At the dinner table, leave an extra space in between chairs. When this isn't possible, try to sit with or beside those within your household to stay in your "bubble." Keep those at higher risk further away from the crowd and in areas with the best ventilation.

Serve Safely. Rather than serving holiday meals family style, ask the host to dish up each attendee's plate while wearing a mask. To prevent accidental cup sharing, use plastic cups with names or serve prepackaged drinks and label them (e.g., bottled water, sodas, juice boxes, etc.)

Get Creative. Loved ones will go a long way to see each other safely. Remember that it's not about the where, but the who, and the 2020 holiday season will require lots of creativity to celebrate safely. Space heaters and card tables in an open garage could make for a holiday dinner to remember. Or, consider a picnic table shelter at a park for a gift exchange.

No matter what you decide to do this holiday season, remember that the decision is yours alone. "Each person has to decide what they are comfortable with – without external pressures or stress from anyone else," concludes Dr. Solomon.

"I tell my patients the only thing they can control is themselves – which is where all important decisions should come from." - DR. SOLOMON

From WakeMed Heart & Vascular to you and your family – enjoy a safe and healthy holiday season!

NEW + NOTEWORTHY

Welcome Dr. Arun Damodaran

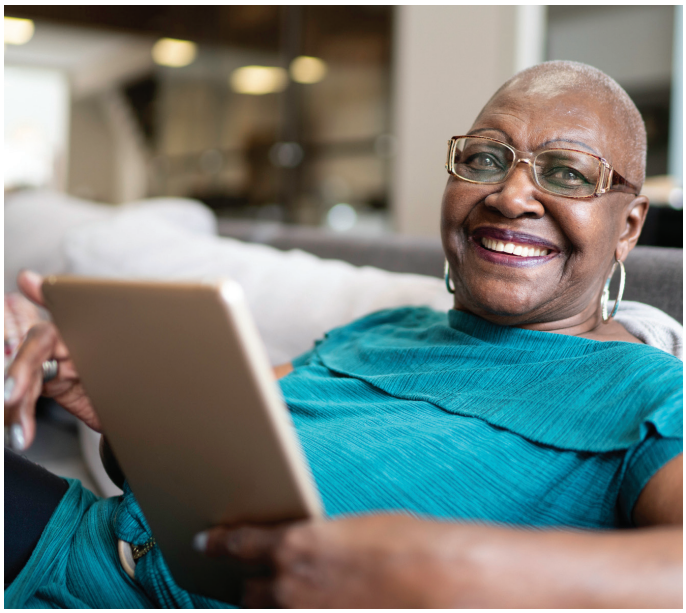
WakeMed Heart & Vascular welcomes cardiologist Dr. Arun Damodaran to the team. Dr. Damodaran is a general cardiologist who enjoys helping patients with hyperlipidemia, coronary heart disease, valvular heart disease, cardiomyopathy, congestive heart failure, pericardial disease and cardiac arrhythmias. He specializes in echocardiography, nuclear cardiology and interpretation of vascular ultrasounds. Dr. Damodaran attended medical school at Medical College Thiruvananthapuram, University of Kerala, India and completed his residency in internal medicine at St. Vincent Hospital in Worcester, Massachusetts. Dr. Damodaran is fellowship trained in cardiovascular disease, echocardiography and advanced heart failure from the University of Massachusetts Medical School, Boston University and the University of Michigan.

Dr. Damodaran works to guide his patients to manage heart disease and achieve the best possible outcomes so they can continue to do activities that add value and meaning to their life. In his free time, Dr. Damodaran enjoys spending time with family and friends and doing outdoor activities with his wife and children.

Dr. Damodaran sees patients at WakeMed Heart & Vascular in Cary. To schedule, an appointment call 919-350-2580.

Heart Failure Support Group Updates

We know it's been a difficult year for our heart failure patients – balancing social distancing/quarantine and keeping their CHF under control. Your Heart Care Plus+ heart failure program from WakeMed and Duke Raleigh is sending a Holiday Heart Failure newsletter to help you during the upcoming holiday season. In the meantime, we're working on reconvening a collaborative heart failure support groups as part of our Heart Care Plus+ collaboration – stay tuned for details!



Mended Hearts

Mended Hearts Introduces Virtual "VisitMe" Program

Mended Hearts is a program that offers support, education and activities for cardiac survivors, their family and medical professionals. While the Triangle chapter of Mended Hearts is not currently meeting due to COVID-19, you can request a virtual visit by accessing the website: myheartvisit.org. The site is easy to use and the WakeMed team is here to support you as needed. For further questions, please contact Hazel Covington, RN at 919-350-6888 or hcovington@wakemed.org.

210 Ashville Avenue Medical Park of Cary

WakeMed Heart & Vascular Cary Offices On the Move

This fall, WakeMed's Medical Park of Cary at 210 Ashville Avenue will open – which means several of our offices will relocate. Our Cardiology, Thoracic Surgery and Vascular Surgery offices are expected to move into their new offices by November. The Medical Park of Cary is a five-story building with 125,000 square-feet of tenant-occupied space featuring a dozen medical specialty offices, lab and imaging services, future wound care center, conference rooms/meeting space and even a pharmacy and coffee shop! Ultimately, the fifth floor will feature a state-of-the-art outpatient surgery center. With more than 470 parking spaces, getting in and out to see our providers should be easy and convenient.

Just on the other side of WakeMed Cary Hospital is another new medical office building - the HealthPark at Kildaire. This location will be home to WakeMed Primary Care, Urgent Care, Pulmonology, Wake Ortho and specialty services such as a new Sleep Center, WakeMed Rehab and Healthworks for Cardiac Rehab and Pulmonary Rehab. This office building is due to be complete by early 2021.

110 Kildaire Park Drive, HealthPark at Kildaire

Fall & Winter Vaccine Reminder!

SHAHLA NAZ, MD
WakeMed Primary Care

It's not too late to get your fall/winter vaccines! Primary Care physician Dr. Shahla Naz reminds us that it's more important than ever to protect yourself from infection this year due to COVID-19. "Amidst the coronavirus pandemic, staying up-to-date on flu and pneumonia vaccines is very important. Generally speaking, all adults should receive an annual flu vaccine, and those over the age of 65 or those at-risk for pneumonia should get their pneumonia vaccines as recommended by their physician(s)."

CDC VACCINE RECOMMENDATIONS:

Flu Vaccine
Everyone over the age of 6 months should get a flu vaccine every season.

Pneumonia Vaccines
There are two types of pneumonia vaccine in the US.

The **pneumococcal conjugate vaccination** is recommended for:

- *All babies and children younger than 2 years old*
- *People 2 years or older with certain medical conditions*

Routine **pneumococcal polysaccharide vaccinations are recommended** for:

- *All adults 65 years or older*
- *People 2 through 64 years old with certain medical conditions*
- *Adults 19 through 64 years old who smoke cigarettes*

All About Apples

Fall is here, and along with brisk autumn mornings, it's a great time to enjoy the many heart healthy benefits of apples. In North Carolina, apples are in season from late August through February with prime picking months occurring in September and October. Whether you prefer sweet or tart varieties, apples pack a punch of flavor and crunch – while also providing a heart healthy option for snacking or incorporating into tasty fall- and winter-friendly recipes.

The Research is in – The Many Health Benefits of Apples

Like all fruits and plant foods in general, apples are high in vitamins, minerals and other healthful nutrients. Not only do they taste great in both sweet and savory dishes, apples offer many impressive health benefits. Here are a few top reasons to incorporate apples into your diet this fall.

1 Rich in Antioxidants

Antioxidants help protect your body from cell damage that can lead to inflammation and disease. Apples are rich in several types of antioxidants, including powerful polyphenols and flavonoids such as catechin and quercetin. Catechin is one of the antioxidants found in green tea and has been linked to blood clot prevention and improved circulation. Quercetin has been linked to numerous health benefits such as lowering blood pressure, preventing allergies and respiratory infections, reducing inflammation, and preventing diseases such as cancer and heart disease. Since a bulk of the quercetin is found in the peel, eat the whole apple to take in its cancer-fighting benefits.

2 High in Fiber

Apples contain 4 grams of dietary fiber per apple. Fiber brings many proven health benefits, including better bowel and digestive health, lower cholesterol, better blood sugar control and decreased risk of death due to cardiovascular disease and cancer. A California State University study demonstrated that snacking on 2-6 apples per week can lower the risk of type 2 diabetes by 28%. Researchers believe the viscous soluble fiber like the pectin found in apples may help lower total and LDL (the bad cholesterol) without affecting HDL (the good cholesterol).

3 Support Bone Density

Apples are rich in boron, a mineral that helps the body effectively use calcium. Calcium helps strengthen bones and prevent osteoporosis. In addition, the antioxidants, polyphenols and flavonoids found in apples can help increase bone density and reduce inflammation.

4 Promote Heart & Lung Health

Apples help support healthy organs, too. Apples are beneficial to the lungs—vitamin C and flavonoids help to prevent asthma. Numerous studies have shown that eating apples on a consistent basis supports general cardiovascular health and lowers risk factors for cardiovascular disease. A February 2020 study published in the *Journal of Clinical Nutrition* found that eating two whole apples per day offered cholesterol-lowering effects as well as improved vascular function in study participants.

5 Could Reduce Stroke Risk

A meta-analysis of studies that followed people over several years was published in a 2014 issue of *Stroke – Journal of the American Heart Association* and demonstrated that the more fruit people ate, the lower their risk of stroke. In fact, for every serving of fruit consumed per day, the risk of stroke was reduced by 32%. Specifically, the study

Apples in NC – Keeping it Local

While apples are commonly grown in the mountain regions of NC, there are some smaller orchards throughout central NC. One of these is Millstone Creek Orchard, located in Ramseur, NC just between Siler City and Asheboro. In its 16th year of operation, Millstone Creek Orchard is a direct-to-consumer farm specializing in pick-your-own fruits throughout the year, including apples, peaches, blueberries, pecans, pumpkins and more. Beverly Mooney (pictured right), owner and operator of the farm, says they have thrived this year despite COVID-19 because of fruitful crops and their ability to shift how they do business.

This fall, they offer apple picking, pumpkin picking and hayrides at 50% capacity – and have kept their cannery, bakery and shop open 7 days a week. While they normally love accommodating hundreds of guests at a time for fruit picking, live music, storytelling, children's activities and more – they've scaled back this year to ensure everyone's safety in light of COVID-19. "Fortunately, even though it's been a challenging year, we're still able to enjoy seeing

parents, grandparents and children walk the orchards and enjoy the fruits of our farm. As a family-owned business, this is what we love most! We teach children that fruit is the best 'fast food' you can fill your body with – and we appreciate the opportunity to show them firsthand how farming and harvesting are done."

It's All About Variety

At Millstone, the most common varieties of apples grown include Honey Crisp, Golden Delicious, Red Delicious, Granny Smith, Goldrush, McIntosh, Pink Lady and Fuji. Beverly tells us the best baked goods use a blend of Granny Smith and something sweeter such as a Fuji apple. Fujis and Pink Lady apples are versatile and work well for baked goods, applesauce or savory dishes. On the other hand, for eating, Beverly recommends a Golden Delicious or Goldrush apple.

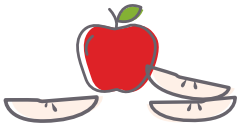
indicated the risk of stroke was 52% lower for people who ate large amounts of white-fleshed fruits and vegetables like apples, pears and cauliflower.

6 Help Reduce Caloric Intake

A medium-sized apple contains just 95 calories and may help with efforts to maintain a healthy weight. According to a 2008 study published in international research journal *Appetite*, eating an apple *before* a meal helped participants to consume 15% fewer calories than those who ate only the meal. Due to its high water and fiber content, apples can make you feel full for longer – while adding a healthy crunch to your daily diet.

Cholesterol-Reducing Snacking With Apples

WakeMed dietitian Meredith Ebersohl, RD, recommends the following apple snack combinations, which can provide the greatest impact on reducing cholesterol due to the combination of soluble fiber and fat.



- Apple and peanut butter
- Apple and mixed nuts
- Apple and cheese stick
- Apple slices and walnuts as oatmeal toppings
- Apple slices on salad with dressing
- Apple stir fry with chicken, tofu, or nuts
- Apple chunks incorporated into tuna salad, turkey meatloaf, or burgers
- Apple cores stuffed with raisins and cinnamon

SERVES 4

Baked Apples with Walnuts

INGREDIENTS

4 Apples, Granny Smith, fresh
1/8 c. walnuts, chopped
¼ c. dried cranberries
2 Tbsp. light brown sugar
½ tsp. ground cinnamon
2 tsp. unsalted butter
2 Tbsp. orange juice

INSTRUCTIONS

1. Preheat oven to 350°F. Cut out the core of the apple, leaving the base intact (do not cut all the way through the apple). Peel a strip of the skin in a diagonal swirl. Place the apples in a baking dish.
2. In a bowl, combine walnuts, cranberries, brown sugar and cinnamon. Spoon mixture evenly into apples.
3. Top the apples with butter and drizzle with orange juice. Place aluminum foil over the apples before placing into the oven. Bake for 15 minutes or until the apples are just soft. Spoon the juice over the apples and serve.

NUTRITIONAL INFORMATION PER SERVING: Calories: 175; Total fat: 4.7 g (1.5 g) Saturated fat; Cholesterol: 5 mg; Carbohydrates: 36 g; Fiber: 4.4 g; Sugars: 29.1 g; Protein: 1.1 g; Sodium: 4.5mg

SERVES 12

Apple Spiced Muffin

INGREDIENTS

¾ c. skim milk
¼ c. canola or soybean oil
1 tsp. vanilla extract
1 egg
2 c. all-purpose flour
½ c. sugar
2 tsp. baking powder
½ tsp. salt
½ tsp. ground cinnamon
1 medium unpeeled apple, finely chopped (1 cup)

Topping

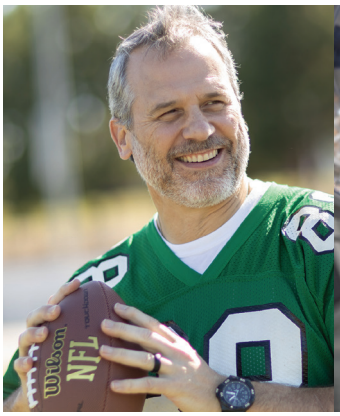
1 Tbsp. sugar
¼ tsp. ground cinnamon

INSTRUCTIONS

1. Preheat oven to 400°F. Grease bottoms only of 12 regular-size muffin cups with cooking spray or paper baking cups.
2. In large bowl, beat milk, oil, vanilla and egg with fork or whisk until well mixed. Stir in flour, ½ c. sugar, baking powder, salt and ½ teaspoon cinnamon until flour is just moistened (batter will be lumpy). Stir in apple. Divide batter evenly among muffin cups. In small bowl, mix topping ingredients; sprinkle over batter.
3. Bake 25 to 30 minutes or until golden brown. Cool before serving. Serve warm if desired.

NUTRITIONAL INFORMATION PER SERVING: Calories: 146.7; Total fat: 4.1 g (1.9 g) Saturated fat; Cholesterol: 0 mg; Carbohydrates: 26.2 g; Fiber: 0.6 g; Sugars: 13.9 g; Protein: 1.4 g; Sodium: 208mg

From the NFL to the Silver Screen, This Provider's True Calling is Here at WakeMed



At age 58, WakeMed physician assistant Ron Fazio, PA-C has had several exciting careers and lives his life with purpose. Following a few years in the NFL and a brief acting career, Ron has spent 14+ years working with WakeMed's heart surgery team, helping many of our sickest patients live their lives to the fullest, too.

Ron has always had a passion for learning new things and thrived as part of a team. In his hometown of Willingboro, New Jersey, he chose football over track and field for most of his school years, including college where he played at University of Maryland. After graduating with a degree in Kinesiology, he received the phone call of his dreams: the Dallas Cowboys asked him to join the team as a free agent.

Ron headed to rookie camp where he had the incredible opportunity to join some of his childhood heroes like Tony Dorsett, Danny White and Ed "Too Tall" Jones – and to play for the great Tom Landry. As a tight end, catching passes was Ron's passion – until he broke his thumb during an early practice game. After a long recovery, that impacted his catching, Ron's season ended when he was cut by Coach Landry. He played the following year with the Philadelphia Eagles before calling it quits.

"After a few years, I knew I wasn't impressing anyone in the NFL and it was time to move on," explains Ron. The next phase of Ron's life included a variety of jobs that were perfect for a young adult with an NFL build. He worked in several gyms, New York City bars and even as a movie actor, starring in *The Toxic Avenger Parts 2* and *3* and even had a small role on *The Sopranos*.

Before long, though, Ron knew he wasn't destined to be a lifelong actor, either. Fortunately – a rowdy night at work led Ron to find his true calling. While working as a bouncer, an encounter with some unruly guests left Ron with a minor injury that caused a fairly serious infection. During his week-long hospital stay, Ron received excellent care from a team of caregivers that included several physician assistants (PAs). Curious about what a PA career could look like, Ron asked a lot of questions that led him to return to school.

After graduating from PA school with honors, he began work at the New York Hospital Medical Center of Queens, first as a General Surgery PA and then as part of their new heart surgery program.

"I've always loved being part of a team – the fact that everyone has an important responsibility and that we're always working toward a common goal is a great feeling," Ron explains.

This philosophy guides his work at WakeMed, where he spends 40+ hours each week supporting cardiovascular and thoracic surgeons during long and complicated surgeries. During an open-heart procedure, heart surgeons have to essentially reroute bloodflow to get around or bypass blockages caused by heart disease. For some, this entails anywhere from two to five vein grafts – all of which require grafted pieces of vein that are harvested from the saphenous vein in the leg.

While the surgeon is focused on the heart, providers like Ron remove the saphenous vein from the leg so it can be used to restore oxygen-rich bloodflow and bring patients back to better health. Endoscopic vein harvesting (EVH) is a technical procedure that requires great precision and practice, and Ron has over 25 years of experience.

"From the NFL to acting, to my career as a physician assistant – I've loved every job I've had," explains Ron. "That said, being part of this heart surgery team at WakeMed is by far the most meaningful and rewarding of all. There's no feeling like helping others – taking care of patients and seeing them on the road to recovery is an amazing way to spend my days."

Recently, Ron completed his 1000th EVH procedure at WakeMed – a milestone his colleagues are proud to recognize and acknowledge. "We're grateful to Ron and his teammates for their contributions to our exceptional heart surgery program – they play a critical role in what we do on behalf of our patients every day," explains Dr. Judson Williams, cardiovascular surgeon and executive medical director of WakeMed Heart & Vascular.