

Heart to Heart

WakeMed Heart & Vascular News

Fall 2021

WakeMed Achieves
Lowest Heart Surgery
Mortality Rates
in the Country



Let's Talk Turkey – Enjoy a
Heart-Healthy Thanksgiving

Stay in Sync with Cardiac
Implantable Devices

TAKE with...

TERESA MCLEAN, BSN, RN, PCCN
Clinical Nurse and WakeMed
Foundation Volunteer



Teresa McLean, BSN, RN, PCCN, is a nurse who cares for WakeMed Heart & Vascular patients before and after their cardiovascular procedures. Here, we'll get to know Teresa and her commitment to bedside nursing, how the pandemic has affected her and other frontline caregivers, and some of her fall favorites.

Q: Tell us a little bit about yourself.

I'm a North Carolina native and was born and raised in the New Bern area. I've been a nurse since I graduated from Wake Tech in 1993, and for the past 30+ years, I've spent my career caring for heart and vascular patients. When I was in high school, I wanted to go to the Navy to become a nurse but my dad didn't want me going away on a ship. So, I went to East Carolina University and majored in economics. After a few years working in administrative roles, I got married, had children and finally followed my calling to be a nurse.

Q: What do you love most about being a frontline nurse?

My patients! I love people, and caring for patients is such a gift to me. Taking the time to get to know each patient, connecting with them and their families, and pampering those who will let me is very rewarding. In the Heart Center, we see patients with a variety of diagnoses, so I learn something new every day. As a preceptor (trainer) for new graduates and new hires, I get to work with the next generation of nurses while staying on top of what's new in the field.

Q: What unique experiences have you had as a nurse since the pandemic began?

At the start of the pandemic, I saw the many urgent needs placed on our organization – from implementing new protocols, to visitor restrictions, to COVID-19 testing and screening, and I knew I had to help as much as I could. Initially, the Heart Center was closed to outpatient procedures, so I offered to assist anywhere I was needed. My first assignment was in Nursing Administration helping a larger group develop the protocol and process for decontamination of N95 masks. I also helped fit employees with duckbill face shields. I was very proud of this important work – it helped us manage our colleagues' fears and safety concerns. Once hospital volumes started increasing, I returned to my home unit, plus picked up additional shifts in other clinical areas as much as I could. It has been a very stressful 18 months, but I've trusted WakeMed to take care of its staff and they have. Our team has come together in incredible ways, and the support and encouragement from our leadership and community has been outstanding.

Q: What are some of your favorite fall foods and activities?

I love NCSU football and walking. Fall favorites include butternut squash and apple soup. Thanksgiving is a special time I spend with family, which includes my grown children, watching football, and rearranging the house to prepare for the Christmas tree!

Q: In your free time, you volunteer for the WakeMed Foundation. Why is this work important to you?

I love WakeMed – between my love for NCSU and WakeMed, I bleed red through and through. The WakeMed Foundation does so much great work – they fund educational and training opportunities for staff, help finance areas such as the Children's Hospital, offer support to WakeMed employees facing personal hardship, and so much more. Volunteering with the WakeMed Foundation fills many buckets for me and I will always be a participant.

Love
LIGHT

WakeMed
Foundation

Make a Difference for Families at WakeMed Children's

For more than 30 years, members of our community have supported the programs and services at WakeMed with a Love Light Tree donation.

These gifts allow you to honor or remember a loved one — and are a great way to give back to your community. Love Light contributions help our team enhance the patient experience at WakeMed Children's, and bring extra smiles and comfort to children and their parents. **Learn more at wakemed.org/giving/events/love-light**

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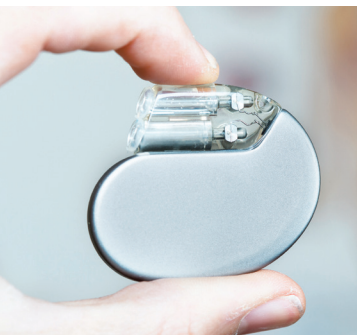
Heart-Healthy Recipes

Invited Faculty for ERAS Cardiac Training Conference



This fall, Dr. Judson Williams (Cardiovascular Surgery) and Dr. Daniel Fox (Pulmonary & Critical Care Medicine) were proud to represent WakeMed Heart & Vascular at the national ERAS (Enhanced Recovery After Surgery) Cardiac Training Conference in Nashville, TN.

Staying in Sync with Implantable Cardiac Devices



How Pacemakers & Implantable Cardioverter Defibrillators (ICDs) Work

Life-saving cardiac devices such as pacemakers and implantable cardioverter defibrillators (ICDs) play an important role in treating patients with cardiac arrhythmia. Also known as heart rhythm problems, cardiac arrhythmias occur when the electrical signals that regulate the heart's beats don't work like they should. These problems cause the heart to beat either too fast (tachycardia), too slow (bradycardia) or irregularly. While some arrhythmias are harmless, many are life-threatening or can lead to stroke, heart failure, and an increased risk for blood clots.

Here, we'll explain the history and function of the pacemaker and implantable cardioverter defibrillator (ICD) and how they're helping improve quality of life and peace of mind for many patients.

Pacemakers – Pacing a Slow Heart Rate

Since their invention in 1958, pacemakers have helped patients suffering from bradycardia, or an unusually slow heart rate. Today, approximately three million people worldwide are living with a pacemaker, and each year about 600,000 pacemakers are implanted.

Bradycardia is defined as a heartbeat that's slower than 60 beats per minute, and it can occur for a wide variety of reasons. Most commonly, it's caused by heart tissue damaged due to aging. It can also be caused by infection of the heart tissue (myocarditis) or damage to heart tissues caused by heart disease or heart attack. In rare cases, it can be genetic, or caused by inflammatory diseases, an underactive thyroid gland, obstructive sleep apnea or certain medications.

While not everyone who suffers from bradycardia needs a pacemaker, many do. For WakeMed Heart & Vascular patients, the decision is based on a personalized approach based on each individual's risk factors, medication and medical history, as well as symptoms. Bradycardia can be a serious problem if the heart can't pump enough oxygen-rich blood throughout the body. In these cases, patients may feel dizzy, lightheaded, short of breath, fatigue or experience confusion.

"Some patients have a slow heart rate and feel fine, while others may experience symptoms that are either dangerous or have a negative impact on their quality of life," explains Ashish Patel, MD, MPH, FACC, WakeMed Heart & Vascular – Complex Arrhythmia. "While common, arrhythmias are complex health problems. That's why we look at each patient individually and perform a careful evaluation before making any treatment recommendations."



ASHISH PATEL, MD, MPH, FACC
WakeMed Heart & Vascular

BRADYCARDIA IS DEFINED AS
A HEARTBEAT THAT'S SLOWER THAN

60 BEATS
PER
MINUTE

Types of Pacemakers

Depending on the rhythm problem(s) being addressed, there are several types of pacemakers with a varying number of leads or wires.

- **Single-chamber pacemakers** use just one lead (wire) that typically carries electrical impulses to the right ventricle of your heart. They're often used in patients with atrial fibrillation or in patients who need very infrequent pacing.
- **Dual chamber pacemakers** are the most common type in the US, and use two leads to carry electrical impulses to the right ventricle and the right atrium of your heart to help control the timing of contractions between the two chambers.
- **Biventricular pacemakers** use three wires to deliver what's called cardiac resynchronization therapy. This treatment is for patients who have an abnormal contraction pattern of the left ventricle. This kind of pacemaker helps restore a more normal contraction pattern of the left ventricle, which is the main pumping chamber of the heart.

Living With a Pacemaker

Pacemakers are generally implanted in a surgical procedure via a small incision in the shoulder. While less common, leadless pacemakers are placed using a nonsurgical procedure via a small puncture site in the right leg. In either scenario, most patients go home the same day or require an overnight hospital stay.

Once implanted, the pacemaker records and stores data on the patient's heart rate, 24/7. The cardiologist will use remote monitoring technology to identify any time-sensitive problems, which results in a follow-up phone call to the patient. Approximately once a quarter, a thorough evaluation of heart rate readings will be reviewed by the cardiologist to identify any potential problems or opportunities to modify the plan of care.

In most cases, adjusting to life with a pacemaker is uneventful and the device will remain in place, untouched, for 8-10 years. When the battery nears the end of its life, the cardiologist will be notified well in advance and together, the patient and cardiologist can make a plan to schedule the minor procedure required to replace the device.

Implantable Cardioverter Defibrillators – Preventing Sudden Cardiac Death

The implantable cardioverter defibrillator, also known as an ICD, was developed in 1980 and approved by the Food & Drug Administration (FDA) in 1985 – and its sole purpose is to prevent sudden cardiac death, also known as sudden cardiac arrest. This occurs when the heart stops beating suddenly due to a problem with the heart's electrical system (arrhythmia), which stops blood flow to the body.

The ICD is used to detect and stop these abnormal heartbeats – and it instantly tries to correct them by first trying to pace the heart out of the rhythm, which patients cannot feel. If pacing fails, the device then delivers one or more shocks to end the life-threatening rhythm.

Keep An Eye Out For...



...Signs of a Device-Related Infection

While device-related infections are relatively rare, both having a surgical procedure and introducing a foreign device into the body can put you at risk. Most infections occur shortly after surgery at the incision site, but internal infections can also occur where the leads connect to your heart. Contact your cardiologist right away if you experience any of the following signs of an infection:

- Fever
- Chills
- Localized redness/inflammation
- Pain at the implant site
- Drainage from a sore near the surgical site
- Erosion of pacemaker through the skin



...Device Interference

Certain equipment and machines can interfere with both pacemakers and ICDs, which can keep devices from working properly. While your cardiologist can provide a full list, the following devices can cause interference.

- Anti-theft systems such as those found in large retail establishments
- Metal detectors for security
- Earbuds and clip-on headphones
- Battery powered cordless tools
- Lawnmowers, leaf blowers, chainsaws
- Medical alert systems and falls detection pendants
- Cell phones and cordless phones (generally OK to use, but should be kept 6 inches away from your device)

Talk to your doctor for specific details on how or if you should limit your exposure to these and other devices and machinery.

IN SIMPLE TERMS

Patients who are at risk for sudden cardiac arrest, such as those who suffer from ventricular arrhythmias, or those who are at risk for them (such as individuals with a weak or enlarged heart muscle, or certain rare, genetic conditions) may be considered for an ICD.

Dr. Ashish Patel says that most patients with an ICD are those who suffer from congestive heart failure (CHF), although they're also used for patients with rare structural conditions such as hypertrophic cardiomyopathy, too. "Patients with CHF have a high incidence of sudden cardiac arrest due to ventricular arrhythmias. That's why patients with an ejection fraction (a measure of how efficiently the heart is beating) of less than 35% are eligible for an ICD."

He explains that the decision to move forward with an ICD is typically based on a combination of factors, including each patient's risk factors and medical history, among others. "It's an important decision that most patients will make in partnership with their cardiologist," Dr. Patel concludes.

Types of ICDs

Like most devices, ICDs continue to evolve and they've gotten smaller and more sophisticated. While early ICD devices were implanted in the abdomen, today there are three main types, including:

- **A traditional ICD** is implanted in the chest with wires (leads) that attach directly to the heart during an invasive procedure. Also known as a transvenous ICD, this device is implanted in the shoulder area. All transvenous ICDs also have built-in pacemakers (ideal for patients who also have bradycardia).
- **The subcutaneous ICD (S-ICD)** is a newer option that's implanted using minimally-invasive techniques on the left side of the chest next to the rib cage with the lead placed under the skin (subcutaneously) above the breastbone. While it's larger than a traditional ICD, this device leaves the heart and blood vessels completely untouched – meaning there are no leads or wires entering the heart.
- **A biventricular ICD** is a traditional ICD with a built-in biventricular pacemaker, so it's ideal for patients with congestive heart failure who have electrical abnormalities like a left bundle branch block that lead to an abnormal contraction of the left ventricle. They're implanted beneath the skin in the chest, just below the collarbone, and feature three leads placed in the heart.

Living With an ICD

ICD placement is typically an outpatient procedure, and most patients go home the same day. While having an ICD placed is generally a simple procedure, getting adjusted to life with an ICD can be difficult for some – particularly those who

have survived a recent sudden cardiac arrest. In most cases, patients are also placed on medication(s) that work with the ICD to help the heart pump regularly. The good news is that while the ICD doesn't change your underlying condition, it drastically reduces the risk of sudden death.

"Sometimes, patients who have a pacemaker or ICD implanted can have a hard time adjusting – but in most cases it's more emotional than physical," explains electrophysiologist Marc Silver, MD, FACC, WakeMed Heart & Vascular. Patients may become hypervigilant and concerned about whether it's working, what to expect, etc. We try to talk our patients through these issues, and I remind them that we as cardiologists are very focused on the function of the device, so they don't need to worry about that.

In addition, devices are incredibly sophisticated these days – they do self-checks regularly and we get alerts if there are any concerns about malfunction."

Once the device is placed, the ICD continuously monitors and records data on the heart rate and when and if needed, it will automatically provide the necessary treatment to get the heart rate back on track right away. Once an ICD is placed, the cardiologist develops a "shock plan" and explains what to do if a shock is delivered. Under certain circumstances, there's no need to seek medical care, and in other cases, immediate medical attention is required. Regardless of whether the device is used or not, the cardiologist will conduct a thorough evaluation of the device and its recordings generally four times per year to determine whether any changes need to be made to the course of treatment.

"For most patients, an ICD is like a silent protector that goes virtually unnoticed," explains Dr. Silver. "In some patients, the ICD will never deliver a shock, but will resolve problems by pacing to correct the abnormal rhythm. In others, a life-saving shock can end a deadly rhythm. They save thousands of lives each year, giving many of our patients peace of mind after an alarming diagnosis or cardiovascular event."

In some cases, patients with an ICD may be placed on driving restrictions either after the ICD is initially placed, or after the ICD delivers a shock. Fortunately, these restrictions are generally temporary and patients can get back to their normal routine after a few weeks or months.



MARC SILVER, MD, FACC
WakeMed Heart
& Vascular



Down to the Wire Precision

Collaborative Lead Extraction & Management Program Aims to Improve Outcomes

In health care, just like the old saying goes, it's often true that two heads are better than one.

That's why patients with pacemakers and implantable cardioverter defibrillators (ICDs) who experience device complications or malfunctions can now benefit from a new program that pairs a cardiovascular surgeon and an electrophysiologist together in a single multidisciplinary clinic.

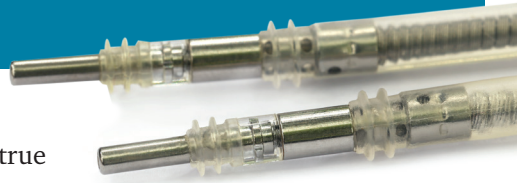
Cardiac devices such as pacemakers and ICDs can become infected or stop working properly, which means they need to be modified, removed or replaced. In many cases, it's the wires coming from the devices (also known as leads) that need to be removed or replaced. Yet, this work is highly technical – particularly for those patients whose devices have been in place for many years.

As part of the *Heart Care Plus+* collaboration between WakeMed and Duke Health, a lead management clinic was established as the first of its kind in the region in February 2020. Bringing together Dr. Sean Pokorney, Duke Health cardiologist/electrophysiologist and WakeMed cardiovascular surgeon Dr. Judson Williams, the clinic has served dozens of patients with complex needs related to their implantable devices.

“Over time, scar tissue forms around these devices and their wires. Once the devices and their leads have been in place for a while, you can't just slide them out – they've virtually become part of the body,” explains Dr. Pokorney. “This makes modifying or replacing the devices an extremely precise process, and very few health centers have the expertise to remove leads that are infected or are no longer functioning properly. With this new clinic, we have the expertise and the highly-specialized tools that allow us to get faulty wires out and replaced without damaging the heart or surrounding blood vessels.”

The benefit of having the dual expertise of a cardiovascular surgeon and an electrophysiologist means patients with implantable devices get a more comprehensive look at their care – which allows for more proactive device management over the years resulting in a reduced risk of infection and complications. Under Dr. Pokorney and Dr. Williams' guidance, WakeMed has already become one of the top 100 centers for laser lead extraction by volume in the US.

“A multidisciplinary lead management clinic is a great example of *Heart Care Plus+* driving innovative collaborative opportunities. This new offering is another indication of our collective commitment to both innovation and to patient-centered care at all times,” comments Dr. Williams.



Clinical Trial Aims to Predict Risk of Kidney Injury in Heart Surgery Patients

Up to 30 percent of patients who have heart surgery will experience acute kidney injury (AKI), although the cause is not exactly understood by researchers. While these injuries typically cause no serious long-term damage, they can increase hospital stays by weeks – significantly delaying recovery.

WakeMed's Cardiovascular Surgery team is one of only three centers in the country involved in a national trial aimed at developing a diagnostic indicator for predicting AKI risk among cardiac surgery patients.

The biomarker test would assist clinicians in optimizing surgical strategy and post-operative care to prevent CSA-AKI occurrence and improve patient outcomes. WakeMed recently enrolled our 100th patient into an ongoing Acute Kidney Injury trial – a milestone made more impressive given the impact of COVID-19 over the past year.

“The ability to predict acute kidney injury is potentially transformative in cardiac surgery and beyond,” said Dr. Judson Williams. “Given the commonality and cost of this condition, the ability to predict its occurrence on a simple preoperative laboratory test would have a tremendous impact and we are thrilled to be a part of this study.”

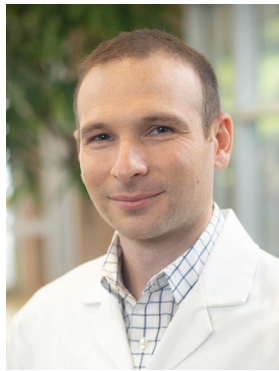
The research team is still enrolling participants, which include patients over age 40 undergoing coronary artery bypass surgery who meet eligibility requirements.



Pictured above: AKI trial team members
Judson Williams, MD, (WakeMed Heart & Vascular);
Taylor Wall (Clinical Research Institute);
Rhonda Norton (Clinical Research Institute);
Trevor Upham, MD (WakeMed Heart & Vascular).

NEW + NOTEWORTHY

Welcome, New Physicians!



Dr. Douglas Friedman is a board-certified cardiologist with clinical interests in evaluating and treating chest pain, arrhythmias, heart failure, valvular and vascular disease. He earned his medical degree from the University of Virginia School of Medicine in

Charlottesville, VA, and completed an internal medicine residency at the University of North Carolina at Chapel Hill. Dr. Friedman completed his cardiovascular disease fellowship at Lenox Hill Hospital in New York, NY. He comes to WakeMed most recently from Winston Salem where he practiced as a non-invasive cardiologist.



Dr. Ellen Dillavou is a board-certified vascular surgeon with clinical interests in dialysis access and veins. She received her medical degree from the University of Arizona, and completed her general surgery internship, residency, and research fellowship at Thomas

Jefferson University Hospital in Philadelphia, PA. She is fellowship-trained in vascular surgery, and most recently served as the Chief of Vascular Surgery at Duke Regional Medical Center. She is active in vascular surgery societies and lectures nationally and internationally on vascular disorders and treatments. Dr. Dillavou enjoys building long-term relationships with her patients. In her free time, she likes spending time outdoors with her two children, cat and close friends. Dr. Dillavou sees patients at the Vascular Surgery offices in the Raleigh Campus Heart Center, Midtown Raleigh and Cary locations.

WakeMed Heart & Vascular is the Best!



Lowest Mortality Rates in the Country for Bypass Surgery Reported by CMS

WakeMed Raleigh Campus and WakeMed Heart & Vascular recently scored at the top of a nationally reported outcomes listing for heart bypass surgery. As reported by Centers for Medicare & Medicaid Services (CMS), WakeMed's 30-day Risk-Standardized Mortality Measures for Coronary Artery Bypass Graft procedures had the lowest mortality rate* in the United States.

Additionally, WakeMed and the Cleveland Clinic tied for the lowest mortality rate – a 1.4% risk adjusted mortality score – among all hospitals reporting nationwide. The national average for risk-adjusted mortality scores is 2.9%, which is also the average rate reported for North Carolina hospitals.

“This top rating is a testament of our team’s relentless commitment to best practices across each phase of complex cardiovascular care,” said Judson Williams, MD, MHS, cardiac surgeon and executive medical director of WakeMed Heart & Vascular. “Coronary artery bypass graft surgery is designed to help patients live longer and feel better, and I am extremely happy for our team to see the results of their hard work benefitting so many patients.”

This data was published July 21, 2021, by CMS. Outcomes data is publicly reported annually on care provided to Medicare patients in multiple categories such as heart attacks, chronic obstructive pulmonary disease (COPD), heart failure, pneumonia, stroke and coronary artery bypass graft surgeries.

**For the reporting period July 1, 2017, to December 1, 2019. The rate includes mortality during hospitalization and after discharge of Medicare patients.*



The American Heart Association Recognizes WakeMed for Top Quality Heart Failure & Stroke Programs

The WakeMed physicians and staff who care for stroke and heart failure patients have been recognized once again for delivering the highest level of care. Congratulations to our teams for earning national Get With the Guidelines® Quality Awards and Target honors from the American Heart Association.

Our Raleigh Campus and Cary Hospital teams both meet or exceed national guidelines for:

- Proper use of medications and other treatments
- Incorporating evidence-based guidelines for stroke and heart failure care
- Reducing the amount of time it takes a stroke patient to move from arrival in the ER to treatment
- Providing education on staying healthy after stroke, managing heart failure and overall health
- Proper medications, treatment, monitoring and education for patients with Type 2 diabetes

Congratulations and thank you to our teams for working so hard for our stroke and heart failure patients!

WakeMed Recognized in the 'Best Hospital' issue of U.S. News & World Report

Both WakeMed Raleigh Campus and WakeMed Cary Hospital were recognized by the American College of Cardiology (ACC) in the “Best Hospitals” issue of *U.S. News & World Report* for our dedication to our heart patients. Awarded based on our participation in the National Cardiovascular Data Registry (NCDR), WakeMed was one of 2,000+ hospitals recognized by The American College of Cardiology (ACC) for their commitment to quality and process improvement. Through our participation in the ACC’s proven quality programs, we use data and performance improvement processes to enhance the overall quality of care provided to our heart patients.



Kudos to the Cary Hospital Chest Pain accreditation team for being the first referring center in the United States to complete Version 7 accreditation.

WakeMed Raleigh Campus & WakeMed Cary Hospital Earn Chest Pain Center Reaccreditation

The American College of Cardiology (ACC) has recognized both WakeMed Raleigh Campus and WakeMed Cary Hospital for their demonstrated expertise and commitment in treating patients with chest pain by awarding the latest version of Chest Pain Center accreditation (Version 7) by the American College of Cardiology. These esteemed designations were awarded following rigorous evaluations with teams from both hospitals, assessing WakeMed staff’s ability to evaluate, diagnose and treat patients who may be experiencing a heart attack. Hospitals that earn this accreditation must demonstrate streamlined processes from admission and evaluation to diagnosis and treatment all the way through to appropriate post-discharge care, including education and recommendations needed for patients to make healthy lifestyle changes.





START TODAY!

Whether you just want more information, hope to reduce your use of tobacco, or want to quit altogether — our team is here to help. To learn more, call **919-350-QUIT (7848)**.

Mark Your Calendar!

**2021 Great American Smokeout
Thursday, November 18**

The Great American Smokeout is observed every year on the third Thursday of November. This event, organized by the American Cancer Society, aims to encourage people in America to quit smoking or at least make a plan to quit.

On this day, smokers are challenged to not smoke for at least 24 hours, in what will hopefully inspire them to take the first step in quitting. If you or someone you love is a tobacco user, consider observing this important day.

Is it Time to Quit With WakeMed?

Quit With WakeMed is our virtual tobacco cessation program — designed to help patients quit smoking and tobacco use for good. Modeled after the Duke Cancer Institute's tobacco cessation program, Quit at Duke, this model has been proven to be approximately 10 times more effective than quitting without help. While the program was previously only available to WakeMed Primary Care patients, it's now open to any new patients.

How Does it Work?

One of our specially-trained tobacco treatment specialists meets with patients virtually to discuss tobacco use and, if applicable, previous attempts at quitting. Our specialists then develop a personalized treatment plan to help patients reduce or quit the use of tobacco. Treatment options may include medication, counseling or a combination of both. Participants meet with our tobacco treatment team regularly to stay on track. Throughout the program, our team offers the tools, therapies and support needed to quit for good.

Why Consider Quitting? Heart Healthy Benefits

If you're a WakeMed Heart & Vascular patient, chances are you're already familiar with the many important reasons to consider quitting the use of tobacco. Here is a quick overview of the numerous benefits for your heart health.

Quitting isn't easy, but it's well worth the effort.

- In the first 20 minutes of no smoking, your blood pressure and heart rate recover from the spikes caused by nicotine.
- Your carbon monoxide levels in your blood return to normal after 12 hours.
- Your circulation and lung function will begin to improve after just two weeks.
- Your breathing and coughing will improve after 1-9 months, and you'll begin to cough productively – which cleans your lungs and reduces your risk of infection.
- Your risk of coronary artery disease is reduced by 50 percent after just one year.
- After 15 years, your risk of coronary heart disease is the same as a non-smoker's.

CT Lung Cancer Screenings

If you are age 50-80 and currently smoke or have quit within last 15 years, you may be eligible for a low-dose CT lung screening to determine your risk of developing lung cancer.

Visit wakemed.org/lung-health to learn more.



Implantable Defibrillator Gives Daniel Taylor Three Birthdays

As a commercial farmer, Daniel Taylor's heart has been hard at work since he began farming with his family as a young child. His 1,500-acre farm, located in Northampton County, produces corn, soybeans and cotton. Today, Daniel runs the operation where he often works eight- to ten-hour days throughout the year.

Daniel thought he was in good health in 2013 when a home health nurse visited for a routine life insurance check-up. After an abnormal EKG, Daniel was advised to have a stress test that provided alarming results. His doctor recommended he immediately undergo an exploratory cardiac catheterization and Daniel soon found himself making the two-hour trek to the WakeMed Heart Center – a hospital he knew and trusted after several family members were successfully treated there.

While no blockages were found, Daniel was diagnosed with hypertrophic cardiomyopathy – a disease that causes the heart muscle to be abnormally thick. It often goes undiagnosed, but can cause life-threatening abnormal heart rhythms or sudden cardiac death (SCD). For Daniel, his case appeared mild and he continued with monitoring and medications to slow down his heart rate for the next few years under the care of WakeMed Heart & Vascular Cardiologist Dr. Virgil Wynia.

Upon Dr. Wynia's retirement in 2016, Daniel's care was transitioned to Dr. Frances Wood. She learned Daniel had developed shortness of breath and had occasional dizzy spells, so she ordered a cardiac MRI that revealed 'the thickest heart Dr. Wood had ever seen.' She then explained the very serious risks of his condition and recommended placement of an implantable cardioverter defibrillator (ICD).

"Dr. Wood felt strongly I needed the device and I trusted her. So, even though it was a month before harvest I went through with the procedure as recommended," Daniel explains.

Daniel was referred to WakeMed Heart & Vascular electrophysiologist Dr. Marc Silver, who placed an ICD to help restore normal heart rhythm in the event of a life-threatening problem – which happens more often in patients with hypertrophic cardiomyopathy if certain risk factors exist.

Once the ICD was placed, Daniel continued along for three plus years with routine monitoring and experienced no cardiovascular events. Little did Daniel know that device would earn its keep soon enough – saving his life twice in a matter of just two years.

On September 21, 2019, Daniel had just finished harvest when he attended an NCSU football game with some friends. In true North Carolina fall fashion, the weather was hot and



Daniel and Judy Taylor

humid with near 90-degree temperatures. After several hours outside, Daniel started feeling lightheaded and he leaned on a car to steady himself.

The next thing he remembers is waking up with a crowd of bystanders around him asking if he was alright. After an evaluation by the on-site medical crew, he was sent to WakeMed. Dr. Wood visited and made some adjustments to his medication. She explained that the ICD had saved his life after his heart had gone into a dangerous rhythm known as ventricular fibrillation.

"At that point, I felt like I'd been given two birthdays," explained Daniel. "After seeing so many of my family members' lives taken by heart disease over the years, I had previously talked to my pastor about my concerns over dying of a heart condition. He told me 'Your heart is like a wind-up clock and only God knows how tight yours is wound.' While I don't doubt that Dr. Wood was my hero that day, the way I see it is that God hit the snooze button on my clock. I knew I had much to be grateful for."

Less than two years later, Daniel was given a third birthday. On June 4, 2021, he was sitting in his tractor waiting on a co-worker when the ICD took control once again, unbeknownst to Daniel. "I was looking at my phone and started feeling dizzy. I felt like I nodded off for a bit, and I woke up and carried on with the rest of my day."

Hours later, Daniel learned he'd gone into ventricular fibrillation again. He visited Dr. Wood, who further adjusted his medications and now he's back to routine monitoring.

"Daniel is so fortunate that his ICD was in place for both of these life-threatening events," Dr. Wood explains. "In many cases, these devices are like insurance policies that never get used. In Daniel's case, however, his ICD has literally saved his life twice. He is lucky to be alive, and I'm so grateful he trusted us with his heart care."

Let's Talk Turkey...

Plus Plenty of Other Healthy Thanksgiving Ideas!

Thanksgiving is a time for family, fun and...food! While a holiday that's heavily focused on eating can be challenging for patients with a heart condition, a little sound advice and some creativity can help everyone can enjoy a memorable, tasty and healthy holiday meal. We consulted WakeMed's team of expert dietitians to provide some guidance on how to keep this Thanksgiving heart-healthy. Here's what we learned.

Thanksgiving Meal Staples & Their Health Benefits

Believe it or not, many elements of the traditional Thanksgiving meal start off as very healthy foods. By limiting added fat, sodium and sugar, you can serve up a truly delicious and heart-healthy feast everyone will enjoy. Here are some preparation recommendations and health benefits of Thanksgiving's most popular foods.



Turkey

The great news is that the star of the show is a healthy lean protein. Protein helps to build and repair bones, muscles, cartilage, skin, blood and tissue and it's an important macronutrient we need every day. By removing the skin and sticking to white meat, you'll enjoy a healthy main course. A serving of turkey that is three ounces has just 145 calories, 25 grams of protein and 4 grams of fat.

Cranberries

Pass the *homemade* cranberry sauce! Making your own sauce will allow you to keep sugar low and maintain some of this tart fruit's powerful health benefits. Whole cranberries are a great source of fiber, vitamin C and E and antioxidants. If you're following a traditional recipe, we generally recommend using just half the amount of sugar. Adding fresh fruit such as oranges and lemon zest can help naturally sweeten or add flavor. Incorporating walnuts into your cranberry sauce can add fiber, protein and omega-3 fatty acids.

Pumpkin and Squash

Pumpkin is a winter squash that has just 49 calories and 3 grams of fiber per cup when used fresh, and even canned pumpkin is very healthy. Pumpkin is nutrient dense, and its high potassium, beta carotene, iron, folate, Vitamin A, C, and E content means it offers a multitude of health benefits. Roasted pumpkin can be incorporated into a heart-healthy side, or canned pumpkin can be used to make a variety of low-sugar, low-calorie desserts. Lastly, pumpkin seeds, also known as pepitas, are a great source of protein, fiber and antioxidants that provide heart health benefits and can decrease your risk of certain cancers. Roast them with spices for an easy snack or salad topper.

Top Tips for a Healthy Thanksgiving

1 Make a salad.

A salad is a great way to incorporate fresh vegetables for a healthy side that's low in calories, carbohydrates, sugar and sodium. Use dark greens, peppers, cucumbers, tomatoes and other veggies to keep it colorful. You can also add fall fruits such as oranges, pears and apples. Top with nuts and dried cranberries for texture. Make your own dressing using olive oil, vinegar, lemon zest, herbs and spices.

2 Choose healthy drinks.

Limit soda, sweet tea and juice and instead, opt for flavorful water that's been infused with lemon, lime, oranges and/or mint. Use unsweetened seltzer if you like bubbles. Limit your alcohol intake.

3 Limit sodium.

If you're the cook, replace salt with flavorful herbs, spices and aromatics. Popular options for Thanksgiving include allspice, garlic, onion, rosemary and cinnamon. If you're a guest, avoid table salt.

4 Choose hash instead of stuffing.

Instead of a heavy sausage stuffing that's high in carbohydrates, sodium and fat, try serving a roasted vegetable hash featuring fall vegetables, olive oil and herbs.

5 Indulge in moderation.

After dinner, have some fruit and a small piece of your favorite dessert.

6 Move your body.

Take a brisk walk in between dinner and dessert. It takes your body 20 minutes to feel satisfied after eating, so this will give your body time to digest and reduce the risk of overeating. Plus, the movement will be good for your heart and body!



Sweet Potatoes

These superfoods are loaded with fiber, vitamins, nutrients and antioxidants. They may help lower LDL cholesterol, and as a low glycemic index food, they can help control blood sugar, too. For Thanksgiving, try eating them baked, mashed or roasted for a sweet and healthy side dish.

Green Beans

Lose the casserole and you've got a true green veggie that makes a perfect healthy side. Green beans are low in calories, high in soluble fiber, antioxidants, folate, iron and Vitamin K. Try sautéing or roasting green beans with herbs and a dash of olive or avocado oil. Top with sliced almonds or pumpkin seeds for extra flavor and crunch.

Heart Healthy Thanksgiving Recipes

Thank you to Margeaux's Restaurant Chef Andrew Pettifer for taking time to custom craft these heart-healthy recipes with WakeMed patients in mind. Established in 1992, Margeaux's is a fine dining restaurant located in North Raleigh offering a wide range of specialties and flavors.





SERVES 4 Brussels Sprout Arugula Walnut Slaw

Need a heart healthy veggie side dish for your Thanksgiving meal? This flavorful slaw makes for a great starter!

INGREDIENTS

- | | |
|-----------------------------------|--------------------------|
| 1 cup chopped walnuts | 3 tablespoon maple syrup |
| 2 pounds of Brussels sprout | 1 lemon juiced & zested |
| 5 oz arugula | salt pepper |
| 2 shallots | 2 tablespoons |
| 2 tablespoon sherry vinegar | extra virgin olive oil |
| 2 tablespoon seeded dijon mustard | |

INSTRUCTIONS

- 1 Pre-heat oven to 350 degrees. Toss walnuts in bowl with salt, pepper, and extra virgin olive oil to coat.
- 2 Toast walnuts for 10 minutes, leave to cool.
- 3 Cut Brussels sprouts in half and thinly slice. Do the same with the shallots and toss together in a bowl.
- 4 Mix seeded mustard, lemon juice, zest, maple syrup in a bowl. Whisk in olive oil.
- 5 Toss sprouts in dressing. When ready to serve, add toasted walnuts, arugula and season with salt and pepper.

NUTRITIONAL INFORMATION PER SERVING: Calories: 355; Total fat: 28 g (1.2 g Saturated fat); Cholesterol: 0 mg; Carbohydrates: 37 g; Fiber: 12 g; Sugars: 10 g; Protein: 13 g; Sodium: 239 mg

Not sure what to do with all your turkey leftovers? Try Chef Pettifer's 'Day After Thanksgiving' heart-healthy hash.



SERVES 4 Herb Roasted Butternut Squash Mushroom Baby Kale Turkey Hash

INGREDIENTS

- | | |
|---------------------------------|--|
| 2 cups chopped turkey meat | 1/4 teaspoon whole fennel seed |
| 2 cups diced butternut squash | 1/2 teaspoon crushed red pepper flakes |
| 1 cup diced quartered mushrooms | 1/4 teaspoon cumin seed |
| 5 oz baby kale | 1 tablespoon extra virgin olive oil |
| 1 cup diced or sliced onion | 1/2 cup low sodium chicken stock |
| 2 cloves crushed garlic | zest of one lemon |
| 1 teaspoon chopped oregano | salt and pepper to taste |
| 1/2 teaspoon chopped sage | |

INSTRUCTIONS

- 1 Pre-heat oven to 350 degrees. Toss butternut squash, garlic, herbs, and dry spices in bowl with extra virgin olive oil to coat the squash.
- 2 Season with salt and pepper and spread out over sheet pan. Bake/roast until golden brown, approximately 20-30 minutes.
- 3 Saute onions until golden, add mushroom and saute for five minutes.
- 4 Add turkey meat and chicken stock. Simmer for five minutes.
- 5 Add roasted squash and lemon zest. Mix in kale and serve.

Nutritional Information Per Serving: Calories: 240; Total fat: 6 g (2 g Saturated fat); Cholesterol: 64 mg; Carbohydrates: 19 g; Fiber: 6 g; Sugars: 4.5 g; Protein: 23 g; Sodium: 101 mg

Tips for Enjoying a COVID-19 Safe Thanksgiving

Aside from focusing on a heart healthy Thanksgiving, there's also the serious matter of a global pandemic to consider. WakeMed's Infection Prevention Specialist Jessica Dixon, MPA, BSN, RN, CIC, FAPIC, offers some guidance as we prepare for the upcoming holiday.

Dixon starts by saying that for families who are fully-vaccinated without anyone at high-risk, it's fairly reasonable to think you could have a relatively 'normal' holiday. "For everyone else, I recommend doing a personal "risk assessment" before making plans to gather with others during the holidays," explains Dixon. "Start by evaluating whether you're at high risk and if you and/or your loved ones are vaccinated. Plan how to spend the holiday (indoors vs. outdoors, masked vs. unmasked, etc.) – and then make the decision you believe is best for you and your family."

With that said, here are some considerations to help you make this very personal decision.

What is everyone's vaccination status? It's clear that those who are vaccinated have a lower risk of transmitting COVID-19 and/or becoming critically-ill if infected. If you or your loved ones aren't vaccinated (including children who may not be eligible and/or not yet vaccinated), you may want to be more careful.

How will you gather? Gathering indoors comes with higher risk, as does bringing together a larger group of people. If you have at-risk or unvaccinated loved ones, you may want to consider: limiting the size of your group; reducing your time indoors; wearing masks when you're not eating or drinking. If you're indoors, take steps to improve ventilation (opening windows, doors, etc.) that can reduce the risk of transmission.

Where will you be? Different regions or areas of the country will always have varying degrees of risk. You can check the CDC maps ([covid.cdc.gov/covid-data-tracker](https://www.cdc.gov/covid-data-tracker)) to determine the level of COVID-19 transmission, percentage of positive tests, and/or vaccination rates to get an idea of the risk in a specific geographic area. For some, this information can be helpful in making an informed decision.

Is everyone healthy? During a pandemic, even a minor case of the sniffles, a scratchy throat, or a bad headache should be reason for pause. Talk to your loved ones ahead of time to set expectations about any symptoms that may arise before your gathering – particularly if you will have high-risk or unvaccinated attendees. While it can be an emotional decision to change plans, it's important to protect yourself and the people you love most.

Should anyone get tested? COVID-19 testing before gathering can provide peace of mind for high-risk family members. Discuss whether or not your Thanksgiving group would prefer everyone to get tested before turkey day. If testing is preferred, our team recommends a PCR test either Sunday or Monday before Thanksgiving to allow adequate time for processing. Remember that even if your test is negative on Monday – if you develop symptoms Wednesday or Thursday, it's still best not to gather.

Other strategies that can help reduce the risk of transmission include frequent hand-washing and assigning one person to serve the meal to reduce sharing of utensils. Regardless of what you decide, WakeMed wishes you and your family a happy Thanksgiving holiday!!



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