

Heart to Heart

WakeMed Heart & Vascular News

Winter 2025

Murmurs &
Heart Valve Disease

The Link Between
Oral Health & Heart Health

Tart & Tasty Citrus
Fruits Are Good
for Your Heart

TAKE with...

TRACEY WEEKS, BSN, RN, NPD-BC

Nursing Professional Development
Specialist & Life Support Training
Center Coordinator



Q: February is Heart Month – What do you LOVE most about working at WakeMed?

I never thought that I'd be a WakeMed employee most of my career. I love the fact that I've had so many opportunities at WakeMed. I love and believe in our values and mission. While I've worked here my whole career, I've also been a patient here – as have many of my family and friends. Having had a heart bypass at WakeMed in 2017, I experienced that care firsthand – in addition to all we do to promote heart disease awareness and prevention. I love the fact that we provide the best care to everyone!

Tracey is a Raleigh native, avid N.C. State University athletics fan and a lifelong nurse and educator. Here, we get to know Tracey and his passion for nursing and educating health care providers.

Q: Tell us about your journey to become a nurse.

Growing up, I had always planned to go to medical school to become a doctor. But, after experiencing some health issues during high school, I didn't feel I could commit to the many years of school it would require. During my last two years of high school, I was in a class called Health Occupations, which was taught by a registered nurse. In my senior year, I was hospitalized several times and my teacher (who was also a family friend) would visit me and emphasize how important nurses were in health care. She thought I would be a great nurse and that I would find a nursing career very rewarding – and here I am 38 years later.

Q: How did you transition into the education space?

I joined WakeMed right out of nursing school in 1986. The first half of my career focused on bedside nursing in a wide variety of clinical areas – including surgical, critical care and imaging areas. When a rare job opportunity opened up in Nursing Education, I was so excited to apply. My 10+ years in nursing plus my experience working as a life support instructor helped me land the job – I felt so lucky and excited.

Q: You also serve as a Training Center Coordinator for the American Heart Association – tell us about that role.

WakeMed is an American Heart Association (AHA) Training Center, which allows us to provide life-saving emergency response classes (including basic, pediatric and advanced life support) to WakeMed employees free of charge. Last year alone, we trained 3,400 individuals. In my role, I ensure our classes are following AHA's standards and guidelines – and that we're providing enough training to meet the growing demand. Finally, I'm responsible for recruiting qualified instructors and keeping instructors and colleagues apprised of any changes to the guidelines as they are released.

Q: As a nurse/health care professional, why are you passionate about CPR training?

Clinical evidence tells us definitively that early defibrillation and/or high-quality CPR has a significant impact on a person's chances of survival following a cardiovascular event. This makes education so important because even performing basic CPR (hands-only), until a qualified team can take over, can make a huge difference in survival. Through my years in bedside nursing, I was personally involved in performing CPR on patients experiencing cardiac arrest. I know firsthand that many patients survived because our team performed CPR. I even have colleagues who have performed CPR outside of the hospital setting – which makes that training even more important.

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A Proactive Approach
Saves a Life



**COMING
SOON**

New Cardiology Office in Morrisville

This month, WakeMed Heart & Vascular is pleased to open a new cardiology office in Morrisville. Offering the highest quality care from our Cary Cardiology physicians and providers, this office is located in WakeMed's newest Medical Park. Other specialties offered in this facility include Primary Care, Obstetrics & Gynecology and Laboratory services. Urology, General Surgery, Pediatric Primary Care and Wake Orthopaedic practices will open later this year.

101 Holly Creek Road | Suite 200 | Morrisville, NC 27560 | 919-235-6545

Valve Disease - It Often Starts With a Murmur



Heart valve disease affects more than five million Americans each year. It occurs when one or more of the heart's four valves aren't working the way they should. In a normal anatomy, the heart's valves open and close every time your heart beats to control blood flow. But, when they aren't working properly, the heart can't do its job – which is to pump blood efficiently through the body.

Because heart murmurs occur when blood flows abnormally through the heart, a murmur is often one of the first signs of valve disease. Murmurs are unusual sounds – often denoted as a whooshing, swishing, humming or rasping sound that a doctor can hear during a routine medical exam using a stethoscope. While many murmurs are harmless – also known as “innocent” heart murmurs – some are classified as “abnormal,” and can indicate a defect in the structure of the heart valve, or other heart valve abnormality. Narrowing and hardening of the heart valves can also lead to a heart murmur, which is more common as we age.

Classifying & Evaluating Heart Murmurs

If your doctor identifies a heart murmur, it's important to get it checked out by a cardiologist. They will talk to you about your medical history and perform a physical/clinical exam to learn more. Murmurs are evaluated for volume, location (where it's coming from), frequency (sound or pitch), and duration (how long it lasts). In many cases, patients with a murmur will be referred for an echocardiogram. This test provides detailed images of the heart valves, chambers, structure and how it's functioning – all in an effort to identify what is causing

the murmur and how serious it is. Murmurs can broadly be grouped into two categories:

Systolic murmurs occur during heart muscle contraction and sound like a ‘swishing’ sound. Some are ejection murmurs, caused by blood flowing through a narrowed vessel or abnormal valve, while others are regurgitant murmurs caused by blood flowing backward into one of the heart's chambers.

Diastolic murmurs occur when the heart muscle is at rest between beats and are identified as a ‘whooshing’ sound. These murmurs occur when the mitral or tricuspid valve is narrowed or when there is regurgitation (backward blood flow) from the aortic or pulmonary valves.

“When evaluating a patient for a heart murmur, we want to identify what's causing it,” explains Dr. Andrew Sampson, WakeMed Heart & Vascular - Structural Heart. “This helps us determine how to best treat the underlying problem – which in many cases may be a leaky or damaged valve.”



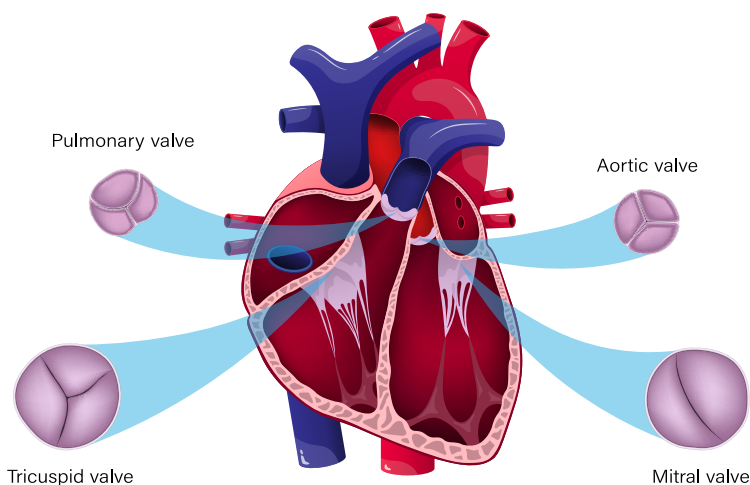
ANDREW SAMPSON, MD
WakeMed
Heart & Vascular -
Structural Heart

Dr. Sampson explains that the three most common valve problems he sees that may result in a heart murmur include mitral regurgitation, aortic stenosis and severe tricuspid regurgitation. He explains these three structural heart problems in detail.

The CDC says that

75%

of US adults know little to nothing about heart valve disease – even among those at highest risk (adults age 65+).



The easiest way to identify heart valve disease early is to ask your doctor to listen to your heart regularly using a stethoscope.



Mitral regurgitation (also known as a leaky valve, mitral valve regurgitation or mitral valve insufficiency) is one of the most common types of heart valve disease. The heart murmur it causes is systolic and makes a ‘whooshing’ sound. Caused by the flaps of the mitral valve that don’t close properly, the result is backward flowing blood into the heart. This backward flow means not enough blood moves forward for the body to function as it should. The heart must work harder to overcome the lack of blood flow, which can lead to heart failure, arrhythmia, blood clots and stroke. In many cases, mitral regurgitation occurs slowly over time and patients may not notice until their symptoms, including fatigue, shortness of breath, heart palpitations and swelling of the hands and feet, become life-limiting.

Aortic stenosis (AS) is another common heart valve problem caused by narrowing of the aortic valve opening. It leads to a systolic, high-pitched murmur that is heard when the blood is trying to move through a smaller opening due to a stiffened or narrowed aortic valve. Heart defects, such as a bicuspid aortic valve, are causes, but AS also occurs frequently during aging when scarring or calcium deposits damage the valve and restrict blood flow. According to the American Heart Association, more than 13 percent of Americans over the age of 75 have aortic stenosis. If left untreated, aortic stenosis can lead to heart failure. Symptoms of AS may include chest pain, rapid heartbeat, trouble breathing or shortness of breath, dizziness, or a decline in regular activity – although these symptoms generally occur long after the disease begins.

Tricuspid regurgitation (TR) occurs when the valve that connects the upper and lower chambers on the right side of the heart doesn’t close properly – leading to backward blood flow. When the tricuspid valve is leaky, a murmur that is systolic makes a ‘whooshing’ sound that may be heard during a physical exam. However, as the regurgitation progresses, the murmur may be harder to hear. If left untreated, TR can lead to atrial fibrillation

and/or heart failure. Like most heart valve problems, TR often doesn’t cause symptoms until the disease has progressed significantly. Symptoms of advanced disease include extreme fatigue, shortness of breath, rapid heart-beat, pulsing feeling in the neck, or swelling in the belly, legs or neck veins.

Treating Heart Valve Disease

In early stages, most heart valve diseases are first treated with medications and managed by a cardiologist who will continue to monitor the progression of the condition. As symptoms become more severe and quality of life is affected, patients should consider consulting a structural heart specialist or a cardiovascular surgeon to explore other options.

“We’re fortunate that significant advancements in the field continue to allow us to better treat structural heart problems like valve disease,” explains Dr. Sampson. “There are many options we didn’t have available just five years ago, and there are more exciting advancements on the horizon that can really help improve symptoms and quality of life for our patients.”

Common procedures performed at WakeMed Heart & Vascular include TAVR, a heart valve replacement procedure, or valve repair procedures like the MitraClip. We also perform procedures to correct septal defects that can contribute to stroke or valve disease.

“It’s exciting to be part of a field that continues to evolve. In addition to all the options we have today, there are new medications, novel minimally-invasive procedures and methodologies, as well as new devices all in development for the treatment of advanced valve disease,” Dr. Sampson says. “For patients who have valve disease affecting their quality of life – it’s never too late to seek treatment. There may be treatments you haven’t been offered in the past that can help you live a longer, fuller life.”

NEW + NOTEWORTHY

Welcome, New Physicians!



Michael Cowherd, MD, is a board-certified, fellowship-trained interventional cardiologist with clinical interests in general cardiology, interventional cardiology, echocardiography, nuclear cardiology and peripheral vascular disease. His undergraduate degree is from The University of North

Carolina at Chapel Hill. He completed medical school at The University of North Carolina School of Medicine. He relocated to Colorado for his residency at The University of Colorado at Denver in Aurora, CO. He returned to The University of North Carolina Chapel Hill to complete a fellowship in general and interventional cardiology.

Dr. Cowherd strives to create a partnership with each of his patients to optimize their well-being. Outside of work, Dr. Cowherd loves spending time with his wife and two children. His hobbies include skiing, hiking and watching UNC sports.

He is welcoming new patients at the WakeMed Heart & Vascular - Cardiology - Cary office location.



Neel Patel, DO, is a board-certified, fellowship-trained cardiologist dedicated to treating complex cardiac arrhythmias. His clinical interests include everything from implantable devices to ablation of complex arrhythmias such as atrial fibrillation, supraventricular tachycardia, premature ven-

tricular contractions and ventricular tachycardia ablation.

Dr. Patel earned his medical degree from Rowan University School of Osteopathic Medicine in Stratford, NJ. He completed residency training in internal medicine at Drexel University College of Medicine in Philadelphia. He is fellowship-trained in both cardiovascular disease and clinical cardiac electrophysiology.

Dr. Patel enjoys collaborating with patients by offering clear, open communication, and stays on the forefront of research and innovation to identify novel ways to treat his patients. Outside of work, Dr. Patel enjoys playing sports, traveling and spending time with his wife and two daughters.

He is welcoming new patients at the WakeMed Heart & Vascular - Complex Arrhythmia - Raleigh Campus location.

Vascular Surgery Now Open in Fuquay-Varina!

WakeMed Heart & Vascular - Vascular Surgery is pleased to announce they are now seeing patients within our Fuquay-Varina Cardiology office. Led by **Dr. Jacek Paszkowiak**, the Vascular Surgery team is committed to helping patients prevent stroke and mini-stroke (TIA), and treat complications related to vascular disease. Services also include treating common vascular problems, such as carotid artery disease, abdominal and thoracic aneurysms, peripheral arterial disease, varicose veins, blood clots or deep vein thrombosis, and end stage renal disease.



WakeMed Heart & Vascular - Vascular Surgery
2400 N. Main Street, Suite 210 | Fuquay-Varina, NC | 27526
(919) 235-6520

Honoring the Life & Career of Cardiovascular Surgeon Dr. William Charles Helton

"It's about the good we do when no one is watching."

This quote was shared by one of Dr. William Charles Helton's colleagues during a tribute to his career – highlighting his humility, wisdom, leadership and dedication to serving others. For nearly 50 years, Dr. Helton has worked tirelessly to establish, shape and uphold a legacy of excellence in cardiovascular surgery at WakeMed. In honor of his recent retirement, we reflect on Dr. Helton's remarkable career and the impact his work has had on our community.

Dr. 'Charlie' Helton joined the WakeMed team in 1977 after completing his surgical training in cardiovascular surgery. While WakeMed had performed its first heart surgery back in 1968, the program had been mostly discontinued by the mid-1970s. Dr. Helton was charged with re-establishing this important program in partnership with cardiologist Dr. Amarendra Reddy and WakeMed's cardiac care teams.

"At that point, WakeMed was one of only a handful of hospitals with any kind of heart surgery program – and the model of a combined cardiology and cardiac surgery service in a community hospital was a new concept," Dr. Helton shares. "The technology was new, expensive and, to some degree, unproven. The consensus at the time was that such an endeavor was best suited for university programs or large clinics, such as the Mayo or Cleveland Clinic."

Fortunately, WakeMed had forward-thinking leaders and a Board of Directors who agreed that heart surgery represented a growing need. They hoped that providing this service would prevent patients from having to travel outside of Wake County to get top-notch cardiovascular care.

Dr. Helton worked collaboratively with WakeMed's leadership, clinical staff and nursing teams to get the program up and running. "We performed 100 cases in our first year," recalls Dr. Helton. "For the first 50-60 cases, I stayed in the hospital overnight to ensure our patients were safe and that all members of the team were comfortable with their roles."

Dr. Helton and his colleagues also played an integral role in the planning and opening of the WakeMed Heart Center in 1998. More than 25 years later, this state-of-the-art facility continues to serve patients from all over the region with the highest level of cardiovascular care.

A strong supporter of the WakeMed Foundation, WakeMed's philanthropic partner, in 2012, Dr. Helton and his wife Barbara established the Helton Awardee and Scholars program. More than 230 WakeMed employees have received grants and scholarships for specialty training, certification or higher education degrees.



"Everybody is a member of the team and has a contribution to make. It's not just the doctors; it's all about the nurses, technologists and support staff who work with us."

We can't do anything without them."

-Dr. Helton

Dr. Helton established this fund to honor the many members of the health care team it takes to deliver exceptional patient care. Since its inception, this program has awarded more than \$850,000 in funding to WakeMed employees.

"Dr. Helton is an incredible surgeon, collaborative leader and relentless pioneer in his field – and for more than 47 years, WakeMed and this community have benefited from his compassion and humble leadership," says Donald R. Gintzig, WakeMed president & CEO.

"The legacy of excellence in cardiovascular care he helped build here at WakeMed will outlive all of us. We are beyond grateful for the many treasures he has shared with us throughout his career."

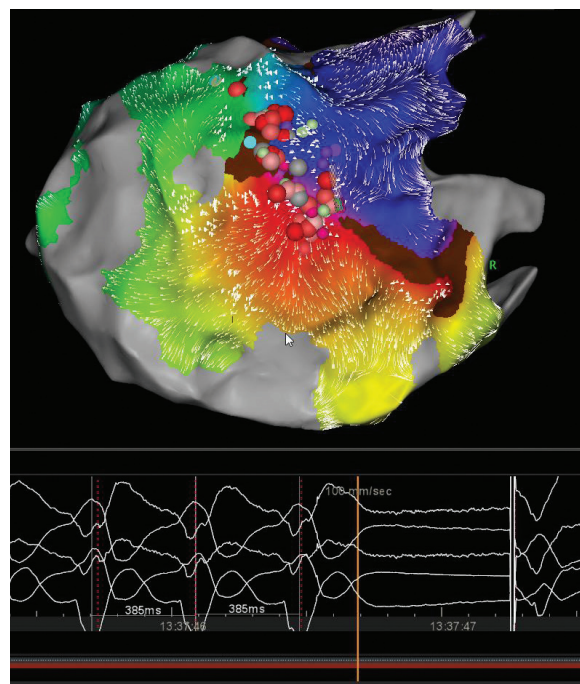
Happy Retirement, Dr. Helton!

Innovative New Treatment for Life-Threatening Arrhythmias

Ventricular tachycardia (VT) is a life-threatening arrhythmia that impacts thousands of people each year. VT ablation, performed by cardiac electrophysiologists, can target abnormal scarring within the heart where these abnormal circuits live. Often, these procedures can be performed with radiofrequency ablation from the inside (endocardial surface) of the heart. However, in more complex cases, ablation on the outside of the heart (epicardial ablation) is required. This procedure requires careful planning and carries a higher risk of complications.

Dr. Neel Patel, WakeMed Heart & Vascular - Complex Arrhythmia, recently performed a combined endocardial/epicardial VT ablation on a patient with refractory VT using an innovative technique. Dr. Patel used carbon dioxide to create separation between the outer surface of the heart and the pericardium (a sac-like structure surrounding the heart) to support safer entry into the epicardial space to perform the ablation. This specialized procedure is only performed at select centers around the world and requires the highest level of expertise, training and judgment.

WakeMed is one of the first health systems in the region to offer this procedure, called Epicardial VT ablation with CO₂ insufflation. This represents an advancement in the field of



cardiac electrophysiology and VT ablation and is an invaluable asset to our patients who are suffering from this life-threatening arrhythmia.

Congratulations to Dr. Patel, the WakeMed Invasive Cardiology EP lab team and the entire WakeMed Heart & Vascular Complex Arrhythmia team on this achievement in outstanding patient care!



WakeMed Heart & Vascular to Host Cardiovascular Care Symposium

WakeMed Heart & Vascular is proud to host a Cardiovascular Care Symposium for cardiology providers to explore the latest technological advances and therapies that can help improve the cardiovascular patient's quality of life.

The event on Thursday, April 17, will include a review of the latest cardiovascular care guidelines, as well as updates on the latest therapies, procedures and resources available. Speakers will include WakeMed Heart & Vascular providers in subspecialty areas including Advanced Heart Failure, Complex Arrhythmia and Structural Heart.

Are you a health care provider interested in attending? Scan the QR code for more information and to register!



TEAMS Trial Aims to Reduce Bleeding During Heart Surgery

Sternal bleeding remains an unsolved problem for cardiac surgery teams - costing operative time, blood loss and distraction from the critical operative field. As such, investigators Dr. Judson Williams, and Dr. Trevor Upham, (both of WakeMed Heart & Vascular - Cardiovascular Surgery), and Rhonda Norton, CCRC, CEHRS, in collaboration with the WakeMed Clinical Research Institute, have initiated a clinical trial called TEAMS to determine whether the application of a topical hemostatic agent reduces sternal bleeding during cardiac surgery using sternotomy approach.

This trial evaluates the use of HEMOBLAST™ Bellows, which is an FDA-approved powder used to control bleeding as an adjunct to hemostasis when control of minimal, mild and moderate bleeding by conventional procedures is ineffective or impractical. This randomized trial will include 60 participants. “The TEAMS Trial represents another opportunity for our patients to receive leading-edge treatments thanks to the WakeMed Clinical Research Institute,” comments



Joining Dr. Judson Williams and Dr. Trevor Upham are the Cardiac Surgery advanced practice providers and Clinical Research Institute team members working on the TEAMS trial.

Dr. Williams, who will serve as principal investigator. “The trial is investigator-led, designed by our own team for the benefit of heart patients here and across the country.”



Back: Dr. Kishan Parikh and Dr. Stuart Russell

Front: Jenna Cassels, Rhonda Norton and Haleigh Berst (WakeMed Clinical Research Institute team)

EASi-HF Trial for Patients with Chronic Heart Failure

EASi-HF is a clinical trial, led by Dr. Kishan Parikh, and Dr. Stuart Russell, that is investigating a new potential medication for heart failure patients that would be used in combination with the medications that patients are already taking for certain symptoms. This randomized trial is for patients that have a left ventricular ejection fraction, or LVEF, of 40% or higher. The goal of the study is to improve the symptoms and quality of life of patients with heart failure.

Happy Teeth and Gums = Happy Heart

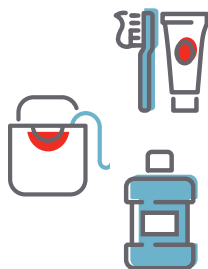
The undeniable link between oral health and heart health



Gum disease affects more than **40%** of U.S. adults



Practice good oral hygiene



Reduce inflammation by:

- + sleep
- + exercise
- limit processed foods, sugars and red meat

From early childhood, we're taught about the importance of preventing cavities through regular brushing and flossing of our teeth – but good oral health is about much more than cavity prevention. What most people don't know is that numerous studies have shown that oral health can actually be a good indicator of overall health. In fact, problems like gum disease have been linked to heart disease and countless other health conditions such as diabetes, cancer, Alzheimer's, rheumatoid arthritis and more.

"There is a well-established correlation between these two seemingly unrelated areas of the body [the mouth and the heart]," explains Dr. Stephen Boateng, WakeMed Heart & Vascular - Cardiology. "We know that poor oral health can lead to poor cardiovascular health, and research shows that having gum disease can actually double or triple your risk of suffering a heart attack, stroke or other serious cardiovascular event. While we don't fully understand how these risks are connected, it's clear that they are undeniably linked. By taking steps to improve oral health, patients can help reduce their overall risk of cardiovascular disease."

Plaque Is Plaque

In the world of oral health, plaque is a buildup of bacteria, saliva and food particles that adhere to the surface of the teeth. While everyone has plaque on their teeth, it can be removed by practicing good oral hygiene and routine dental care. But, when it builds up over time, it can lead to tartar formation – which is calcified plaque that can lead to gum disease. Gum disease, also known as gingivitis (early stage) or periodontal disease (advanced gum disease), affects more than 40 percent of U.S. adults. If left untreated, the gums around your teeth may loosen – creating 'pockets' in the gums that make it easier for infection and inflammation to take hold. Teeth may continue to loosen, or even fall out.

On the other hand, plaque in the cardiovascular system is made up of cholesterol, fatty substances, calcium and other organic matter. Over time, this plaque can build up, at which point it's called atherosclerosis – which is a hardening of the arteries caused by plaque that thickens artery walls and restricts the flow of blood and oxygen throughout the body. This can lead to serious problems, including heart attack, stroke or even death. In many cases, atherosclerosis can be prevented or treated with a healthy lifestyle and/or medical intervention.

Here, our experts weigh in on what we need to know – and how to keep both our mouths and hearts healthy.

Ask the Experts



Stephen Boateng, DO
WakeMed Heart &
Vascular - Cardiology

Dr. Boateng is a cardiologist from our Cary office.

Q: How do you explain the link between oral health and heart health?

A: There are a couple of ways gum disease may lead to heart disease. The first is inflammation. Your gums are highly vascular, making it easy for the bacteria to travel from your gums throughout your blood stream. This activates an immune system response that triggers inflammation throughout the body. Over time, this inflammation can lead to other problems such as heart disease, diabetes and arthritis, among others.

The second way gum disease can lead to heart problems is through direct infection. Bacteria in the bloodstream can lead to problems such as endocarditis - which is inflammation of the inner lining of the heart valves and chambers. While relatively rare, this serious infection is more likely to affect those with artificial heart valves, damaged heart valves or other defects.

Q: What are some lifestyle factors that can affect both oral health and heart health?

A: The first and most important is smoking or tobacco use. Tobacco use weakens your immune system, making it harder to prevent gum infection or heart disease. Smoking specifically is linked to a two-fold increase in risk for gum disease when compared to non-smokers. At the same time, cigarette smokers are 2 to 4 times more likely to develop heart disease. Other ways to keep your mouth and heart healthy include: practicing good oral hygiene, avoiding sugary foods and drinks, and taking other steps to reduce inflammation – such as getting enough sleep, exercising regularly, and adding rich, anti-inflammatory foods into your diet.



Tim Barlow, DDS
Legacy Dental

Dr. Barlow is an independent family dentist practicing in Cary, NC.

Q: How do you know if you have gum disease?

A: Signs of early gum disease include swollen, tender gums that bleed, bad breath, and/or an unpleasant taste in the mouth. Symptoms of later stage disease include gums that are pulling away from the teeth (known as receding gums), pain while chewing or loose teeth. Your dentist can diagnose gum disease and provide strategies for treatment and preventing further disease progression.

Q: Can gum disease be reversed?

A: In its early stages, gum disease can be reversed with good home care that includes brushing, and especially flossing. But, once gingivitis transitions to advanced periodontal disease, we start seeing bone loss in the teeth. Once bone loss has occurred, you can't get it back. What most people don't know is that more people lose teeth due to gum disease than they do to cavities, which are much easier to treat.

Q: What are best practices for good oral health?

A: Brushing twice a day is the basis for maintaining good oral health – and each brushing session should last two full minutes. For the prevention of gum disease, flossing is the gold standard because brushing alone can't get in between your teeth the way flossing does. Next, it's important to see your dentist at least twice a year for routine cleanings and to identify gum disease early when it's easier to treat. Lastly, using an antiseptic mouthwash for at least 30 seconds can be a great adjunct strategy for good oral health. For patients with advanced gum disease, cleanings can be performed every 3-6 months. There are also treatments for gum disease such as scaling or root planing – these deep cleaning treatments involve scraping plaque and tartar, and smoothing out the rough surfaces on your teeth to help gums reattach. Chlorohexidine mouth rinse can also help kill the bacteria that contributes to gum disease.

Tart and Tasty Citrus Fruits Good for Your Heart!

Fresh, healthy fruit during the winter months can be hard to come by. Fortunately, citrus fruits are a great option you can find readily available at nearly all grocery stores this time of year. Citrus fruits include lemons, limes, oranges, tangerines and grapefruit. Colorful and flavorful, they also provide many health benefits.

Citrus fruits are chock-full of flavonoids, which is the plant compound responsible for these juicy fruits' beautiful color. A study published in a 2019 edition of *Nature Communications* indicates that 'a moderate, habitual intake of flavonoids' is associated with a decrease in cardiovascular and cancer-related mortality. Another study published in a 2021 issue of *Hypertension* suggests flavonoids may influence gut bacteria in a way that lowers blood pressure.

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Research has demonstrated citrus fruit's impact on reducing the risk of death from cardiovascular disease. One research study published in the *European Journal of Epidemiology* found women who reported high citrus fruit and juice intake were far less likely to develop fatal cardiovascular disease or suffer from stroke than those who didn't eat citrus fruits.

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High in fiber, citrus fruits can support good digestive health, help control blood sugars and help you maintain a healthy weight. The soluble fiber and flavonoids in citrus fruit may also help improve your cholesterol level by raising the HDL (good) cholesterol and lowering the LDL (bad) cholesterol. High-fiber foods like citrus fruits can also help you feel full for longer. Their low glycemic index means they won't spike your blood sugar as much as some other foods. One cup of orange segments has approximately 4 grams of fiber, most of which is soluble fiber, the kind that helps lower cholesterol and control blood glucose.

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These tasty fruits are also high in B vitamins including thiamine and folate, which may help maintain heart health and reduce inflammation. Finally, citrus fruits are high in potassium, which can help manage blood pressure and has been linked to lower risk of stroke and heart problems.

An important note about grapefruit!

Grapefruit juice has been shown to negatively interact with certain medications, including some statins, blood pressure medications and some used to treat heart rhythm problems. Be sure to ask your cardiologist if it is safe to eat grapefruit or drink grapefruit juice based on your medication regimen.



Citrus Fruits Have Other Health Benefits, Too

Citrus fruits are high in vitamin C, which is important because our bodies don't produce this nutrient on their own. Vitamin C is critical for immune function and can help your body resist infection, heal wounds, produce collagen and support the absorption of iron. Getting your recommended daily value of vitamin C may also help shorten the duration and severity of the common cold. Just one juicy orange offers 70 milligrams of vitamin C, which is more than the daily recommended intake of 60 milligrams for adults.

Finally, citrus fruits contain about 90% water, which means snacking on oranges or other citrus fruits throughout the day can help you stay hydrated. They also taste great in water, making it easier to stay hydrated for those who don't love plain water.

Tips for Enjoying Citrus Fruits

- 1 Enjoy both the fruit and the zest (outer rind) of lemons on heart healthy foods including fish and vegetables.
- 2 Add a squeeze of orange, lemon, or lime to your water or sparkling water for added flavor.
- 3 Add oranges or grapefruit to your salad for a burst of color and sweet and tangy flavor.
- 4 Make guacamole and squeeze fresh lime juice into the mixture.
- 5 Use citrus fruits in a salsa for added flavor.



What About Juice?

While eating citrus fruit has many health benefits, be careful about drinking too much citrus juice. One serving of fruit juice has a lot of sugar and much less fiber than a serving of fruit. Citrus fruit juice is also high in sugar and acid, and drinking too much can coat your teeth with sugars and erode tooth enamel and lead to tooth decay.



Oven Roasted Salmon With Avocado Citrus Salsa

YIELD 4 SERVINGS

Serving Size:
1 salmon fillet &
¼ cup salsa

INGREDIENTS

- | | |
|---|---|
| 1 ripe, fresh, large avocado (halved, pitted, peeled, diced) | ⅛ cup diced red onion |
| 3 tablespoons fresh lime juice | 1 clove garlic, minced |
| 1 ripe navel orange, peeled and diced | 1 tablespoon honey |
| ½ cup diced, seedless cucumber | ½ teaspoon salt (divided) |
| 1 jalapeño pepper* (seeded, finely diced) | 4 skinless salmon fillets (approximately 2 oz. each) |
| 2 tablespoons chopped, fresh cilantro leaves | |

**Optional, eliminate if you
prefer to avoid spicy foods.*

INSTRUCTIONS

- 1 To make the avocado citrus salsa — in a medium bowl, combine avocado, lime juice, orange, cucumber, onion, jalapeño, cilantro, red onion, garlic, honey and ¼ teaspoon of the salt; set aside.
- 2 Heat broiler.
- 3 Season salmon with remaining ¼ teaspoon salt.
- 4 Arrange fillets on a lightly greased foil-lined rimmed baking sheet.
- 5 Broil salmon 4 inches from heat source until cooked through, 8 to 10 minutes.
- 6 To serve, place fillets on a platter; top with salsa. Enjoy!

Nutritional Information Per Serving: 234 calories, 13g fat, 2g saturated fat, 40mg cholesterol, 329mg sodium, 3g fiber, 8g sugar, 16g protein



Sunshine Rice

Source: *Deliciously Healthy Dinners,*
courtesy of the National Heart, Lung & Blood Institute

YIELD 4 SERVINGS

Serving Size:
⅓ cup rice

INGREDIENTS

- | | |
|--|--|
| 1 ½ tablespoons vegetable oil | 2 tablespoons lemon juice |
| 3 stalks celery, with leaves, rinsed and finely chopped | Dash hot sauce |
| 1 medium onion, finely chopped | 1 cup instant white rice, uncooked |
| 1 cup water | ½ cup slivered almonds, lightly toasted |
| ½ cup orange juice | |

INSTRUCTIONS

- 1 Heat oil in a medium-sized saucepan. Add celery and onion, and saute until tender (about 10 minutes).
- 2 Add water, juices and hot sauce. Bring to a boil over high heat.
- 3 Stir in rice, and bring back to a boil. Cover and turn heat down to simmer until rice is tender and liquid is absorbed, about 5-10 minutes.
- 4 Stir in almonds. Serve immediately.

Nutritional Information Per Serving: 276 calories, 6g fat, 1g saturated fat, 0mg cholesterol, 52mg sodium, 5g fiber, 8g sugar, 50g carbohydrates, 7g protein



A Proactive Approach Saves a Life



Travis Mayo and Trevor Upham, MD, FACS

Travis Mayo began his career in the fire department, where he frequently provided assistance during medical emergencies. Witnessing individuals in distress profoundly impacted him, so when it came to his own health, he was vigilant to never ignore the warning signs of illness.

In September 2024, Travis began to experience difficulty breathing while walking, despite being a very physically active person. Before long, he also developed chest discomfort. When his symptoms grew worse, he went to a hospital emergency department in Nash County.

“I wanted to get checked out because I was well aware something was wrong,” Travis explained.

While providers didn’t see anything alarming on the initial electrocardiogram (EKG) and enzyme test, they kept him overnight for monitoring. The following day, they performed a stress test and took him to the catheterization lab, where they discovered a serious blockage.

Travis was not prepared for what came next – he was told he needed open heart surgery and a bypass to treat an infamous “widow-maker” left anterior descending (LAD) artery blockage.

While he was surprised, he was relieved to know that his cautious and proactive approach and decision to go to the emergency department before having a heart attack could have saved his life.

That same evening, he was transported by ambulance to the WakeMed Raleigh Campus for surgery.

Dr. Trevor Upham, cardiovascular and thoracic surgery medical director and surgeon, began evaluating and preparing him for the coronary artery bypass graft (CABG) surgery he would undergo the following morning.

Travis’ early morning surgery went smoothly and he was transferred to the cardiothoracic intensive care unit (CTICU). He spent two days receiving superb, around-the-clock care by CTICU staff.

Dr. Upham assured him his surgery was a success and he’d feel ‘brand new’ after 12 weeks. While in the hospital, Travis received physical and occupational therapy to kick off his road to recovery. Within three days, he was cleared to return home and was transferred into the care of a local cardiologist who scheduled him for cardiac rehab back in Nash County, closer to home. Throughout his stay, Travis says Dr. Upham and his nurses kept him well-informed and took exceptional care of him every step of the way.

Months later, his positive attitude demonstrates the success of his surgery and recovery. “Today I feel great,” Travis explains. “I’ve been walking two miles a day and have returned to my desk job.”

“Thank you for the job you do and the knowledge you and your staff have demonstrated. You are truly a life saver – I could not have asked for a better team.”

- TRAVIS MAYO

When reflecting on the exceptional care he received from Dr. Upham, Travis says, “Thank you for the job you do and the knowledge you and your staff have demonstrated. You are truly a life saver – I could not have asked for a better team.”

In gratitude to the entire staff, he also offers kind words.

“From the moment I was picked up to the moment I was discharged, every person at WakeMed was extremely kind and wished me a speedy recovery and good luck in the operating room. That level of service is hard to come by these days. I’ll never forget it.”

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