Heart Disease and Stroke
Your Guide to Prevention and Care

336-716-WAKE (9253)
WakeHealth.edu/Heart

Wake Forest Baptist Health®
Why should I be worried about getting heart disease or having a stroke?

According to the American Heart Association, heart disease is the number 1 cause of death in the United States. That is why it is important to make healthy lifestyle choices, focus on prevention and get the care that your heart needs.

Stroke is the fourth-leading cause of death in the U.S. and the leading cause of serious, long-term disability. A stroke can happen to anyone. However, if you are over age 55, have high blood pressure, high cholesterol, diabetes, heart disease, smoke, or are African American, you are at an increased risk for a stroke.
“As a cardiologist, I see patients who want to discuss their risk for heart disease to those who have been diagnosed. If you came to see me after recently having a heart attack, we would discuss what that means for your heart and what we can do to avoid another heart attack. We will find the right balance of lifestyle changes, medication, and testing to improve your heart health and reduce your risk.”

– Dr. Karl Richardson

**What are signs of a heart attack? What should I do?**

- Uncomfortable pressure, fullness, squeezing, or pain in the center of chest
- Chest discomfort with difficulty breathing
- Chest discomfort with light-headedness, fainting or sweating
- Chest discomfort with nausea
- Unusual symptoms: jaw pain, pain across the shoulders, fatigue

If you think you are having a heart attack, **call 911 immediately and go to the nearest emergency department.**

**DID YOU KNOW?**

When women have a heart attack, they are somewhat more likely than men to experience shortness of breath, nausea/vomiting and back or jaw pain. They also may not experience chest pressure.
Recognizing the signs and calling 911 quickly gives the best chance of avoiding brain damage and its long-term effects. “FAST” is an easy way to remember and identify the most common symptoms of a stroke.

Also look for:
- Sudden trouble seeing in one or both eyes.
- Sudden trouble walking, dizziness, or loss of balance or coordination.
- Sudden, severe headache with no known cause.  

Treatment for a stroke must begin within 3 to 4.5 hours from the time the first symptoms appear. The faster the treatment, the better chance of a good outcome.

DID YOU KNOW?
North Carolina is one of 11 Southeast states in the “Stroke Belt,” where stroke is more prevalent.

Dr. John Wilson, Dr. Stacey Wolfe and the Wake Forest Baptist Health Stroke team provide nationally recognized stroke care to patients. By using the latest minimally invasive techniques, they help minimize lasting damage and improve chances for recovery.
What is my risk for developing heart disease?
Take our online Heart Health Profiler to estimate your risk of developing cardiovascular disease. Then, talk to your doctor about your results. Visit WakeHealth.edu/AllHeart.

What is my risk for having a stroke?
Take our online Stroke Risk Profiler to estimate your risk for having a stroke. Then, talk to your doctor about your results. Visit WakeHealth.edu/AllHeart.

How can I manage my heart disease and stroke risk factors?
According to the American Heart Association, there are some risks you cannot control. The good news is that there are many you can.

Risk factors you cannot control:
♥ Age
♥ Gender
♥ Family history
♥ Race
♥ Previous stroke or heart attack

Risk factors you can control:
♥ Blood pressure
♥ Cholesterol
♥ Tobacco use
♥ Regular physical activity
♥ Weight
♥ Diabetes

What are my heart-healthy numbers?
Knowing your heart-healthy numbers will help you spot early warning signs of heart disease and stroke. Your primary care doctor or cardiologist can help you manage these important numbers.

Know your numbers
♥ Blood pressure: Below 140/90 mm HG
♥ Cholesterol
  ◦ LDL: Lower than 130 / 70 – 100 (for high risk individuals)
  ◦ HDL: 40 or higher
  ◦ Triglycerides: Under 150
♥ Blood sugar: 100 mg/dL (fasting)
♥ Body mass index (BMI): Lower than 30 (obese)
♥ Waist size
  ◦ Men: Smaller than 40 inches
  ◦ Women: Smaller than 35 inches

Weight can affect your heart disease and stroke risks. Your doctor and the Wake Forest Baptist Health Weight Management Center team can help create a program centered around your lifestyle and weight loss goals. Call 336-716-WAKE to make an appointment. To learn more, visit WakeHealth.edu/Weight-Management-Center.

DID YOU KNOW?
Diabetes is a major risk factor for stroke and heart disease. Controlling your blood glucose levels, working with your health care team, and developing healthy lifestyle changes can reduce your risk.
Preventive Cardiology: An Emerging Subspecialty

Signs of cardiovascular disease—the world’s leading cause of death—often go undetected until it is too late. A new center at Wake Forest Baptist Health, dedicated to the emerging subspecialty of preventive cardiology, aims to make a difference.

"Only half of people are fortunate enough to have signs and symptoms that suggest that they may have underlying cardiovascular disease before they have a catastrophic event," says Michael D. Shapiro, DO, MCR, a board-certified cardiologist who is directing Wake Forest Baptist Health’s new Center for the Prevention of Cardiovascular Disease.

"The other half actually have a major event, such as heart attack or sudden cardiac death, as their first sign or symptom."

Preventive cardiologists can evaluate apparently healthy individuals for their risk of heart disease and identify some of the earliest signs and/or risk for cardiovascular disease.

“We actually have good tools to do that now,” Shapiro says. Those tools include a range of new technology and diagnostic methods, such as advanced cardiac imaging, cutting-edge laboratory testing and genetics.

He says many deaths attributable to cardiovascular disease are easily preventable.

“If you can find who is at risk and you can offer them good options, both in terms of lifestyle changes and medical treatment,” Shapiro says, “it can go a long way toward preventing a lot of misery down the road.”

To make an appointment with Dr. Shapiro and the Center for the Prevention of Cardiovascular Disease program, call 336-716-WAKE.

DID YOU KNOW?
Even just regular moderate exercise, such as walking briskly for two hours each week can reduce your risk of cardiovascular disease by more than 40 percent and reduce your risk for heart attack and diabetes.
The Wake Forest Baptist Health Difference

Because we are part of an academic medical center, you will receive the depth of care that few hospitals can provide. From preventing heart disease and strokes to emergency care and managing ongoing conditions, our experts can help you, whether your condition is simple or complex.

Your team of heart and stroke care experts includes:
♥ Cardiologists and cardiovascular surgeons
♥ Neurologists and neurosurgeons
♥ Nurses
♥ Pharmacists
♥ Dietitians
♥ Cardiac rehabilitation specialists
♥ Emergency medical responders

Diagnosis and Unique Treatment Options

Our cardiovascular and stroke teams offer personalized treatment plans and state-of-the-art tests to help accurately diagnose your condition. These specialists also offer unique treatment options—such as minimally invasive procedures and advanced technology—not found at other hospitals.

Safety awards—Wake Forest Baptist:
♥ The Wake Forest Baptist Heart and Vascular Center is a national leader in heart and vascular care, surgery and research. We house western North Carolina’s only advanced cardiac care and transplant program. We were the first Chest Pain Center in the region to be accredited by The Joint Commission, and we have disease-specific certification by The Joint Commission in acute myocardial infarction (heart attack) and congestive heart failure. We have received the highest possible recognition for quality cardiac surgery from the Society of Thoracic Surgeons.

Clinical Trials

Our doctors, along with researchers and public health scientists, participate in national clinical trials studying the effects of heart disease and stroke. We use these findings to help provide comprehensive screening services and treatment. If you want to learn more about our clinical trials or join one, visit WakeHealth.edu/BeInvolved.

Women’s Heart Health

Women face the same risk for heart disease as men do. The effects of pregnancy, menopause and certain heart conditions can lead to serious problems that require specialized care. For example, our heart specialists work with our Obstetrics and Gynecology team for pregnancy-related conditions, and help make sure that treatments for menopause do not harm a woman’s heart.

“You can take comfort knowing that we offer the latest advanced technology options, including minimally invasive procedures, and have an entire team dedicated to getting you back to a healthy life.”
– Dr. David Zhao, Director, Heart and Vascular Center

Cardio-Oncology Care

If your cancer treatments may have contributed to your heart condition, we will work with cardio-oncology experts to provide you with specialized screenings.

Pediatric Care

The Pediatric and Congenital Heart Program of Brenner Children’s Hospital specializes in heart care for infants and children. We treat kids born with congenital heart defects, helping them prevent and manage complications through adulthood. Brenner Children’s also has a dedicated pediatric electrophysiologist who examines children with heart rhythm problems.

Adult Congenital Heart Program

Congenital Heart Defects (CHD) are a problem with the heart’s structure that is present at birth. CHD is the most common birth defect with approximately 1 in 100 babies being born with a CHD and about two million adults living with CHD in the US.

Because adults with complex CHD face a higher risk of death, all adults born with CHD should be seen regularly by an adult congenital heart disease specialist, yet fewer than 10% receive this recommended care.

Wake Forest Baptist Health is now a regional center for CHD. Board-certified CHD physician Dr. Derek A. Williams leads the team, working with physicians Dr. David Zhao and Dr. Bharathi Upadhya along with our congenital heart surgeon, Dr. Yoshio Otaki, and the head of adult heart surgery, Dr. Ted Kincaid. Together, we offer the full spectrum of diagnostic and procedural treatments for these diverse and complex patients.
What are some of the most common heart conditions? How are they treated?

Wake Forest Baptist Health offers comprehensive diagnosis and treatment for the full range of heart and vascular conditions, from simple to complex. For some patients, medical management and lifestyle changes may be an effective alternative to surgery. In other cases, more invasive treatment may be needed.

Common conditions we treat include:

**Aneurysms** occur when an artery's wall weakens and a bulge in the artery appears. If this bulge ruptures, it will cause internal bleeding. Aneurysms can develop slowly over several years, but they can also be sudden and a serious health risk.

Our experts in open and noninvasive aneurysm repair can help. A new technology, *fenestrated endograft*, allows us to noninvasively repair an aneurysm while maintaining the integrity and function of your arteries. Noninvasive procedures reduce pain and recovery time.

**Angina** is chest pain or discomfort that occurs when your heart is not getting enough oxygen-rich blood. This is often a sign of some other underlying cardiovascular disease, such as coronary artery disease, that can lead to a heart attack. Angina can be either stable or unstable (most concerning).

**Arrhythmia** is an abnormal heart rhythm. This includes any rhythm of the heart that deviates from normal, such as:
- Atrial fibrillation
- Tachycardia (fast heart rate)
- Bradycardia (slow heart rate)
- Ventricular tachycardia (VTach/VT)
- Ventricular fibrillation (VFib/VF)
- Atrial flutter

**Atrial fibrillation** (AF or AFib), the leading cause of stroke, is an abnormal, rapid, irregular beating of the atria (top chambers of your heart). Wake Forest Baptist Health is the only medical center in the region that has the ability to treat all levels of AFIB.

**Congenital heart disease** is the most common birth defect in the United States. Adults living with congenital heart disease need regular follow-up care throughout life to prevent or manage possible complications. Wake Forest Baptist Health has both pediatric and adult congenital specialists that can find and treat these defects.

**Cardiomyopathy** is a condition in which the heart muscle is abnormal and has difficulty pumping. Risk factors may include a previous heart attack, high blood pressure, viral infections, obesity, diabetes, heavy alcohol or drug use, or family history. Sometimes even pregnant women can get cardiomyopathy. This condition can lead to heart failure and serious complications.

**Carotid artery disease** is a narrowing of the vessel which is usually caused by plaques or other buildup in the carotid artery. This is a form of cardiovascular disease and is a risk factor for stroke.

**Coronary artery disease (CAD)** is very common and is the leading cause of death in the U.S. for both men and women. CAD is often the underlying cause of a heart attack, heart failure and angina.

**Heart failure** occurs when the heart is not able to adequately pump enough to meet your body's demand. Symptoms include swelling in the legs and lower extremities, shortness of breath (especially with exercise or lying down), and extreme fatigue or tiredness. If you are diagnosed with heart failure, Wake Forest Baptist offers daily clinics so you can be quickly seen and helped. This will help improve your outcome and reduce your chances of readmission.
Heart transplant surgery replaces a diseased or damaged heart with a healthy heart from a human donor. At Wake Forest Baptist, our Advanced Cardiac Care and Transplant Program helps heart failure patients who have exhausted all other reasonable treatment options.

Heart valve disease is when any of the four valves in your heart (tricuspid, pulmonic, aortic, mitral) become hardened, leak, or regurgitate (blood flows backward into the heart chamber). Depending on your specific condition, treatments include minimally-invasive and open procedures.

High blood pressure occurs when your blood pressure levels rise above 139/89. High blood pressure can be managed and prevented by adopting a healthy lifestyle.

If you have a family history of blood pressure, are 20 pounds or more overweight, or have reached menopause, you may be at a higher risk for heart disease. If your blood pressure is normal (less than 120/80), continue to annually visit your primary care doctor or cardiologist. If you have high blood pressure (over 139/89), speak with your doctor because you need to be monitored more closely.

High cholesterol can be controlled by diet and medication. LDL is “bad” cholesterol which can raise your risk of cardiovascular disease and heart attack, while HDL is “good” cholesterol. There are generally no symptoms of high cholesterol, and it is monitored during routine medical visits.

First in region to offer WATCHMAN.

The WATCHMAN™ procedure is a minimally invasive treatment that places a “parachute” in the left atrial appendage to seal it off. This procedure helps reduce your risk of a stroke by as much as 77 percent. It also allows you to stop taking blood thinners within 45 – 60 days.

“We try medications first. However, if that fails, we may then use the WATCHMAN catheter-based technology to help you maintain normal heart rhythm. There’s no absolute cure for AFIB, but there is better management, and we have the technology to do so.” – Dr. Elijah Beaty
Patent foramen ovale (PFO) is a hole between the atria (the two upper heart chambers). Everyone is born with this opening, but generally it should close after birth. Approximately 25 percent of the population still has this opening when they are adults. There is a chance that PFO can cause a stroke, but most people never know they have it, and many times they don’t need treatment.

Peripheral artery disease (PAD) is the narrowing of the peripheral arteries, generally in the legs and arms (sometimes in the stomach and head). Symptoms in legs include pain in the lower extremities that does not go away when resting, and swelling or cramping when walking or climbing stairs.

Pulmonary embolism (PE) is a blood clot in the lungs or pulmonary arteries. Symptoms include shortness of breath, difficulty breathing or coughing up blood. Women that take oral contraceptives are often at increased risk for PE.

Structural heart disease includes a wide range of problems such as birth defects and damage to valves and vessels caused by wear and tear. Depending upon your condition, treatments include aortic valve replacement, mitral valve replacement, aortic root repair and more. Wake Forest Baptist Health has the most comprehensive and experienced Structural Heart Program in the region. We do many of these procedures under conscious sedation—rather than anesthesia—so you can have quicker recovery and a shorter hospital stay.

Mitral regurgitation is caused by a leaky mitral valve. The Mitraclip® procedure is a less invasive technique that allows the mitral valve to be repaired without surgery. This clip is attached to the mitral valve through the skin, allowing the valve to more completely close and restore normal blood flow through the heart.

DID YOU KNOW?
If you are overweight, losing just 10 pounds may lower your blood pressure and improve the effects of blood pressure medicine. It also may reduce other heart disease and stroke risk factors such as diabetes and high cholesterol.
Most experienced in region using hemodynamic support. Wake Forest Baptist Health has the broadest array of devices and staff that provide hemodynamic support to patients with failing hearts and lungs. These devices mechanically pump for critically ill patients, and they allow the body to rest and recover. Wake Forest Baptist has the technology and staff to implant, manage and recover these devices in critically ill patients. We are the regional experts, and involved in national efforts to improve patient care.

The difference between cardiac arrest and a heart attack.

Cardiac arrest is when the heart stops beating appropriately. You are not breathing normally or not breathing at all. A cardiac arrest patient needs immediate CPR (cardiopulmonary resuscitation) and defibrillation (electric shock to the heart to make the heart rhythm normal again).

A heart attack occurs when blood flow to the heart is blocked. It can either progress into or be the cause of cardiac arrest.
Southwestern Avocado Toast
Number of Servings: About 4
Ingredients:
♥ 3 tomatoes, diced
♥ 1/2 cup diced red onion
♥ 1 T chopped cilantro
♥ 1 clove garlic, minced
♥ Juice from 1 lime
♥ Sea salt to taste
♥ 2 large avocados, mashed
♥ 4 slices of your favorite bread

Directions:
1. Mix all ingredients, except the avocado and bread, in a bowl.
2. Toast the bread.
3. Spread some pureed avocado onto each slice of toast.
4. Add the salsa mixture on top of each slice.
5. Serve immediately for best results.

Bang Bang Cauliflower
Number of Servings: About 20
Ingredients:
♥ 3 tbsp. extra-virgin olive oil
♥ 2 tbsp. sweet chili sauce
♥ 1 tbsp. sriracha
♥ Juice of 1 lime
♥ 3 cloves garlic, minced
♥ 1 medium cauliflower, cut into florets
♥ kosher salt
♥ Freshly ground black pepper
♥ 1 tsp. Chopped cilantro, for garnish

Directions:
1. Preheat oven to 425º. In a small bowl, whisk together olive oil, sweet chili sauce, Sriracha, lime juice, and garlic.
2. On a large baking sheet, toss cauliflower in sauce until fully coated. Season generously with salt and pepper. Spread into an even layer and roast until slightly charred and tender, 30 to 35 minutes. Garnish with cilantro and serve.

DID YOU KNOW?
According to a JAMA: Internal Medicine study published in 2014, most U.S. adults consume about 22 teaspoons of added sugars a day. The American Heart Association recommends no more than 6 teaspoons (100 calories) a day for most women and no more than 9 teaspoons (150 calories) a day for most men.
Sweet Potato Soup  
Number of Servings: About 6  
Ingredients:  
♥ tablespoon oil (coconut, avocado or grapeseed oil recommend)  
♥ chopped onion (1-2 onions)  
♥ 1 garlic clove, chopped  
♥ 1 tablespoon curry paste or curry powder  
♥ 1 tablespoon grated fresh ginger  
♥ 4 cups peeled and cubed sweet potatoes  
♥ 1 red bell pepper, deseeded and chopped  
♥ 3 1/2 cups chicken stock or 3 1/2 cups vegetable stock (vegetable stock preferred)  
♥ salt  
Directions:  
1. In a soup pot, heat oil over medium-low heat. Add curry paste and onions and cook for 4 minutes, stirring occasionally. Reduce heat if necessary.  
2. Add garlic clove and ginger and cook for another 1-2 minutes.  
3. Add sweet potatoes and pepper. Mix. Add stock. Cook for 15-20 minutes or until vegetables are very soft. Puree the ingredients in batches in a blender or puree the whole amount directly in the pot with a hand blender (if pot is high enough). Check if you like the consistency of the soup.  
4. Add more stock or water if desired and adjust the seasonings (check if salt is needed). *Note* You can add more curry paste if desired, but most pastes need to be cooked first before adding to a dish.

Recipes courtesy of Brenner FIT®
Convenient Locations Throughout the Area

**Asheboro**
1. Heart & Vascular – Asheboro
   311 E. Presnall Street
   Asheboro, NC 27203

**Bermuda Run**
2. Davie Medical Center – Bermuda Run
   329 NC Highway 801 North
   Bermuda Run, NC 27006

**Clemmons**
3. Medical Plaza – Clemmons
   2311 Lewisville Clemmons Road
   Winston-Salem, NC 27012

**Elkin**
4. Heart & Vascular – Elkin
   100 Johnson Ridge Medical Park
   Elkin, NC 28621

**Greensboro**
5. Medical Plaza – North Elm
   3903 N. Elm Street
   Greensboro, NC 27455

**Hickory**
6. Catawba Valley Medical Center
   3251 Fairgrove Church Rd SE
   Hickory, NC 28602
   828-326-2354

**High Point**
7. Congdon Heart and Vascular Center / High Point Medical Center
   306 Westwood Avenue
   High Point, NC 27262

8. Heart and Vascular – Premier
   4515 Premier Drive
   High Point, NC 27265

**Kernersville**
9. Kernersville VA Health Care Center
   1695 Kernersville Medical Park
   Kernersville, NC 27284

**Lexington**
10. Lexington Medical Center
    14 Medical Park Drive
    Lexington, NC 27292

**Mount Airy**
11. Northern Hospital of Surry County
    705 Rockford Street
    Mount Airy, NC 27030

**North Wilkesboro**
12. Wilkes Medical Center
    1370 West D Street
    North Wilkesboro, NC 28659

**Salisbury**
13. W. G. Hefner Veteran’s Affairs
    1601 Brenner Avenue
    Salisbury, NC 28144

**Sparta**
14. Alleghany Health
    200 Doctors Drive
    Sparta, NC 28675

**Statesville**
15. Vascular Services – Statesville
    (In partnership with Iredell Health System)
    770 Hartness Road
    Statesville, NC 28677

**Winston-Salem**
16. Wake Forest Baptist Medical Center
    Medical Center Boulevard
    Winston-Salem, NC 27157

17. Medical Plaza – Country Club
    4610 Country Club Road
    Winston-Salem, NC 27104
Heart of the Matter
Trusted Care Keeps Go-Getter Going Strong

Wendy Rash, a self-described “go-getter,” is no stranger to heart surgery. The Lewisville resident has had a number of procedures over the years to address her irregular heartbeat. Now in her late 40s and on her third pacemaker, she has trusted her heart care to Wake Forest Baptist Health for more than 20 years. She has worked with the health system since the early 1990s, first as a nursing assistant and later as a flight nurse on the AirCare helicopter crew for about 20 years. She’s now a nurse practitioner in interventional radiology and still works with AirCare.

When she was diagnosed in 2018 with a heart valve that needed repair, she chose to have minimally invasive open-heart surgery, which was performed by Drs. Ted Kincaid, Tony Simmons and Patrick Whalen. She chose that surgery because of its shorter recovery time. She knows Wake Forest Baptist offers the full range of cardiovascular care, from preventive to advanced and everything in between, and she understands what it means to provide the best care. She says her background in medicine helped her grasp the importance of choosing a care team with specialized training who teach that care to others.

“I knew the Heart and Vascular Center was well-established and worked to build excellent relationships with their patients, and I knew the doctors would put my best interests first,” says Wendy, who first experienced heart issues in her mid-20s and got her first pacemaker at 31.

When she learned one of her heart valves would need to be replaced within months, she wanted to take care of it sooner rather than later.

“Mostly because of my activity level and the things that I do—lifting, chasing after my two dogs—I felt like I would have a better recovery path with minimally invasive surgery,” she says.

Her surgery was a success, and her follow-up treatment, from intensive care to the cardiac floor and through cardiac rehabilitation, exceeded her expectations.

“They were compassionate and understanding, yet pushed me to get up and out of bed when I didn’t think I could,” she says. “They have been amazing every step of the way. I owe them everything!”

Her recovery was exactly what she had hoped for—she was back at work 2½ weeks after surgery. She feels 100 percent better, with no symptoms, a higher energy level, increased endurance and no limitations.

“I wish I had done it sooner,” Wendy says. “You don’t realize how bad you feel until you feel a whole lot better.”

To make an appointment with one of our heart, vascular or stroke specialists, call or visit: 336-716-WAKE (9253)
WakeHealth.edu/Heart