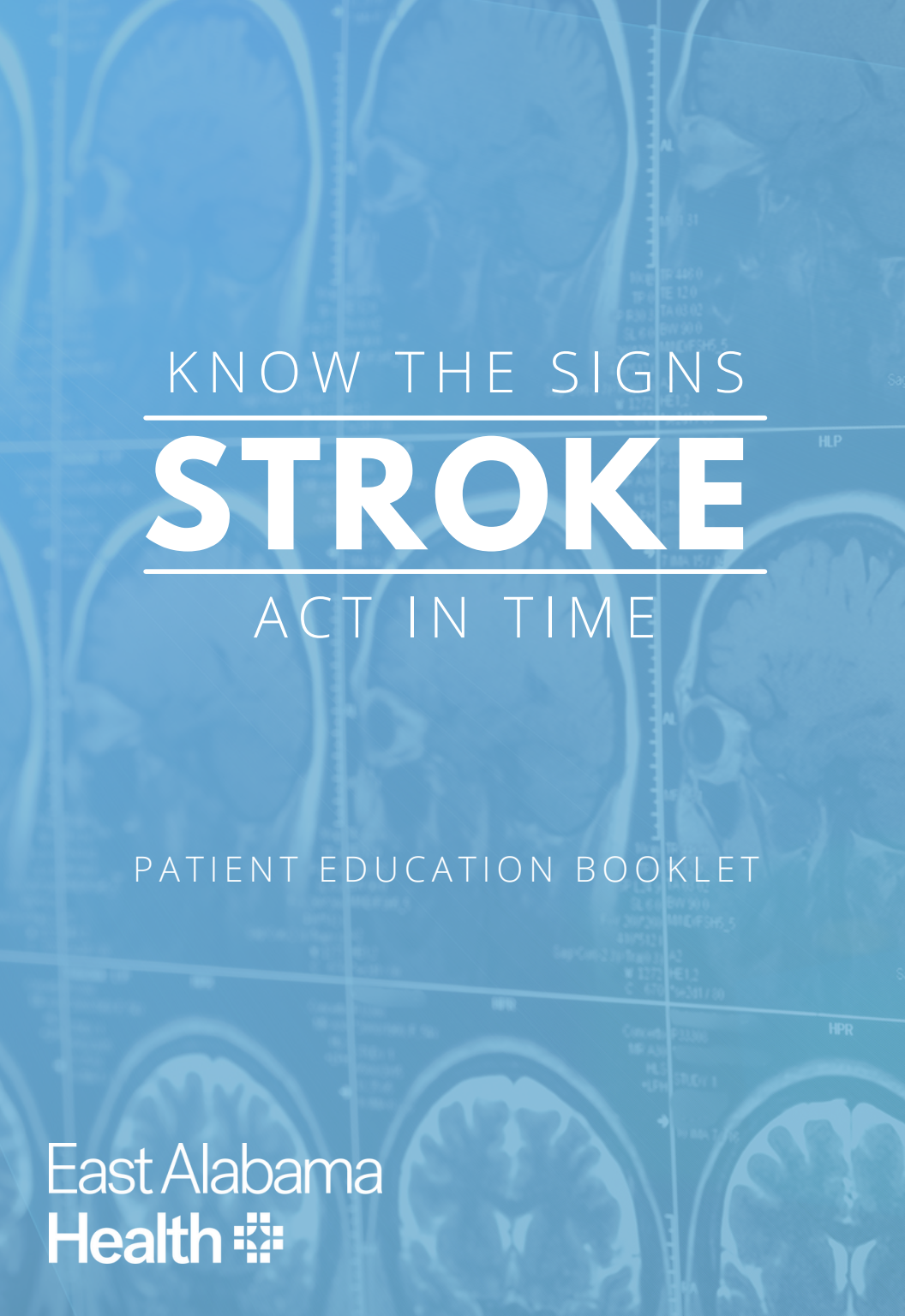

KNOW THE SIGNS

STROKE

ACT IN TIME

PATIENT EDUCATION BOOKLET

East Alabama Health

Why is stroke awareness important?

- Stroke is the leading cause of disability.
- Stroke is the fifth leading cause of death in the United States.
- A stroke occurs about every 40 seconds.
- During a stroke, two million nerve cells and 14 billion synapses die for every minute that goes by.
- African Americans are twice as likely to die from stroke than Caucasians.
- Up to 80 percent of all strokes are preventable through risk factor management.

East Alabama Health
The Stroke Center at East Alabama Medical Center

Nojan Valadi, MD, a neurohospitalist and stroke specialist, is the medical director of The Stroke Center and Neuroscience at East Alabama Medical Center. Dr. Valadi has more than 12 years of experience taking care of patients with stroke and critical neurological illness in our extended community.

Jayme Gardner, CRNP, FNP-C, serves as stroke coordinator and Neurology nurse practitioner. Her experience includes internal medicine, perioperative care, neurology, and stroke.

Dr. Valadi and Jayme Gardner, CRNP also practice at Neurology Center of East Alabama, located at 2570 Village Professional Drive in Opelika.

Phone: 334-528-6320

What is a stroke/cerebrovascular accident?

A stroke happens when a blood vessel that carries oxygen and nutrients to the brain is either blocked by a clot or ruptures in the brain. As a result, part of the brain does not get the oxygen it needs, so it starts to die. The human brain is divided into several areas that control movement and sensory function, or how the body moves and feels. When a stroke damages a certain part of the brain, that area may no longer work as well as it did before the stroke. This can cause problems with walking, speaking, seeing, or feeling.

Two Types of Strokes

1. **Ischemic Stroke**
   - 87% of strokes
2. **Hemorrhagic Stroke**
   - 13% of strokes

Ischemic Stroke

- An ischemic stroke is a blockage in an artery that prevents blood flow to the brain.
- Two types of ischemic strokes:

1. **Thrombotic** – the most common stroke is caused by a blood clot (thrombus) in an artery going to the brain or in the brain. The clot blocks blood flow to part of the brain. Blood clots usually form in arteries damaged by atherosclerosis.
   - **Atherosclerosis** is a disease in which rough, fatty deposits build up on the walls of the arteries and project into the bloodstream. These deposits gradually narrow the passageway, causing the blood flow to slow down and, sometimes, to completely block the artery.
2. **Embolic** – this type of ischemic stroke is cause by a wandering clot (embolus) that is formed elsewhere, usually in the heart or neck. Clots are carried into the bloodstream and reach a point where they can go no further and plug the vessel, cutting off blood supply.

Hemorrhagic Stroke

- A hemorrhagic stroke occurs when a weakened blood vessel ruptures and bleeds into the surrounding brain. When this occurs, the cells nourished by the artery fail to get their normal supply of nutrients and stop functioning normally. High blood pressure and brain aneurysms can both cause this type of stroke.
- An aneurysm is a weak spot on the wall of the artery that may balloon out. The bigger it gets, the weaker it gets because the wall of the artery thins out. High blood pressure can cause the aneurysm to burst because it cannot withstand the high pressure.
- Two types of hemorrhagic strokes
  - **Intracerebral hemorrhage** – this type of hemorrhagic stroke occurs when a burst blood vessel bleeds into the brain. High blood pressure is the most common reason for this type of stroke. The bleeding causes brain cells to die and not function properly anymore.
  - **Subarachnoid hemorrhage** – this type of hemorrhagic stroke occurs when a blood vessel bursts near the surface of the brain and blood pours into the area around the outside of the brain. The bleeding may increase pressure in the brain and damage the brain cells. This type of hemorrhage is usually due to an aneurysm.

What is a warning stroke/transient ischemic attack (TIA)?

- A TIA is a very serious medical emergency.
- A TIA is a temporary blockage of blood flow in the brain. A TIA happens when an artery in the brain gets clogged and then reopens on its own. This can happen if a blood clot forms then moves away or dissolves.
- Symptoms of a TIA are the same as they are for an actual stroke.
- Symptoms resolve within minutes to hours.
- There is no permanent injury to the brain during a TIA.
- After a TIA, there is a much higher chance of an ischemic stroke in the next few weeks.

TIA and Stroke Signs and Symptoms

- Sudden confusion, trouble speaking, or understanding
- Sudden weakness in the face, arm, or leg (usually only on one side of the body)
- Sudden numbness in your face, arm, or leg (usually only on one side of the body)
- Sudden uneven facial expression
- Sudden trouble seeing
- Sudden trouble walking, loss of balance, or loss of coordination
- Sudden dizziness
- Sudden severe headache with no known cause
- Sudden nausea or vomiting (starts suddenly unlike the flu, where it happens over a few days)

Remember:

A stroke or TIA happens **suddenly** and typically affects one side of the body. There is an interruption in blood supply to part of the brain and whatever that part of the brain controls will be affected. For instance, if you can't hold your spoon suddenly with your right hand while eating breakfast, you could be having a stroke in the part of your brain that controls your right hand. A stroke/TIA sign or symptom is the loss of an ability to do something.

Not all signs and symptoms occur in every stroke – you may only have one symptom. **Don't ignore it! It's ok to overreact. Call 9-1-1!**

Time Lost is Brain Lost

- If a stroke is suspected, immediately **call 9-1-1** so an ambulance can be sent for you. When communicating with the 9-1-1 operator, use the word “stroke.” It is taken just as seriously as calling and saying, “heart attack.”
- **Do not drive yourself.** Time counts during a stroke, and you need to get to the hospital as quickly as possible.
- Do not delay or wait to see if the signs or symptoms go away.
- Check the time. When did you last feel normal? When did the signs or symptoms begin? It is important for healthcare providers to know a timeframe of your symptoms. A clot-busting drug or catheter treatment can reduce long term disability for the most common type of stroke.

B.E. F.A.S.T. Test

If you think you or someone else is having a stroke, use the B.E. F.A.S.T. test.

B (Balance) – Does the person have sudden difficulty with balance or walking?

E (Eyes) – Does the person have sudden loss of vision, double vision, or difficulty seeing to one side?

F (Face) – Ask the person to smile. Is one side of the face drooping?

A (Arms) – Ask the person to raise their arms. Is one arm weak or drifting downward?

S (Speech) – Ask the person to repeat a phrase ("The sky is blue."). Do they have difficulty talking or is their speech slurred?

T (Time) – Call 9-1-1 right away at the first sign of a stroke.

Arrival, Stay and Rehabilitation

Hospital Arrival
When you arrive at the hospital, you will be immediately evaluated by a team of healthcare professionals who are trained in stroke care.

Tests may include:

- NIHSS (National Institute of Health Stroke Scale) – an exam to determine the severity of your stroke.
- CT Scan
- Chest x-ray
- EKG
- Blood tests
- MRI
- Echocardiogram
- Carotid doppler study
- Swallow evaluation

Hospital Stay and Rehabilitation
During your hospital stay, you will be treated with the highest standards of care for your stroke.

You will likely undergo one or more types of therapy, such as:

- Blood thinning medications – antiplatelets (Aspirin, Plavix, Aggrenox), or anticoagulants (Coumadin, Pradaxa, Xarelto, or Eliquis)
- Cholesterol lowering medication/"statins" (Zocor, Lipitor, Crestor)
- Deep vein thrombosis DVT prevention (Lovenox, Heparin, flowtrons)
- Physical therapy – walking, range of motion
- Speech therapy – swallowing and communication
- Occupational therapy – taking care of activities of daily living
- Help/Counseling for patients to quit smoking
- Stroke education
- Discharge education
- Evaluation for inpatient rehabilitation
- Case management for discharge needs

How do I prevent a stroke?

Risk Factors for Stroke
That You CANNOT Control:

Age
The chance of having a stroke more than doubles for each decade of life after 55.

Gender
Stroke is more common in men than women. However, more than half of total stroke deaths occur in women. Use of birth control pills and pregnancy pose special stroke risks for women.

Race
African Americans have a much higher risk of death from stroke. This is partly due to increased rates of high blood pressure and diabetes.

Heredity
Your stroke risk is greater if a parent, grandparent, sister, or brother has had a stroke.

Prior Stroke, TIA, or Heart Attack
A person who has had a TIA is almost 10 times more likely to have a stroke than someone of the same age and sex who has not.

Sickle Cell Disease
Sickle cell disease is a genetic disorder that mainly affects African American and Hispanic children. "Sickle-shaped" red blood cells are less able to carry oxygen to the body's tissue and organs. These cells also tend to stick to blood vessel walls, which can block arteries to the brain and cause a stroke.

Risk Factors for Stroke
Factors we help identify and screen for and can help YOU CONTROL:

Diet
Diets low in salt and low in fat can lower your blood pressure and, more importantly, lower your risk for stroke. Try to eat a balanced diet each day with plenty of fruits, vegetables, whole grains and a moderate amount of protein (meat, fish, eggs, milk, nuts, and some beans).

Medications
Medications should be taken exactly as directed and should not be stopped unless you are told by your physician. You may be on medications to lower your blood pressure, lower your cholesterol, or prevent you from forming blood clots. If you are experiencing side effects of these medications, speak to your doctor or pharmacist. Suddenly stopping your medications could increase your risk of stroke. Before you leave the hospital, you will be scheduled for follow-up appointments with your doctor. Be sure to keep these appointments. Your doctor needs to make sure the medicines are working to lower your risk of stroke. He or she will also be able to examine you and answer any questions you may have.

Carotid Artery Disease
Carotid Artery Disease is also called carotid stenosis. The carotid arteries in your neck supply blood to your brain. A carotid artery narrowed by fatty deposits from plaque build-up in the artery walls (atherosclerosis) may become blocked by a blood clot or slow down the blood flow to the brain.

Peripheral Artery Disease (PAD)
Peripheral Artery Disease is the narrowing of blood vessels carrying blood to leg and arm muscles. People with PAD have a higher risk of carotid artery disease, which raises their risk of stroke. Carotid artery disease and peripheral artery disease are caused by high blood pressure, diabetes, a diet high in fat, high cholesterol and smoking.

Atrial Fibrillation
Atrial Fibrillation is a very dangerous irregular heartbeat. The heart's upper chambers quiver instead of beating regularly, which can let the blood pool and clot. If a clot is pushed out of the heart, enters the bloodstream and lodges in an artery leading to the brain, a stroke will result.

Coronary heart disease, congestive heart failure, cardiomyopathy (enlarged heart), heart valve disease, and congenital heart defects
are other risk factors for stroke.

High Blood Pressure
High blood pressure is the number one cause of stroke. It damages small blood vessels of the brain. It is the most important controllable risk factor for stroke. It is very important to take your blood pressure medicine. Many people believe the effective treatment of high blood pressure is a key reason for the accelerated decline in death rates for stroke. High blood pressure is a measurement of 140/90 or higher. You can have your blood pressure checked at your doctor's office, health fairs, or at your local pharmacy or supermarket. Diet changes, exercise and medications can get your blood pressure under control.

High Cholesterol
High Cholesterol is an increased risk for stroke. Blood cholesterol can clog up the arteries that supply blood to the brain. If there is too much cholesterol, plaque or fat, then blood can't flow through. High blood cholesterol can be reduced by eating right and exercising routinely and may require medication. Avoiding foods high in saturated fat and cholesterol, exercising, and losing weight can all help lower your cholesterol.

Diabetes
Diabetes is treatable; however, the presence of the disease still increases your risk of stroke. Diabetes means high blood sugar. Think of sugar crystals flowing through your bloodstream and damaging the smooth walls of the blood vessels. Control your diabetes with proper diet, exercise, taking diabetes medication, and, most importantly, checking your blood glucose regularly.

Smoking
Smoking and exposure to the chemicals in tobacco smoke and cigarettes can cause damage to blood vessels, accelerating the development of atherosclerosis. Smoking doubles the risk of stroke, so it is important to stop smoking to decrease your risk. If you stop smoking today, your risk for stroke will immediately begin to drop. Within five years of quitting, your stroke risk may be the same as that of someone who never smoked.

Obesity
Obesity puts a strain on the entire circulatory system. It also makes you more likely to have high cholesterol, high blood pressure, and diabetes. Physical activity can help reduce stroke risk. A brisk walk for as little as 30 minutes a day can improve your overall health and reduce your risk of stroke.

When You Leave the Hospital

- Continue taking the medications that you have been prescribed. Do not stop taking them without talking to your doctor first. For the medications to work, they must be taken. Do not let your medications run out.
- Follow up with your physician as scheduled. You will need to be monitored to make sure the medications prescribed are helping lower your risk for stroke.
- Make sure you know the signs and symptoms of stroke and know to call 9-1-1 immediately.
- If you were seen by a physical therapist, occupational therapist, or speech therapist, continue to do the special exercises you were shown while you were in the hospital.
- Share the knowledge you have gained with your friends and family, so they too can recognize a stroke and lower their risk. Knowledge is power.
- Follow-up with the Stroke Clinic within 4-6 weeks.

Grief After a Stroke

Grief after a stroke is normal. A stroke happens fast. It can quickly disrupt a person's life with no warning at all. The road ahead for a stroke survivor can be long and hard, even if he or she is given a good prognosis. The location of your brain where the stroke occurred can also impact how you react and how your self-esteem is affected. Survivors of right-sided strokes may be fairly oblivious to their deficits and therefore, their self-esteem may be minimally affected. However, survivors of left-sided brain strokes will react more to their strokes and have a higher incidence of depression.

It is normal to feel a sense of loss and grief; however, negative feelings can quickly hinder your recovery and the regaining of your abilities. The right attitude can make all the difference. By changing your thoughts, you can change how you feel.

Support

Stroke Support Group
Meets bi-weekly
Contact Jayme Gardner, CRNP, stroke coordinator, at 334-528-3592 for more information.

Resources

National Stroke Association (NSA)
800-STROKES
www.stroke.org

American Stroke Association (ASA)
888-4-STROKE
www.strokeassociation.org

Brain Attack Coalition (BAC)
www.stroke-site.org

National Institute of Neurological Disorders and Stroke (NINDS)
www.ninds.nih.gov/disorders/stroke /stroke.htm

Stroke Clinic Contact Information

Nojan Valadi, MD **Jayme Gardner, CRNP**
Contact: 334-528-6320
Appointment date/time: _____

Lab Values

Blood Pressure Less than 140/90	**Heart Rate** Less than 100 bpm	**LDL The Bad Cholesterol** Less than 100 mg/dl	**LDL The Good Cholesterol** Less than 35 mg/dl	**HgbAIC Avg Blood Sugar** Less than 7%	**Weight**	**BMI** Between 18.5 - 24.9

Medication List

Notes

Notes

Stroke Program Assessment Tool

To be completed prior to discharge

1. **I understand the stroke information communicated to me by my healthcare team** (for example: early warning signs of stroke, medications to continue at home, importance of following up with health care providers, when to call 911 for stroke symptoms).

   Yes/No

2. **My healthcare team explained my stroke risk factors (such as smoking, diabetes, high blood pressure, high cholesterol).**

   Yes/No

3. **My healthcare team described what I can do to lower the risk of having another stroke.**

   Yes/No

4. **I am satisfied with the care I received from my healthcare team.**

   Yes/No

5. **I would rate the quality of care I received as (1 = poor, 5 = excellent):**

   1 2 3 4 5

We are interested in your feedback. Please provide any comments on how we can improve our stroke care. _____

_____

_____

_____

B.E. F.A.S.T. Test

If you think you or someone else is having a stroke, use the B.E. F.A.S.T. test.

B (Balance) – Does the person have sudden difficulty with balance or walking?

E (Eyes) – Does the person have sudden loss of vision, double vision, or difficulty seeing to one side?

F (Face) – Ask the person to smile. Is one side of the face drooping?

A (Arms) – Ask the person to raise their arms. Is one arm weak or drifting downward?

S (Speech) – Ask the person to repeat a phrase ("The sky is blue."). Do they have difficulty talking or is their speech slurred?

T (Time) – Call 9-1-1 right away at the first sign of a stroke.

FOR MORE INFORMATION, CALL
334-528-3592 OR VISIT EAMC.ORG/STROKE

EAST ALABAMA MEDICAL CENTER
2000 PEPPERELL PARKWAY
OPELIKA, AL 36801