



ANGIOSCREEN® ULTRASOUND IMAGES OF CAROTID ARTERIES

The 6 ultrasound photos in the AngioScreen® report show the neck arteries that go to the front of the brain. These arteries are called carotid arteries, and there is one on the right and one on the left. In your report, your left carotid artery is on the left, your right carotid artery is on the right, and in the middle is a sample healthy artery for comparison that has been magnified. The color pictures show flowing blood in the carotid arteries. The color outlines the inside of the blood vessel. In these pictures blood is flowing from the heart on the right side of the image and to the brain on the left side of the image. Blockages also called plaque in the blood vessel interrupt the color band and at times will narrow or constrict it.

Underneath each color image is a black and white image of the same blood vessel. Careful inspection of the black and white image will let you see the buildup of cholesterol called plaque within the wall of the blood vessel. Often the plaque is more easily identified in the black and white images than in the colored ones. The color images help you locate where the blood vessel is located in the picture and guide your eyes along the path of the flowing blood.

The colors in the ultrasound picture show blood flowing in the blood vessels. The colors illustrate the direction of blood flow (red color is one direction and blue depicts the opposite). The brighter the color, the faster the blood flow. Ideally the artery should be filled with color, however, sometimes it is difficult to capture blood flow, and certain areas may result without color.

The main artery supplying blood to the brain (the common carotid artery) divides into two branches just below the jaw: the internal and the external carotid artery. Depending on the direction of the ultrasound transducer, ultrasound images of the carotid artery are only two-dimensional which is why a bifurcation may be seen in some images and not in others.

SUMMARY

AngioScreen® measurements provide an assessment of risk that can be enhanced **by consultation with your personal physician** who may recommend other measures of vascular risk and health. Remember that all screening measures have a range of validity and none are completely accurate or 100% predictive. There are false negative and false positive results in any screening measure. **Only a physician is qualified to interpret the significance of measurements and ultrasound images and to diagnose individuals in the context of their personal medical history.** Screening tests do NOT replace regular examinations and consultations with your personal physician.

There is imprecision in any measure and AngioScreen® is no exception. Since AngioScreen® gives you YOUR pictures of YOUR arteries, our data may permit a more informed interpretation of risk in **consultation with your personal physician.** Your measures and your images do provide you with important information regarding risk assessment.

Knowledge brings power — the power to change, the power of informed choice. Choose well.



ANGIOLOGY CORPORATION
OF AMERICA™

**To make an appointment, call:
1-800-627-2393**

The information in this guide is intended for general guidance only and is not medical advice. The information is not intended as a recommendation for specific situations. As always, the participant should consult a qualified personal physician for specific advice.

The Medical Center of Central Georgia
Exclusive Provider of

AngioScreen®

THANK YOU for participating in Angiology Corporation of America's integrated vascular screening: AngioScreen®.

Our mission is to provide you the consumer with information about your circulation which will inform you of your choices and help lower your risk of heart attack or stroke. AngioScreen® provides information about your heart rhythm, neck and leg arteries, blood pressure and fitness.

YOU COULD BE AT RISK FOR HEART ATTACK OR STROKE AND NOT REALIZE IT

- 🚫 **Every 30 seconds an American has a heart attack**
- 🚫 **Every 45 seconds an American has a stroke**
- 🚫 **Every hour there are 100 deaths from vascular disease**

Vascular disease is the leading cause of death worldwide and the leading cause of heart attack and stroke. We believe that our integrated vascular screening can help change your vascular fate by providing information on which you can act. Such actions can help lower your risk of heart attack or stroke.

AngioScreen® provides information about your heart rhythm, neck and leg arteries, blood pressure and fitness. You have received a color printout of photos of your carotid (neck) arteries along with written results and abnormal values highlighted in red which have also been copied to a CD.

This guide will help you understand your screening results. Your screening results become most powerful when you, as an informed participant, become an educated partner with your physician. No screening data can substitute for professional medical advice and care. Screening should not be considered a substitute for a thorough examination or testing recommended by your personal physician. Any symptoms you are having should be discussed with your personal physician.

We encourage you to share your screening results with your personal physician.

You should compare your images with the sample healthy artery on your report and also with the pictures on page 4 of varying degrees of blockage. The carotid arteries carry blood to the brain. Narrowing of the carotid arteries increases your risk of stroke. Thickening of the inner lining of the carotid arteries, which is how plaque begins, is correlated with blockages of the heart's arteries. Plaque in the carotid arteries is associated with the presence of plaque in the heart's arteries. So studying the carotid arteries gives you information about your heart's circulation. 15% of all strokes occur because of plaque in the carotid artery.

It is important to follow the progression of your vascular health, so we recommend repeating your AngioScreen® annually. **AngioScreen® is not a substitute for medical care by a qualified physician.**

It is important to share your ultrasound images with your physician. Medical therapy including prescription drug use and changes in life style (which include not smoking, modifying your diet and regular exercise) can modify carotid plaque. Be sure to ask your personal physician what you should do to lower your heart attack and stroke risk. Please remember this is only a preliminary screening. A normal health screening will not guarantee that you are in good health or that a stroke or heart attack is not a risk. It is important to see your personal physician for a comprehensive evaluation of your health.



BLOOD PRESSURE

Your blood pressure is a measure of the work that your heart performs by driving the flow of blood throughout your body. High blood pressure is an important risk factor for heart attack and stroke and is called the “silent killer.” You can have high blood pressure and feel perfectly fine. However, 25% of all Americans have high blood pressure and yet one third do not know it. Of those Americans who are taking medication for high blood pressure only half have an effective program of medication.

Americans with uncontrollable high blood pressure are three times more likely to have a heart attack and seven times more likely to have a stroke. High blood pressure affects organs other than the heart and brain. High blood pressure can lead to kidney failure and accelerate hardening of the arteries.

Lowering your blood pressure is a proven way to reduce your chances of heart attack or stroke.

Your Blood Pressure is recorded as Systolic/Diastolic for the arm with the higher reading.

	<u>Systolic</u>	<u>Diastolic</u>
Normal	less than 120	less than 80
Prehypertension	120-139	80-89
Hypertension Stage 1	140-159	90-99
Hypertension Stage 2	160 and greater	100 and greater

Current guidelines suggest that all individuals with Stage 1 or Stage 2 Hypertension be on medication along with some individuals with prehypertension. Please share your blood pressure results with your physician. If your blood pressure exceeds the “Stage 2” threshold, then you should see your personal physician immediately.

PULSE

Your pulse is a measure of vascular fitness. A low resting pulse in the absence of disease is a sign of fitness. A low pulse is less than 60 beats per minute. A high resting pulse is greater than 100.

If your report indicates a pulse higher than 100, then you should discuss this with your personal physician.

HEART RHYTHM

Your heart rhythm is an important measure in AngioScreen®. The normal heart rhythm is called sinus rhythm. At times there can be irregularities in the pulse. One of the important cardiac rhythms to identify is ATRIAL FIBRILLATION (AFib). AFib is a rapid and irregular heart beat where the heart's upper and lower chambers are not synchronized in the pumping of blood. The fast and irregular beating of the heart's top chambers in AFib can lead to clotting within the heart. When such clots travel to the brain's arteries they produce a stroke. Individuals with AFib have an annual stroke risk of 4-5%. More than 10 million Americans have AFib; it is the most common adult arrhythmia. Medication can lower the stroke risk in AFib by more than 75%.

While some people have no symptoms of AFib, some experience palpitations, shortness of breath, lightheadedness or fatigue. If you experience any of these symptoms, or any symptoms, you should consult your physician immediately. Even if your AngioScreen® report does not detect AFib and you have no symptoms, this does not mean that you do not have AFib. Sometimes AFib can only be detected by monitoring over an extended period of time to reflect what happens when you are walking or exercising. It is important to see your physician regarding a full study of your heart rhythm.

Should your report classify your heart rhythm as “Other” then the detection program was unable to assign a heart rhythm. You should see your physician for a full EKG. AngioScreen® does not screen for all heart rhythm irregularity. AngioScreen® is not meant to be a substitute for a full EKG performed by a physician.

If your report indicates AFib or if you are experiencing any symptoms, then you should see your personal physician immediately.

BMI

Body Mass Index (BMI) is a formula used to determine obesity. It is calculated by dividing a person's weight in kilograms by height in meters squared (kg/m²). It is a simple and validated measure for predicting the risk of high blood pressure, stroke, heart attack and diabetes. The higher the number, the more excess body fat is present and the greater the risk for heart attack or stroke.

BMI Standards

less than 18.5	underweight
18.5-24.9	ideal
25-29.9	overweight
30 or greater	obese

You should see your personal physician for means to achieve and maintain your BMI at the ideal range.

ABI

Ankle Brachial Index (ABI) is a screening test for blockages in the arteries that go to the legs. Such blockage or plaque is called Peripheral Arterial Disease (PAD). More than 10 million Americans have PAD, and 90% do not know they have it. A person with PAD is two to four times more likely to have a heart attack compared to the general population. ABI screening can help determine if you have PAD.

ABI Standards

Normal	0.91 - 1.30
Mild blockage	0.71 - 0.90
Moderate	0.41 - 0.70
Severe	0.40 or below

Make sure that you show your personal physician your ABI measurements.

If your ABI is greater than 1.30, the presence of other disease besides vascular can occur. Please discuss your ABI measurements with your physician.

At times the ABI cannot be measured if the leg arteries are so full of calcium that the blood pressure cannot be determined. This is sometimes seen in patients with diabetes or severe kidney disease.

If 999 is placed on your report, the study was technically inadequate or unable to be performed.

AORTA

Expansion of the aorta is normal to some extent with age. However, if more extensive, it may result in an aneurysm. An aneurysm is a weak area in the aorta, the main blood vessel that carries blood from the heart to the rest of the body. The weak area bulges like a balloon and can burst. If the aneurysm becomes large, the risk of rupture

increases significantly and an operation may be necessary. The normal aortic diameter is 3.0 cm and less depending on age, gender, size and weight of the person.

If 999 is placed on your report, the study was technically inadequate or unable to be performed.

If your aortic diameter is above 3.0 cm, then you should contact your personal physician.

PSV

If there is narrowing in the artery, then the flowing blood can become or becomes turbulent just as in a river that gets narrower, where the water flows faster in the center stream. The Peak Systolic Velocity (PSV) of flowing blood can be measured in arteries by Doppler methods. Just as an ambulance siren changes its sound as it passes you, ultrasound methods can determine the Doppler shift of flowing blood beneath the probe. When there is no blood flow, there is no velocity or PSV equals 0. If there is narrowing in the artery, then the flowing blood can be turbulent. A noise can be heard by the stethoscope or by the Doppler probe when there is sufficient blockage. When the PSV is 125 cm/sec or greater, then there is at least 50% narrowing of the artery. A 50% narrowing is considered “significant” and further testing is needed. If the artery has a loop, then PSV can be falsely elevated (or a false positive). Generally when the PSV is 125 cm/sec or greater, the color picture of the artery will show a yellow color at the point of blockage. When the blockage is very severe, there may be a gap in the color picture of the artery.

If 999 is placed on your report, the study was technically inadequate or unable to be performed.

<u>PSV (cm/sec)</u>	<u>% Narrowing</u>	
1 – 124	less than 50% blockage	Normal
125 or above	50% blockage or greater	Significant
0	100% Blockage	Severe

If the PSV is 125 or greater, or 0, please inform your personal physician that screening has suggested a 50% blockage or greater. A PSV of 0 is considered severe and further testing is needed.

