

CORONARY COMPUTED TOMOGRAPHY ANGIOGRAPHY

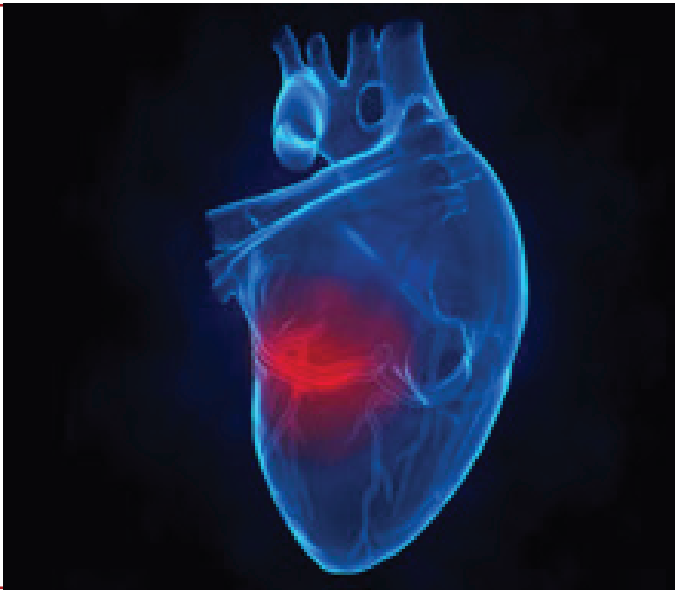
Coronary computed tomography angiography (CCTA) is a heart imaging test that helps determine if plaque buildup has narrowed a patient’s coronary arteries, the blood vessels that supply the heart. Plaque is made of various substances circulating in the blood, such as fat, cholesterol and calcium that deposit along the inner lining of the arteries. Plaque, which builds up over time, can reduce or in some cases completely block blood flow. Patients undergoing a CCTA scan receive an iodine-containing contrast material (dye) as an intravenous (IV) injection to ensure the best possible images of the heart blood vessels.

Computed tomography, more commonly known as a CT or CAT scan, is a diagnostic medical test that, like traditional x-rays, produces multiple images or pictures of the inside of the body.

WHY HAVE A CORONARY CTA?

Prior to CCTA, to directly look at the blood vessels of the heart, one would have to undergo an invasive (inside the body) procedure called cardiac catheterization. CCTA is a non-invasive (outside the body) way to evaluate the blood vessels of the heart. In some situations a CCTA can be done instead of, or in addition to, a stress test.

Unlike coronary catheterization or stress testing, CCTA sees into the wall of the coronary artery and can estimate the extent of coronary disease. Physicians can measure the amount of calcium in the wall of the coronary arteries to help predict the risk of heart attacks and cardiac death. The extent of calcium may help doctors decide how aggressively to treat a patients’ risk factors for heart disease.



PREPARING FOR YOUR PROCEDURE

Complete your patient questionnaire, our clinical staff will need to know:

- All medications, herbs, or supplements you take. Please bring a complete list of your medications on the day of your study.
- Any allergies, including medications or foods, and the specific reactions you have to each item.
- Any previous IV contrast (x-ray dye) you have had. Did you ever have any problems / issues?
- Advise us if you have asthma, wheezing, or any breathing problems, or have any problem with your kidney function.
- Let us know if you are or may be pregnant or if you are currently breastfeeding.
- If you take Viagra, Cialis or similar medications please inform us. You must stop this medication 48 hours prior to your procedure, providing your physician approves this interruption in therapy.
- 12 hours prior to your CCTA, discontinue taking any diet pills and caffeinated drinks such as coffee, tea, energy drinks or sodas. These may increase heart rate and limit the ability of the exam to evaluate for plaque in the coronary arteries.
- DO NOT EAT ANYTHING 4 HOURS PRIOR TO YOUR APPOINTMENT TIME.
- Please drink 16 ounces of water before your arrival. Arrive 1 hour prior to your procedure time.
- Depending on your heart rate on the day of your study, you may be given medication to optimize the images taken your CCTA. This will result in additional time at our facility. **It is best to prepare to be at AMI for between 1 and 3 hours.**

THE DAY OF YOUR PROCEDURE

- Do not bring any valuables with you.
- **Remember to bring your medication list.**
- You will need your insurance information, a form of ID, and any completed paperwork that you may have been given to complete.
- **Please arrive 60 minutes prior to your scheduled time.**

Your procedure will be done at one of the following offices. You may contact the office of your appointment if you have any questions: 609-677-XRAY (9729), 732-223-XRAY (9729) or 856-459-3855

- ☐ **BRICK** - 455 Jack Martin Boulevard
- ☐ **CAPE MAY COURT HOUSE** - 421 Route 9 North
- ☐ **DEPTFORD** - 1450 Almonesson Road, Suite 175
- ☐ **EGG HARBOR TOWNSHIP** - 6529 Black Horse Pike
- ☐ **GALLOWAY** - 44 East Jimmie Leeds Road
- ☐ **TOMS RIVER** - 1430 Hooper Avenue
- ☐ **UPPER DEERFIELD** - 1119 Highway 77, Suite C
- ☐ **WALL TOWNSHIP** - 2399 Highway 34, Unit B

HOW IS THE PROCEDURE PERFORMED?

1. You will be given a gown to wear during the procedure.
 2. A nurse will assess your heart rate and blood pressure as well as review your medical history and medications you are presently taking. You may be given a beta blocker orally to help slow your heart rate if needed and then reassessed in 1 hour. Once your heart rate is controlled you will be ready for the CCTA scan.
 3. An intravenous (IV) line will be inserted into a vein in your arm to administer contrast material (dye) during your procedure.
 4. The technologist or nurse will clean three small areas of your chest and place electrodes (small, sticky discs) on these areas. Men may require a small area of hair to be shaved on their chest to help the electrodes stick. The electrodes are attached to an electrocardiograph (ECG) monitor, which shows your heart's electrical activity during the test.
 5. While lying on the scanning table, you may be asked to raise your arms over your head for the duration of the exam. This will help improve image quality.
 6. Next, the table will move quickly through the scanner to determine the correct starting position for the scans. Then, the table will move slowly through the machine as the actual CT scanning is performed. Depending on the type of CT scan, the machine may make several passes.
 7. You will be asked to hold your breath during the scanning. Any motion, whether breathing or body movements, can lead to artifacts on the images. This loss of image quality can resemble the blurring seen on a photograph taken of a moving object.
 8. When the examination is completed, you may be asked to wait until the technologist verifies that the images are of high enough quality for accurate interpretation.
 9. Your intravenous line will be removed.
 10. You need to increase your water intake over the hours following your exam. This will help your body rid itself of the contrast that had been injected.
- The clinical staff will make every effort to keep you informed throughout your procedure, however please feel free to ask if you have any questions or concerns.

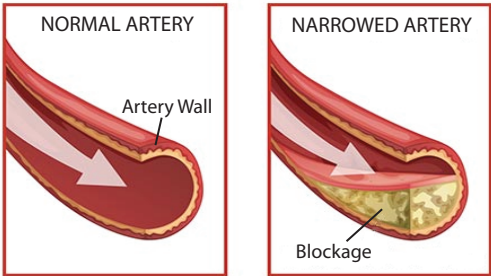
After your CCTA, you may resume your normal activities and resume any medications, unless instructed otherwise.
PLEASE NOTE - The nature of this study is such that you may be required to return for additional images due to the movement of your heart during image acquisition.

The staff and physicians at Atlantic Medical Imaging thank you for choosing us for your CCTA.

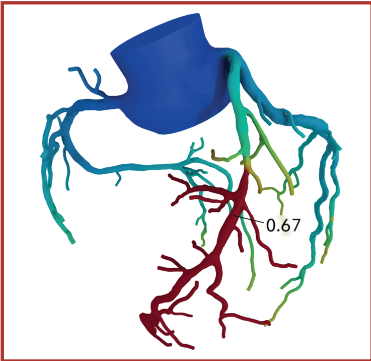


NOW AVAILABLE AT ATLANTIC MEDICAL IMAGING: HEARTFLOW FFR

Coronary artery disease (CAD) is the most common type of heart disease, affecting nearly half the adult population. CAD develops when the coronary arteries become narrowed or blocked and cannot deliver enough oxygen-rich blood to the heart. This can cause chest pain, shortness of breath or other symptoms and increase the risk of heart attack.



The HeartFlow Analysis is a personalized cardiac test indicated for use in clinically stable symptomatic patients with coronary artery disease. The information provided by the HeartFlow Analysis is intended to be used in conjunction with the patient’s clinical history, symptoms and other diagnostic tests, as well as the clinician’s professional judgment. Patient symptoms must be documented in the patient’s medical record. While no diagnostic test is perfect, the HeartFlow Analysis has demonstrated higher diagnostic performance compared to other non-invasive cardiac tests.⁽¹⁾



WHAT MAKES THE HEARTFLOW ANALYSIS UNIQUE

The HeartFlow Analysis uses data from a CT scan to create a color-coded 3D model showing the health of your heart arteries. This non-invasive test helps physicians determine if your heart is receiving the blood it needs to function. HeartFlow is recognized within the American College of Cardiology and American Heart Association Chest Pain Guidelines to help guide treatment for patients with heart disease

HOW IT WORKS

1. Your doctor will order a standard CT scan of your heart to look for CAD. If the scan shows narrowings in your coronary arteries, your doctor may order a HeartFlow Analysis.
2. Your doctor receives your HeartFlow Analysis – a personalized 3D model of your coronary arteries showing how the blockages are impacting blood flow. This gives your doctor the detailed information needed to better understand the severity of disease.
3. After interpreting your HeartFlow Analysis, your doctor will follow up with you to discuss the optimal next steps in your treatment plan.

Talk to your healthcare provider to see if HeartFlow FFR may be right for you.

FREQUENTLY ASKED QUESTIONS ABOUT THE HEARTFLOW ANALYSIS

How is the test performed?

The process begins with a standard CT scan of your heart to look for blockages. If the scan shows disease or your doctor needs additional information, your doctor may order a HeartFlow Analysis. There is no additional testing required.

What information does the test provide?

The HeartFlow Analysis is a personalized, color-coded 3D model of your coronary arteries, showing how the blockages are impacting blood flow. The model gives your doctor the detailed information needed to better understand the severity of disease and determine the next step in your treatment plan. Most importantly, it provides more accurate information compared to other non-invasive cardiac tests.⁽¹⁾

What are the risks?

Because the HeartFlow Analysis is a technology that uses your CT scan, there is no additional risk to you.

What are the benefits?

- Enables a more accurate diagnosis of CAD compared to other non-invasive tests.⁽¹⁾
- Provides <1% chance of missing disease.⁽²⁾
- Non-invasive, therefore imposing less risk.
- Provides a streamlined experience with fewer unnecessary tests and outpatient visits.⁽³⁾
- No additional radiation exposure.

How do I request the HeartFlow Analysis?

To request the HeartFlow Analysis, ask your physician if it would be appropriate for you.

What are the next steps after getting my HeartFlow Analysis?

After your HeartFlow Analysis is completed, your physician will review the model generated of your coronary arteries with you to determine whether medical management or an invasive procedure is necessary.

What will happen if I choose not to get the HeartFlow Analysis?

If your doctor recommends the HeartFlow Analysis after reviewing your CT scan and you decline it, the next step may be an invasive diagnostic procedure to determine the severity of disease.

If I authorize the HeartFlow Analysis, am I guaranteed to get the test?

Not all patients who agree to the HeartFlow Analysis will be a candidate for the test. Most often, this will occur if the CT scan provides enough information by itself to help your physician determine the next step in your treatment plan.

Is it covered by my insurance?

The HeartFlow Analysis is reimbursed by the Centers for Medicare and Medicaid Services (CMS) and most major commercial insurers. To verify that it is covered by your insurance plan, ask your doctor's office.

(1) Driessen, et al. J Am Coll Cardiol 2019; Norgaard, et al, Euro J Radiol 2015. (2) Hecht, H., et al., Should NICE guidelines be universally accepted for the evaluation of stable coronary disease? A debate. Euro Heart J 2019. DOI: 10.1093/eurheartj/ehz024. (3) Douglas, et al. J Am Coll Cardiol 2016.



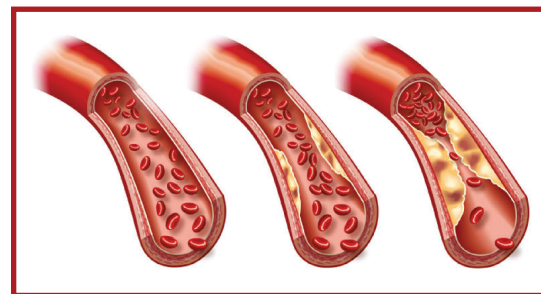


NOW AVAILABLE AT ATLANTIC MEDICAL IMAGING: HEARTFLOW PLAQUE ANALYSIS

Your doctor has ordered a coronary CT angiogram (CCTA) study for you to look for coronary artery disease and blockages in your heart. If your CCTA shows coronary artery disease, the radiologist may recommend further evaluation with HeartFlow Plaque Analysis to determine your risk for a heart attack. This does not require an additional appointment or additional CT scan. We simply use the CCTA scan that you already had done and send it for AI analysis to measure the amount of plaque - a buildup of fatty and calcified deposits in your coronary arteries. This allows us to understand your heart attack risk and promote heart health by:

- **Early Detection:** Identifying and measuring early-stage plaque can stop disease progression.
- **Optimized Treatment:** Detailed plaque evaluation helps guide your doctor to treat your coronary artery disease with a plan that is tailored specifically to you.

HeartFlow Plaque Analysis is clinically proven to be highly accurate. You can rely on detailed and precise results to guide your healthcare decisions.¹



TYPES OF PLAQUE

Plaque is a buildup of fatty and calcified deposits in your coronary arteries. This can cause narrowing of your blood vessels and can lead to heart attacks. Plaque comes in three main forms:

- **Calcified plaque:** Also known as “hard plaque”. This is considered stable plaque because it hardens along the vessel walls. This plaque is visible on both CCTA and Calcium Score studies.
- **Non-calcified plaque:** Also known as “soft plaque” or “sticky plaque”. This plaque can be unstable and exposing you to increased heart attack risk. While visible on CCTA, this plaque is not visible on Calcium Score studies.
- **Low attenuation plaque:** This is a specific type of non-calcified plaque that is particularly dangerous due to its increased likelihood of causing cardiac events.²

HOW HEARTFLOW ANALYZES PLAQUE

- 1 CT Scan:** Images of your heart are taken with a non-invasive CCTA. This scan captures detailed pictures of your heart and blood vessels.
- 2 AI Computer Analysis:** We will send your CCTA data for further advanced AI processing with Plaque Analysis to identify the amount, location, and type of plaque present in your coronary arteries.
- 3 Plaque Report:** You and your doctor will receive a personalized report that provides detailed information about the coronary plaque in your heart to help guide your treatment.

FREQUENTLY ASKED QUESTIONS ABOUT HEARTFLOW PLAQUE ANALYSIS

How is the test performed?

You will first get a CCTA scan to look for blockages in your heart. If the scan shows coronary artery disease, you may benefit from Plaque Analysis. There is no additional appointment or testing required. Once your study returns from Plaque Analysis, you and your doctor will receive a personalized plaque report.

What are the benefits?

- Provides precise information plaque type, amount, and distribution, which is crucial for effective management of heart conditions.
- A detailed assessment of coronary artery plaque provides information for a tailored treatment plan specific to you, which can potentially improving health outcomes and quality of life.
- No additional appointment or testing is required after your CCTA!

How do I request HeartFlow Plaque Analysis?

If you already have a prescription for Plaque Analysis you don't have to do anything. If your CCTA scan shows coronary artery disease, the radiologist will recommend Plaque Analysis on your CCTA report and our patient navigator will contact you.

If you do not have a prescription for Plaque Analysis, ask your doctor if it would be appropriate for you. If your doctor decides to order Plaque Analysis, they can write a separate prescription for "Plaque Analysis" and fax it to our office at 609-650-0007. Once we have a prescription, our patient navigator will contact you.

If HeartFlow Plaque Analysis has been recommended for me, what should I do next?

If your CT scan report recommends Plaque Analysis, our navigator will contact you and review a few details.

- We will check to ensure that your doctor provided a prescription for the Plaque Analysis and that you meet the criteria.
- We will then confirm with you that you are interested in moving forward with the Plaque Analysis.
- If you decide to proceed, we will arrange for payment.
 - If you have Medicare, we will bill your insurance.
 - If you have other insurance, the payment due is \$750. We can process the payment over the phone. The Plaque Analysis will be performed once payment is received.

If I authorize the HeartFlow Plaque Analysis, am I guaranteed to get the test?

Not all patients will be a candidate for the Plaque Analysis. If you have no plaque on your CCTA or if the CCTA quality is limited by motion artifact, Plaque Analysis is not recommended. When reviewing your CCTA study, the radiologist will indicate if Plaque Analysis is recommended or not.

Is it covered by my insurance?

The HeartFlow Plaque Analysis is reimbursed by the Centers for Medicare and Medicaid Services (CMS). Most commercial insurers do not cover the Plaque Analysis, and the cost is \$750. Payment is due prior to processing the Plaque Analysis.

(1) Narula et al. Prospective Deep Learning-based Quantitative Assessment of Coronary Plaque by CT Angiography Compared with Intravascular Ultrasound EHJ 2024. (2) Williams, et al. Circulation 2020. doi.org/10.1161/CIRCULATIONAHA.119.044720.

HeartFlow Plaque Analysis - December 2024





PATIENT QUESTIONNAIRE

Name: _____ DOB: _____

Gender: ☐ male ☐ female Weight: _____ lbs. Height: _____ ft. ____ in. Waist (if known): ____ in.

Ethnicity: ☐ Caucasian ☐ African-American ☐ Hispanic ☐ East Indian ☐ Native American ☐ Other: _____

Encounter for today's exam: ☐ Initial ☐ Follow Up Level of Pain (1-10): _____

Reasons for Test (check all that apply)

- | | | |
|---|---|--|
| <input type="checkbox"/> Personal concern for heart disease | <input type="checkbox"/> Fatigue | <input type="checkbox"/> Secondhand smoke |
| <input type="checkbox"/> Chest pain with exertion | <input type="checkbox"/> Palpitations/fast or irregular heartbeat | <input type="checkbox"/> High cholesterol |
| <input type="checkbox"/> Chest pain never caused by exertion | <input type="checkbox"/> Abnormal stress test | <input type="checkbox"/> High triglycerides |
| <input type="checkbox"/> Chest pain unspecified | <input type="checkbox"/> Uncertain stress test | <input type="checkbox"/> High blood pressure |
| <input type="checkbox"/> Left arm, upper back or jaw pain | <input type="checkbox"/> Abnormal EKG | <input type="checkbox"/> Diabetes |
| <input type="checkbox"/> Shortness of breath with exertion | <input type="checkbox"/> Personal history heart disease | <input type="checkbox"/> Coronary calcium |
| <input type="checkbox"/> Shortness of breath not caused by exertion | <input type="checkbox"/> Family history heart disease | <input type="checkbox"/> Overweight |
| <input type="checkbox"/> Shortness of breath unspecified | <input type="checkbox"/> Smoking history | <input type="checkbox"/> Other: _____ |

ICD10 (translation - each code): _____

How long have you had these symptoms? _____

Risk Factors

Have you ever had blockages or partial blockages of arteries in the heart? ☐ N ☐ Y if yes _____

Have you had other heart disease? ☐ N ☐ Y if yes _____

Have you ever had high blood pressure? ☐ N ☐ Y

Do you have diabetes? ☐ N ☐ Y if yes _____

Do you take diabetic medication? ☐ N ☐ Y if yes _____

Have you ever smoked? ☐ N ☐ Y if yes _____

Have you ever had blockages or partial blockages in arteries other than the heart? ☐ N ☐ Y

Have you ever had a stroke? ☐ N ☐ Y

Have your blood relatives had heart attacks or heart artery blockages? ☐ N ☐ Y if yes _____

Do you exercise enough to cause a fast heart beat for at least 20 minutes at least twice a week? ☐ N ☐ Y

- | | |
|--|--|
| <input type="checkbox"/> heart attack | <input type="checkbox"/> heart artery blockage |
| <input type="checkbox"/> coronary bypass | <input type="checkbox"/> angioplasty |
| <input type="checkbox"/> stent | |

- | | |
|---|--|
| <input type="checkbox"/> heart failure | <input type="checkbox"/> other irregular rhythm |
| <input type="checkbox"/> valve problems | <input type="checkbox"/> mitral valve prolapse (MVP) |
| <input type="checkbox"/> atrial fib | |

Do you have any diabetic complications? ☐ N ☐ Y
If yes, explain _____

- | | |
|---|-------------------------------------|
| <input type="checkbox"/> insulin | <input type="checkbox"/> oral pills |
| <input type="checkbox"/> other (specify): _____ | |

Total years smoked _____
Packs per day _____

Smoking now? ☐ N ☐ Y
If no:
How many years since quitting? _____ years

Relative _____
Age when first discovered _____

Female Use OnlyDo you still have periods? ☐ N ☐ YIf no → Have both ovaries been removed? ☐ N ☐ Y (At what age? _____)Ever on hormone replacement? ☐ N ☐ Y (Age started ____, Age stopped ____)If yes → Is there any chance you are currently pregnant? ☐ N ☐ YAre you currently breastfeeding? ☐ N ☐ Y

Date of last menstrual cycle: _____

Dress size: _____

Male Use OnlyHave you taken any erectile dysfunction medication in the past forty-eight hours? ☐ N ☐ Y**Medications**Are you on cholesterol or lipid lowering medicine? ☐ N ☐ Y

if yes →

Names of antilipid drugs

Total dose/day

_____	_____
_____	_____
_____	_____

Blood pressure medicine? ☐ N ☐ YInsulin? ☐ N ☐ YDaily aspirin? ☐ N ☐ YDaily multivitamin? ☐ N ☐ YHow long have you been on this _____ years
or similar medicine to lower _____ months
cholesterol or triglycerides?**Recent tests**Stress test in past 12 mo. or scheduled? ☐ N ☐ YCardiac cath in past 12 mo. or scheduled? ☐ N ☐ YCholesterol test in past 12 mo. or scheduled? ☐ N ☐ Y

Location

Date

_____	_____
_____	_____
_____	_____

History of allergies

<input type="checkbox"/> none	<input type="checkbox"/> seasonal or hayfever	<input type="checkbox"/> shellfish	<input type="checkbox"/> penicillin
<input type="checkbox"/> demerol	<input type="checkbox"/> X-ray dye/IV contrast	<input type="checkbox"/> iodine	
<input type="checkbox"/> asthma	<input type="checkbox"/> sulfa	<input type="checkbox"/> other: _____	

Previous surgery

<input type="checkbox"/> breast	<input type="checkbox"/> chest	<input type="checkbox"/> lung	<input type="checkbox"/> heart	<input type="checkbox"/> other: _____
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Other conditions

<input type="checkbox"/> kidney disease	<input type="checkbox"/> on chemotherapy	<input type="checkbox"/> congestive heart failure
<input type="checkbox"/> liver disease	<input type="checkbox"/> pacemaker	
<input type="checkbox"/> multiple myeloma	<input type="checkbox"/> irregular heart rhythm	

Patient Signature: _____ Date: _____