

THEODORE C. FRIEDMAN, MD, Ph.D.
ENDOCRINOLOGY

EBCT – Priceless

Dr. Friedman recommends for many patients to undergo a relatively new test to evaluate their heart status called “electron beam CAT scan” (EBCT). This is often part of what is called a “body scan,” which also looks for lung cancer and other types of cancer. The electron beam CT scan of the heart detects early calcification in the heart vessels. Early calcification is a sign of atherosclerosis (coronary heart disease, cholesterol plaques in heart vessels), which is the main cause of death for most Americans. Therefore, screening for atherosclerosis is of primary importance and as an endocrinologist, Dr. Friedman is very concerned with reducing your risks for developing diseases, such as atherosclerosis. Many endocrine conditions, including growth hormone deficiency, Cushing’s disease, and hypothyroidism predispose patients for atherosclerosis.

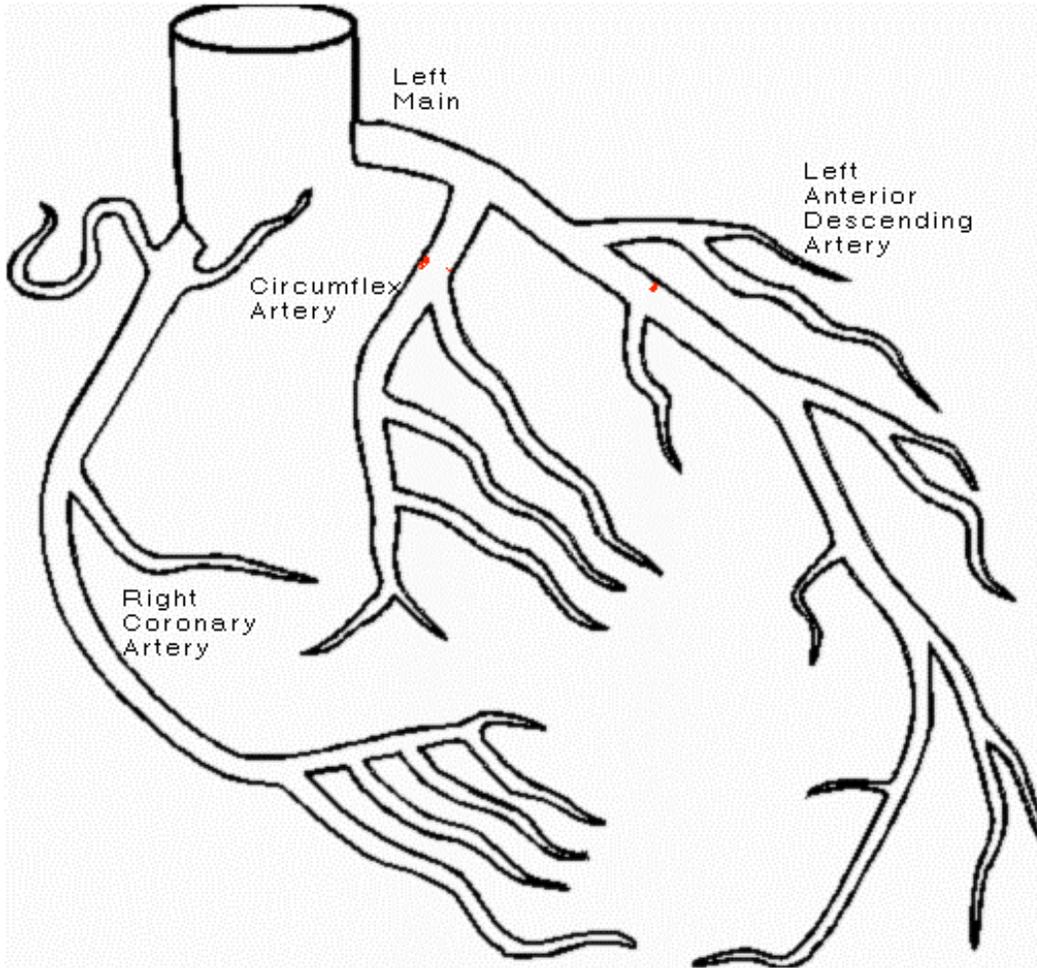
The electron beam CT scan of the heart is done at most major medical centers and costs between \$350 and \$500. Sometimes it is covered by insurance but often is not. It is a relatively quick procedure that takes about five minutes and one usually gets a preliminary reading at the time it is done. Patients get a calcium score, which indicates how much calcium plaque the patient has in their heart’s vessels. It tells you the number of plaques and how big they are, to come up with a calcium score, and also usually tells which coronary artery contains the plaque. In some circumstances, if the calcium plaques are in a dangerous region, such as in the main coronary artery called the left anterior descending, it may be more dangerous than having them in a more minor heart vessel. A person can get a zero score, which is ideal; and the lower the score, the better. Generally, a score above 300 is considered dangerous. However, recent studies show that the higher the score, the more likely you are to get heart disease, no matter what the score is.

Dr. Friedman recommends this test in patients that are being considered for treatment of elevated cholesterol and points out that the cholesterol is only a marker for heart disease, and it is much better to look for actual heart disease. Dr. Friedman’s idea is that if you have no calcifications in your heart vessels, it does not really matter what your cholesterol is, as you are not going to die from or develop atherosclerosis. If you do have significant coronary calcification, you should be on drugs designed to lower your cholesterol, such as statin drugs, take an aspirin and undergo other dietary and exercise modification to decrease your chances of having heart disease. Therefore, he feels this test is imperative in many patients.

Sample results:

RESULTS

Location	# Calcified Lesions	Calcified Plaque Volume (mm ³)	Calcium Score
Left Anterior Descending	1	0.2	0.5
Circumflex	1	12.8	23.8
Descending Aorta*	2	162.1	206.4
Total Aorta*	2	162.1	206.4
Total Coronaries	2	13	24.3



Questions and Answers:

Question: Why do many doctors not perform this test?

Answer: The test is relatively new and, although there is good data showing that the lower the calcium score, the less likely one is to get heart disease, that relationship is not 100% proven. Therefore, some doctors want to wait until it has been better shown that calcifications do directly correspond to heart disease. Dr. Friedman feels that this has already been shown, and knowing that you do or do not have calcifications is quite important.

Question: Who should get this test?

Answer: Dr. Friedman recommends this test in all patients being considered for or currently on statin treatment. Additionally, a patient who is overweight or has a

family history of heart disease should get this test. Most likely, all men over the age of 40 and all women over the age of 50 should get this test. Again, patients who are overweight, have a family history of heart disease, and have elevated cholesterol should also get this test.

Question: Should I take a statin even if I have clean arteries?

Answer: The answer depends on each person, and it has recently been found that statins also lower inflammation. Inflammation also can predispose you to heart disease and other diseases. The best way to monitor inflammation is to do a blood test that Dr. Friedman often gets called a “C-reactive protein” (CRP). If you, therefore, have a high CRP but clean coronary arteries, it still might be worthwhile to be treated with a statin. If your cholesterol is very high, even with clean coronary arteries, it still might be worthwhile to be treated with a statin.

Question: Should I get the electron beam CT scan of the heart, or should I get a stress test or an echocardiogram?

Answer: A stress test will pick up if you have very severe narrowing of your arteries such that you do not get enough blood to your heart on exercise. It is not good for picking up mild atherosclerosis. The electron beam CT scan of the heart will pick up mild atherosclerosis. Similarly, an echocardiogram will only look at dysfunction of the heart in terms of whether or not you have already had a heart attack, whether you have a certain area of your wall that is not moving, or whether you have heart failure. The electron beam CT scan of the heart will pick up early heart calcifications.

Question: What is the difference between an EKG and an EBCT?

Answer: An EKG also only picks up whether you are having current ischemia, which means not enough blood to your heart vessels, had a heart attack, or have a heart arrhythmia. The electron beam CT scan of the heart will pick up early calcifications of heart vessels.

Question: What is the difference between a high-resolution CT scan of the heart or an MRI of the heart and an EBCT?

Answer: High-resolution CT scan of the heart and electron beam CT scan are similar, but the high-resolution CT scan delivers a high dose of radiation, while the electron beam CT scan of the heart delivers a minimal dose of radiation. A high-resolution CT scan of the heart probably provides more information about the narrowing of the arteries directly, while the EBCT looks directly at the calcifications of the heart. Similarly, an high-resolution MRI of the heart may also deliver more information about the narrowing arteries of the heart.

Question: Should I get a whole-body scan or an EBCT?

Answer: The whole-body scan also helps look for cancers, and if you are concerned about getting cancer, it may be well worthwhile getting it. However, the whole-body scan can pick up areas that are not cancer but may look like

cancer on the whole body scan (false positives), which may lead to unnecessary work-up. In most cases, Dr. Friedman just recommends the EBCT.

Question: Are there any persons for whom the EBCT should have been done, but was not done?

Answer: President Clinton. When he had an angiogram after having angina, it was frequently discussed why he did not have an electron beam CT scan of the heart when he went for his physicals. Since then, electron beam CT scans of the heart have become much more popular.

Interested in learning more about Dr. Friedman's Endocrinology clinic www.goodhormonehealth.com

Interested in getting an EBCT, in Los Angeles, Dr. Friedman recommends Cedars-Sinai 310-423-8000 or Harbor-UCLA (Dr. Budoff) 310-222-2773

Conclusion

As the Mastercard commercial says:

Price of an EBCT: \$350-\$500

Knowing that you have clean coronary arteries: Priceless.