Because They’re Counting On You!
If you die of a disease today, it will most likely be heart disease. Killing more Americans than all forms of cancer combined, heart disease is responsible for 20% of the deaths in this country each year.

If you are alive today, you are probably overweight. 66% of all Americans are overweight or obese. 40% of those who are overweight show early signs of diabetes, a significant risk factor for a subsequent heart attack.

If you are alive today, you probably do not exercise. In fact, 65% of Americans are not active on a regular basis. Of that percentage, nearly two thirds are completely sedentary.

If you are a smoker today, your risk of a heart attack is twice that of the average person. If you are a non-smoker, but spend time every day in a smoke-filled environment, then your risk of heart disease is even greater than if you smoked yourself.

If you are alive today, heart disease may rob you of your life tomorrow. But it doesn’t have to. We have the knowledge now, this very day, to prevent heart attacks. You can prevent your own heart attack, and importantly, as a physician you can prevent your patients from having heart attacks.

Axial CCTA section through bifurcation of left main coronary artery. A punctate, calcified atherosclerotic plaque is visualized in the proximal LAD.
How Do We Know Who Is at Risk?

The methods used today by most physicians to determine who is “healthy” are not reliable predictors of heart attack.

Physicians sometimes struggle to understand why some seemingly “healthy” patients die of heart attacks. The answer to that is simple. The methods used today by most physicians to determine who is “healthy” are not reliable predictors of heart attack. While useful, the Framingham score, cholesterol screening and even stress tests are not enough. We must think about the early detection of heart disease in a new way, and that paradigm shift needs to occur now.

Although the Framingham Score, which is based on a population study, is valuable in identifying an individual patient’s risk, it is not enough. Many heart attacks occur in people with few or no conventional risk factors. The same is true of cholesterol screening. Calcium scoring heart scans have shown that some patients with low total cholesterol, and even low LDL levels, may have significant burdens of plaque in their arteries. In fact, it is frightening to note that more individuals have acute myocardial infarctions with total cholesterol levels less than 200 than those over 200! This occurs because each individual will have their own cholesterol threshold, the point at which the cholesterol actually begins depositing in the vessel walls and forming plaque.

Finally, stress tests are poor predictors of heart attack because they seek to answer the wrong question. Meant to evaluate heart function, the stress test will not assess for the presence of soft, non-calcified plaque, the actual cause of most heart attacks. Thankfully there is an alternative, a painless examination that can accurately detect the presence of this potentially lethal plaque.
More individuals have acute myocardial infarctions with total cholesterol levels less than 200 than over 200.
Coronary CT angiography, or “CCTA”, is a new imaging technique for evaluating the coronary arteries and the absence or presence of plaque. CCTA is unique and ground-breaking because, for the first time, we can actually tell the difference between hard plaque and soft plaque, the so-called “vulnerable plaque” that we know today actually causes heart attacks. Using advanced computers to analyze the data, we can establish the severity of coronary disease, effectively transcending the theoretical risk of heart attack indicated by risk factors and better defining appropriate treatment for the individual patient.

CCTA differs from the traditional methods of assessing heart attack risk in two very important ways. First, unlike stress tests, CCTA can assess all levels of coronary artery disease. CCTA is highly accurate, with a negative predictive value of 99%. Stress tests miss early coronary artery disease in patients because they assess function and do not demonstrate anatomy. Heart function is not affected until there is at least 65 percent obstruction of a coronary vessel. To put it simply, CCTA can detect heart disease much sooner than the stress test.

CCTA is even superior to coronary angiography for assessing heart attack risk. Selective coronary angiography, an invasive technique, is superb for confirming the extent of coronary artery stenosis and directing the trans-catheter or surgical therapy of coronary artery disease. Since angiography only sees the vessel lumen (the “doughnut hole”), it cannot visualize plaque in the wall of the coronary artery. It is the rupture of the soft, vulnerable plaque in the “wall” of the artery that leads to acute heart attacks.
CCTA is highly accurate, with a negative predictive value of 99 percent. Stress tests miss early coronary artery disease in patients because they assess function and do not demonstrate anatomy; as noted above, function is not affected until there is at least 65-percent obstruction of a coronary vessel. Selective coronary angiography, an invasive technique, is superb for confirming the extent of coronary artery stenosis and directing the trans-catheter or surgical therapy of coronary artery disease. However, since angiography only sees the vessel lumen (the “doughnut hole”), it cannot visualize plaque in the coronary artery wall. It is the rupture of the soft, vulnerable plaque that leads to acute heart attacks. Angiograms can only detect plaque within the artery, not plaque imbedded in the wall of the artery. This is crucial, because plaque dislodging itself from the vessel wall is the mechanism by which heart attacks occur.

Algorithm for Diagnostic Evaluation of Coronary Artery Disease (CAD) based on recommendations by the American College of Cardiology Foundation and the American College of Radiology, with modifications by ProScan Imaging based on our clinical experience and an updated literature review.
To prevent heart attacks we must do more than simply detect heart disease in patients with chest pain or obvious risk factors. It would also be a mistake to believe that a single test, even one as compelling as CCTA, could provide all the answers we need about an individual patient’s cardiovascular health. This is how the Heart Attack Prevention Institute at ProScan can help.

The mission of the Institute is simple:

The Heart Attack Prevention Institute at Proscan, in partnership with community physicians, will identify heart disease in its earliest stages so that appropriate preventive care can be administered and patients will not fall victim to heart attack.

The truth is simple and undeniable. With appropriate treatment most heart attacks can be prevented. To do this effectively, we must not only screen the appropriate patients for coronary artery disease, but also proactively consider this possibility when patients present with other cardiovascular diseases, such as peripheral vascular disease, carotid artery stenosis, renal artery stenosis, aneurysm or stroke.

Patients with vascular disease outside the heart are particularly vulnerable to heart attack. For example, abdominal aortic aneurysm patients that undergo stent implantation for this condition only enjoy improved survival for two years after the procedure. Why? Because after that time many of them die of coronary artery disease.
The Heart Attack Prevention Institute at ProScan is your comprehensive imaging partner in assessing the cardiovascular health of your patients.

We offer a wide range of diagnostic procedures including:

- Vascular Ultrasound: Peripheral; Carotid; Abdominal
- Cardiac Magnetic Resonance Imaging
- MR Angiography
- CT Angiography
- CT Calcium Scoring
- Coronary CT Angiography (CCTA)

Each imaging procedure is interpreted by board-certified, subspecialty-trained diagnostic radiologist. Our CCTA and cardiac MR diagnostic radiologist have specific competency and additional training in the interpretation of these highly specialized examinations.

Patients of the program receive education on the specific examination required for their assessment, their results, and also materials on how lifestyle changes can improve their cardiovascular health.
Even though most heart attacks are preventable, the statistics about their prevalence are sobering. Consider the following impact that heart disease is having on the American public:

- Each year there are about 865,000 new and recurrent heart attacks
- More than 1,000,000 angioplasties are performed each year
- 467,000 coronary bypass operations are performed each year
- Heart disease accounts for 1 in 5 of all deaths in the U.S. each year

It is time for the medical community to change its approach, detect disease early, prevent heart attacks, and start saving the lives of these patients. Your patients are counting on you and their loved ones are counting on you too. If you commit to aggressively treating heart disease, commit to preventing every heart attack that you possibly can, you are both fulfilling a promise to your patients and helping to eradicate the most insidious disease affecting Americans today.

The Heart Attack Institute at ProScan is here to help you fulfill that promise because your patients are counting on you.

Algorithm of CAD Categories at CCTA, with Management Recommendations.