COR MEDICAL GROUP

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Diplomates American Board of Internal Medicine & Cardiovascular Diseases

A medical practice dedicated to the prevention, diagnosis, and treatment of heart disease.

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Introducing atherosclerosis screening

COR Medical Group, the office of Drs. Jeffrey Caren and Mark Urman, is the first private office in California (and one of the first in the US) offering CardioHealth®, the latest technology to find the earliest signs of plaque buildup in arteries (atherosclerosis). Atherosclerosis is the process that ultimately can lead to heart attacks and strokes. Using an easy, quick and painless ultrasound technique, the earliest signs of hidden plaque buildup (first seen as increased thickness of the artery wall) can be recognized. Much more sensitive than regular carotid ultrasound vascular imaging, this special technique called Carotid IMT (intima-media thickness) has been shown to correlate with future risk of stroke and heart attack. The CardioHealth® technology is the result of well-validated standardization of the Carotid IMT technique which itself has been around for several years but up until now had not gained widespread use due to difficulty with a reliable, reproducible and accurate imaging technique and interpretation (except in a handful of very experienced research centers nationwide). However, the technology behind CardioHealth® has overcome these obstacles to allow routine reliable and accurate clinical testing which is why Drs. Caren and Urman are among the first to have adopted it in their practice for their patients.

It is important to discuss with your cardiologist if you are an appropriate candidate for Carotid IMT imaging. Unlike CAT scans of the heart, there is no radiation exposure and testing takes just a matter of minutes. Results of the carotid IMT ultrasound imaging study and a full CardioHealth® Report including your risk factors for cardiovascular disease are available soon thereafter.

"You are as old as your arteries."

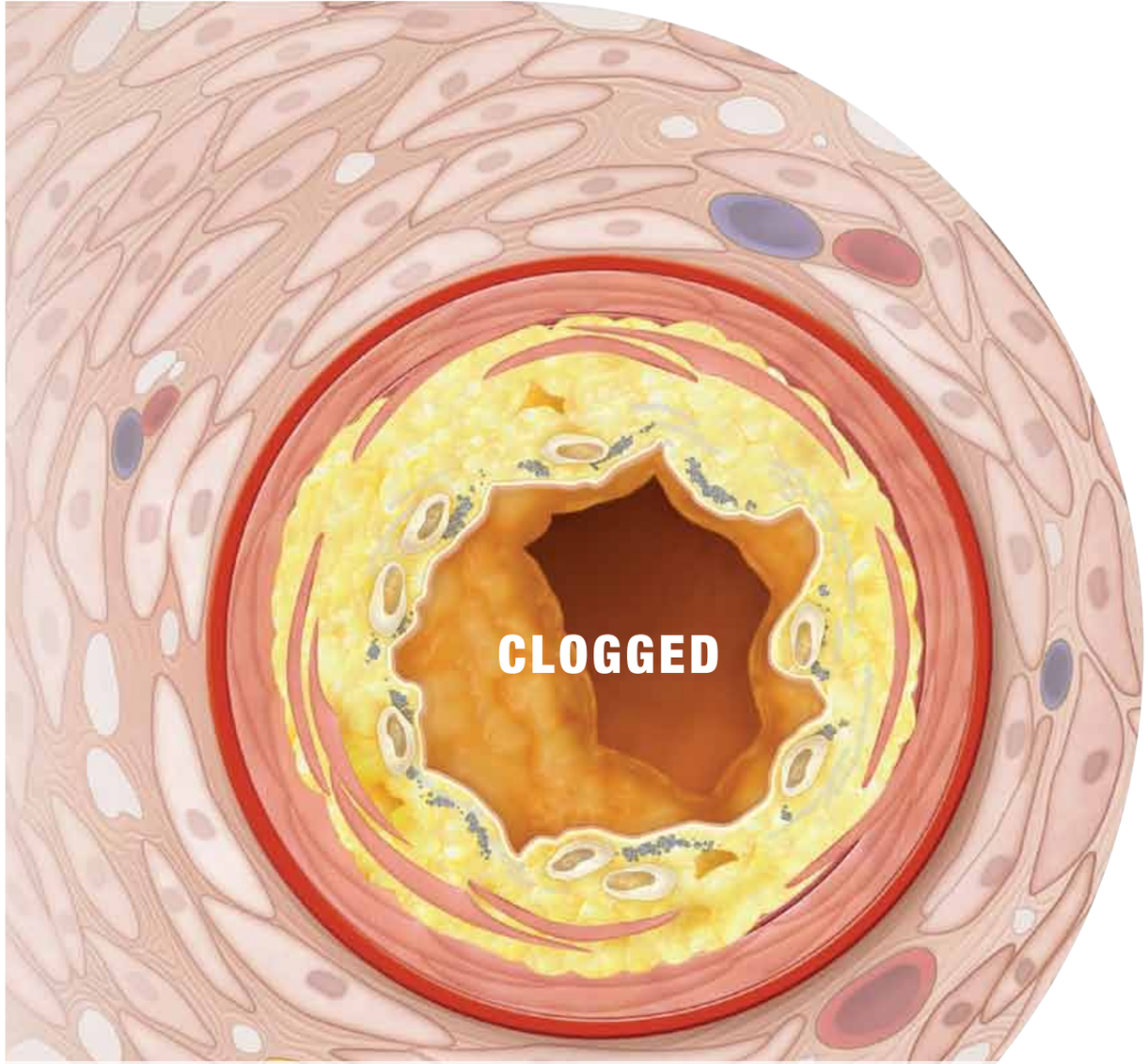
Attributed to Physician Sir William Osler (known as the "father of modern medicine"), early 20th century

Visit www.CardioHealthTest.com

Courtesy of Panasonic
ideas for life

What Do *Your* Arteries Look Like - Clean or Clogged?

Panasonic

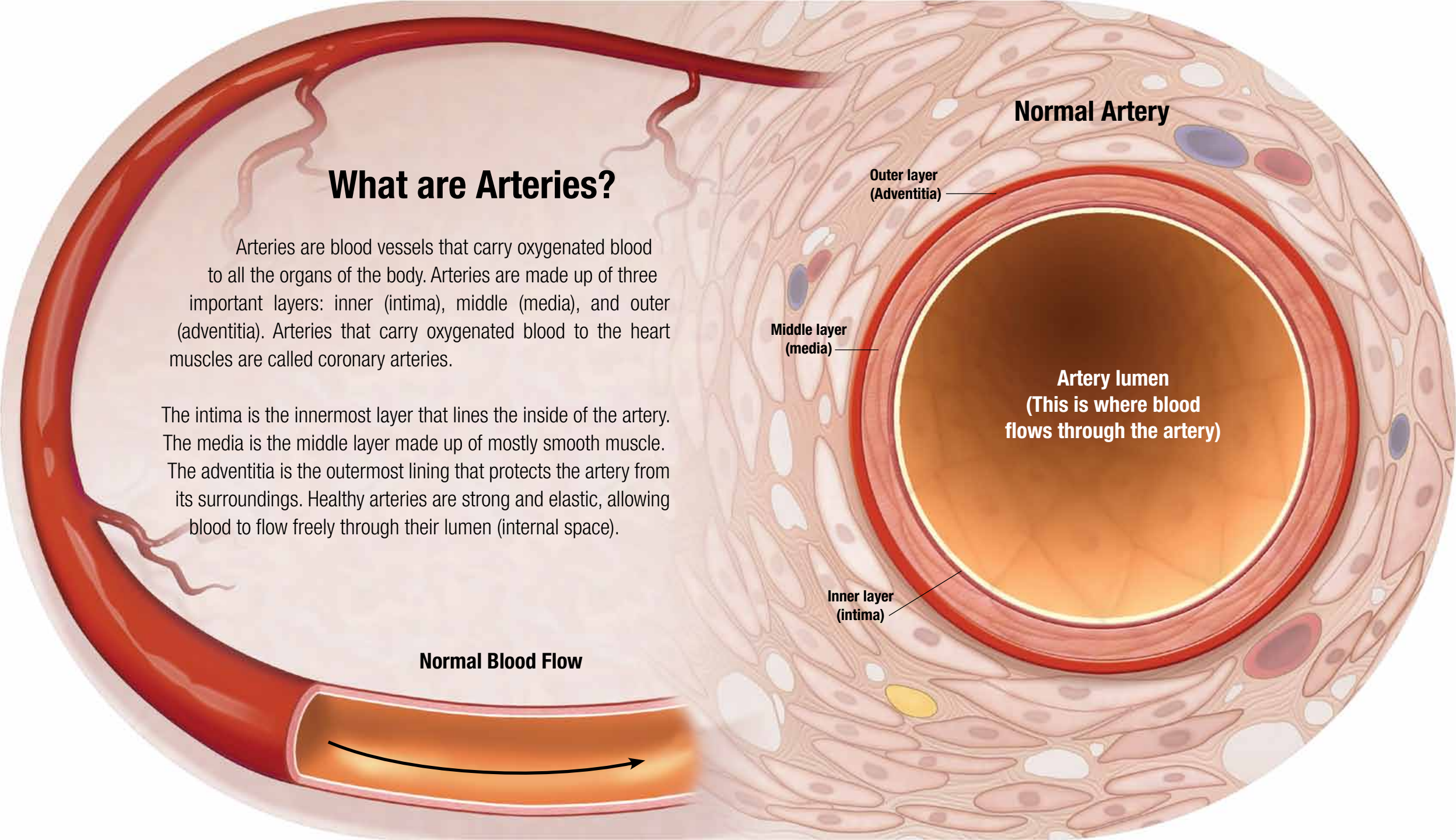


What Do *Your* Arteries Look Like - Clean or Clogged?

What are Arteries?

Arteries are blood vessels that carry oxygenated blood to all the organs of the body. Arteries are made up of three important layers: inner (intima), middle (media), and outer (adventitia). Arteries that carry oxygenated blood to the heart muscles are called coronary arteries.

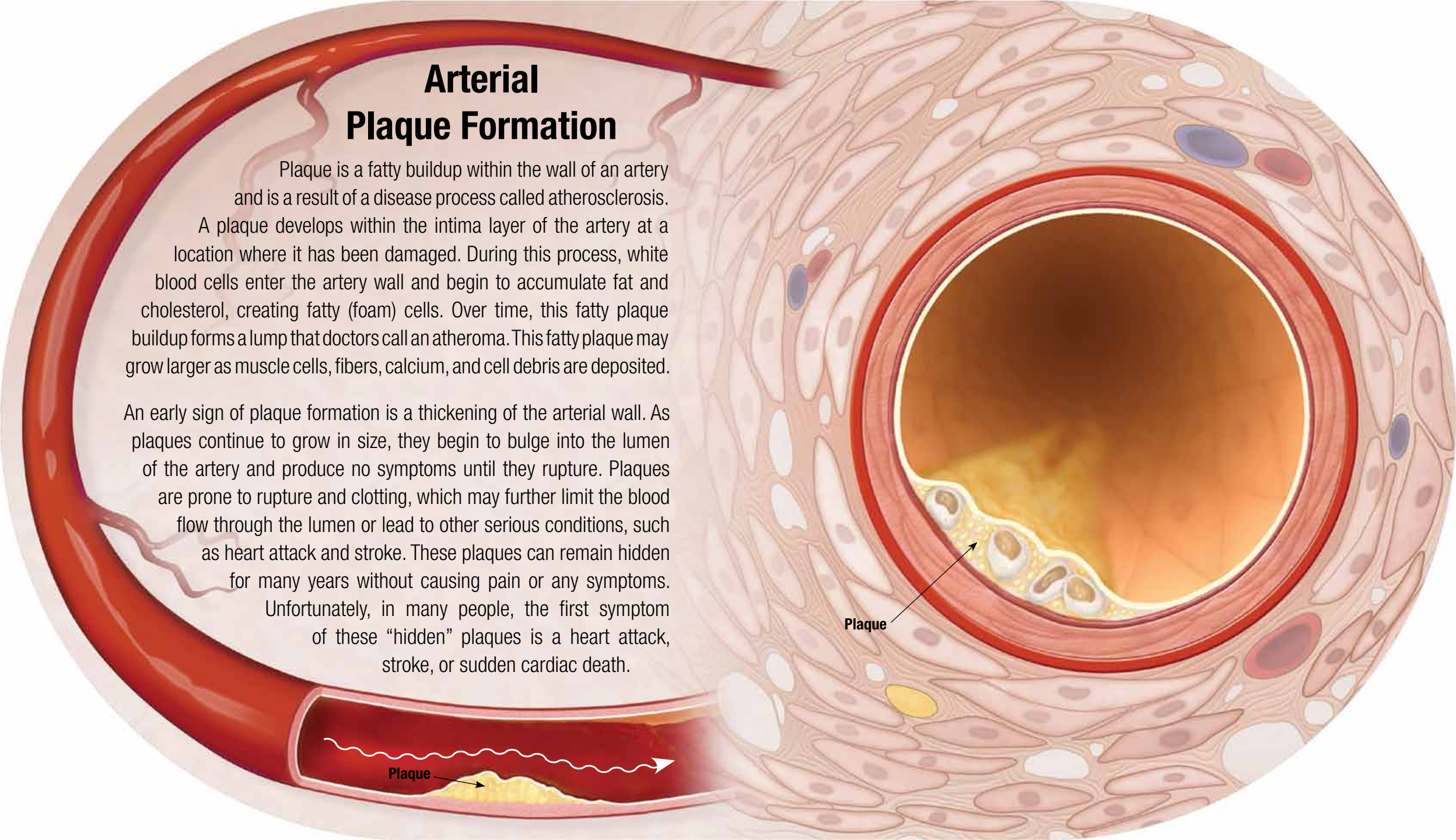
The intima is the innermost layer that lines the inside of the artery. The media is the middle layer made up of mostly smooth muscle. The adventitia is the outermost lining that protects the artery from its surroundings. Healthy arteries are strong and elastic, allowing blood to flow freely through their lumen (internal space).



Arterial Plaque Formation

Plaque is a fatty buildup within the wall of an artery and is a result of a disease process called atherosclerosis. A plaque develops within the intima layer of the artery at a location where it has been damaged. During this process, white blood cells enter the artery wall and begin to accumulate fat and cholesterol, creating fatty (foam) cells. Over time, this fatty plaque buildup forms a lump that doctors call an atheroma. This fatty plaque may grow larger as muscle cells, fibers, calcium, and cell debris are deposited.

An early sign of plaque formation is a thickening of the arterial wall. As plaques continue to grow in size, they begin to bulge into the lumen of the artery and produce no symptoms until they rupture. Plaques are prone to rupture and clotting, which may further limit the blood flow through the lumen or lead to other serious conditions, such as heart attack and stroke. These plaques can remain hidden for many years without causing pain or any symptoms. Unfortunately, in many people, the first symptom of these “hidden” plaques is a heart attack, stroke, or sudden cardiac death.



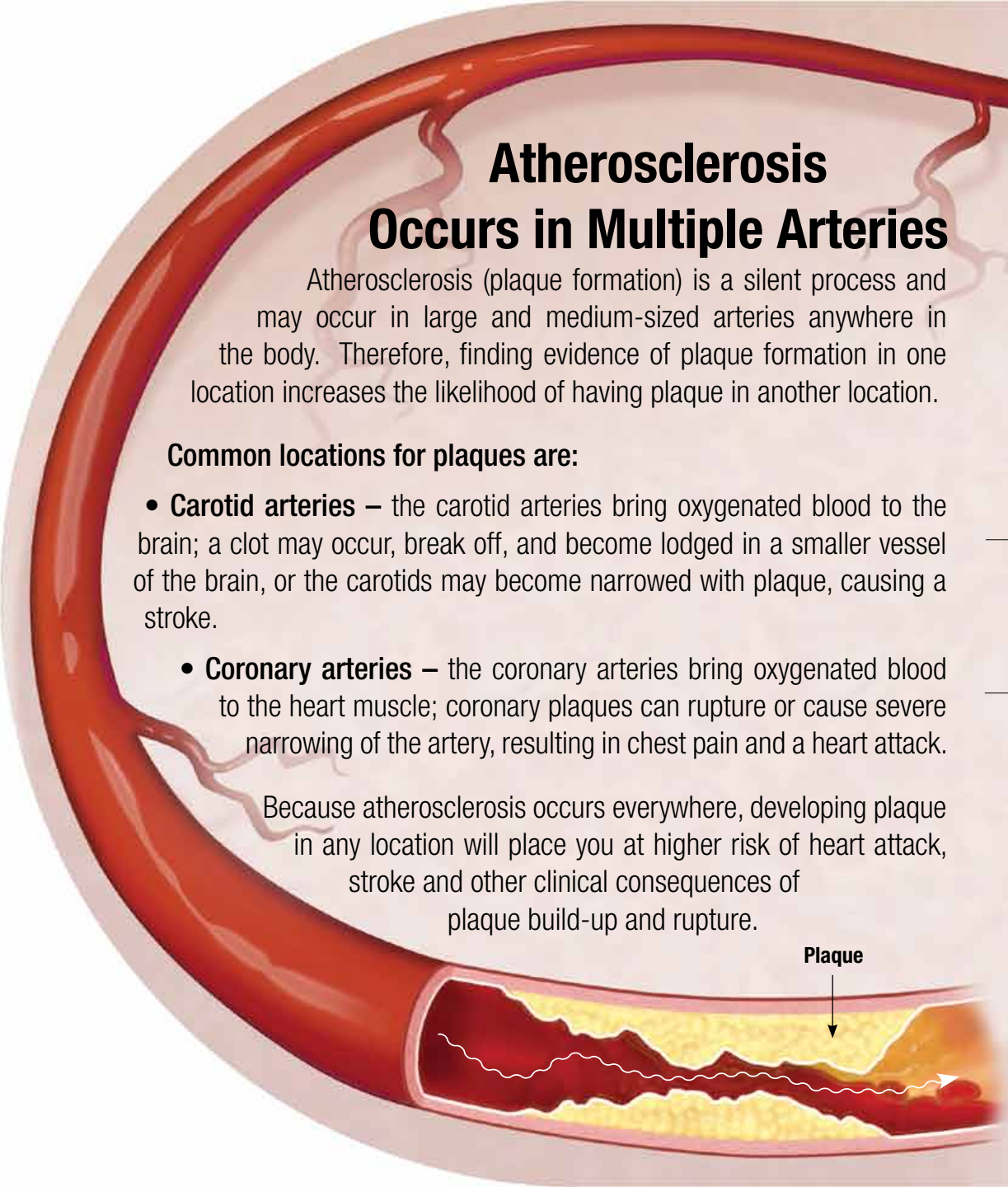
Atherosclerosis Occurs in Multiple Arteries

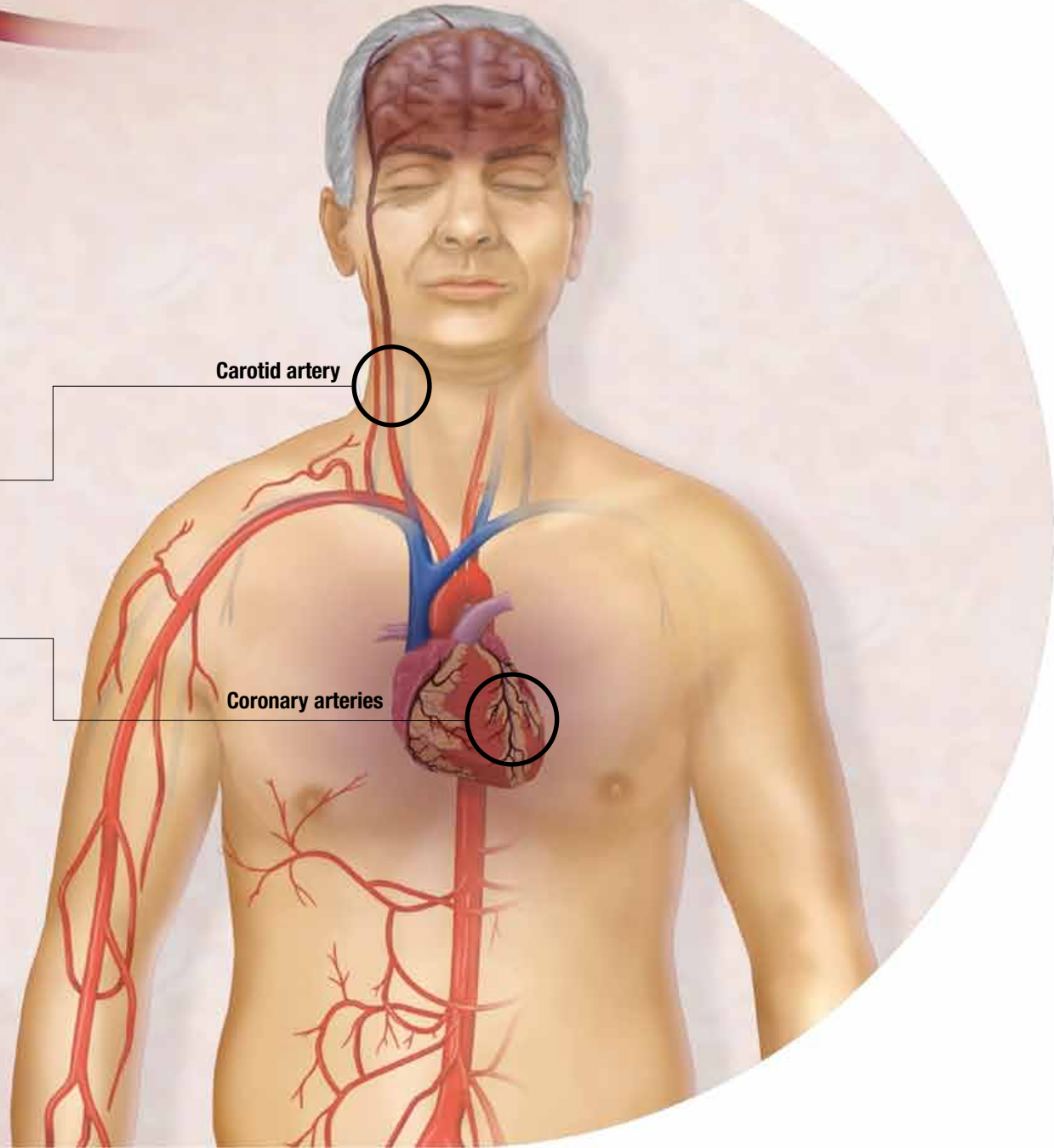
Atherosclerosis (plaque formation) is a silent process and may occur in large and medium-sized arteries anywhere in the body. Therefore, finding evidence of plaque formation in one location increases the likelihood of having plaque in another location.

Common locations for plaques are:

- **Carotid arteries –** the carotid arteries bring oxygenated blood to the brain; a clot may occur, break off, and become lodged in a smaller vessel of the brain, or the carotids may become narrowed with plaque, causing a stroke.
- **Coronary arteries –** the coronary arteries bring oxygenated blood to the heart muscle; coronary plaques can rupture or cause severe narrowing of the artery, resulting in chest pain and a heart attack.

Because atherosclerosis occurs everywhere, developing plaque in any location will place you at higher risk of heart attack, stroke and other clinical consequences of plaque build-up and rupture.



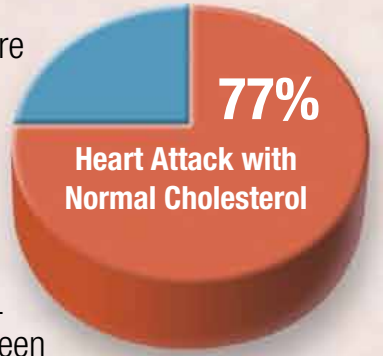


Assessing Your Risk of Heart Attack and Stroke

Knowing Your Risk Factors Is Not Enough

To determine your risk, doctors typically review your "risk factors." Conventional risk factors include age, gender, total cholesterol, HDL and LDL levels ("good" and "bad" cholesterol), smoking history, blood pressure, and family history. This information is then compared to a database to estimate your 10-year risk for developing coronary artery disease (CAD).

However, knowing your cholesterol and blood pressure is simply not enough to determine your risk. Indeed, you may have hidden plaque and be at higher risk than your risk factor profile indicates. To illustrate this point, a recent study of 136,905 patients hospitalized with CAD revealed that only 23% had high LDL levels ("bad" cholesterol). The other 77% had normal LDL levels (below 130 mg/dL) and would not have been identified as high risk.

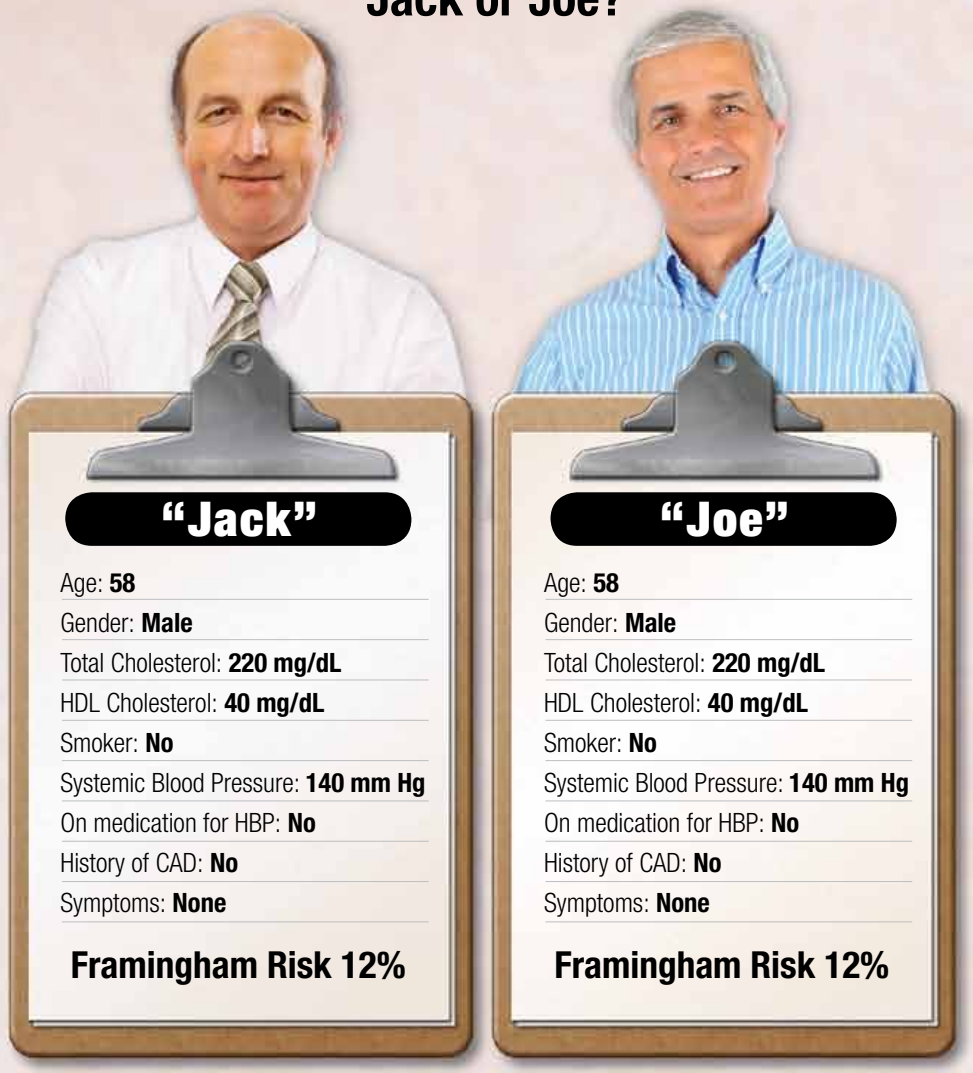


M Naghavi, ed. Asymptomatic Atherosclerosis. Humana Press, 2010. ISBN 978-1603271783

Carotid Ultrasound Imaging to Scan for Plaque

Relying on cholesterol and other traditional risk factors (e.g., Framingham Risk Score) can result in misclassification of risk. Direct visualization of subclinical atherosclerosis can help to better assess a person's risk. An ultrasound scan is a noninvasive test that allows the doctor to look inside the arteries for evidence of plaque buildup. This technique is discussed on the following pages.

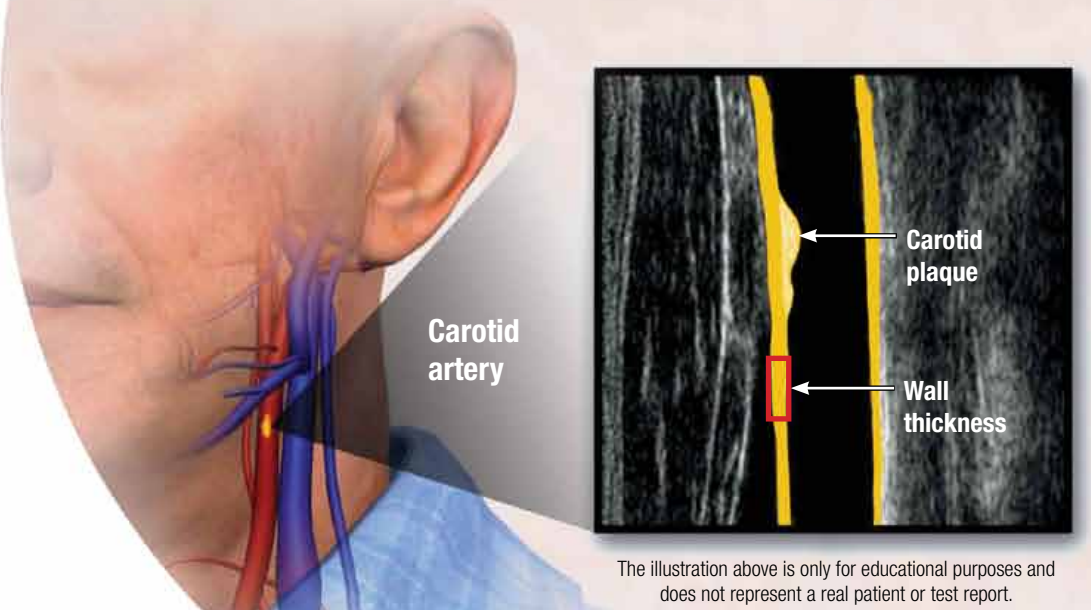
Who is a HIGH RISK patient, Jack or Joe?



It is difficult for a physician to tell who is at high risk by looking at risk factors alone.

Carotid Ultrasound Imaging Detects Hidden Plaques

An ultrasound scan is a noninvasive test that can be performed easily and quickly in your physician's office. Using a handheld ultrasound probe, the physician can scan the carotid arteries in the neck to detect hidden plaque buildup and increased thickness of the artery wall. The entire test is painless, and there is no exposure to dangerous radiation.

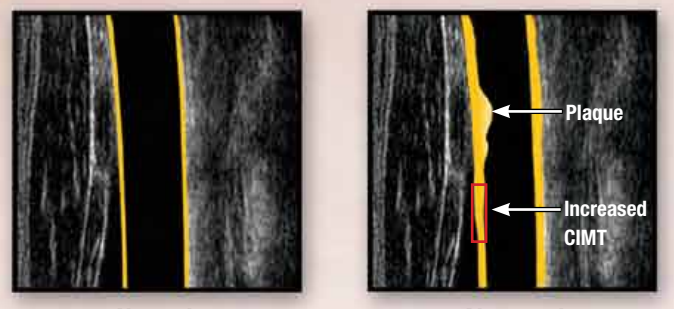


The illustration above is only for educational purposes and does not represent a real patient or test report.

An ultrasound imaging study of the carotid arteries is performed on both sides of your neck.

How Carotid Ultrasound Imaging Improves Risk Assessment

Ultrasound images of carotid artery



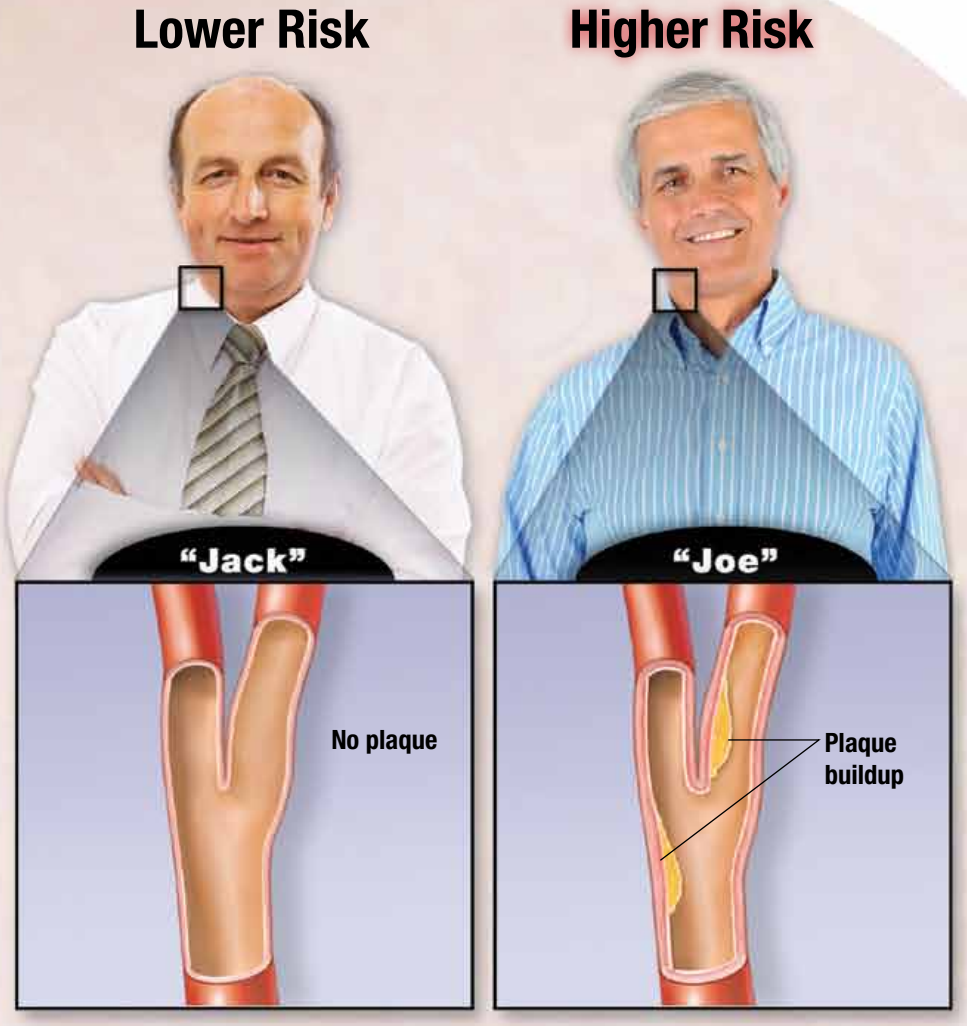
Normal | Abnormal

Carotid ultrasound imaging allows the physician to scan for two signs of atherosclerosis:

1. **Increased CIMT –** the thickness of the inner two layers (intima and media) of the carotid artery wall is known as carotid intima-media thickness (CIMT). Having a high CIMT compared to others of your age, gender, and ethnicity will place you at higher risk of heart attack and stroke.

2. **Visible carotid plaque –** the presence of plaque places you in a higher risk category.

Leading medical associations agree that performing carotid ultrasound imaging to scan for plaque and measure CIMT can help to determine your risk of heart attack or stroke. These organizations include the American Heart Association (AHA), the American College of Cardiology (ACC), and the Society for Heart Attack Prevention and Eradication (SHAPE).



Carotid IMT: 0.550 mm
(artery wall thickness)

Carotid IMT: 0.850 mm
(artery wall thickness)

Joe's scan revealed plaque buildup in his carotid artery. Also, Joe's CIMT (carotid artery wall thickness) was high compared to other men of the same age and ethnicity. Now, Joe's physician knows that he is at higher risk of heart attack and stroke and can choose a more personalized treatment.

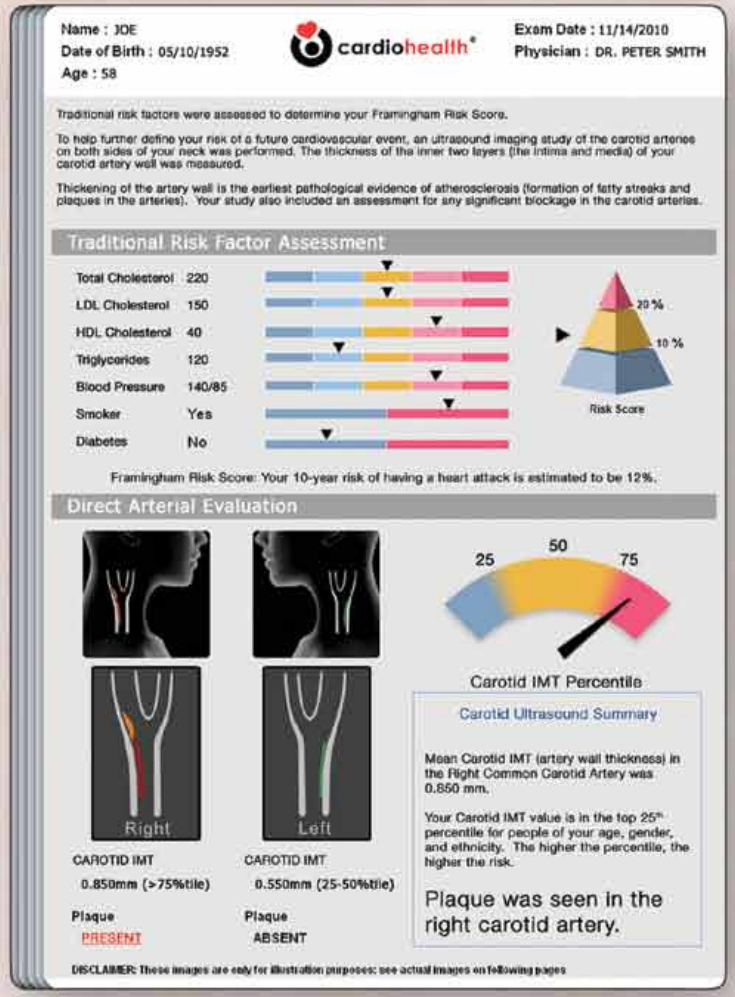
Introducing the CardioHealth® Station

Your physician is now equipped with the CardioHealth® Station – an FDA-approved, noninvasive, office-based tool that enables him to scan your arteries for plaque and better determine your cardiovascular risk. Testing can be performed in a matter of minutes without any discomfort, and the results are available immediately.

The CardioHealth® Report presents a snapshot of your cardiovascular risk profile, including your risk factors and the results of your carotid ultrasound imaging study.

Hidden plaque is hidden risk.
Ask your physician about getting your CardioHealth® test today.

CardioHealth® Report



Questions and Answers

Q. What causes a heart attack?

A. A heart attack typically occurs when a plaque within a coronary artery ruptures and clots. This leads to the sudden interruption of the blood supply to the heart muscle.

Q. My cholesterol is fine. Why should I worry about having plaque and cardiovascular disease?

A. Cholesterol is an important risk factor, but it does not tell the whole story. Too often, people with "normal" cholesterol still have a significant cardiovascular event (heart attack or stroke). In a study of 136,905 patients with heart disease, 77% had normal cholesterol levels and would have been misclassified as low to moderate risk of heart attack. Because cholesterol measurement alone can be misleading, physicians now suggest testing to look for direct evidence of plaque buildup, such as performing a carotid ultrasound scan.

M Naghavi, ed. Asymptomatic Atherosclerosis. Humana Press, 2010. ISBN 978-1603271783

Q. I did have high cholesterol, but I am taking a statin medication and watching what I eat. Should I still be scanned for plaque?

A. Although you are on the right track, you should discuss with your physician about having a scan because you may be at significantly higher risk than you think, and the results may increase your adherence to therapy.

Q. What if I had a stress test and I was in perfect health?

A. Stress tests are not sensitive enough to identify early stages of atherosclerotic disease and often give false positive or false negative results in asymptomatic persons.

Q. What are the warning signs of plaque?

A. There are often no warning signs! Most victims of heart attack or stroke are caught completely off-guard, as they had no prior symptoms.

Heart attack kills!
Don't wait till it's too late. ACT NOW!

For more information visit www.CardioHealthTest.com

The content of this book is intended for raising awareness for the prevention of heart attack and stroke, and is not intended to serve as a replacement of advice from a physician.

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