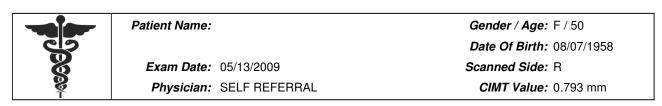
#### PERSONAL AND CONFIDENTIAL

#### **ARTERIOVISION™ CAROTID IMT ULTRASOUND REPORT**



# **YOUR RESULTS & THEIR SIGNIFICANCE**

To help estimate your risk for cardiovascular disease, the thickness of the first two layers (the intima and media) of your carotid artery wall was measured. Thickening of an artery is the earliest anatomical evidence of atherosclerosis (hardening of the arteries). Common carotid artery intima-media thickness (CIMT) typically ranges from 0.5 mm to 1.5 mm. The American Heart Association (AHA) Prevention V recommendations<sup>1</sup>, adopted by the Adult Treatment Panel of the National Cholesterol Education Program (ATP-III)<sup>2</sup>, recognize carotid IMT as a valid, reliable, safe, and noninvasive means for assessing cardiovascular disease. Studies have shown that CIMT is associated with all the major cardiovascular risk factors, is significantly correlated with coronary artery disease, is highly predictive of future cardiovascular events, and is related to family history (partially genetically determined) of cardiovascular disease and can provide additional information to traditional risk factor assessment for cardiovascular disease<sup>1, 2</sup>. The greater the CIMT value, the greater the likelihood of a heart attack or coronary death<sup>4</sup>. In addition to estimating future coronary heart disease risk, change in CIMT over time can be used to monitor risk factor interventions, such as lipid-lowering therapy, and their impact on vascular health.

Although large-scale clinical studies have shown that CIMT correlates with clinical atherosclerotic events (heart attack & stroke), this test is not routinely recommended in the United States. Future guidelines may advocate routine use of CIMT to help guide atherosclerosis prevention.

YOUR RESULTS: Your CIMT value falls into the 85<sup>th</sup> percentile for women your age. Your CIMT is similar to women who are 70-74 years old. Published studies indicate that the risk of heart attack or coronary death associated with a CIMT value of 0.793 mm is 44% higher than women your age<sup>3,4</sup>. SEE PAGE 2 OF THIS REPORT FOR FURTHER DETAILS. THE CAROTID In atherosclerosis, plaque builds up in ARTERY the arteries over time and may become Normal Artery Damaged Artery large enough to significantly reduce blood flow. This increases the risk of heart attack, stroke, and other serious vascular problems. Carotid Intima-Media Thickness Coastal CIMT 1748 Sir William Osler Drive ELECTRONICALLY REVIEWED BY: Virginia Beach, VA 23454 Brant Thomas MD (757) 390-4224 KW Acquisition by: Physician Signature Analysis by: KW

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05/13/2009

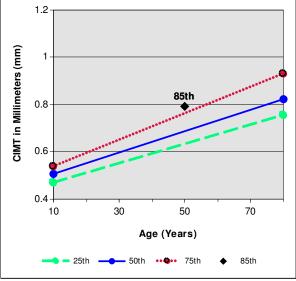


Figure 1: Your CIMT Percentile

How you compare to others of similar age and gender

Figure 1 Significance: Compared with a population of healthy individuals without symptoms of cardiovascular disease, your CIMT value falls into the 85<sup>th</sup> percentile. This means that 85% of individuals of the same gender and similar age, have a CIMT value less than yours. In the future, guidelines may specify that a CIMT value greater than or equal to the 75th percentile could elevate a person with multiple risk factors to a higher risk category<sup>2</sup>.

## 95 85 72 75 Age In Years 65 55 50 45

#### Figure 2: Your Current Age vs. the Age of Individuals with Your CIMT Value

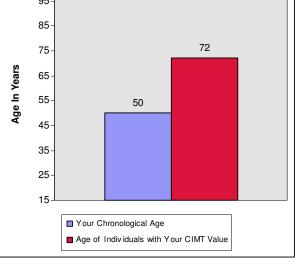


Figure 2 Significance: With this graph, you can compare your chronological age with the CIMT value of others of the same gender by age group. Compared with a population of healthy individuals without symptoms of cardiovascular disease, it is estimated from your current CIMT value that your vessel is as thick as someone who is about 70-74 years old (based on a comparison of your CIMT value with their average CIMT value) 5.

## **NEXT STEPS**

Your CIMT value should be interpreted in relation to other risk factors for cardiovascular disease (several listed below) and to any symptoms of cardiovascular disease, such as chest pain or a previous heart attack/stroke. Further follow-up to identify and modify cardiovascular risk factors to prevent and/or treat heart disease/stroke can be facilitated by further testing and working with your health care provider. Although large-scale clinical studies have shown that CIMT correlates with clinical atherosclerotic events (heart attack & stroke), this test is not routinely recommended in the United States. Future guidelines may advocate routine use of CIMT to help guide atherosclerosis prevention.

## **RISK FACTORS**

**Diabetes mellitus** Metabolic syndrome High LDL-C (bad cholesterol)

Low HDL-C (good cholesterol) High Blood Pressure High triglycerides

Obesity Menopause Steroid use

Cigarette smoking Physical inactivity Stressful lifestyle

# THE GOOD NEWS?

While age (older than 45 years for men, older than 55 years for women), genes, and a family history of cardiovascular disease are risk factors beyond your control, many risk factors are modifiable. Addressing the risk factors above with your healthcare provider can have a significant impact on helping to prevent or reverse heart disease.

#### References

- 1. Greenland P, et al. Circulation 2000;101:e16-e22.
- 2. National Cholesterol Education Program (NCEP) Expert Panel on Detection, Evaluation, and Treatment of High Blood Cholesterol in Adults (Adult Treatment Panel III). Circulation 2002;106:3143-3421.

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3. Chambless LE, et al. Am J Epidemiol 1997;146:483-494. 4. Hodis HN, Mack WJ. Curr Pract Med 1999;2:171-174.

5. MTI Proprietary Database.

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# ARTERIOVISION<sup>™</sup> SOURCE IMAGE

	Patient Name:	Gender / Age: F / 50
		Date Of Birth: 08/07/1958
8	Exam Date: 05/13/2009	Scanned Side: R
<u> </u>	Physician: SELF REFERRAL	CIMT Value: 0.793 mm



This ultrasound image shows the region of the carotid artery far wall that was used to determine the CIMT value. The single, horizontal red line represents the 1 cm ruler under which the CIMT was computed.

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