



## Michigan Vascular Center (MVC) - Mission Statement

MVC exists to improve the quality of life for patients by providing the most comprehensive, innovative and best possible vascular care based on sound principles of treatment.

MVC exists to render that care with compassion, respect, & integrity; exercising the best possible thought and judgment for the patient's benefit.

## What Is Your Vascular Profile?

This issue of the Vascular Voice is dedicated to helping you answer that question as we inform you of a community wide screening program we are conducting entitled "**A.S.A.P. – Assess Your Risk of Stroke, Aneurysms and PAD**".

We at the **Michigan Vascular Research Center** are working with our colleagues at **Abbott Peripheral Vascular** to gain statistics on these conditions while at the same time attempting to improve the vascular health of our community, and aid those professionals dedicated to the better health of its citizens.

Over the next year you will see billboards along the north and southbound corridors of I-75 and along the east and westbound corridors of I-69 with a simple challenge: **Assess Your Risk of Stroke, Aneurysms and PAD**. The billboard includes the phone number **(810) 720-ASAP** to call for a **FREE SCREENING**.

As health care professionals we are well aware of **the silent nature of these vascular conditions** and the grim statistics they produce:

### **Strokes:**

- 700,000 yearly or 1 every 45 seconds
- 88% are ischemic / embolic
- Third leading cause of death in the US - accounts for 1 in every 5 deaths

### **Abdominal Aortic Aneurysms:**

- 15,000 deaths yearly- 13<sup>th</sup> leading cause
- Best diagnosed with screening
- \*Significantly increased prevalence in males and females who have undergone Coronary Bypass surgery***

### **Peripheral Arterial Disease:**

- Affects 8 million Americans and associated with increased morbidity and mortality
- Affects 12-20% of Americans 65 years of age and older, yet only 25% are diagnosed and treated
- Patients with PAD have 4-5 times the risk of dying of a cardiovascular event

What is your vascular profile?  
Come and find out at the Michigan Vascular Center.

≈Carlo A. Dall'Olmo, M.D.



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### Inside this issue:

What Is Your Vascular Profile?	1
A.S.A.P. (Assess your risk of Stroke, Aneurysm, & PVD)	2
Arterial Disease: A Cardiologist's Perspective	4
EPICS I—Results Summary	6
Medicare now allowing AAA screening	8
EPICS II Now Enrolling	9
High Cholesterol: A Threat To Your Entire Vascular System	10
MVC Core Values	12

### A.S.A.P.

## Assess your risk of Stroke, Aneurysm, and Peripheral arterial disease (PAD)

The Michigan Vascular Center is pleased to initiate a free screening program, A.S.A.P. to identify those in our community at risk of stroke, aneurysm and peripheral arterial disease. These disease entities are part of a spectrum of peripheral arterial disease (PAD) processes that may be silent, often without patients knowing they are at risk. PAD affects between 12 and 20 million people in the United States. However, less than 5 percent of those patients have been diagnosed because many patients do not experience symptoms until the disease process is far advanced. Failure to treat those with PAD can lead to serious, and sometimes fatal, complications such as stroke, aneurysm rupture, difficulty walking with pain, non-healing wounds, limb loss and even death.

Patients at risk for these vascular diseases include those with age greater than fifty, a history of smoking, cardiovascular disease, hypertension, diabetes, renal failure, and a family history of vascular disease. If diagnosed early, serious complications may be avoided by modifying risk factors, medical therapy or by appropriate vascular specialist intervention. Simple measures such as diet, weight loss, smoking cessation, blood pressure control, cholesterol/lipid control and glucose control in diabetes can stabilize and even reverse some of these disease processes.

The Michigan Vascular Research Center is overseeing this vascular health initiative and has received a grant from Abbott Vascular to assist with the program. Our goal is to offer free screening to everyone at risk so that they might know their vascular profile. The mission of A.S.A.P. is to educate, increase awareness, and identify PAD. Patients will be pre-qualified and scheduled for a simple, painless 30 minute non-invasive Doppler exam at our office which will include tests for:

- ✓ Carotid occlusive disease and risk for stroke
- ✓ Aneurysm disease of the Abdominal Aorta and risk of rupture
- ✓ P.A.D. or peripheral arterial disease which can lead to pain with walking and even limb loss.

**MVRC**  
*is overseeing a  
Free Screening  
initiative  
by a grant from  
Abbott Vascular*

*(Continued on page 3)*

**Michigan Vascular Center**  
**Abbott Vascular**  
**MVRC**

**Assess Your Risk For:**  
**S**troke  
**A**neurysm  
**P**eripheral Arterial Disease

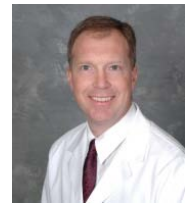
**Free Screening**  
**810-720-ASAP**

**A.S.A.P (Continued)**

Patients will receive a copy of their results and those who are found to have a positive test can have a copy sent to their physician for further evaluation and treatment. In addition, educational material will be given at the time of screening to provide the patients an opportunity to learn about their condition and develop a better understanding of PAD. We hope to increase awareness of PAD by offering these free screenings and will also be scheduling free periodic PAD educational symposiums to the public.

Patients can be pre-qualified and scheduled for testing by calling **(810) 720-ASAP (2727)**. Additional information as well as educational material can be found at [www.michiganvascular.com](http://www.michiganvascular.com).

≈ Robert G. Molnar, M.D.



**A.S.A.P.— RISK FACTORS AND WARNING SIGNS**

**STROKE (CVA)  
CEREBROVASCULAR ACCIDENT**

**RISK FACTORS:**

- High Blood Pressure
- Diabetes
- Smoking
- High Cholesterol
- Family History of stroke

**WARNING SIGNS:**

- Sudden numbness/weakness on one side of your body
- Sudden onset of slurred speech or difficulty speaking
- Sudden onset of confusion
- Sudden loss of vision in one eye
- Sudden loss of balance, dizziness or passing out
- Sudden severe headache with no known cause

**ABDOMINAL AORTIC ANEURYSM**

**RISK FACTORS:**

- High blood pressure
- Family history of aneurysm
- Smoking
- Male

**WARNING SIGNS:**

- Back pain
- Pain in your abdomen

**(PAD)  
PERIPHERAL ARTERIAL DISEASE**

**RISK FACTORS:**

- High Blood Pressure
- Diabetes
- Smoking
- High cholesterol
- Obesity
- Heart disease
- Family History of PAD

**WARNING SIGNS:**

- Pain in your legs when you walk
- Slow healing wounds on your feet or legs
- Burning sensation of foot or toes at rest

## Arterial Disease: A Cardiologist's Perspective

A patient presents to the hospital with chest pressure, difficulty breathing and profuse sweating. I arrive and diagnose a heart attack, a condition in which part of the heart is starved of oxygen and nutrients because a blood clot, superimposed on a pre-existing cholesterol plaque, has stopped blood flow to the heart. Minutes after this process begins irreplaceable heart muscle starts dying; the clock is ticking; time is critical so I whisk him to an emergency angioplasty procedure and, within minutes, restore precious blood flow to the heart by mechanically opening the blockage that started the problem. The heart attack is stopped, I pat myself on the back (it is a wonderfully rewarding experience), and the patient feels great and wants to go home as soon as possible. Problem solved, right? Wrong!

**THE HEART  
ATTACK IS  
STOPPED**

**PROBLEM  
SOLVED, RIGHT?**

**WRONG!**

### The True Work Begins

This is where the true work begins with this patient. My first task is to prescribe medications that improve symptoms and reduce the likelihood of future heart attack and death. These might include aspirin (yes, the same humble aspirin that we use for aches, pains and fever turns out to be a lifesaver), statins to treat cholesterol, beta blockers and ace inhibitors.

My next task, no less important, is to teach the patient that he not only has heart disease; he has disease of the *entire arterial system*. Put simply, every part of the body needs a blood supply in order to function. That blood supply carries the oxygen, energy and building blocks that are necessary in order to perform those functions and for survival.

The pipes that deliver the blood are called arteries. We now know that if one of these arteries is sick, all of the arteries are sick. This same patient with the heart attack is at increased risk of stroke, kidney failure, aneurysm, peripheral arterial disease (PAD), and even erectile dysfunction, among others.

### The Patient Can Help

Why is it important for the patient to know this? For several reasons, first he needs to know that the treatments we use for heart disease will also have beneficial effects on other parts of his body. Sometimes this is a great motivator. It is also important to stress to the patient that there are very

*(Continued on page 5)*

## Arterial Disease: A Cardiologist's Perspective (*Continued*)

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important things he can do to help manage his disease, and that many of these can deliver a bigger “bang for the buck” over the long term than the angioplasty I just performed on his heart. What are these things the patient can do? First of all, if he is a smoker he should stop immediately and permanently. This will make an enormous difference in this patient's long-term outcome. Second, the benefits of even modest physical exercise can have a huge impact on heart health, overall fitness and well being. As little as 20 minutes of aerobic activity such as walking, swimming, or biking four days per week has been shown to provide excellent protection to the cardiovascular system. Third, knowing he has heart disease will make this patient and his primary care physician more watchful for the presence of other types of arterial disease and may even lead to necessary screening for some of these diseases. And finally, he may start a low saturated fat, low salt, reduced calorie diet which can help the patient to lose weight and further reduce the risk of future cardiovascular problems.



### A New Lease on Life

So, this patient, whose unplanned introduction to me, though certainly not under the most pleasant circumstances, has a silver lining to look toward. The heart attack can give him a new lease on life. It can be a clarion call that, through aggressive intervention, can lead to better overall fitness and thereby the avoidance of many other diseases of the crucial arterial vascular system.

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## EPICS I—Incidence of AAAs in CABG Patients

Evaluation Of Unsuspected Abdominal Aortic Aneurysms In Patients Who Have Undergone Coronary Artery Bypass Grafting: EPICS I

Principal Investigator: Carlo A. Dall’Olmo, M.D.

### Objective:

The study was undertaken to see if the prevalence of AAAs was higher in male and female subjects who had undergone coronary artery bypass grafting (CABG) than the 4% prevalence in men and the 1% prevalence in women reported in many large population based studies. A recent paper by Monney et al. reported finding 40 unsuspected AAAs in 395 consecutive CABG patients, 60 years and older, for a 10.1% incidence.

### Methods:

525 males and 247 females, 60 years of age and older, identified by cardiac surgeons to have undergone CABG were enrolled to undergo abdominal aortic ultrasound screening by certified vascular technologists for the presence of an abdominal aortic aneurysm. Eight men and 12 women could not be screened because of obesity and were excluded, leaving 517 men and 235 women to be screened. An aneurysm was considered present if the intra-renal abdominal aorta measured 30mm or greater in A-P or transverse diameter. The aneurysms were categorized as previously “unknown” if they were initially identified by the screening and “known” if the subjects knew about their aneurysms prior to screening. This was done to identify the number of AAAs identified by the screening process. Data on age, smoking history, diabetes, hypertension and AAA size was obtained.

**LITTLE HAS BEEN WRITTEN . . . ABOUT THE PREVALENCE OF AAAs IN THE SUBSET OF THE POPULATION UNDERGOING CORONARY ARTERY BYPASS GRAFTING.**

Table 1

Number of Subjects Evaluated and Results

	# Enrolled	# Unable to Screen	# Screened	# AAAs	%
Males	525	8	517	47	9.0%
Females	247	12	235	12	5.1%



**Table 1  
Number of Subjects  
Evaluated & Results**

*Continued on next page*



## EPICS I—Incidence of AAAs in CABG Patients (*Continued*)

### *Results:*

- ✓ 517 men were screened and 47 AAAs were found for an incidence of 9.0%. This is higher than the 4% prevalence of AAAs reported in large male population studies. Of these 47 AAAs, 16 (34%) were known to the patients and 31 (66%) were unknown and found during the screening process
- ✓ 235 women were screened and 12 AAAs were found for an incidence of 5.1%. This is higher than the 1% prevalence of AAAs reported in large female population based studies. Of the 12 AAAs found, 6 (50%) were known to the patients and 6 (50%) were unknown and found during the screening process.
- ✓ Age and male gender and a history of smoking, present or former, were factors contributing to an increased incidence of AAAs.

### *Conclusions:*

- ✓ Both male and female patients with a history of CABG were found to have a higher incidence of AAAs than that found in population based studies. The 9.0% incidence of AAAs in males with CABG is well above the 4% reported in those studies. The 5.1% incidence of AAAs found in women with CABG is well above the 1% reported in population based studies.
- ✓ Ultrasound screening of the abdominal aorta for the presence of an AAA is important in patients with a history of CABG. In our study, of the 47 AAAs found in men, 31 or 66% were initially found by screening. Of the 12 AAAs found in women, 6 or 50% were identified by the screening.
- ✓ Because of the increased incidence of AAAs in males and females with a history of CABG, screening of the abdominal aorta for the presence of an AAA in this group of patients is warranted and beneficial.

*An abstract was presented by Dr. Dall'Olmo, M.D. at the annual meeting of the Society for Vascular Surgery in June, 2006. The entire article was published in Vascular Disease Management, January/February 2007, pages 16-20. ([www.vascularmanagement.com](http://www.vascularmanagement.com))*



### **Important News For Medicare Patients!**

November 3, 2005—The US Senate voted unanimously to support a measure that would provide coverage for ultrasound screening for abdominal aortic aneurysms (AAAs) under part B of the Medicare program. The provision was voted as amendment S.2419 and included as section 6117 to Senate bill S.1932, which is known as the Deficit Reduction Omnibus Reconciliation Act of 2005. Senator Rick Santorum (R-PA) was the primary sponsor of the amendment. The omnibus bill was approved by the Senate, 52-47, and later approved by the House of Representatives for consideration. See the article on page 8 for details.

## Medicare Allows AAA Screening as of 01-07-2007

Ruptured abdominal aortic aneurysm (AAA) is one of the leading causes of deaths among senior citizens in the United States. An estimated 15,000 seniors die from AAA rupture each year. There is good news—AAA can be successfully treated if discovered in time. This year, patients entering the Medicare program may be eligible for a Medicare covered ultrasound screening as part of the *Welcome to Medicare* physical. The SAAAVE Act (Screening Abdominal Aortic Aneurysm Very Efficiently) was passed by Congress in 2005 and became effective as of January 7, 2007. The SAAAVE Act was supported by The Society For Vascular Surgery, The Society of Interventional Radiology, as well as patient advocates and foundations.



### SAAAVE ACT

Effective for services furnished on or after January 1, 2007, payment may be made for a one-time ultrasound screening for AAA for beneficiaries who meet the following criteria:

The Part B Medicare deductible for screening is waived. Coinsurance is applicable.

- ▶ Receives a referral for such an ultrasound screening as a result of an initial preventive physical examination.
- ▶ Receives such ultrasound screening from a provider or supplier who is authorized to provide covered diagnostic services and includes a physician's interpretation of the results.
- ▶ Has not been previously furnished such an ultrasound screening under the Medicare Program.
- ▶ Is included in at least one of the following risk categories.
  - Has a family history of abdominal aortic aneurysm; or
  - Is a man age 65 to 75 who has smoked at least 100 cigarettes in his lifetime



### How To Order a Medicare Screening Ultrasound

- ❖ Call Michigan Vascular Center at (810) 732-1620
- ❖ Inform the appointment secretary that this is a one-time screening exam for AAA as part of the patient's *Welcome to Medicare* Physical
  - ★ This will insure that the HCPCS Screening Code is used and the patient's deductible is waived.
- ❖ Give the diagnosis as either:
  - ★ Family history of AAA or
  - ★ Male with smoking risk factor.





## EPICS II Study—Now Enrolling

### Evaluation of Abdominal Aortic Aneurysms, Carotid Stenosis and PAD

(In patients who have at least one diseased coronary vessel at  $\geq 50\%$  stenosis diagnosed by coronary angiography).

The study objective for EPICS II is to evaluate the value of screening in patients undergoing coronary angiography, for abdominal aortic aneurysm (AAA), Carotid Stenosis and PAD. Little data exists regarding the prevalence of AAA among patients with known coronary artery disease (CAD). This study is an effort to gather more data on the relationship between those undergoing coronary angiography and incidence of AAA, since patients with CAD and AAA share the same risk factors. Similarly, there is no data regarding the incidence of carotid stenosis and PAD in those undergoing coronary angiography.

### Does Your Patient Qualify?

#### Inclusion Criteria

- ❖ Male or female of any race
- ❖ Age  $\geq 60$
- ❖ Undergone angiography within past year and found to have at least one diseased vessel at  $\geq 50\%$  stenosis

#### Exclusion Criteria

- ❖ Pregnant women and women of child-bearing age
- ❖ Mental condition rendering the patient the inability to provide informed consent

**Protocol: 9-19-06**

**Version 2.0**

**Amendment 3.0**

**Principal Investigator:  
Carlo A. Dall'Olmo, M.D.**

### Free Screening for Patients Who Qualify

Qualifying patients will receive the following free screenings:

- ✓ Abdominal Ultrasound—To evaluate the presence of AAA (defined as aortic diameter of  $\geq 3$ mm.)
- ✓ Carotid Duplex Exam—To evaluate the presence of carotid artery stenosis (defined as  $\geq 50\%$ )
- ✓ Lower Extremity Doppler—To evaluate the presence of lower extremity arterial disease (defined as an ankle/brachial index of  $< 0.8$ )

### Call For Study Enrollment

You or your patient may contact Michigan Vascular Research Center for an appointment at  
(810) 600-2009

- ➔ Ask for Linda Reynolds or Brenda Buckle
- ➔ Patient must bring documentation indicating the date of their heart cath and confirmation of  $\geq 50\%$  stenosis in at least one coronary vessel.

## High Cholesterol: A Threat to the Entire Vascular System

Although most patients understand the importance of maintaining healthy cholesterol levels to prevent heart disease, many are not aware that high cholesterol threatens their entire vascular system. Vascular disease causes stroke, which can result in paralysis, blindness, or speech abnormalities; aneurysms (which can be fatal), and pain in the legs when walking. Severe lower extremity peripheral vascular disease can significantly compromise the patient's life-style; and in the worst cases, can result in limb amputation. High levels of LDL cholesterol are one of the major risk factors for vascular disease. Everyone over age 35 should know their cholesterol numbers.



The term 'atheroma' is derived from a Greek word 'athere' meaning porridge or gruel. We use the term atheroma to describe the fatty material that can build up within the walls of arteries. It is an accumulation of lipids, complex carbs, proteins, blood, fibrous tissue, and calcium deposits.

There are a number of theories of atherogenesis (the formation of atheromas on the walls of arteries). They range from that of lipid infiltration into the intima of the arterial wall, fibrin deposited in the arterial intima, mutated smooth muscle cells that proliferate in an unregulated fashion, to and including, the body's response to arterial injury.<sup>1</sup> The truth of the matter is pathogenically more complex. Atherosclerosis is most probably a polypathogenic (with multiple factors capable of causing the disease). Multiple risk factors include dyslipidemias, smoking, diabetes, hypertension, and hyperhomocysteinemia (deficiencies of the vitamins folic acid, B6, or B12 can lead to high homocystein levels).

**EVERYONE OVER  
THE AGE OF 35  
SHOULD KNOW  
THEIR  
CHOLESTEROL  
NUMBERS**



### Medical Management

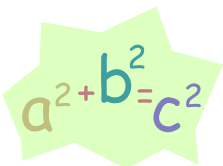
In considering therapy, "regression of atherosclerosis in response to lowered serum cholesterol has been demonstrated in autopsy studies of starved humans, in animal models, and in pioneering clinical angiographic trials." It is a fact that in certain areas of the world, populations who exhibit little to no coronary artery disease have cholesterol levels below 150 mg/dL and LDL cholesterol levels below 100 mg/dL. This information is useful in the treatment of atherosclerosis. It should be noted that the late process of development of atheromas probably involves more than simple continued lipid accumulation. There is a sharp line of distinction between the formation of atheromas and their subsequent evolution.

Hypothesis of the process of development and etiology are constantly tested by manipulating the risk factors associated with atherosclerosis. "Among all the interventions intended to produce plaque stabilization or regression, only lipid manipulation (i.e., decreasing LDL cholesterol or increasing HDL, cholesterol) has promoted favorable changes in the atheroma itself."<sup>2</sup> The results of these studies also reveal that, in humans, these lipid reductions usually require smoking cessation. In regression trials overall, the most favorable plaque changes occur with the most lipid reduction.

#### LDL Cholesterol Formula

LDL = Total Cholesterol minus (-) HDL minus (-) triglycerides / 5.

(This formula holds for fasting patients when triglycerides are below 400 mg/dL.)



## High Cholesterol: A Threat to the Entire Vascular System (Continued)

Stabilization of the plaque itself is also important. “Increased fibrous protein synthesis would produce a stable, fibrotic plaque as opposed to a soft, friable plaque containing an unstable, atheromatous core covered by a tenuous cap.” The goal is more fibrotic, smaller plaques, which are more stable while permitting enhanced blood flow through the vessel.



### Clinical Management

Screening is advisable for total serum cholesterol levels particularly when vascular disease is present or suspected. If total serum cholesterol is greater than 200 mg/dL, fasting blood samples should be obtained to measure HDL cholesterol levels.

The National Cholesterol Education Program recommends TLC (therapeutic lifestyle changes) as a first step with more aggressive treatment for patients with atherosclerotic vascular disease. More emphasis is now being placed on a high level of HDL cholesterol, because it has proven to be a powerful negative risk factor.



≈Joan M. Brown

- 1 DePalma, Ralph G.: Atherosclerosis: Pathology, Pathogenesis, and Medical Management. In Wesley S. Moore's Vascular Surgery: A Comprehensive Review, Sixth Edition. W. B. Sanders Company, 2002, pg.95-97
2. *ibid.* pg. 97

#### These numbers were published as part of the NCEP (National Cholesterol Education Program.)

##### Total Cholesterol

- < 200 mg/dL – Desirable, low risk for heart disease
- 200 – 239 mg/dL – Borderline-high
- ≥ 240 mg/dL – High Risk  
(more than twice the risk compared to those with <200 mg/dL)

##### HDL Cholesterol

High Density Lipoproteins is the ‘good’ cholesterol. HDL carry cholesterol in the blood from other parts of the body back to the liver, which leads to its removal from the body. So HDL helps keep cholesterol from building up in the walls of the arteries.

- < 40 mg/dL – A major risk factor for heart disease
- 40 – 49 mg/dL – The higher your HDL, the better
- 60 mg/dL and above – Considered protective against heart disease

#### These numbers were published by the American Heart Association

##### Triglyceride Levels

Triglyceride is a form of fat. People with high triglycerides often have a high total cholesterol level, including high LDL (bad) cholesterol and low HDL (good) cholesterol levels.

Your triglyceride level will fall into one of these categories:

- Normal: less than 150 mg/dL
- Borderline-High: 150–199 mg/dL
- High: 200–499 mg/dL
- Very High 500 mg/dL

([www.americanheart.org](http://www.americanheart.org))

#### The National Cholesterol Education Program (NCEP)

Can be accessed through the National Heart Lung & Blood Institute at [www.nhlbi.nih.gov](http://www.nhlbi.nih.gov)



- Know your numbers – September is National Cholesterol Education Month
- Risk Assessment Tool
- How to read food labels
- Lowering cholesterol with TLC (Therapeutic Lifestyle Changes)
- Body Mass Index (BMI) Calculator
- Links to heart-healthy recipes



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MVC Core Values

- We are a professional organization –a team– working equally in a common cause: To provide the best possible vascular care for the physicians, patients, and institutions of our community.
- We share a commitment to excellence in the vascular care of patients through the pursuit of knowledge, communication, innovation, and research.
- We value our employees and incorporate them into our team.
- We commit to each other to honor & pursue these values.



VISIT US ON THE WEB

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