Vascular Disease Foundation

Keeping In Circulation

WINTER 2009 • VOL. 9 NO. 1

THE OFFICIAL PUBLICATION OF THE VASCULAR DISEASE FOUNDATION

FIND OUT ABOUT...

A Trip to the Angiographic ("Angio") Suite

Joseph McNabb had been active most of his life. In high school he was an all-state high school athlete and, following college, he served a four-year tour in Vietnam as a paratrooper. To cope with the many stressful scenarios he saw in his twenties during combat, he began to smoke approximately two packs of cigarette per day. At the age of 35, he began to experience pain and tightness in both hips and thighs when he walked at a brisk pace, which were relieved within five minutes of rest. His primary care physician convinced him his pain was due to recurring trauma to his back and hips, which had occurred during his many parachute missions throughout the years. When X-rays of his hips and back turned up nothing, he was told to "learn to live with the pain and decrease his activities." Having been very active throughout his adult life, he felt this explanation was inadequate.

As luck would have it, he related his story to a friend in his late sixties with similar complaints. His friend had told him that he had been diagnosed with peripheral arterial disease (PAD), and had undergone a balloon angioplasty and stent procedure a few years prior. Following his trip to the "angio suite;" he was now able to walk any distance without any pain whatsoever. Joseph was convinced to seek a second opinion. He found a vascular medicine specialist who determined with a noninvasive ultrasound test that he

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Letter from the Editor

Dear Readers:

It is with great pride that I introduce our winter 2009 issue to you, our valued readers! This issue features its usual dose of educational information about vascular disease, including one patient's experience of a trip to the "angio suite," an article on thrombophilias which can increase a person's risk for developing blood clots, a discussion of heparin reactions, and an article to encourage our readers who are still smoking to quit.

You may also notice something new in this issue. We have inserted a reader survey (page 13) that we're sincerely hoping you'll take a few minutes to complete. Like all businesses, volunteer organizations are also feeling the effects of our nation's economic downturn. 2009 looks as if it may become be a difficult year financially for many worthy nonprofit organizations. While VDF remains strong, we are experiencing rising costs and difficulty getting funding, as are so many others.

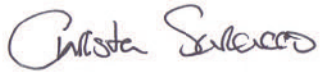
To keep our costs down, VDF is considering reducing the number of copies of this printed newsletter. *Keeping in Circulation* is currently one of VDF's largest expenses; if we can cut down our printing expenses of this newsletter, we can reduce our budget. In 2007, we launched an online version of *Keeping in Circulation* which has been successful, and now we'd like to find out how many of you would be willing to give up your printed copy and only receive the online version.

VDF has also considered starting a membership program in the coming year, so we are interested to know if you would be willing to pay for a membership to VDF, which would include a free subscription to *Keeping in Circulation*. The more subscriptions or memberships to VDF we can generate, the more our operating costs can be leveraged so that we can continue to provide the newsletter and other important programs.

I strongly encourage each of you to take the time to complete our survey and help us decide how to best serve you. I also ask that you take a moment and include a small donation of $15 or $25 to help us continue to print and distribute *Keeping in Circulation* to the over 20,000 readers who enjoy our publication each quarter. This small donation may help us continue to publish the newsletter and distribute it to you free of a mandatory subscription or membership fee. Your gift is tax-deductible and helps us keep *Keeping in Circulation* free to you, our valued readers.

Thank you for your continued support of our organization!

Sincerely,



Christa Saracco
Communications Manager and Editor

Vascular Disease Foundation

Our Mission
To improve health for all by reducing death and disability from vascular diseases.

Keeping In Circulation
is published by the Vascular Disease Foundation. To receive a free subscription or additional copies contact the VDF at
1075 South Yukon St., Ste. 320
Lakewood, CO 80226

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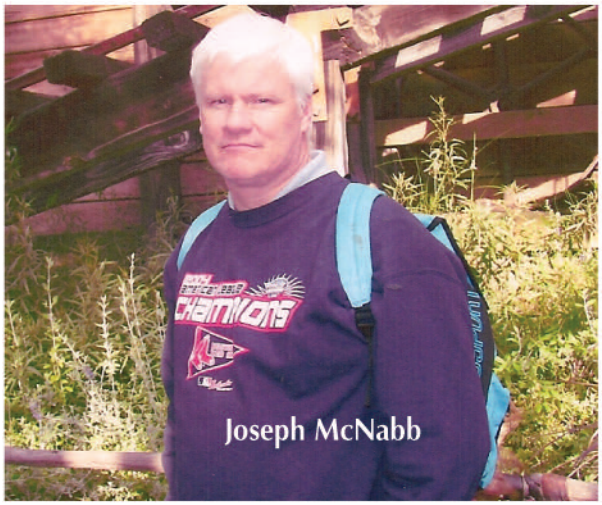
A Trip to the "Angio" Suite Continued from Page 1



had severe blockages in both iliac arteries in his abdomen and pelvic region. His leg pain was known as intermittent claudication and was due to PAD.

The doctor recommended that he undergo a diagnostic angiogram because of Joseph's lifestyle-limiting intermittent claudication, and possibly an endovascular procedure. The plan was to perform balloon angioplasty and place stents to relieve the obstructions, if technically possible.

Joseph wanted to know what an angiogram was and what to expect during his visit to the angio suite. His doctor explained that an angiogram is a procedure used to diagnose and confirm the location of the blocked arteries, to assess the severity of the blocked arteries, and to decide the best treatment to open the arteries. The possible treatment options are either a catheter-based procedure such as an angioplasty and/or stenting, or surgery (bypass graft). After weighing his options, Joseph decided to take the doctor's advice and proceed with the procedure.

The angiogram procedure is performed in an area of the hospital called the "angiography suite" or sometimes referred to as the "catheterization laboratory." Using X-ray dye (contrast) and special equipment, the doctor threads a catheter through an artery, usually in the groin (rarely the arm), and takes pictures of the arteries in the abdomen, pelvis, and/or the legs.

Once the doctor decides there is a need for a vascular procedure, preparation begins at home. As a patient, you should: Write down all of the questions you have about the procedure, mention any dye or medication allergies, and list all of your medications, including prescribed blood thinners (Coumadin® or warfarin). Make sure you know whether you should take your routine medications such as diuretics, insulin, or oral diabetic pills on the day of the scheduled procedure. If you are taking aspirin and/or Plavix®, make sure that taking those medicines and others that morning is okay with your physician.

You will probably be asked to not eat or drink anything the evening and night prior to the test. On the day of the procedure, plan to arrive at least one hour before the scheduled time, accompanied by a relative or friend, to meet the staff and go through a complete checklist of what to expect; you will also have a final opportunity to ask questions. An intravenous (IV) line will be started by a nurse and medications will be given for sedation.

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Right: A photo of a procedure room in the cath lab (angio suite) at Massachusetts General Hospital.

Photo use courtesy of Massachusetts General Hospital

A Trip to the "Angio" Suite Continued from Page 3

Joseph McNabb's Angiograms

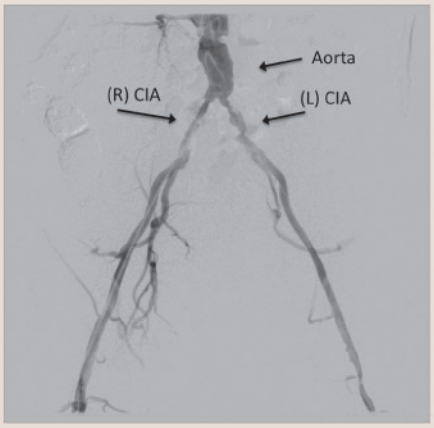

Figure 1: **A baseline angiogram of Joseph McNabb's ilac arteries (CIA: common iliac artery) which are located in his pelvis which shows both arteries narrowed.**

Figure 2: **An angiogram of the same arteries with stents placed in both CIAs. Joseph commented that his trip to the angio suite gave him a "new lease on life."**

Upon entry into the angiographic suite, you will be moved onto a specialized X-ray table. A nurse and a radiology technician will prepare you for the procedure by applying various devices to monitor your vital signs, electrodes for an EKG, blood pressure cuffs, and a finger-clip to ensure that adequate levels of oxygen are maintained. They will clean the area of the body where the catheter will be inserted into the blood vessel (artery or vein) and will apply a sterile sheet over you.

The doctor will begin the procedure by applying a local anesthetic into the area over the puncture site, which will serve to numb the area and avoid any subsequent pain during the procedure. It is important to communicate to the staff any pain experienced, which may then require further sedation/analgesia or be suggestive of a possible complication. Once the catheter has entered safely into the artery, X-ray dye (contrast) is administered to see whether the material called plaque has narrowed or completely blocked any of the arteries involving the peripheral circulation, which may explain your symptoms. In addition, based on the findings, your doctor may perform additional procedures, such as balloon angioplasty or stenting of the clogged arteries, to open them up and restore flow into the region not getting enough blood and causing the symptoms of PAD. Depending upon the type of intervention, the length of time in general for the procedure will vary between 30 minutes to two hours.

Following the angiographic procedure, the staff will bring you to a post-procedure or recovery area. At that point, it is important to keep the leg (or arm) straight, particularly while you are transferred from the table to a stretcher. The catheters will be taken out either in the recovery area or back in your hospital room, and pressure will be applied over the incision site for about 20-30 minutes to make sure there is no bleeding.

Bed rest (usually four to six hours) is essential to let the puncture site heal. You will be able to eat while you remain in bed after the procedure. In most cases, you will be instructed to drink extra fluids to help the kidneys get rid of the X-ray dye. The following morning, you may resume light activity. It is common to experience minor tenderness or bruising in the area where the catheters were inserted into the artery, which usually respond favorably to over-the-counter pain medications. Depending upon the procedure, your doctor will advise you on your restrictions and when it is safe to resume normal activities such as driving a car.

In Joseph McNabb's case, he had two stents placed, one in each iliac artery because both were severely narrowed. He was discharged to his home the following morning. To his delight, he resumed jogging, cycling, and playing 18 holes of golf without a cart–without any pain in either leg. Motivated to take charge of his "rejuvenated" lifestyle, he quit smoking and lost 20 pounds; he takes an aspirin and a cholesterol-lowering drug (statin) every day. "I feel like I am a kid back in high-school starring on the football team. I am forever grateful to my vascular physician and my 'trip to the angio suite,' which gave me a new lease on life."

About the Author: ***Robert M. Schainfeld, DO,*** *is a Vascular Interventionalist and the Associate Director of Vascular Medicine in the Division of Cardiology at Massachusetts General Hospital (MGH) in Boston. He is also a Lecturer of Medicine for MGH.*

Thrombophilias

What Is It?

Thrombophilias are a group of inherited or acquired disorders that increase a person's risk of developing thrombosis (abnormal "blood clotting") in the veins or arteries.

The human body is equipped with a sophisticated and well-balanced blood coagulation (or clotting) system, in which platelets (the "clotting" blood cells) and multiple coagulation proteins mingle in order to avoid both excessive bleeding and excessive clotting. Thrombus (blood clot) formation is a good thing after injuries to blood vessels, regardless of whether the injury results from an accidental cut, major trauma, a broken bone, or surgery. If blood clotting did not occur, you would experience unstoppable (and even life threatening) bleeding. This normal blood clot formation should be localized to the area where blood vessel injury occurred and should stop as soon as the leak of blood from the vessels is contained and/or the vessel injury is healed or repaired. In the presence of thrombophilias, the well-balanced coagulation system has a predisposition toward thrombosis, which is also referred to as "hypercoagulability" or a "hypercoagulable state."

Thrombophilias can be inherited (hereditary), acquired (not inherited), or both. Inherited thrombophilias are abnormalities of the genes that are responsible for making the coagulation proteins (known as genetic mutations). Acquired thrombophilias are due to increased levels of certain clotting substances in the blood or special proteins called antibodies which may also lead to clotting. The most common inherited thrombophilias are Factor V Leiden (a symptom-free condition that increases the risk of deep vein thrombosis) and the Prothrombin gene mutations, as well as the uncommon but well-known deficiencies of Protein C, Protein S, or Antithrombin. Individuals who are born with an inherited thrombophilia are also referred to as "carriers" of that particular genetic mutation. The most common acquired thrombophilias are commonly encountered during surgery, injury, or medical conditions including congestive heart failure and certain respiratory conditions, and these are called antiphospholipid antibodies (APLA). These represent a family of several different individual antibodies which may, as a group or independently, lead both to blood clotting events and also to recurrent miscarriages. Some thrombophilias can both have a genetic predisposition and be acquired. Research studies have estimated that nearly 10% of the world population has an underlying thrombophilia, the most common being the Factor V Leiden and the Prothrombin gene mutations.

Both inherited and acquired thrombophilias appear to "tilt" the well-balanced coagulation system towards clotting (thrombosis). Such an imbalance in the coagulation system results in a greater risk of clotting events, such as deep venous thrombosis (DVT) or pulmonary embolism (PE). Fortunately, not all people with thrombophilia will have a blood clot in their lifetime, whereas unfortunately many patients who do experience blood clots (such as DVT or PE) may not have any detectable thrombophilia at all.

Symptoms

Thrombophilias cause no specific symptoms other than those related to blood clotting events. The most common clotting events related to thrombophilias are acute DVT (a blood clot within large veins) and acute PE (pieces of blood clots which form in the veins of the body, then dislodge and travel to the arteries of the heart and lungs), as well as recurrent clots of the superficial veins of the arms and legs. While most research studies suggest that inherited thrombophilias increase the risk of vein clots only (i.e., DVT and PE), some acquired thrombophilias are also believed to cause arterial clotting events, such as acute strokes, acute limb ischemia (sudden loss of blood flow to the legs or arms), and even acute myocardial infarction (heart attack).

A review of the most common symptoms related to DVT, PE, and stroke and limb ischemia can be found on the VDF Web site at **www.vdf.org.**

Risk Factors

It has been estimated that 50% to 70% of the DVT and PE events that occur in patients with an underlying inherited thrombophilia are triggered by other risk factors. High-risk situations include, orthopedic or other major surgery, bed rest during hospitalization for a medical problem, immobilization in a plaster cast for a broken leg, use of birth control pills or hormone replacement therapy, cancer, obesity, very long airline flights, and obesity.

Diagnosis

The diagnosis of thrombophilia is made by blood tests; specific blood tests for each known thrombophilia are available.

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Thrombophilias Continued from Page 5

Testing should only be offered only to patients for whom the results will have an impact on their care. Thrombophilia testing in individuals without any personal history or family history of DVT/ or PE is not appropriate.

While there are no formal guidelines as to who should be tested, suggested candidates for testing include:

- Young (age <45 years) patients with "idiopathic" or "unpro voked" DVT/PE
- Patients who have had more than one DVT and/or PE
- Patients who have suffered from blood clots in unusual locations, such as the veins of the abdomen or brain , when there is no triggering event
- Patients with DVT/PE and a strong family history of the same
- Women with multiple miscarriages with no clear explana tion

Even in the circumstances listed above, specific thrombophilia testing should not be viewed as "mandatory," and an in-depth evaluation and discussion with a knowledgeable physician are of utmost importance prior to determining the goals of testing. And even if testing is deemed indicated or appropriate, not all thrombophilias may need to be screened.

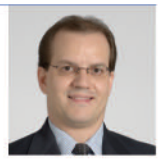
The timing of thrombophilia testing is as important as the decision to proceed with testing or not. Testing should be avoided during hospitalization, during periods of severe illness, as well as during pregnancy, because of the potential for false-positive results. The use of certain medications, such as blood thinners and birth control pills or hormone replacement pills or patches may also lead to false-positive results.

Treatment

There is no specific treatment for most thrombophilias, except for treatment with anticoagulants ("blood thinners") if there has been a clotting event. Anticoagulants that are used to treat blood clots include heparin, low-molecular-weight heparin, fondaparinux, and warfarin (or Coumadin®). The length of anticoagulation treatment depends upon the type of blood clot and the nature of the thrombophilia and is decided by the patient's physician after reviewing all of the clinical information. If a person without any history of DVT or PE is found to have a thrombophilia, use of blood thinners is rarely recommended.

In some cases, a patient with thrombophilia may be referred to see a physician who specializes in blood clotting disorders such as a hematologist, internist, medical geneticist, or a vascular medicine specialist.

About the Author: ***Marcelo P. Villa-Forte Gomes, M.D.*** *is Director of Vascular Medicine Fellowship Program for the Department of Cardiovascular Medicine Heart and Vascular Institute, Cleveland Clinic, in Cleveland, OH.*



VDF HealthCasts Continue

The Vascular Disease Foundation is proud to continue its audio HealthCasts that cover all aspects of vascular disease. Our guests are the leading scientific and clinical experts in their respective fields.

Here are the latest HealthCasts episodes and topics:

Episode 26: Thrombophilia.

Dr. John R. Bartholomew, Section Head for Vascular Medicine in the Department of Vascular Medicine at the Cleveland Clinic is a leading expert on thrombophilia. Dr. Bartholomew discusses this condition in which the blood will form life-threatening clots.

Episode 27: Visceral Fat: An Invisible Killer.

This episode is about abdominal visceral fat. Though being overweight in general increases the risk of vascular disease, where the fat is deposited may be more important.

Episode 28: News You Can Use: AHA 2008

This episode features news from the American Heart Association Scientific Sessions 2008, one of the largest gatherings of cardiovascular health professionals at which the latest research on cardiovascular health is presented.

HealthCasts may be found on VDF's Web site at **www.vdf.org/resources, iTunes, Feedburner, Yahoo,** and other sites. Listening instructions and a complete description of each episode may be found on VDF's Web site.

Frequently Asked Questions

Excerpted from recent VDF's Live "Ask the Doctor" Chat with Drs. Rathbun and Cherry, Transcripts of all chats may be found online at www.vdf.org.

Question: After starting anticoagulant drug treatments, under what circumstances does the body naturally break down a blood clot? Are there statistics with regard to the success rate? How soon would you expect to see symptoms reduced or eliminated? Also, is it dependent on the location or size of the clot?

Answer: The most important job of blood thinners, such as heparin, low-molecular-weight heparin, and warfarin (Coumadin®), is to prevent new clots from forming on top of an existing clot. Over time, the body's own clot-busting system will break down clots, but it is not uncommon to see some evidence of residual clot even months to years after the initial blood clot. In general, more extensive clots will require a longer time to resolve. There are some medications available which can dissolve clots more quickly. These are known as thrombolytic agents or "clot busters" and are given in special circumstances when the burden of clot is very high and the symptoms are severe. There are also mechanical devices that are used in some cases to remove or break apart clot.

Question: I am experiencing pain in my toes. This may be pain from gout, which I take medicine for, or decreasing circulation. How can I know the cause and what can I do about it?

Answer: Sometimes pain due to abnormal circulation can mimic or be confused with pain due to other causes. A doctor's physical examination and a simple test called the ankle-brachial index (ABI) are important to rule out a circulation problem, such as peripheral arterial disease, or PAD. Ask your doctor if your foot pain could be due to PAD, rather than gout, and if you should be tested.

Question: What should I do if I have a swollen and painful leg?

Answer: First of all, it is key to make sure that this is not a blood clot, or DVT. This is a medical emergency that requires evaluation by your doctor right away. Once a DVT has been ruled out, other causes of leg swelling can be considered, such as varicose veins, venous insufficiency, medications, lymphedema, or other medical conditions.

Question: How can you prevent PAD?

Answer: The most important thing you can do to prevent PAD is NOT SMOKE or QUIT SMOKING IF YOU DO SMOKE. Diabetes is also a very strong risk factor for PAD. High blood pressure and high cholesterol contribute as well. Regular exercise, maintaining normal blood pressure and cholesterol, and maintaining a healthy body weight can also help.

In the News

February is national heart month: If you have peripheral arterial disease (PAD), now is a great time to start a walking program and keep your heart and your legs healthy! Download a free walking brochure on our Web site at **www.vdf.org** or call **888.VDF.4INFO (888.833.4463)** to receive your free PAD walking brochure by mail.

March is DVT awareness month: Learn the warning signs and symptoms of deep vein thrombosis (DVT) and pulmonary embolism (PE) at www.vdf.org or call us at **888.VDF.4INFO (888.833.4463)** to receive your free copy of VDF's Focus on Blood Clots brochure and learn the signs and symptoms of DVT and PE.

Thank you! VDF's 2008 Annual Appeal has been a great success thanks to your generous donations. So far we've exceeded last year's donations which are still rolling in. You can still make a tax-deductive donation online at **www.vdf.org** to support our mission. We'd also like to thank the folks at Traffic Pillow (**www.TrafficPillow.com**) for their generous donation of travel pillows for those donors who gave more than $25 in support or VDF's annual appeal. Thank you!

"In Memory of" and "In Honor of" Envelopes Available

VDF has created a preprinted envelope in response to requests from supporters who have contributed "In Memory of" and "In Honor of" a loved one. This can simplify and expedite your desire to memorialize or honor a special person through a donation to VDF. If you would like to receive these special envelopes, call us at **888.VDF.4INFO** or contact us by e-mail at **info@vdf.org.**

Top Advances in Vasc

This past year has been a very exciting year in advances toward fighting vascular disease. With over 40 million Americans affected by vascular disease in the United States, the Vascular Disease Foundation (VDF) is pleased that this awareness is growing! We would like to share some of the top advances with you. These selections were chosen from a survey of several vascular health professionals and are based *on their opinions only. VDF does not endorse any of the below information and the selections are presented in random order.*

Top Advance #1: *The "Surgeon General's Call to Action for the Prevention of Deep Vein Thrombosis and Pulmonary Embolism."* This historic announcement was made at the annual meeting of the Venous Disease Coalition, a coalition of over 30 organizations brought together by VDF to promote venous disease awareness and education.

The Surgeon General's report highlighted the need for more awareness to be brought to the major public-health problems of deep vein thrombosis (DVT) and pulmonary embolism (PE). Together DVT and PE may be responsible for more than 100,000 deaths each year. While PE may be under diagnosed, it is possible that these numbers could be substantially higher. Pulmonary embolism is a potentially life threatening problem: estimates suggest that, while one in five individuals with PE dies almost immediately, 40% will die within three months of diagnosis.

The Venous Disease Coalition has responded to this Call to Action with plans to create an awareness campaign for the general public and health-care providers. For more information, **visit www.VenousDiseaseCoalition.org.**

Top Advance #2: The P.A.D. Coalition's Best PAD Research Awards were awarded at the Coalition's annual meeting this past September. These research awards were presented to honor the work of investigators and acknowledge the creation of new clinical research relevant to the understanding and/or treatment of PAD.

—The Best PAD Research Award in Vascular Medicine was presented to John P. Cooke, MD, PhD, Professor of Medicine, Division of Cardiovascular Medicine, at Stanford University in Stanford, California. Dr. Cooke and his colleagues were recognized for their research that explores new tools to aid clinicians in diagnosing unrecognized PAD.

—The Best PAD Research Award in Epidemiology/ Preventive Medicine went to Danielle Laurin, PhD, associate professor at the Laval University Geriatrics Research Unit in Quebec City, Quebec. Dr. Laurin and her colleagues were recognized for their study which identified the association between a low ankle-to-brachial index (ABI) measure with the presence of Alzheimer's disease, vascular dementia, and other forms of dementia.

—Steven Marso, MD, received the Best PAD Research Award in Vascular Interventions. Dr. Marso is a Clinical Scholar at the Mid-America Heart Institute at Saint Luke's Hospital in Kansas City, Missouri. He and his colleagues were recognized for their research study which measured the extent to which peripheral endovascular revascularization (leg angioplasty and/or stents) improved the quality of life for patients with PAD one year after the procedure.

Top Advance #3: New guidelines were established by the American College of Chest Physicians as the recommended standards of care in the management of thromboembolic disorders, which includes DVT and PE. National standards of care for the prevention and management of DVT and PE were also established for hospital patients by the Joint Commission and the National Quality Forum.

Top Advance #4: New oral anticoagulants (blood thinners) were tested for patients undergoing major elective orthopedic surgery, such as knee or hip replacement. The new oral antico-

cular Disease in 2008

agulants help to prevent the development of blood clots in the large veins of the legs. Researchers have found these new medications to be as effective as warfarin (commonly known as Coumadin®) at preventing leg clots, and they are easier to monitor. .

Top Advance #5: Supervised exercise training improved cardiovascular mortality and morbidity in patients with peripheral arterial disease (PAD), which suggests that exercise training should be considered as a prevention strategy for those with PAD. This study adds to the large body of evidence that exercise training is one of the most important and effective treatments for patients with PAD.

Top Advance #6: Intensive glucose therapy reduces risk of heart attack and death in Type 2 Diabetes patients, according to a ten-year study conducted by British researchers. The results stress the importance of glucose-lowering therapy to reduce mortality and the risk of heart attack in these patients.

Top Advance #7: In the JUPITER study published in the New England Journal of Medicine which showed that statins significantly and dramatically reduced the rate of heart attack, stroke, and cardiovascular death in men and women with normal blood cholesterol levels. Statins are used to reduce cholesterol in patients with vascular disease, but may also prevent disease in certain healthy people.

Top Advance #8: Postthrombotic syndrome occurs frequently after DVT, according to a study published in the "Annals of Internal Medicine" by the American College of Physicians. Postthrombotic syndrome can cause discomfort and swelling of the legs and leg sores (ulcers). Patients with extensive DVT and those who experience more severe postthrombotic syndrome within one month after DVT have poorer long-term outcomes.

Top Advance #9: Advances in minimally invasive surgical procedures to repair abdominal and thoracic aortic aneurysms were highlighted in the Journal of Thoracic and Cardiovascular Surgery. These procedures have evolved over the past few years and have significantly reduced the morbidity of aortic aneurysm repair compared with the standard open surgical procedures. The study also presented new findings of clinical trials for devices used for these procedures and reviewed new techniques and approaches for the treatment of aortic aneurysms.

For a list of links with the complete survey information, please visit our Web site at **www.vdf.org.**

Quit Smoking: A New Year's Resolution

So you've decided to quit smoking. Congratulations! You have taken the first steps toward better health. The first two steps to quitting are deciding to quit and then setting your quit date. Many people who have tried to quit before have not been successful beyond a few weeks or months, so if this is not your first time, you are not alone. A combination of methods of quitting is usually more successful than one alone.

There are three basic ways to quit smoking:

1. "Cold turkey—you go from smoking on a regular basis to not smoking at all.

2. Tapering off—you set your quit date and decrease the number of cigarettes each day until the quit date. It is better to quit over a few days, rather than weeks, since slow tapering tends to drag out the process. You also may decide to postpone the actual quit date to taper off even more slowly.

3. Postponing—delay your first cigarette by two hours each day until you are not smoking between the time you wake up and when you go to sleep. For example, if you normally have your first cigarette at 8 am, wait until 10 am the first day, noon the next, and so on.

There are also several pharmacologic methods (medicines available) to help you quit. The first are nicotine replacement medicines, which replace nicotine but do not have the other harmful chemicals that cigarettes do. They come in many over-the-counter forms such as gum, patches, lozenges, and prescription nicotine nasal sprays. All of these methods decrease your cravings for cigarettes as well as your withdrawal symptoms. If you choose to use one of these forms, you must NOT smoke. Smoking with the medications can cause heart attack or heart arrhythmia.

Whichever method of nicotine replacement medication you choose to use, each involves two steps. First, you must get over wanting to smoke, which may take four to six weeks of no cigarettes. Second, you must withdraw from the nicotine itself. That may take another four to eight weeks, during which time you will decrease the amount of nicotine replacement you are using.

The second types of medications are those that stimulate the nicotine receptors in the brain to decrease nicotine withdrawal symptoms. These drugs are bupropion (Zyban®) and varenicline (Chantix®). Varenicline helps to get rid of the desire to smoke by blocking nicotine from binding to nicotine receptors in the brain. Varenicline should not be used with nicotine replacements and should be started about one week before the quit date. Bupropion can be used with or without nicotine replacement. Both of these drugs are available by prescription only.

So what do you do when you are withdrawing from cigarettes? There are many things that happen to your body and you should learn how to handle them. Below are some strategies for dealing with the withdrawal.

Cravings for cigarettes
- Don't engage in the activity that causes the cravings (drink your coffee in a different room, etc.)
- Provide a distracting activity (take a walk, etc.)
- Take deep breaths
- Call someone who will talk to you about not smoking
- Visualize your lungs becoming cleaner

Hunger
- Drink water
- Take a walk
- Chew gum
- Eat low-calorie vegetables
- Chew a toothpick
- Talk to a dietician about healthy food substitutes

Irritability
- Talk to a friend
- Visualize a pleasant place
- Take a hot bath
- Drink a cup of tea
- Take deep breaths
- Schedule a fun activity

Depression
- Schedule a fun activity
- Talk to a support person
- Get lots of sleep (at least eight hours per night)
- Reward yourself for not smoking
- Talk to your health-care provider about the depression
  If you have trouble sleeping, talk to your health-care

Quit Smoking continued from page 10

provider if your insomnia lasts more than a week. If you relapse, don't be angry with yourself. Remind yourself why you decided to quit in the first place. Throw away the cigarettes and figure out what triggered your relapse so that you can avoid it the next time. Find a "non-smoking" support buddy whom you can call when you really crave a cigarette. Use a stress ball when you have the urge to smoke. Clean your house and your car to get rid of the "cigarette smell." Most important of all, avoid situations where you want to smoke. Save the money that you would have used to buy cigarettes and reward yourself in a month with something you really want—or save your "cigarette money" for a year and take a nice trip.

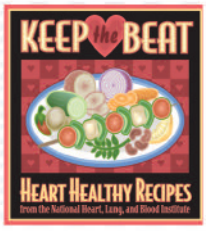
By using some of these strategies, you CAN successfully quit smoking. If you had a smoker's cough, it should gradually disappear. Your risk of vascular disease, cancer, and lung disease should decrease. Congratulate yourself and breathe more easily!

Clinical Research Study for Critical Limb Ischemia

The **TAMARIS Study** is a global research study for people with advanced Peripheral Artery Disease (PAD) called Critical Limb Ischemia (CLI) with skin ulcers of the foot or leg. The investigational medication may offer a treatment if surgery is not an option, and may delay the need for amputation. To learn more about how to participate in the study or to refer a potential participant, please call **888.853.4656** or visit **www.vdf.org/clinical/tamaris.php.**

The Vascular Disease Foundation and any sponsors disclaim, either explicitly or implicitly, that any one of the medications, treatments, or devices listed here is safe or effective for the purposes under investigation, or that the test article is known to be equivalent or superior to any other drug, biologic, or device. Additionally, no claims are made regarding the scientific utility and conduct of clinical trials or research studies listed.

Cardiovascular Healthy Recipe



With the start of the New Year, VDF is proud to offer a heart healthy recipe for you and your loved ones from the *"Keep the Beat: Heart Healthy Recipes"* cookbook from the National Heart, Lung, and Blood Institute (NHLBI).

Corn Chowder
Here's a creamy chowder without the cream—or fat!

1 Tbsp vegetable oil
2 Tbsp celery, finely diced
1 Tbsp onion, finely diced
2 Tbsp green pepper, finely diced
1 package (10 oz) frozen whole kernel corn
1 C raw potatoes, peeled, diced in 1/2-inch pieces
2 Tbsp fresh parsley, chopped
1 C water
¼ Tsp sale
To taste black pepper
¼ tsp paprika
2 Tbsp flour
2 C low fat or skim milk

1. Heat oil in medium saucepan. Add celery, onion, and green pepper, and sauté for 2 minutes.
2. Add corn, potatoes, water, salt, pepper, and paprika. Bring to boil, then reduce heat to medium. Cook covered for about 10 minutes or until potatoes are tender.
3. Place 1/2 cup of milk in jar with tight fitting lid. Add flour and shake vigorously.
4. Gradually add milk-flour mixture to cooked vegetables. Then add remaining milk.
5. Cook, stirring constantly, until mixture comes to boil and thickens.
6. Serve garnished with chopped, fresh parsley.

Yield: 4 servings, Serving size: 1 cup
Each serving provides: Calories: 186, Total fat: 5 g, Saturated fat: 1 g, Cholesterol: 5 mg, Sodium: 205 mg, Total fiber: 4 g, Protein: 7 g, Carbohydrates: 31 g, Potassium: 455 mg

Heparin Induced Thrombocytopenia (HIT)

What Is HIT?

Heparin is a blood thinner commonly used for the prevention and treatment of blood clots and for heart and blood vessel procedures. The primary complication or side effect of heparin use is bleeding due to excessive blood thinning. One other important complication of heparin is a reaction called heparin-induced thrombocytopenia, or HIT. HIT is a severe and potentially life-threatening reaction to heparin or its cousin, low-molecular-weight heparin that can result in blood clots, and occurs in 3-5% of patients who are exposed to heparin but in only about 1% of those exposed to low molecular weight heparin. Patients who are at a particularly high risk of developing HIT include those receiving heparin with open-heart or other surgical procedures.

In HIT, heparin causes the blood cells involved in clotting, called the platelets, to become abnormally activated, which can predispose to blood clot formation. Up to three quarters of patients who develop the HIT reaction to heparin can have a blood clot. Clotting can occur anywhere in the body such as in the veins of the arms or legs (DVT), or in the veins of the heart and lungs as a pulmonary embolism (PE) and even in the arteries of the fingers and toes, leading to gangrene. Patients with HIT can also have unusual symptoms such as severe skin rashes or low blood pressure. HIT is a reaction that can occur with any type of heparin preparation, including IV heparin and heparin shots.

Diagnosis of HIT

The diagnosis of HIT is suspected when a patient receiving heparin therapy has a drop in the platelet count (called thrombocytopenia), which is measured on a complete blood count test (CBC). This heparin reaction usually occurs five to 14 days after heparin therapy has been started. A patient can also be diagnosed with HIT when a new blood clot develops while receiving heparin. When a doctor suspects the possibility of HIT, other causes of a low platelet count need to be ruled out, such as other medication, bleeding resulting in blood transfusion, and infection. Although HIT is mainly diagnosed based on the judgment of a doctor, there are multiple blood tests that can be useful to help confirm the diagnosis. While it may take a few days for the results of these tests, the doctor may start treatment for HIT with another blood thinner (see below).

Treatment of HIT

Once HIT is suspected, heparin of any type must be stopped immediately. Unfortunately, this is not sufficient to improve the patient's condition, and so a blood thinner other than heparin needs to be started to prevent the blood clotting that may occur during HIT due to the abnormally activated platelets. Multiple blood-thinning medications are available for the treatment of HIT (the most common agents are known as direct thrombin inhibitors). Once heparin is stopped and the alternative blood thinner is administered, the doctor will follow the platelet count until it begins to return to normal. This is expected to occur over a few days. Once an improvement in platelet count is noted, warfarin (Coumadin®), a blood thinner which comes in a pill form, is usually started. The patient with HIT is treated with warfarin for at least three months and possibly longer, depending on other factors and the reason why the blood thinners were started in the first place.

Prevention of HIT

It is important that a patient who has had HIT avoid any future heparin or low-molecular-weight heparin exposure and tell his or her health-care providers about this reaction. Heparin should be entered into the medical chart as a medication allergy, even though it is not a typical allergic reaction. It is particularly important to record prior HIT in the medical record because the abnormal blood test results that are used to diagnose HIT can be completely normal within weeks. Patients with a history of HIT should also consider carrying a wallet card or wearing a medical-alert bracelet that lists heparin as an "allergy."

There are a few rare cases in which patients with a history of HIT may be safely re-exposed to heparin for a very short period of time. An example of this is during cardiac surgery, where heparin is the preferred blood thinner due the availability of an antidote (a medication that can be given and will reverse the blood thinning caused by heparin).

Finally, one must know that HIT is not common, and one should not avoid heparin for fear of getting this reaction. Heparin has many advantages as a blood thinner, including the fact that it is a well-established medication with which health-care providers have had a lot of experience. That being said, health-care providers need to routinely monitor patients while receiving heparin therapy to look for any sign of HIT.

About the Author: ***Carmel Celestin, MD,*** *is a vascular medicine specialist at Cleveland Clinic Foundation, Cleveland, OH, and is involved in the diagnosis and treatment of a wide variety of vascular diseases.*

Reader Survey

VDF celebrated our tenth year in 2008 and we'd like to know if we're meeting your needs! Please take our short survey and let us know how we can serve you better. VDF is also exploring how we can most cost-effectively distribute our *Keeping in Circulation* newsletter. This survey will help VDF not only know how to serve you better, but it will also help us reduce our costs. Thank you for your participation! You may also take this survey online at: **www.vdf.org/resources/newsletters.php**

Do you read *Keeping in Circulation*?: ❑ Yes ❑ No

I would prefer to read *Keeping in Circulation*:
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If by e-mail, please provide is with your e-mail address:_____

What do you like about *Keeping in Circulation*:_____

_____

_____

Please rate the following, 1-7 with 1 being your most favorite and 7 your least favorite:

_____Patient stories

_____Educational articles about diseases

_____Updates on P.A.D. Coalition

_____Updates on Venous Disease Coalition

_____FAQs

_____In the News

_____Thanks to our Donors

_____Other _____

What other kinds of stories would you like to see in *Keeping in Circulation*?_____

_____

_____

How else can we improve *Keeping in Circulation*?_____

_____

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I would pay for a subscription to *Keeping in Circulation* (fees would be based on an annual basis):
❑ $5-15 ❑ $15-25 ❑ $25-35 ❑ I would not pay for a subscription ❑ Other: _____

If VDF initiated a membership program, which included a subscription to *Keeping in Circulation* and had other benefits, would you pay for a membership to VDF (fees would be based on an annual basis)?
❑ $15-25 ❑ $25-35 ❑ $35-45 ❑ I would not pay for a membership program ❑ Other: _____

How often in the last year did you visit www.vdf.org?
❑ One-Time Only ❑ Weekly ❑ Monthly ❑ Quarterly ❑ Did not visit ❑ Other: _____

Detach at dotted line and fax or mail to the Vascular Disease Foundation

Reader Survey continued from page 13

Please tell us what you like about the Web site or use it for: _____

_____

_____

How else can we improve our Web site: _____

_____

_____

Would you find the following online features helpful?:

- ❑ Web chats with experts
- ❑ Tools such as bulletin boards to network with other individuals with vascular diseases
- ❑ Interactive educational programs
- ❑ Other _____

What else what you like to see VDF accomplish? _____

_____

_____

Are we meeting all of your needs regarding you or your loved one's vascular disease? ❑ Yes ❑ No

If we are not meeting your needs, please let us know how we can best serve you and your loved ones: _____

_____

_____

We welcome any additional comments/feedback you have: _____

_____

_____

Please tell us about yourself: (please check all that apply) ❑ I am a patient ❑ I am a health professional ❑ I am male ❑ I am female

My age is: _____ Please tell us which state you live in: _____

Thank you for taking the time to complete this survey. You can mail it back to us using the envelope provided or use your own and return to:

Vascular Disease Foundation KIC Reader Survey
1075 S. Yukon Street, Ste. 320
Lakewood, CO 80228

You may also fax the survey back to us at: 303.989.0200

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Thank You to Our 2008 Volunteers!

VDF extends our heart-felt gratitude to those who volunteered for The Vascular Disease Foundation, P.A.D. Coalition, and Venous Disease Coalition. The success of our organizations is in part thanks to you!

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Wanted: Nominations for Jacobson Award for Physician Excellence

Nominations for the 2009 Julius H. Jacobson II, MD Award for Physician Excellence are now being accepted, the deadline is Thursday, February 12! This prestigious annual award recognizes outstanding contributions to physician education, leadership, or patient care in vascular disease. For complete criteria, please contact VDF at **info@vdf.org** or **888.VDF.4INFO.**

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