

Winter 2012

Keeping in Circulation

The official magazine of the Vascular Disease Foundation®

**Beyond
skin
deep**
Treating
varicose
veins

**New PAD
guidelines**
Recommendations
for life

**Registering
hope**

Learning more about
fibromuscular dysplasia

Quit smoking
and improve
your vascular
health

Save a Heart



Vascular Disease
Foundation®



Robert B. McLafferty, MD
President
Vascular Disease Foundation

Dear Readers,

I would like to share with you the changes that are afoot as we strive to hasten the depth and breadth of public education in order to reduce death and disability from vascular disease. As you peruse this winter issue, you'll read about Kelly and Cheryl, two young women you've never met—but their stories will undoubtedly touch you. They did me. It's stories like these and the 40 million others in the U.S. affected by vascular disease that propelled the Vascular Disease Foundation (VDF) to change.

Soon, you will begin to see a new look for the Foundation. A new logo and website will be launched early next year depicting new life for VDF. This new look also signals other changes; new leadership, a new location, new programs; all designed to increase VDF's impact and bring vascular disease awareness to the forefront.

First, I am pleased to announce the Foundation's first Chief Executive Officer, Robert Greenberg. After a national search, the Board of Directors joins me in welcoming Bob to VDF. An attorney and healthcare association professional, Bob brings a 35-year track record of advancing the work and impact of healthcare organizations to our nation.

Vascular disease is under-recognized, under-appreciated and under-diagnosed, as well as being pervasive, devastating and often fatal. VDF's unique mission—to reduce death and disability from vascular diseases and improve vascular health—provides an educational platform for anyone who wants to learn more about vascular disease, but we need to do more.

In the near future, our national headquarters will move to the Washington, D.C., metro area to take advantage of synergies available to us on the East Coast. Although most of our readers and partners will not even notice a change, we believe this new location is important to our effectiveness.

Finally, I want to thank you for your past support of VDF, but have a special request. It is your donations that will help us to move forward and bring vascular disease awareness to the forefront of national attention that it deserves. Please support VDF by making a tax-deductible donation today either online at www.vdf.org/donate/ or call the office and make a donation over the phone at (888) 833-4463.

Thank you for helping VDF provide help and assistance for those and their families affected by vascular disease. I want to wish you and your family the best for a happy and healthy new year!

Sincerely,

A handwritten signature in black ink, appearing to be 'R. McLafferty'.

Robert B. McLafferty, MD
President
Vascular Disease Foundation



VASCULAR DISEASE
FOUNDATION

Starting in early 2012, the Vascular Disease Foundation will be launching a new logo along with a new website. You may have already started to see this new logo appearing in a variety of places. Stay tuned for exciting new things coming in 2012!

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Keeping in Circulation is published quarterly by Krames StayWell
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Excellence in Care

Nominations are welcome for the Excellence in Care Award. Please send us a note or e-mail with a tax-deductible donation of \$50 or more telling us whom you are honoring and why he or she deserves the recognition. Nominees can be any medical professional who has helped you or your family or has shown special kindness that you feel deserves recognition.

“In Memory of” and “In Honor of” Envelopes Available

VDF has created a preprinted envelope in response to request 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) 833-4463 or contact us by e-mail at info@vdf.org.

Nominations for **New Board of Directors Members**

The Vascular Disease Foundation (VDF) is seeking to diversify its 15-person Board of Directors. Our current board consists of individuals and healthcare professionals who volunteer their time to VDF’s mission. They are responsible for governance of the organization and serve annual terms, renewable for up to a total of four years. Directors are expected to attend four meetings per year, actively participate in the organization and work to help VDF fulfill its mission. If you would like to help us reduce death and disability from vascular disease, please visit www.vdf.org/about/BOD_Application.php or e-mail BOD@vdf.org with questions.

from the **Vascular Disease Foundation**



Online Patient Support Group

Welcome to VDF's new Inspire network, an online community designed to be a safe place for you to discuss your health with like-minded men and women. Topics will include abdominal aortic aneurysm, Buerger's disease, carotid artery disease, congenital vascular malformation, deep vein thrombosis, lymphedema, PAD, portal hypertension, Raynaud's disease, thrombophilia, varicose veins and vasculitis. Visit <http://vdf.inspire.com>.

SAVE THE DATE! The 2012 VDF Annual Meeting is scheduled for September 22-23 at the Ritz Carlton Tyson's Corner, just outside of Washington, D.C.

Thank You to Our 2011 Volunteers!

VDF extends our heartfelt gratitude to those who volunteered for The Vascular Disease Foundation, P.A.D. Coalition and Venous Disease Coalition in 2011. Your efforts and hard work have made a difference. Thank you!

In the News

February is National Heart Month. Start a walking program and keep your heart healthy. Download a free walking brochure on our Web site at www.vdf.org or call (888) 833-4463 to receive your free 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 to receive your free copy of our Focus on Blood Clots brochure. Check our Web site at www.vdf.org for more information.

Jacobson Award. Nominations are now being accepted for the Julius H. Jacobson II award for physician excellence. This prestigious annual award recognizes outstanding contributions to physician education, leadership or patient care in vascular disease. The deadline for nominations is March 16, 2012. Visit us online at www.vdf.org/links/jacobsonaward.php to download an application.



Save the a Life



Quit smoking and improve your vascular health

By Ginny Gaylor

The annual meeting of the Vascular Disease Foundation in September focused on how far vascular disease awareness has come in 13 years. The gathering also renewed the VDF's mission to continue reducing death and disability from diseases such as peripheral artery disease (PAD) and venous thromboembolism, as well as heart attack and stroke.

art

Highlights from the annual meeting

Speakers at the event included Dr. Thomas Frieden, director of the Center for Disease Control and Prevention (CDC) and Dr. Jeffrey Wigand, famed as the tobacco industry whistleblower who inspired the Oscar-nominated film, *The Insider*. Dr. Wigand spoke about the dangerous effects smoking and tobacco can have on the vascular system.

Keeping kids smoke-free

Dr. Wigand's focus is on stopping kids from smoking before they start. "We don't want children to use tobacco in any format," he said. "Tobacco companies are coming out with nicotine delivery systems that look like candy." He stressed that it is much simpler to keep kids from ever starting to use tobacco products, than it is to get them to stop after there is an established addiction. "We need to protect our children," he said.

With that priority in mind, Dr. Wigand spends about 182 days a year in classrooms around the country trying to teach children about the dangers of tobacco use. In particular he talks about the more than 7,000 chemicals, such as nicotine and acetone, in cigarettes. "For me to tell children it is bad for them, goes in one ear and out the other, but when I relate it to a concrete observation, it sticks," he said. One way he does this is with an experiment using acetone to remove nail polish "It is a way of showing them 'do you really want to breathe in nail polish remover?' And the answer is no."

Cutting back is not enough

Even if you just smoke one or two cigarettes a day, your risk for developing a heart disease event, such as a heart attack or angina, increases by 30 percent. Dr. Tim McAfee, director of the Office on Smoking and Health for the CDC, who works with Dr. Frieden, says that is why quitting is so important. "You've got to quit to get back down to the normal risk of a non-smoker," he says "You can't cut down from 20 to 10 cigarettes. That may help a tiny bit, but truly quitting is essential."

The good news is that cigarette use has been going down. The bad news is that tobacco



companies are finding new smokeless tobacco options that are just as dangerous. "They are saying 'if you are in a bar and can't smoke, use these instead,'" explains Dr. McAfee. The rising cost of cigarettes has also helped smokers get serious about quitting. But tobacco companies have increased discounts to fight this as well. "Tobacco companies spend about \$8 billion a year on discounting, with mail order campaigns and in-store discounting, making it easier to continue smoking," he adds.

Stopping smoking can have immediate effects, even for someone who has had a heart attack. Your chance of another heart attack in the next year can be cut by one third to one half. "It is one of most powerful things you can do to assure you do not have another heart attack," says Dr. McAfee. "People should demand and receive help on how to quit." ■

quick5ive

Dr. Tim McAfee, director of the Office on Smoking and Health for the CDC, shared the following tips that he has found to bring success for smokers looking to quit:

1. Make a commitment to quit in the near future. "People can always come up with a reason why they should do this next week or next year," Dr. McAfee says. "Every cigarette is doing damage, so you really want to quit quickly."
2. Set a quit date. "When you get the urge to quit, act on that," he says.
3. Talk to your healthcare provider. "One of the simplest things that increase your chance of success is talking to your healthcare provider," Dr. McAfee advises. "Your healthcare provider can offer recommendations and counseling, or medication, which can help people (to quit)."
4. Get rid of smoking associated objects, such as ashtrays and cigarettes. It may seem obvious, but Dr. McAfee says many people try to test their willpower by leaving cigarettes around. In most cases that is not a good success strategy.
5. Tell people you are quitting. "Most smokers, even if they're not quitting, will usually be very supportive of someone making a quit attempt," says Dr. McAfee.

VDF

Annual Meeting Recap

VDF would like to thank those that attended the VDF Annual Meeting, "Current Issues in Vascular Health" last fall! It was an important time for Coalition members to discuss activities and plans relating to artery venous disease. Keynote speakers Matt Logelin, who shared his story of losing his wife when a blood clot went to her lung right after the birth of their daughter, Drs. Frieden and Wigand and Thom Rooke were very well received!

VDF would also like to congratulate our award winners:

2010 Jacobson Award Winner

The most prestigious award, the Julius H. Jacobson II MD Award for Physician Excellence, recognizes outstanding contributions to physician education, leadership and patient care in vascular diseases. This year's recipient is Barry T. Katzen, MD, medical director of Baptist Cardiac & Vascular Institute in Miami and professor of radiology at the University of Miami.

Dr. Katzen has done much to advance the cause of endovascular interventions, including pioneering many of the methods of percutaneous transluminal angioplasty, and was one of the first to popularize fibrinolytic therapy. His most unique contribution to education was pioneering the use of "live-case" tutorial for vascular education, which has evolved into a teaching tool for procedure-oriented specialties.

2010 President's Awards

In addition to the Jacobson award, the VDF presented its President's Awards, which recognize individuals who have assisted the foundation in accomplishing its mission to improve health for all by reducing death and disability from vascular diseases.

"The President's Awards for Vision, Leadership, Inspiration and Partnership show our appreciation for the extraordinary initiatives to support the foundation's efforts to increase awareness of vascular disease and enhance patient lives," said Robert McLafferty, MD, president of the VDF.

This year's President's Awards were presented as follows:

President's Award for Inspiration was given to Beth Murray, MS, NP the HeartCaring/Cardiac Outreach Coordinator at Brookhaven Memorial Hospital Medical Center in Patchogue, N.Y. To her patients, she is a lifeline of hope and inspiration,

listening to their stories and helping them understand how to manage their vascular health issues.

President's Award for Leadership was given to Anton N. Sidawy, MD, MPH, Professor and Chairman of the Department of Surgery at the George Washington University Medical Center in Washington, D.C. Dr. Sidawy also serves as the editor-in-chief of the *Journal of Vascular Surgery* and he is a past-president of the Society for Vascular Surgery. Having served on VDF's Board of Directors since June 2003, Dr. Sidawy was VDF's President-Elect and President from 2006 to 2010. Through his dedication to and leadership of VDF, he has shown his commitment to VDF's mission of increasing the awareness of vascular disease and improving vascular health.

President's Award for Partnership was given to American Association of CardioVascular and Pulmonary Rehabilitation (AACVPR). For over a year the AACVPR had partnered with VDF to create, review and promote the PAD Exercise Toolkit and has cross-promoted the program to its members. Over 1,000 professionals have used the program over the past year.

President's Award for Vision was given to the Center for Vascular Awareness in Albany, N.Y., and Dr. Manish Mehta, vascular surgeon and endovascular specialist, for their advancement of vascular awareness through quarterly meetings held for health care providers and others in the community.

Beth Murray
President's Award for
Inspiration





Heads up

Everything you need to know about brain aneurysms.

By Jennifer Sellers

“Brain aneurysm” is a scary term, but how much do you really know about this condition?

What causes brain aneurysms?

Brain (or cerebral) aneurysms develop as a bulge in the wall of an artery in the brain. These bulges often resemble a balloon or berry forming from the blood vessel. They can be caused by a number of conditions. Smoking and high blood pressure are thought to increase the risk of brain aneurysm. Genetics also play a role, says Rishi Gupta, MD, Associate Professor of Neurology, Neurosurgery and Radiology at the Emory University School of Medicine.

Less common causes of brain aneurysms include fibromuscular dysplasia and connective tissue disorders such as Ehlers-Danlos syndrome (type IV) and Marfan syndrome. However, the majority of brain aneurysms have no known cause.

Who is at risk?

While many brain aneurysms occur in people with no risk factors, there are some people experts believe to be more prone to develop aneurysms. Here are the most important risk factors:

- **Family history:** Those with first-degree relatives, such as siblings or parents, who have had a brain aneurysm are at increased risk.
- **Smoking:** Smoking not only increases the risk of brain aneurysms, but increases the risk of rupture as well.
- **Connective tissue disorders:** People with conditions such as Marfan syndrome are at increased risk as are people with the other conditions listed above.
- **Hypertension:** A history of chronic high blood pressure may increase the risk of brain aneurysm.

What are the symptoms of a brain aneurysm?

While many people may think of brain aneurysms as sudden events requiring emergency treatment, they usually have no symptoms at all. It's the rupturing of an aneurysm that can lead to severe symptoms, and even death. "In some rare cases, an aneurysm can cause a cranial nerve palsy; but typically, aneurysms are asymptomatic unless they rupture," says Dr. Gupta. "When they do rupture, patients present with the worst headache of their life. And, unfortunately, when that it occurs it often carries a high mortality rate."

How likely is an aneurysm to rupture?

Approximately 2 percent of the population has brain aneurysms. Of that number, about 50,000 people a year suffer from subarachnoid hemorrhage (when blood leaks into the space around the brain) due to a ruptured aneurysm. "Some features, such as size of the aneurysm, may be predictive of rupture," says Dr. Gupta. "It is generally felt that larger aneurysms have a higher probability of rupture."

How are brain aneurysms diagnosed?

Diagnosis of an aneurysm depends on what leads a person to seek medical attention. Since many brain aneurysms go unnoticed until they rupture, many people with aneurysms first present to a physician or medical clinic with a subarachnoid hemorrhage. In such instances, they will undergo a catheter angiogram, says Dr. Gupta. "This involves femoral artery puncture and catheter manipulation under X-ray to identify the location of the aneurysm," he explains. "CT angiography can also be used to identify cerebral aneurysms.

"Unruptured aneurysms are typically detected incidentally when patients undergo MRA imaging of the brain for other symptoms, such as stroke, migraine headaches or dizziness," continues Dr. Gupta.

What are the current treatments?

Once again, the course of action depends on the type of aneurysm. "For ruptured aneurysms, treatment with coil embolization (a minimally invasive approach performed from the groin in which metallic coils are placed in the aneurysm sac to treat the aneurysm) has been shown to have a 6.9 percent absolute risk reduction in mortality and disability from an aneurysm compared to surgical clipping," says Dr. Gupta. "In ruptured aneurysms, which are challenging to treat with coil embolization, microsurgical clipping with an open craniotomy can also be performed to secure the aneurysm.

Smoking and high blood pressure are thought to increase the risk of brain aneurysm.

For a ruptured aneurysm, the evidence points to early treatment as necessary for preventing re-rupture. Ideally, this should be performed within 12 to 24 hours from diagnosis of the bleed.

"For non-ruptured aneurysms, the treatment decision for coiling versus clipping is determined based on the age of the patient, the number of aneurysms and the locations," he continues.

People who have had a ruptured brain aneurysm in the past also require frequent surveillance for the development of new aneurysms. "People with a strong family history or presence of a collagen vascular disorder may also be screened," says Dr. Gupta. "If someone presents with an acute third nerve palsy (abnormal movement of the eye or abnormalities of the eyelid or pupil), they are screened as well."

Do all aneurysms require treatment?

Smaller aneurysms are at lower risk for rupturing. So if one is detected, sometimes a watch-and-wait approach is applied. "Typically aneurysms less than 5 mm—particularly in an older person—may be followed with sequential imaging to see if the aneurysm enlarges," says Dr. Gupta. "Younger patients have a higher cumulative risk of rupture because they have more years to live, but the risk of treatment must be balanced against the natural history. Generally, younger patients with aneurysms greater than 5 mm are considered for surgical or endovascular treatment as their cumulative risk is felt to be high for rupture. In patients older than 60 years old,

careful consideration for treatment is based on the presence of other risk factors."

What's the outlook for people who've had an aneurysm?

Unfortunately, the prognosis for ruptured aneurysms is not good. In fact, roughly 40 percent of people who have one don't even make it to the hospital in time for treatment. And those who do survive have an uphill battle ahead. "Survivors have tremendous disability with cognitive skills, depression and often impairment of motor or speech function," explains Dr. Gupta.

Patients with non-ruptured aneurysms who are treated can do well with coiling or clipping. The complication rate is less than 5 percent. However, many experts still feel this risk is too high—especially since there is no definitive evidence that treatment of non-ruptured aneurysms reduces the risk of ruptures in the long run. According to Dr. Gupta, continued research in the field of brain aneurysms will help lead to a better understanding of the condition, as well as improved treatments. ■



Recommendations for Life

By Susan L. Comer

Updated 2011 PAD guidelines
and how they affect you

For the 9 million Americans affected by peripheral artery disease (PAD)—and those at risk—the just-released 2011 PAD clinical guidelines could be life-altering. The new recommendations combine state-of-the-art options for vascular care with time-honored medical wisdom.

“Patients want to know there are easier and better treatments for artery disease,” says Thom W. Rooke, MD, professor of Vascular Medicine at The Mayo Clinic and chair of the 2011 PAD guidelines writing group. “I think it’s important patients understand that some of the old-

fashioned things we’ve recommended, like ‘Don’t smoke’ or even the old humorous cliché ‘Take two aspirin and call me in the morning’ are actually becoming more important as time goes on.”

“Guided” tour

PAD occurs when the leg arteries become clogged or narrowed by plaque buildup, causing reduced blood flow to the legs. This can result in pain when walking, disability and amputation. The presence of PAD may also indicate blockages in other arteries, including those in the heart and brain, thus increasing risk of

heart attack or stroke. However, with early diagnosis and effective management, PAD is highly treatable.

The 2011 PAD guidelines—a joint report of the American College of Cardiology Foundation (ACCF) and the American Heart Association (AHA), updated the original 2005 recommendations—address five areas of diagnosis and treatment: (1) PAD diagnostic testing; (2) smoking cessation; (3) clot-preventing medications; (4) treatment to prevent leg amputation; and (5) management of abdominal aortic aneurysm.

Age matters

The first recommendation concerns the age at which a patient should first undergo an ankle-brachial index (ABI), a PAD diagnostic test in which blood pressure at the arms and ankles are compared. The ABI was previously recommended for people age 70 or older or those 50 or older with diabetes or a history of tobacco smoking. But on the basis of a large German study in which the test detected PAD in 21 percent of subjects age 65 or older, the new guidelines recommend ABI testing at age 65 rather than 70.

The value of an earlier ABI goes beyond the discovery of PAD in the leg, says Dr. Rooke. “It’s one of the best ways we have of identifying patients who may have undetected coronary and carotid disease and deciding who’s really at risk and who ought to be treated.”

“Eight-hundred-pound gorilla”

The second area of guideline modification involves intensifying efforts to help patients quit smoking and remain smoke-free.

“Of all the things we can affect that cause atherosclerosis or PAD, [smoking] is the biggest by far,” says Dr. Rooke. “It’s bigger than hypertension. It’s bigger than diabetes. It’s the gigantic 800-pound gorilla out there.”

According to the new recommendations, patients who are smokers or former smokers should be asked about tobacco use at every healthcare provider visit. Further, smokers should be assisted with counseling and developing a cessation plan which may include pharmacotherapy.

“Since 2005, we’ve come up with some new medications. Varenicline [Chantix] is one of them,” says Dr. Rooke. “This drug is something the guideline group thought was potentially so effective at getting people to stop smoking that we ought to make sure smokers are aware of it as well as all of the older drugs that can help them quit smoking.”

Risk-reduction agents

A key risk for PAD patients is heart attack or stroke due to development of clots in the arteries that supply the heart or brain. Consequently, the 2011 guidelines emphasize the importance of antiplatelet drugs.

Says Alan T. Hirsch, MD, vascular medicine specialist and cardiologist at the University of Minnesota and vice chair of the 2011 writing group, “Both aspirin and clopidogrel [Plavix] are

effective agents in lowering [heart attack and stroke] rates and one of them should be used in every patient with known PAD so long as there is no known bleeding risk or allergy.”

Endovascular alternatives

For patients with critical limb ischemia, a severe form of PAD in which blood flow to the extremities is seriously decreased, prevention of leg amputation is the most pressing issue. In the past, this generally meant open surgery as the initial procedure. The updated recommendations acknowledge catheter procedures such as balloon angioplasty and stenting as viable options. This is due, in part, to a multi-center United Kingdom study, which compared the two treatment strategies and showed similarity in patient outcomes.

A key risk for PAD patients is heart attack or stroke due to development of clots in the arteries that supply the heart or brain.

This guideline, says Dr. Hirsch, “brings angioplasty and stenting to an earlier-use status, so patients need not fear an open surgical approach as a first-line therapy.”

For limb-saving procedures in healthier patients who are anticipated to require a more durable artery repair, he says, surgery is still preferred.

Finally, likewise for abdominal aortic aneurysms, a host of recent studies have shown that, with appropriate patient selection, open surgical and endovascular catheter-based treatments can be used with nearly equal efficacy and safety. The 2011 guidelines reflect the reasonable nature of performing endovascular repairs on aneurysms.

Proactive patients

“I think [all] of these guidelines are things that, if I were a patient, I would be interested in knowing,” says Dr. Rooke. “When a patient walks into my office with an aneurysm or needing a revascularization procedure, one of the things they’re most anxious about is, ‘Is this going to require an open operation, or am I going to be able to get this done with a balloon or laser?’”

Dr. Hirsch encourages patients to familiarize themselves with the guidelines. “The earlier [PAD is] diagnosed and the more actively the patient manages [it],” he says, “the greater the chances they will be alive with both legs, feeling well, and enjoying their lives.” ■



Registering hope

Thanks to patient data, researchers are learning more about fibromuscular dysplasia.

By Jennifer Sellers

In December 2004, Cheryl Bailey sought treatment for a simple bladder infection. Soon after that, she found out she had something far more serious to deal with: fibromuscular dysplasia (FMD), a rare vascular disorder.

“When I went in for the bladder infection, I also had a physical exam,” Bailey explains. “When my nurse practitioner did some listening around, she heard bruits (abnormal sounds over a blood vessel) in my neck.”

Bailey was sent to a vascular specialist who, after a series of testing, diagnosed her with FMD of the carotid arteries in the neck.

What is FMD?

FMD is a vascular disorder caused by abnormal cellular growth in an artery wall. This abnormal growth can lead to beading or narrowing of arteries, which can reduce blood flow to an organ. FMD can also lead to aneurysms (or ballooning) of arteries or a condition known as dissection when an artery develops a tear. The most common arteries that are affected by FMD are the arteries to the brain (carotid and vertebral arteries) and the arteries to the kidneys (renal arteries).

The condition is uncommon, and there’s a lot about it that’s still unknown, such as what causes it. “Every healthcare provider I see says the same thing: ‘You’re my first patient with FMD;’ it’s not very comforting,” says Bailey. “I was very discouraged that so little is known about it, so I began volunteering for the Fibromuscular Dysplasia Society of America (FMDSA).”

Fortunately, the medical community is learning a lot more about FMD thanks to patients like Bailey who volunteer for research on the condition.

Heather L. Gornik, MD, Medical Director of the Non-Invasive Vascular Laboratory at Cleveland Clinic Heart and Vascular Institute, is one of a group of physicians responsible for compiling patient information that is helping health care professionals learn more about the causes, risks, symptoms and treatment of FMD.

“We are working in coordination with the FMDSA, which has sponsored a multi-center registry (now comprised of nine U.S. centers) that is compiling data on FMD patients,” explains Dr. Gornik. “The United States FMD Registry presented its first abstracts of about 300 patients at the American College of Cardiology meeting in 2011.”

Surprising findings

Data from the patient registry revealed information that challenges some of the previous conceptions about FMD:

- **Susceptibility:** Researchers found that patients with FMD are generally older than was initially thought. “The average age of diagnosis of patients with FMD in the registry is in the 50s, but it can present across the lifespan—from childhood up to the 80s,” says Dr. Gornik.
- **Affected arteries:** “Another thing we’re learning that’s new is that FMD involving the arteries to the brain, such as the carotid and vertebral arteries, is probably as common as kidney artery involvement,” Dr. Gornik explains. Previously, it was believed that FMD in the kidney artery was much more prevalent than other artery locations.
- **Symptoms:** The findings confirmed and revealed common symptoms of FMD, which include headaches (particularly migraine), high blood pressure, swishing noise in the ears and dizziness, says Dr. Gornik. “We also noticed that a significant number of patients present with a dissection (tear in an artery),” she continues.
- **Genetic factors:** An area that continues to stump researchers is the impact of genetics on FMD. “Something we learned that is very interesting is that a significant number of FMD patients don’t necessarily have a family member with FMD, but there seems to be a high presence of family members who had other vascular conditions, such as an aneurysm or even stroke,” explains Dr. Gornik. “So, we think there may be something familial with FMD even though we have yet to really determine the specifics of that relationship.”

Next steps

Working with colleagues at the Cleveland Clinic, Mayo Clinic and Mt. Sinai Medical Center, Dr. Gornik is collecting blood samples of FMD patients to further study the genetics of the condition. It’s work that’s ongoing, she says.

Treatments for the condition are also continually improving. “The primary treatment is still mainly balloon angioplasty,” says Dr. Gornik. “In terms of angioplasty, we’re also using new techniques, such as intravascular ultrasound, to assess the severity of blockages. But I think mostly we’re learning to be smarter about whom we select for angioplasty, because many FMD patients can be managed with medication alone.”

While experts continue learning about FMD, Bailey, who is now vice president of the FMDSA, is doing her part to increase awareness of the condition. “My goal is to speak on FMD and continue to promote awareness to all health care providers,” she says. “My prayer is that one day there will be total awareness of what FMD is, what causes this disease and how to cure and prevent it in future generations.” ■



Cheryl Bailey was diagnosed with fibromuscular dysplasia (FMD) after a series of tests by a vascular specialist.

Beyond skin deep

Varicose veins can be more than just a cosmetic problem.

By Jennifer Sellers

A web-like network of blue or purple veins begins covering your legs. The veins become gnarled and bulging. You feel self-conscious and start wearing pantyhose with every dress. You even avoid wearing shorts in the summer. And while your vanity may take a hit, this problem—known as varicose veins—can impact more than just your appearance. Pain, ulcers and blood clots are potential complications of the condition. Fortunately, there are many options for treating both the cosmetic and health aspects of varicose veins.

Understanding varicose veins

As your blood circulates through your vascular system and heads back toward your heart, small valves in your veins open up to allow it to flow forward with ease. However, when these valves stop working properly, blood can pool in the veins, causing them to enlarge. This phenomenon is what is known as varicose veins. While varicose veins can technically happen anywhere in the body, they are most likely to occur in the legs or feet. That's because standing, walking, gravity and distance from the heart all increase pressure on veins in the lower part of the body.



Risk factors

Varicose veins are a common health problem, particularly in people over 50. In fact, it's believed that one out of two people in that age category have this condition. Gender also plays a major role in risk. "Varicose veins affect about 40 percent of women in the United States, and about 25 percent of men," says Donna Mendes, MD, Associate Clinical Professor of Surgery at Columbia University. The hormonal changes women experience over time tend to make them more susceptible to varicose veins.

Other potential causes include heredity, obesity, lack of movement and a family history of varicose veins. "Varicose veins are a common problem," says Dr. Mendes. "Health factors and lifestyle can contribute to whether or not a particular individual will experience them."

Recognizing symptoms

If you have varicose veins, you probably know it. The gnarled-root appearance of the enlarged veins pressing against your skin is a telltale sign. And often, the veins show up as a vivid blue, purple or red.

Spider veins, which are similar to varicose veins but smaller, can also be visible on the legs and feet, but they are closer to the skin's surface. They get their name from the spider web-like appearance they create. Both varicose veins and spider veins rarely cause additional complications. But when they do, they can present with some of these symptoms:

- An achy or heavy feeling in the legs
- Burning, swelling, throbbing or cramping of the leg
- Worsened pain or swelling after long periods of sitting or standing
- Itching around a vein
- Darkening of the skin
- Skin ulcers or bleeding

However, you shouldn't wait for advanced signs of the condition to see your health care provider, says Dr. Mendes. "Although you may not have any painful symptoms, once you realize that you have some bulging in your veins, it is a good idea to talk with your health care provider," she suggests. "He or she can show you simple steps to control the varicose veins and avoid possible complications."

In rare cases, varicose veins can lead to superficial venous thrombosis (SVT), a type of blood clot that can form within the varicose veins of the legs.

Determining treatment

Treatment of varicose veins has several goals, which include: relieving pain and other symptoms, reducing risk of complications and improving appearance. Often, the recommended treatments are simple and involve lifestyle changes (weight loss, exercise and moving frequently throughout the day) and the clothing you wear (avoiding tight clothing and high heels). A common treatment is the use of elastic compression stockings.

"Compression stockings are used because the calf muscles contract and gently squeeze the blood back toward the heart as we walk," explains Dr. Mendes. "Blood would pool in our legs unless we elevate them at the end of the day, walk so the calf muscles 'squeeze' the blood back to the heart and wear compression stockings, which act with the calf muscle to massage the blood back.

"Because compression stockings vary (ranging from support pantyhose to prescription- and over-the-counter gradient compression hose), your health care provider can help you find the right stocking for your particular needs," she continues.

And it's not just people with existing varicose veins who should consider compression stockings. Anyone who has a job that requires long periods of sitting or standing may benefit

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from them as well, says Dr. Mendes. "By doing so, many of the symptoms from varicose veins can be decreased, and swelling that many people with or without varicose veins have at the end of the day may be lessened," she says.

Occasionally, varicose veins become so troublesome that additional treatments are necessary. The goal of such procedures is to remove the veins or close them so that the blood no longer can pool. After the problem veins are removed or closed, other veins deeper in the legs will continue managing blood flow.

- **Sclerotherapy:** This treatment involves injecting a liquid chemical into the vein to seal it shut.
- **Surface laser treatments:** For spider veins and smaller varicose veins, this treatment fades the veins.
- **Endovenous laser and radiofrequency treatments:** These methods target larger veins. In the procedures, a catheter is inserted into the vein to heat it up and close it off.
- **Endoscopic vein surgery:** Performed in worst-case scenarios, this treatment involves surgically closing and removing veins.
- **Ambulatory phlebectomy:** This treatment allows a health care provider to remove small varicose veins by making tiny punctures in the skin of the leg.
- **Vein stripping:** With this procedure, the vein is removed through small incisions.

Fortunately, laser and radiofrequency technology is the prevailing treatment of varicose veins, and these days it is preferred by physicians over the use of more complicated and invasive procedures. "Laser treatment is becoming the gold standard for addressing varicose veins," says Dr. Mendes. "Using lasers, we cauterize veins from inside to create a scar that closes the vein, removing its function. The blood re-routes using healthy veins," says Mendes. "It requires less recovery time than the traditional vein stripping, and it is less painful."

If you suffer from varicose veins, schedule an appointment with a vascular specialist to discuss your treatment options. ■



Wound watch

Prevention and early treatment can help keep lower extremity wounds from becoming serious.

By Jennifer Sellers

Kids' wounds may heal in no time, but as you age—particularly if you have diabetes or at risk for venous or artery diseases—you're more likely to develop wounds in your legs and feet that are slow to heal and can cause serious health problems.

Fortunately, these wounds (or ulcers) can be treated effectively if caught early. Better yet, they can often be prevented.

"When you look at what's presented at wound clinics, all of these are very common and, for diagnosis, a problem," says Teresa L. Carman, MD, Director of Vascular Medicine at University Hospitals Case Medical Center in Cleveland, Ohio. "Venous wounds are probably the most frequently occurring; they're also usually the easiest to heal."

Risk on the rise

Perhaps one of the top risk factors for lower extremity wounds is advancing age.

"We're seeing an increasing number and an increasing risk of wounds for our aging population," says Dr. Carman. "As

Categories of wounds

The three most common types of lower extremity (lower leg) wounds are:

- 1. Venous (due to prior DVT or venous insufficiency)**
- 2. Neuropathic (generally related to diabetes)**
- 3. Artery (due to PAD or reduced blood flow to the legs)**

people get older, they're less mobile and they tend to have co-existing medical problems which make them predisposed."

Co-existing conditions behind lower extremity wounds include venous disease, diabetes and peripheral artery disease (PAD). It's possible that some people with those underlying conditions may be undiagnosed. Therefore, high blood pressure, high cholesterol and smoking can also be considered potential risk factors for not only vascular disease but lower extremity wounds as well.

Hot spots

Lower extremity wounds can be treated fairly easily when caught early, so an important part of detection is keeping an eye on the areas where they're likely to crop up. It's important to keep in mind the different types of lower extremity wounds because they influence where on your legs or feet you're likely to find wounds, should they develop.

"Venous wounds are typically over the inside of the ankles; neuropathic wounds are usually over bony prominences in the feet where there's pressure that's not well-managed; and artery wounds can be anywhere, but they predominate over the feet and toes," explains Dr. Carman.

If you have any of the risk factors for lower-extremity wounds, you should check these areas on a regular basis. Diabetics, in particular, need to make foot monitoring a habit.

"Diabetics, because they frequently don't have good sensation in their feet, need to look at their feet every single day to make sure they don't have any areas where the foot is red or feels warm," says Dr. Carman. "They should also be on the lookout for areas where a callous is coming along because that indicates they have pressure issues." They should also inspect their shoes regularly before putting them on. Because of their neuropathy, small objects (pebbles for example) can cause problems over time for the diabetic patient who may not feel them in their shoes.

People with diabetes should also visit their podiatrist every three months for nail care and shoe evaluation, recommends Dr. Carman.

Other types of wounds—especially venous wounds—may show up without any heralding signs, points out Dr. Carman. So while precursor symptoms are unlikely, you should check your legs and feet regularly so that you'll notice any new wounds right away.

Avoiding complications

When wounds are treated early, they usually mend effectively, says Dr. Carman. "When a wound is in the very acute, new stage, the body tends to heal

it very quickly—as if it were an injury," she explains. "Wounds that are allowed to persist for more than 4-6 weeks don't want to heal as well. At that point, a wound becomes chronic and there tends to be delay in and resistance to healing."

In addition to becoming chronic, other dangers of unaddressed wounds include infection and—in the worst-case scenario—amputation.

If an infection occurs, you may notice symptoms such as pain, redness and a foul-smelling discharge coming from the wound. Such symptoms mean you need to see your healthcare provider right away. Another indicator that the wound has advanced is a change in color. Any wound that has turned black or yellow (or green) needs to be addressed immediately as well.

"There are a lot of potential problems if wounds are left untreated," says Dr. Carman. "If it's over a bony prominence or on the foot, and the infection gets down into the bone (a condition known as osteomyelitis), then a patient can be at risk for losing a portion of the toe, foot or even the leg. That doesn't happen often, but that's always the potential."

Prevention is possible

Fortunately, it's often possible to prevent wounds from occurring in the first place. To do so, you need to take the proper precautions for your condition.

"Most venous patients should sleep with the foot of their bed elevated," says Dr. Carman. "Otherwise, they're at risk for swelling, and that swelling puts them at risk for wounds. Using compression is a must."

Another component of wound prevention is skin care. "Patients need to pay very close attention to their skin," she says. "They need to keep it (skin) well moisturized so that it doesn't crack, dry, fissure or split."

Making sure toenails are properly trimmed by a healthcare professional is an important component of wound prevention for diabetics, as is choosing adequate footwear.

In fact, wearing proper shoes is highly important for people with artery conditions as well. "Patients with underlying artery disease need to be very careful because even a small amount of trauma from an ill-fitting shoe can actually cause a very serious wound," says Dr. Carman. "So, similarly, they need to be very careful with their feet and protect them."

By following these precautions, it's possible to prevent many lower extremity wounds and the dangers that can follow them. Contact your health care provider to discuss foot and leg care in further detail. ■

One of the top risk factors for lower extremity wounds is advancing age.



Best advances in vascular disease

By Jennifer Sellers

Research and clinical trials are critical to creating advances in the detection, treatment and care of vascular diseases. Here's a look at outstanding developments in the fields of vascular medicine and vascular surgery that have occurred in the past year.

Peripheral Artery Disease

For four years, the P.A.D. Coalition has been honoring the best clinical research on the topics of treating and understanding peripheral artery disease (PAD). Each year, the top three studies are presented with recognition. This year, the Best PAD Research Awards went to:

Epidemiology/Preventive Medicine

St. Hilaire, C., et. al. "NT5E Mutations and Artery Calcifications." *New England Journal of Medicine*. 2011.

In a study of three families, mutations in the NT5E gene were found to be the cause of symptomatic lower-extremity (lower leg) artery calcifications. An understanding of this genetic defect will help researchers develop better corrective treatments for artery calcifications going forward.

Vascular Medicine

Langham, M. C., et. al. "Evaluation of Cuff-Induced Ischemia in the Lower Extremity by Magnetic Resonance Oximetry." *Journal of the American College of Cardiology*. Feb. 9, 2010.

This study evaluated lower-extremity (lower-leg) vascular function during cuff-induced ischemia, or obstruction of blood flow, in people with PAD, as well as healthy individuals. Vascular competence was reduced in patients with abnormal ankle-brachial index readings. This finding suggests that measurement of oxygen saturation during cuff-induced ischemia may provide a way for better detecting atherosclerosis before symptoms set in.

Vascular Interventions

Belch, J. J. F., et. al. "Results of the randomized, placebo-controlled clopidogrel and acetylsalicylic acid in bypass surgery for peripheral artery disease (CASPAR) trial." *Journal of Vascular Surgery*. Oct. 2010.

Researchers found that the combination of clopidogrel and aspirin administered during bypass surgery for PAD does not improve limb outcomes in patients who require bypass grafting below the knee. However, it does seem to benefit patients who are receiving prosthetic grafts, without significantly increasing major bleeding risk.

Venous Disease

Much like the P.A.D. Coalition, the Venous Disease Coalition recognizes top studies in the field of venous disease research in an effort to forward the understanding and treatment of venous conditions. This year's award winners were as follows:



Basic Science

Fuchs, T., et. al. "Extracellular DNA traps promote thrombosis." *Proceedings of the National Academy of Sciences*. 2010.

Neutrophil extracellular traps (NETs) are an immune response to infection. It has been observed that NETs stimulate thrombus formation. In a study of baboons with deep vein thrombosis, markers of these DNA traps were detected. This discovery indicates a previously unrecognized link between inflammation and thrombosis, and may also explain a link between infection and thrombosis.

Clinical Outcomes

Kahn, S. R., et. al. "Six-month exercise training program to treat post-thrombotic syndrome: a randomized controlled two-centre trial." *Canadian Medical Association Journal*. 2011.

To determine whether or not exercise training would improve post-thrombotic syndrome, study participants were placed in a six-month, trainer-supervised program. The exercise training was shown to improve a quality of life score (VEINES-QOL). A large multicenter trial is now recommended.

Research Related to Implementation of Quality Improvement, or Public Awareness of the Impact of Venous Disease

Douketis, J., et. al. "Risk of recurrence after venous thromboembolism in men and women: patient level meta-analysis." *British Medical Journal*. 2011.

This study found that in patients with a first unprovoked venous thromboembolism (deep vein thrombosis or pulmonary embolism), men have a 2.2-fold higher risk of recurrent venous thromboembolism than do women. Even after adjustment for hormone-associated venous thromboembolism in women, the risk of recurrence for men was still 1.8-fold higher. In first provoked venous thromboembolism, it was noticed that the risk of recurrence doesn't seem to differ between the sexes.

Douketis, J., et. al. "Patient-level meta-analysis: effect of measurement timing, threshold, and patient age on ability of D-dimer testing to assess recurrence risk after unprovoked venous thromboembolism." *Annals of Internal Medicine*. 2010.

The goal of this study was to examine whether or not timing, patient age and the cut point used to define a positive or negative result affect the ability of D-dimer testing. D-dimer is a protein fragment that remains in the blood after a blood clot. Tests that check for this protein are meant to help diagnose blood clots and venous thromboembolism (VTEs). The research found that in patients with a first unprovoked VTE who have had their D-dimer level checked after stopping anticoagulation, the timing of the testing along with patient age and cut point did not affect the ability of the D-dimer test to predict higher or lower risk for recurrent VTE. ■

frequently asked questions

Excerpts from recent VDF's Live "Ask the Expert" Chats. Transcripts of all chats may be found online at www.vdf.org.

Q. I don't have any symptoms of deep vein thrombosis (DVT) but did have a pulmonary embolism (PE). Can compression socks help reduce the risk of another PE? Any difference between socks and leggings?

A. No, compression stockings cannot reduce the risk of another PE. Stockings offer graded compression (higher around the ankle, less so at the level of the calf), which is what helps with better flow through the veins. Leggings have very light compression (typically 5-8 mmHg) but they are not the same as graded elastic compression stockings. Compression stockings do help decrease venous stasis, which is why your health-care provider may advise patients on wearing compression hose on long trips to reduce the risk of DVT.

Q. I had a PE, and it was suspected to have been caused by a DVT. I was given warfarin to counteract vitamin K. Can taking excess vitamin K increase the risk of a DVT?

A. Almost all PEs derive from DVTs. But excess vitamin K does not seem to increase the risk of blood clots or DVTs. The problem with vitamin K and warfarin is that, by having a diet with too much vitamin K, you are actually making your body more resistant to the action of warfarin in your system. And, if warfarin is not working as it should, then you may become more prone to develop recurrent DVTs. For a person who's never had DVT, vitamin K does not appear to increase that risk.

Q. What is the major cause of varicose veins?

A. Causes of varicose veins vary, and each person may have more than one cause going on simultaneously. Obesity, previous DVTs (blood clots in veins), hormones, occupation (those standing all day—nurses, waiters/waitresses, police officers, etc.) are big risk factors. But most importantly, there is a significant family/genetic component. Varicose veins do run in families. However, no specific gene or genes have been found as the "cause" of inherited varicose veins/venous insufficiency.



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More than 40 million people in the United States alone suffer with some form of vascular disease.

Approximately 8–10 million people in the United States alone have PAD (blockage of the leg arteries). Failure to diagnose PAD in its early stages can lead to amputation and increased death rates, as well as a marked decrease in quality of life.

Venous thromboembolism, which is the underlying cause of blood clots and pulmonary (lung) embolism, poses a major health risk.

Out of the 1 million Americans who suffer from blood clots each year, more than 100,000 will die suddenly from pulmonary embolism.



Kelly's life was changed forever after a blood clot in her leg led to a pulmonary embolism that traveled to her lung, nearly killing her.

She was confused and horrified after her diagnosis. "I finally realized that my disease is progressive," Kelly says.

Kelly had to come to terms with the fact that her leg was not going to heal like a broken leg. "The year after I was diagnosed I could still go dancing. I can no longer do that, or run, or stand in line at the grocery store. I either have to move or sit down," she says. "I know there are other people with this out there that aren't getting the help they need. And, I know with funding, the VDF, along with volunteers like me, can do something about it."

VDF needs you, and so does Kelly! Please donate to VDF today!
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