

Spider and varicose veins
Treatments to
beautify your legs

Compression stockings
Your secret weapon
to leg health

Post-Thrombotic Syndrome
Minimize your risk
through awareness

**MEDIA
PLANET**

February 2011

VEIN CARE



YOUR
COMPLETE
GUIDE
TO HEALTHY
LEGS

WILL YOU BE AFFECTED BY DVT?

How a diagnosis of Deep Vein Thrombosis encouraged
Caitlin Augustine to become an advocate for women's health

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CHALLENGES

In the United States, **40 percent of women and 20 percent of men currently suffer from a vein condition**, whether it is spider veins, varicose veins, chronic venous insufficiency (CVI), or more serious conditions like open wounds or ulcers, Deep Vein Thrombosis (DVT) and Post-Thrombotic Syndrome (PTS).

First step is early detection

Venous disease continues to be associated with high mortality and major morbidity in the U.S. causing a public health crisis at a level similar to that for heart disease and vascular disease.



Peter Pappas, MD, FACS
President,
American Venous
Forum; Chairman,
Department of
Surgery, Brooklyn
Hospital Center

Chronic venous disorders are quite common, affecting over 20 percent of the adult population and occurring ten times more frequently than arterial disease. In addition, acute venous thromboembolism, commonly known as DVT, is the cause of more than 100,000 deaths nationwide each year and annual venous ulcer care costs are estimated at \$1-5 billion.

Getting effective treatment

Despite these alarming statistics, venous disease has been under-studied relative to other vascular surgery specialties in the field of cardiovascular disease. Its effects on the population have been severely under-estimated. Most often the root cause of these devastating diseases

can be prevented with appropriate awareness and prevention at all rungs of the medical care ladder. The first step is early detection. Varicose veins are not only an unsightly problem. They can be a sign of Chronic Venous Insufficiency or blockages in the veins that can lead to lifelong symptoms. Accurate diagnosis and effective treatment can help this problem in most cases.

This Vein Care report will help to enhance your understanding of vein disease, prevention, and treatment options.

The American Venous Forum is a non-profit medical society dedicated to improving the care of patients with venous and lymphatic disorders and a reliable source for additional evidence based information visit www.veinforum.org.

Although veins and arteries are both part of the circulatory system, they work in very different ways from each other.

Blood is pushed throughout the arteries of the body by pressure created from the pumping of the heart. Veins, unlike arteries, carry blood against the force of gravity. They rely on leg muscle contraction and one-way valves inside the veins to carry blood back toward the heart. If the valves in veins fail, gravity keeps blood from flowing back to the heart efficiently. The most commonly asked questions are: "Do veins require treatment?" and "What treatment is best?" Veins that are cosmetically unappealing or cause pain or other symptoms are prime candidates for treatment. If you would like to seek a physician specializing in the treatment of vein disorders, you should remember the word phlebology. Phlebology is the medical specialty devoted to the diagnosis and treatment of patients with venous disorders; and physicians who treat vein disease and dis-



John Mauriello, MD, FACPh
President of the
American College
of Phlebology

orders are called phlebologists.

If you suffer from problems related to varicose and spider veins, you are not alone. It is estimated that more than 80 million Americans suffer from some form of venous disorder. Reading this report is a great first step towards maintaining your leg health. The American College of Phlebology can also help. The ACP has two websites, www.phlebology.org, which is geared toward the healthcare professional and members of the ACP, and the public website, www.healthyveins.org, which was created as a place for the public to find information and assistance. From either website you can find a physician in your area to help you understand your veins and potential treatments. You may also contact the ACP directly at 510.346.6800 for more information.



WE RECOMMEND



Antonios P. Gasparis, MD, RVT, FACS
explains that DVT can lead to serious short and long-term effects.

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"The most feared event is a Pulmonary Embolism (PE) which can be fatal."

MEDIA PLANET

VEIN CARE, 3RD EDITION
FEBRUARY 2011

Managing Director: Allan Chiu
allan.chiu@mediaplanet.com
Editorial Manager: Jackie McDermott
jackie.mcdermott@mediaplanet.com

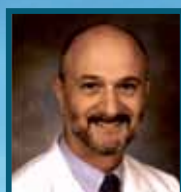
Responsible for this issue:
Publisher: Sussy Castilla
sussy.castilla@mediaplanet.com
Business Developer: Brian Munoz
brian.munoz@mediaplanet.com
Designer: Missy Kayko
missy.kayko@mediaplanet.com
Contributors: Antonios P. Gasparis, MD, RVT, FACS; Faye Brookman; Jade S. Hiramoto, MD, M.A.S.; John Mauriello, MD, FACPh, Joseph A. Caprini, MD, MS, FACS, RVT; Steve Elias, MD, FACS, FACPh; Peter Pappas, MD, FACS

Distributed within:
THE SAN FRANCISCO CHRONICLE
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NEWS

Question: I want to get rid of my varicose veins and wear shorts next summer. Will it require surgery?
Answer: There is a brave new world of non-invasive procedures that can remedy many vein problems.



Non-invasive techniques lead to easy vein remedies

Once an expert has examined and diagnosed your vein condition, the next step is to determine which procedure to select.

Many vein diseases can be treated with local anesthesia, in less than thirty minutes and normal activities can be resumed in a day or two. The treatments range from something as simple as buying compression hosiery to

Star Trek-like microwave devices pulsating light to seal off veins. Physicians note that, ironically, the biggest problems are treating the smallest veins.

Larger varicose veins can be remedied with processes including compression products, Endovenous Laser treatments and, in severe cases, surgical ligation. For many patients, compression hosiery is an option to help lessen the pressure caused by vein ailments.

Many insurance companies will even cover the costs of compression products. New advancements in compression products are now making them more aesthetically pleasing, wearable and easier to put on.

Endovenous Laser treatments are relatively new ways to eradicate deeper varicose veins versus the old fashioned stripping method. "Endovenous techniques using radio frequency and laser energy

have been a huge breakthrough in treating varicose veins," says Dr. Mitch Chasin, medical director of Reflections Center for Skin & Body in Livingston and Bridgewater, New Jersey.

VNUS Closure Fast and ELVeS are two commonly known methods. Both involve a small incision to allow a catheter to be inserted into the greater saphenous vein followed by radio frequency energy to heat the vein causing it to collapse and seal shut. VNUS uses radio frequency energy (low voltage electrical current) to heat the catheter tip. ELVeS uses laser energy to heat the catheter tip.

Today surgical ligation, where problematic veins are tied and shut and completely removed, has mostly been replaced by laser technology or sclerotherapy. Some cases do still require some type of traditional surgery.

FAYE BROOKMAN
 editorial@mediaplanet.com

SMALLER SPIDER VEINS REQUIRE DIFFERENT SOLUTIONS

→ Smaller spider veins tend to react well to other methods such as sclerotherapy where a small needle inserted into the vein is followed by a solution that shrinks the veins.

Tiny veins also react well to lasers and Intense Pulsed Light (IPL). These use different energies to try to damage the tiny veins without hurting the overlying skin. Lasers are used to send very strong bursts

of light through the skin into the vein prompting it to slowly fade and disappear. No needles or incisions are used, but multiple treatments are often required. The laser usually targets one small area of light to zero in on a specific body part. The IPL machine uses a broader spectrum light and covers a wider area of treatment options.

There's also headway being made with a process using a hair-

thin, insulated probe to thermo-coagulate and instantly eliminate vessels on any skin-type and on any part of the body. This, in particular, has the benefit of not prohibiting patients to go into the sun and risk burning.

The best advice physicians give is to know your problem and the type of vein that needs treatment and be prepared to ask the educated questions to find the right procedure.

QUESTION & ANSWER




Jade S. Hiramoto, MD, M.A.S.
 Assistant Professor of Surgery, UCSF Medical Center, Heart & Vascular Center

How can someone identify if they are at risk for venous conditions?

→ The more common venous conditions are disorders of the superficial venous system. These can show up as varicose veins on the legs, swelling of the legs, and discoloration around the foot and ankle. Patients often complain of aching and heaviness in the affected leg, as well as swelling, burning, or itching. Risk factors for superficial venous reflux, (CVI) include gender (more common in women), obesity, prolonged standing, pregnancy, family history, and prior history of Deep Vein Thrombosis (DVT).

What are the warning signs that indicate you should be seen by a doctor for a wound?


→ If you have any history of peripheral arterial disease (impaired blood flow to the legs) or venous insufficiency (impaired blood return from the legs to the heart), or diabetes, and you develop a wound on your foot or leg, you should see your doctor immediately. Wounds that have a surrounding area of redness or drainage, are associated with fevers or chills, or do not demonstrate any evidence of healing also demand attention from a physician.



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NEWS

The truth about varicose and spider veins

■ **Question:** What causes tiny spider veins and varicose veins and do they always require treatment?

■ **Answer:** There are many reasons for vein problems—they aren't all hereditary. Here are the most common venous conditions and how to know if an expert should be consulted.

If you see tiny red or blue veins popping through your skin, don't panic—you aren't alone. "About 40 percent of women and 20 percent of men will have some vein disease in their lifetime," says Dr. Steven Elias, director of the Columbia University Vein

Centers, NY. With the exception of more severe vein issues, the choice of treating the condition is usually up to the patient. "If they bother you, you don't like the appearance or complicate your lifestyle, these are all good reasons to seek treatment. Almost all treatments are now minimally invasive," explains Elias.

There are a myriad of reasons for getting varicose and spider veins. Family history can certainly result in vein disease, but issues can also be brought on by pregnancy, obesity, aging, sun exposure, a sedentary lifestyle or even your profession. "So you can't just blame your parents or

your kids," says Dr. Marc Passman, associate professor, University of Alabama at Birmingham, Section of Vascular Surgery & Endovascular Therapy.

Causes of varicose and spider veins

What is known is that backed up blood in the legs' circulatory system can result in bigger veins that become varicose. Varicose veins can be caused by weak or damaged valves in the veins. Spider veins can be caused by the backup of blood. They can also be caused by hormone changes, exposure to the sun, and injuries. Fortunately, spider veins are not

dangerous and do not turn into varicose veins.

Most vein ailments are not life threatening but can cause some discomfort or a lack of confidence in your appearance. However, if there's extensive pain and swelling, something more dangerous could be lurking in your circulatory system that needs attention. "Only about two to four percent are more severe cases or more advanced ulcers," explains Passman. However, immediate attention may be advised if you see skin ulcers, significant blood loss, sores and discoloration around ankles, swelling or a pulling feeling that could suggest a clot. A venous ulcer

is a visible, shallow open wound. A clot could suggest Deep Vein Thrombosis, DVT, a potentially life-threatening condition.

A diagnosis can be made by a qualified vascular or vein specialist who will discuss symptoms and determine if any other tests, such as an ultrasound, are necessary. Visit the American College of Phlebology's website, www.phlebology.org, to find a board certified doctor in your area. More information is also found at the American Venous Forum www.veinforum.org.

FAYE BROOKMAN

editorial@mediaplanet.com

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INSIGHT

Compression stockings: Wearing is believing



Joseph A. Caprini, MD, MS, FACS, RVT
 Louis W. Biegler
 Chair of Surgery,
 NorthShore University
 HealthSystem,
 Clinical Professor
 of Surgery, The University
 of Chicago
 Pritzker School of
 Medicine

■ Compression stockings represent a wide range of products used to prevent Deep Vein Thrombosis (DVT) including during long flights or ground transportation. They're also used to treat aching and tired legs, control the symptoms of varicose veins, treat Chronic Venous Insufficiency (CVI) and leg ulcers, and prevent Post-Thrombotic Syndrome (PTS). They are often used after

sclerotherapy and by pregnant patients with leg swelling or other leg symptoms.

These products work by improving blood flow back to the heart especially during leg muscle contractions and are key for maintaining leg health.

Stockings with 20-30 mm Hg provide improved leg venous blood flow and are often used to prevent the so called "travelers thrombosis" after long (over five hours) plane flights or car / bus trips. Calf flexing and ankle bending exercises seen in flight magazines will increase leg blood flow and wearing these stockings greatly enhances the effects of these exercises. Use a calf length stocking with pres-

sure highest at the ankle to improve blood flow from the legs. Long-leg stockings are more difficult to apply and wear, and offer little additional benefit unless the patient has had varicose vein surgery or injection

sclerotherapy.

Stockings with 30-40mm Hg are used for leg swelling or CVI, including to prevent leg ulcers, as well as to hasten the resolution of blood clots and prevent PTS. Knowing what type of

stocking to wear is not enough, in the end wearing the stockings in compliance with your doctor's orders will improve your venous condition significantly.



FITTING COMPRESSION PRODUCTS



Application and removal of stockings

➔ Stockings have a bad reputation for being difficult to apply or remove but with a few simple tricks this task is easily accomplished. This is particularly true for the 30-40mm Hg varieties. Rubber gloves can be used to get a better grip on the hose, smooth out wrinkles and make application

easier. The use of a slipper can ease this process along with a rubber pad that can be used for traction when applying or removing the hose. One can push the stocking over the heel using this pad and reverse the process removing the garment. In patients who cannot apply the hose, a velcro device can be used to achieve the same purpose as stockings.

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NEWS

Question: How do I know if sclerotherapy is right for me?

Answer: Know what to expect of the procedure.

Sclerotherapy: Not for every vein, not for everyone

Veins come in three sizes: small, medium or large. In general, veins appropriate for sclerotherapy (injections) are either small or medium.

Spider veins, those small red or purple veins on the skin surface, are the most common types treated by sclerotherapy. With the use of new techniques (foam) and new solutions (recently FDA approved) medium sized veins also have the option of sclerotherapy. Not every vein can be treated though, bulging varicose are treated with other technologies and techniques.

VEIN RESOURCES

Risk assessment tools:

www.venousdiseasecoalition.org/resources/dvt-pe-ris-kassessment.php

Upcoming screenings:

www.veinforum.org

Patient Information:

www.veinforum.org/index.php?page=patients

www.phlebology.org/patientinfo/index.html

■ **How does it work?**

A very small needle is placed into the vein and medicine is injected. This medicine causes a low grade inflammation of the vein. As the vein recovers from this reaction, it scars and shrinks, sealing the vein so no blood is in it. The vein then fades over time.

■ **What type of solution is used?** The solutions are: detergents, salts or sugars. All of these have been used on thousands of patients over the years. The most recent FDA approved solution is a detergent used outside the US for many years. These solutions are extremely safe with minimal complications in a vein specialist's hands.

■ **How is the type of solution picked?** Vein size, location and physician experience best determine which solution is used. There is not one perfect solution for every vein and your treating physician should be familiar with a few so he can appropriately treat all types of veins.

■ **How and where are treatments done?** All treatments are done in office, take 15-30 minutes and allow you to walk immediate-



**Steve Elias MD
FACS FACPH**
Director,
Columbia Vein
Centers Columbia
University NY,
Englewood Hos-
pital NJ

ly after the procedure. At the end of the procedure some type of compression is usually applied. These are worn from days to weeks depending on each physician's preference.

■ **What results can be expected?** Sclerotherapy is not perfection. Most patients feel they look 75-80 percent better. If you expect perfection, please reconsider treatment. Sclerotherapy is also a chemical process: a solution is put into the vein; the vein reacts, and the vein shrinks over time. The process typically takes weeks to a few months for full results. At times, areas may need re-treatment. When patients understand these limitations, they are happier with the results.

■ **Are treatments covered by insurance?** Most insurance companies don't cover cosmetic procedures. Most veins treated by



SCLEROTHERAPY. Dr. Elias injecting a patient with sclerotherapy.
PHOTO: DR. STEVE ELIAS

sclerotherapy are not the cause of patient symptoms. At times treatment for complications such as bleeding may be covered. In the US, treatment session costs range from \$300-\$500.

■ **What are some of the complications?** Pigmentation (darkening) of the skin overlying the treated veins is the most common one. This usually fades on its own over time and may be helped by laser therapy. These occur about one percent of the time.

■ **What about laser or microwave surgery for my veins?**

Ninety percent of small veins are best treated by sclerotherapy, smaller ones may respond to laser or microwave treatments.

■ **If veins are bulging can sclerotherapy still be an option?** With the use of ultrasound guided foam sclerotherapy somewhat larger veins can now be treated. This involves placing a needle into the veins while visualizing them with ultrasound. The advantage of this technique is that veins that are under the surface can be treated and the physician can be sure that he has treated all the abnormal veins, not only those visually seen. If veins are too large, other options are available.

Finally, seek out a vein specialist (phlebologist) that utilizes all modalities to treat your veins. All veins like people are not the same. Different types of people need to be treated differently. Veins need the same approach for best results. If opting for sclerotherapy, understand it has limitations, results take time and it offers significant improvement but not perfection.

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Not an actual patient

INSPIRATION



Will you be affected by DVT?

Question: Do I need to worry about DVT if I am a young, healthy woman who is active?

Answer: Yes. It's important to know your family history and other risk factors.

HOW I MADE IT

Caitlin Augustine is a pretty 22-year old blonde hoping to attend graduate school where she can complete a degree in social work with a goal of helping others.

She is also a face of Deep Vein Thrombosis (DVT), a blood clot that forms in a vein deep in the body. A DVT can break loose and cause a Pulmonary Embolism (PE) in the lung, sometimes leading to a heart attack or stroke. Augustine hopes to alter the notion that DVT only affects the elderly. When diagnosed and treated early, DVTs are not life threatening; that's why Augustine is on a campaign to help people know the warning signs.

"No one thinks things like this can happen to them until it does. DVT is not an old person's condition.

Just because you're young doesn't mean you're not at risk," explains Augustine who encourages people to know their family history to help determine their risks. "You need to research everything from heart attacks to strokes to piece together what could lead to DVT."

Know the risk factors

According to Augustine, anyone can develop DVT and the more risk factors, the greater the risk. Factors include hospitalization, recent major surgery or injury, personal or family history of a clotting disorder, like Factor V Leiden, or DVT, cancer and cancer treatments, pregnancy, use of hormone replacement therapy or birth control products, extended bed rest, prolonged sitting when traveling, obesity and smoking.

Augustine was misdiagnosed since she was nine years old. In fact, some remedies in retrospect probably only exacerbated her condition. A catheter inserted following a salmonella infection most likely

"No one could understand how an 18-year-old, active, healthy girl had such a massive clot. I had never heard of DVT, and I was terrified."



Caitlin Augustine
Advocate and patient with Deep Vein Thrombosis and Post-Thrombotic Syndrome

helped trigger her condition. Doctors attributed abdominal pain to sciatica and prescribed birth control pills that Augustine believes only fueled the clot. Finally, following the removal of her tonsils when she was in college she was in such turmoil that she underwent a CAT scan that revealed a massive DVT that ran from behind her knee, through her thigh, into her abdomen and into the main vein to her heart.

"I was immediately sent to the ER where doctors told my family I probably wouldn't survive. No one could understand how an 18-year-old, active, healthy girl had such a massive clot. I had never heard of DVT, and I was terrified," she recalls.


Research on the internet directed her to the Venous Disease Coalition where she finally found answers and help. The fact that she was so young and suffering from DVT generated national coverage on "The Nightly News with Brian Williams" and her story is part of a

national campaign dedicated to reducing vascular disease called This Is Serious (www.thisisserious.org) encouraging women to talk to doctors about their risks. "I realized I could do so much positive for others," she explains.

An important, albeit unglamorous, mission

There are days when Augustine admits she is in so much pain from Post-Thrombotic Syndrome that she can't get out of bed and she remains on injections to reduce clots. She is mindful of doing too much activity and is concerned about the challenges pregnancy can deliver for her down the road. But her main goal is to help others and raise awareness of DVT. "It isn't glamorous and most people don't know much about clots. I hope my efforts can make everyone more aware of the symptoms."

FAYE BROOKMAN
editorial@mediaplanet.com



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INSIGHT

Prevention of Post-Thrombotic Syndrome

↓ ARE YOU AT RISK?

Below are some of the risks for Deep Vein Thrombosis (DVT)

- Prior or family history of Deep Vein Thrombosis (DVT), a blood clot, and Pulmonary Embolism (PE)

- Traveling long distances (over five hours)

- Accidents resulting in leg fractures

- Taking oral contraceptives or hormone replacement therapy

- Blood coagulation disorders (such as Factor V Leiden)

- Being Overweight/Obese

- Smoking

- Age > 40

- Restricted Mobility

- Having undergone surgery

- Congestive Heart Failure

- Cancer

- Respiratory Failure

- Infectious Diseases

Deep Venous Thrombosis (DVT) can lead to serious short and long-term effects. The most feared event is a Pulmonary Embolism (PE) which can be fatal.

The most common long-term complication is Post-Thrombotic Syndrome (PTS). PTS can cause serious complications in the lower limbs leading to poor quality of life, and increased cost to the patient and healthcare system.

What is PTS?

→ Following thrombosis, veins are damaged and blood flow is compromised. Clinically, PTS is characterized by leg swelling, itching, a burning sensation, chronic pain and heaviness with some

patients developing skin discoloration or leg ulcers. Generally, one out of three people who had DVT will develop PTS within five years.

Who is at increased risk?

→ Patients with extensive clot in the large veins above the knee are more likely to develop significant PTS compared to those with minimal amount of clot. In addition, patients with repeat episodes of DVT are at highest risk.

How to prevent PTS?

→ There are several options to prevent PTS. The best way is to prevent thrombosis. If thrombosis occurs, the standard therapy is blood thinners known as “anticoagulants” for six to 12 months. However, these medicines play a limited role in preventing PTS. Compres-



Antonios P. Gasparis, MD, RVT, FACS
Assistant Chief
Medical Officer,
Division of Vascular
Surgery, Associate
Professor of Surgery,
Director, Stony
Brook Vein Center



KNOW THE SIGNS. Patient with previous DVT & skin changes consistent with advanced PTS.

PHOTO: DR. ANTONIOS GASPARIS

sion stockings will improve clinical symptoms and must be worn for at least two years.

What is the role of early clot removal?

→ There are now minimally-invasive treatment options to remove blood clots. Thrombolysis allows physicians to use devices and medication to break down, dissolve and aspirate clots, thus re-establishing normal blood flow. Early clot removal minimizes damage to the veins, prevents recurrent

thrombosis, reduces PTS and improves patient quality of life.

Prevention of DVT, early recognition and appropriate management are essential to prevent PTS. Current research is focused on developing better medications and devices to improve even further results of DVT treatment.

Because varicose veins aren't sexy.

For questions, or to schedule an appointment, please call the Vein Center at 415-750-5545.



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