



## PERFORATOR VEIN ABLATION

### A PROCEDURE FOR PUNCTILIOUS PRACTITIONERS

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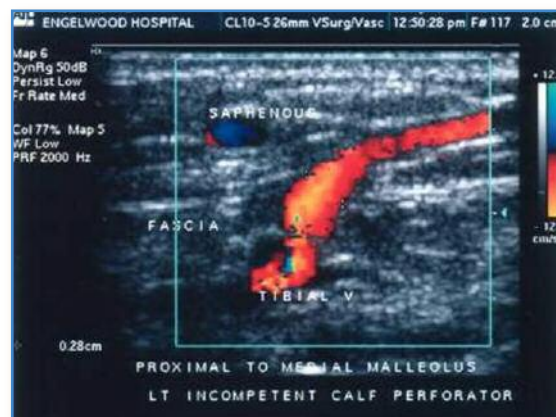
The treatment goals for venous disease are to decrease global venous hypertension, improve symptoms, improve cosmesis, minimize morbidity, heal wounds and prevent recurrence. Recent advances in endovascular venous interventions such as thermal ablation have broadened our understanding of pathophysiology and treatment strategy in patients with chronic venous insufficiency (CVI). Ablation of refluxing Great Saphenous and other axial veins is well documented and well accepted. The treatment and removal of Incompetent Perforator Veins (IPV) continues to be a topic of debate. Open surgical removal of IPV has been all but abandoned (Linton Procedure) while minimally invasive methods such as Subfascial Endoscopic Perforator Surgery (SEPS) have gained limited acceptance. Other minimally invasive methods for the management of IPV have emerged and can be

encompassed by the term first used by this author in 2005: Percutaneous Ablation of Perforators (PAPs). The three methods for PAPs include chemical ablation (sclerotherapy), radiofrequency thermal ablation and laser thermal ablation. For the purposes of this short article we will focus on laser ablation. Proposed advantages of PAPs with laser:

- Performed in an office or ambulatory surgical setting most often with only local anesthesia and minimal or no sedation.
- Theoretically a percutaneous approach should decrease wound infection complications to zero compared to open surgery or even endoscopic methods.
- Minimal postoperative pain and discomfort is easily managed

with OTC non-steroidal anti-inflammatory drugs with many patients needing nothing at all.

- If in the course of lifelong follow-up, patients develop new or recurrent



Incompetent Perforator Vein (IPV)

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## GET MORE FROM YOUR LASER

Many patients seeking endovenous laser treatment will also seek treatment for spider veins. While experts recognize sclerotherapy as the gold standard for treating telangiectasias, transdermal laser is also known to be effective in treating selected types of spider veins.

Diomed offers an economic laser option to physicians who would like to provide some transdermal treatment without the monetary commitment associated with a stand-alone transdermal laser. More specifically, in selected patients, a laser equipped with a Spot Handpiece can be used to clean up fine red spider veins after the underlying reflux has been treated.

Not all endovenous lasers are able to offer a transdermal option. This is an important consideration and unless a physi-

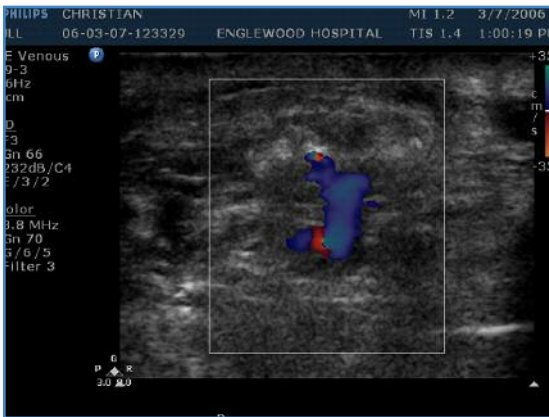
cian is going to develop a considerable "cosmetic" patient following to generate return, it is hard to financially justify a dedicated transdermal laser that may represent capital investment in excess of six figures.

Instead, the physician who has a Diomed Spot Handpiece has the flexibility to use this transdermal option as both a practice builder and a revenue generator. As a practice builder, a physician may decide to offer selected patients some limited transdermal therapy at no charge when they have an EVLT® done. This can help drive patient perception of greater value because the physician is not under pressure to treat a steady stream of patients to meet ROI for a six-figure transdermal laser. From a revenue standpoint,

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IPVs, PAPs is easily repeatable with minimal morbidity.

- Compared to SEPS, location of IPVs may not be as much of an issue. In areas close to the malleolus, if a perforator can be visualized on ultrasound, it can be accessed and ablated.
- The procedure is well tolerated and readily accepted by patients, compared to alternative treatments or living with the symptoms of severe CVI.



Post PAPs - No Flow Above Fascia

Possible Disadvantages of PAPs with laser:

- Missed IPVs. Only IPVs visible under ultrasound can be treated and no matter how diligent one is during the preop duplex exam, a certain number of IPVs will not be identified. The “hypertensive threshold” concept may be important. Perhaps we need to decrease the venous hypertension below a certain level to maintain ulcer healing. Thus missing an IPV, but ablating most may be enough to attain a good clinical result.
- Skin injury, nerve injury, deep system injury, including DVT, are all potential disadvantages of PAPs. Fortunately, in this author’s hands, none of these complications have occurred. However, caution is advised as acceptance of PAPs grows and long-term data becomes available.
- There is a “learning curve” associated with PAPs. To access the relatively small IPVs (3-5mm on average), one needs to be quite facile with ultrasound guided percutaneous access.

Diagnosis and clinical criteria:

- Before PAPs, all saphenous or axial reflux should be treated. This may relieve

the patient’s symptoms and result in acceptable clinical improvement. However, many perforators in the lower leg do not communicate with the saphenous system, and if incompetent will need to be treated.

- This author recommends that ablation of IPVs be reserved for patients categorized by CEAP classification 4 or higher (Clinical Severity, Etiology, Anatomy, Pathophysiology). However, at the physician’s discretion, fulfillment of the criteria below may override this guideline
  - Reversal of flow >0.5 seconds
  - Perforator/vein/diameter >3.0mm. Almost 100% of perforator veins >4.0mm in size are not properly functioning. Therefore, size at the fascial level in the presence of an ulcer or significant skin changes may be the only criteria for incompetence.

Diagnosing IPVs by ultrasound requires practice and a thorough understanding of venous anatomy. When imaging for perforators, it is important for the patient to sit with the leg dependent while facing the U/S technician, such that pressure from gravity pulls the blood down into the perforators.

Procedure:

- Unlike the relatively straightforward and easily repeatable procedures for treatment of the GSV, the location and anatomy of IPVs will vary greatly from patient to patient. Therefore, a general protocol for laser ablation of IPVs can be followed, but through experience physicians will develop a “feel” for how to successfully ablate IPVs.
- With the patient in the reverse Trendelenberg position, the target perforator is accessed under ultrasound guidance with a 21-gauge micropuncture needle. Intraluminal placement is confirmed by ultrasound and the aspiration of blood.
- A 0.018” guidewire with a short floppy tip, such as the one found in the Diomed Perforator Ablation Kit, is passed through the needle into or just proximal to the deep vein.
- The needle is removed and a 4 French

sheath with introducer is passed over the wire. A fairly stiff introducer is needed in order to easily penetrate to just below the fascial plane.

- The dilator and guidewire are removed from the sheath and a 400 micron optical laser fiber is passed into the sheath.
- The fiber should be exposed at least 1cm from the distal tip of the sheath and positioned under ultrasound guidance so that the fiber tip is just below or coincident with the fascia and at least 1cm away from the deep vein. The Diomed kit provides a SiteMark™ on the fiber and a mechanism for locking the fiber and sheath combination together to aid this step.
- A small amount of tumescent anesthesia (dilute lidocaine) may be injected around the perforator at this time.
- Before delivering laser energy it is important to provide external compression with the ultrasound probe to ensure laser fiber – vein wall contact.
- As stated above, the anatomy of perforator veins varies greatly and “ideal” energy delivery may not always be possible. The goal should be to deliver energy (70 – 90 Joules/cm) to the longest segment of perforator vein possible.
- Set the laser to 14 or 15 watts and deliver energy for 5 or 6 seconds just below the fascia (but at least 1cm away from the deep vein), and again just equal to the fascia. Put another way, areas approximately 1 to 2mm apart should be treated as the fiber is with-



EVLT® Perforator Ablation Kit

drawn with a total of two to three segments.

- Following delivery of laser energy, the treated vein should be examined with ultrasound. Duplex scanning should confirm the absence of flow in the treated segment(s) along with patency of the deep vessels.
- Wrap the treated area of the leg with a pressure bandage with direct pressure over the treated perforator, accomplished with a cotton ball or similar pressure pad.

This author's clinical results:

- 31 IPVs treated by laser ablation
- 100% initial success
- 26/31 remain closed at 3 months (84%)

- Symptom improvement – 100%
- 11/12 ulcers healed
- No significant complications (nerve or vessel injury)

Summary:

All published or presented series on PAPs have shown that it is a safe procedure with minimal complications and/or post procedure discomfort. It would appear that given enough energy, short-term success can be expected. A number of studies have addressed the “natural history” of recurrent or new perforating veins. Surgeons treating IPVs need to accept the reality that recurrent or new IPVs will develop in patients over time.

This does not mean that treating IPVs is a futile pursuit. It is merely a fact that despite our best efforts, present techniques, technology, and knowledge cannot completely halt the progression of chronic venous disease.

This is an exciting time to be a surgeon in the field of venous disease. Ultrasound, ablative technology and knowledge will continue to improve. Early results for PAPs are extremely encouraging but longer follow-up and more experience is needed, while continued surveillance and early intervention is employed.

## PRODUCT UPDATES

### EVLT® PERFORATOR ABLATION KIT

Incompetent perforator veins (IPV) can now be effectively treated with the speed, ease, and targeted energy of laser using Diomed's new kit for perforator vein ablation. With features like a micro-fiber, SiteMarks™, a custom-designed short “floppy” tip guidewire, and a 4Fr introducer with a stiffer dilator, access, positioning and treatment are much easier.

### SPOTLIGHT OPS™ SHEATH

Introducing the new < 4Fr Spotlight OPS™ sheath, a quantum leap in sheath technology that sets a new standard for size, speed, and visibility. Designed in collaboration with leading interventional physicians, the Spotlight OPS™ sheath has all the features to make an already efficient procedure even more so. Performing EVLT® has never been easier:

- **SMALLER:** < 4Fr sheath provides one of the smallest profiles in the market.
- **FASTER:** Unique self-dilation technology eliminates the need for a separate dilator – the result: less components, less exchanges, faster procedures.
- **BRIGHTER:** Tungsten-loaded tip provides superior echogenicity where you need it most in a smoother, atraumatic tip.

## (CONTINUED FROM PAGE 1) GET MORE FROM YOUR LASER

the physician can also offer this transdermal option to patients on a fee-for-service basis. For example, it would not be unreasonable to charge a minimum of \$50.00 per session (fees are influenced by region) for transdermal treatment of fine red spider veins.

As always, proper management of patient treatment expectations plays a very

important role. Matching the right patient with the right treatment option will always be a priority. Vein size, color, and skin type are all important patient attributes the physician will factor in to developing an appropriate treatment plan.

The Diomed Spot Handpiece is recommended for treating veins 1.5mm or smaller and red in color with patients hav-

ing a skin type of I, II, III, or IV (based on the Fitzpatrick Scale). The Diomed Spot Handpiece should also be calibrated each time it is connected to the laser.

For more information on the Diomed Spot Handpiece, please contact your EVLT® sales consultant, or (866) 434-6633 x 820.

## UPCOMING EVENTS

March 15<sup>th</sup> – 20<sup>th</sup> 2008  
SIR- Society of Interventional Radiology  
33rd Annual Scientific Meeting  
Washington, D.C.

March 29<sup>th</sup> – April 1<sup>st</sup> 2008  
ACC- American College of Cardiology  
Annual Scientific Session  
Chicago, IL

June 5<sup>th</sup> – 8<sup>th</sup>, 2008  
SVS- Society for Vascular Surgery  
Vascular Annual Meeting  
San Diego, CA



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## PRACTICE BUILDERS - STRAIGHT TALK ABOUT ANSWERING THE PHONE AT YOUR OFFICE

*Brian Neff is a partner in Vein Marketing Resource, one of the most successful vein marketing service organizations. His company's training and marketing services are available to all Diomed customers. You can reach Brian at (801) 623-1301 or by email at [bneff@mmresource.com](mailto:bneff@mmresource.com)*

**If you want an experience that is more sobering than guzzling the largest coffee available at Starbucks, take a second and listen to your receptionist answer the phone.**

When was the last time you covertly, or not so covertly, listened while this person made the pitch to get a prospective patient into your office for treatment? Chances are, after this experience, you'll have a whole new sense of enlightenment about what goes on in your practice.

The point is this: If your receptionist, or anyone else answering the phone in your office, isn't doing a fantastic job, you are the one – not them - that will ultimately deal with the consequences. In a maturing marketplace where your competitors understand the principle of call conversion and you don't, the consequences can be drastic. And if you're worried that your newfound enthusiasm about receptionist duties may seem a little over zealous, kill that thought right now. It's your office. It's your practice. It's your livelihood.

Most physicians spend their day in the back office. Their life consists of moving from one procedure room to another - only to find themselves dictating charts when the patients and staff have long since gone home, and then finally shutting off the lights and locking the door as they are the last to leave. At some point, most doctors developed the idea that they are clinically competent and if patients are getting great care, everything else will sort itself out.

But in the real world of business, inattention to converting calls into patients is a recipe for failure.

**The lowest paid position in your office has the most impact for the success or failure of your entire practice.**

If you don't think answering the phone properly – or what we call “converting calls into patients” - is serious business, take out your calculator and do a little math. First, consider the cost of advertising. It might surprise you – then again, it might not – that it costs a considerable amount of money to get a single potential patient to actually pick up the phone and call your office. Every time the phone

thing right and had no need for training. She was pleasant enough, efficient and had a wealth of knowledge about Superficial Venus Insufficiency that she would give freely to anyone and everyone that called. In fact, the physicians at her office thought she was doing everything right. But the truth was she was losing a lot of calls to her competitors due to her lack of a few simple skills - skills that can be easily learned.

Once we helped her learn a few techniques, she was able to convert a few more calls each week. Still got your calculator turned on? Try adding a few new patients to your practice each week and see how that affects your bottom line.

The results of proper call conversion are staggering. Which gets us back to the idea or question we mentioned earlier: Can you really afford to have the lowest skilled and lowest paid employee answering your phone? The answer should be obvious.

**Ensuring your office staff knows that the stakes are high.**

There's a good chance that the majority of your staff believe that regardless of what happens during their workday, they'll still get paid. Since most physicians don't share the financial ramifications of what goes on day in and day out at the office, it's not likely the staff would have any clue about the solvency of the business. That said, forward-thinking practices share details with their employees about what it takes to keep the lights on each month. Successful offices create incentive packages that encourage staff to include call conversion in their list of best practices.

*(Continued on page 6)*

### Telephone Tip

**\*A Positive Attitude Always Wins the Day\***

When a potential customer calls and makes a comment like this:

**“I've heard treating my veins is expensive,”** you could debate that point with them and potentially lose the appointment. Or, you could take a positive approach and reply, **“You're right, it is very expensive. But it's one of the best things you'll ever do for yourself. You wouldn't believe how happy our patients are after their treatments.”**

rings and the call is mishandled, it's money – your money – down the drain.

Even more, consider the cost of the lost opportunity. A few years ago, our staff retrained a receptionist in an effort to convert a higher percentage of inbound calls. The funny thing was this – the receptionist thought she was doing every-

## PRESIDENT'S LETTER

### GREETINGS!

As we reflect on the past year and move into 2008, I want to offer my personal thanks to our many physician partners in the field of endovenous laser treatment – you now number more than 1,350 thriving practices and this number continues to rise. Last year brought Diomed a victory in the patent court and we delivered record revenues, with our largest increase coming from sales of EVLT® procedure kits and supplies. Additionally, as patient awareness and medical community knowledge grows, our mutual success is clearly demonstrated by the number of EVLT® procedures performed --- now totaling more than 140,000. We are proud to be the company you have chosen to work with, and we promise to

keep working hard for you and your patients.

In this issue of *Spotlight on Veins* we will focus on Diomed's industry leading practice enhancement programs and product innovations. Specifically, you will learn more about our two newest products: our cutting-edge EVLT® OPS procedure kit (**O**ne **P**iece **S**heath) and a new, first to market EVLT® Perforator Vein Ablation Kit. With the addition of these kits, it is evident that today's vein practice must be equipped to provide treatment well beyond the GSV.

When you partner with Diomed, you gain access to unequaled technology, support and practice development programs. We know that our success depends upon

how well we support your practice and help you achieve your professional goals. Each and every one of our employees stands ready to respond to your current and future needs. Let us know how we can help you!

### EVLT® --- Proven, Patented and Preferred

Sincerely,



James A. Wylie, Jr.  
Diomed Chief Executive Officer  
and President

## MEDICARE REIMBURSEMENT- 2008

Since CMS released preliminary guidance on 2008 Medicare reimbursement in the fall of 2007, there have been multiple proposals, predictions, legislative amendments, and ongoing changes and we may not be done yet!

Ultimately, there are two issues that will affect physician payment for *all* services (not just EVLT®). The first is a 7% reduction in physician work RVUs (Relative Value Units). This applies to all physician services and became effective January 1, 2008.

The second change, an update to the physician fee schedule, began with a proposed reduction in physician payment of 10.1%. Updates to the physician fee schedule are based on a statutory formula in section 1848(d) of the Social Security Act. The formula is outdated, but cannot be changed without changing the statute. This requires an Act of Congress.

Congress has been reasonably responsive to the unfair nature of a proposed 10.1% reduction. An Amendment was passed by the House and Senate on December 19, 2007 and signed by President Bush on December 27, 2007. The Amendment provides for an increase in physician

payment of 0.5%, effective January 1, 2008 to July 1, 2008. If nothing changes by July 1, 2008, the 10.1% reduction will be put into place. Meanwhile, Legislators, including Max Baucus (D-Mont), Chairman of the Senate Finance Committee, is working on legislation to extend the current pay fix.

**What does this mean to physicians and practices that perform EVLT®?** The changes discussed above will affect all procedures. However, EVLT® can still generate revenue even from the first patient treated (ask your Diomed representative to create an ROI for your practice).

2008 Payment for EVLT:

- When procedure is performed in the physician's office: \$1,642.82
- Professional payment when EVLT is provided in a facility (ASC or HOPD):

\$326.54

- Facility payment to a freestanding ASC: \$1268.88
- Facility Payment to a hospital based Operating Room: \$1645.92
- **POSITIVE NEWS FOR EVLT PRACTICES:** According to Medicare Part B News (Oct 2007) the denial rate by Medicare for EVLT claims is only 12% compared to radiofrequency at 26%. Although there is no way of knowing the reason for the denials referenced by this report, you can be confident that Diomed's reimbursement team continues to work on your behalf.

For more information contact Reimbursement Services at: (623) 322-0803.

CODE	DESCRIPTION	PAYMENT	NUM.	TOTAL
99202	Expanded Problem Focused E&M	\$62.25	1	\$62.25
93971	Duplex, venous, uni/ltd (ext)	\$122.65	1	\$122.65
36478	EVLT®	\$1,642.82	1	\$1,642.82
99212	Problem focused	\$37.17	4	\$148.68
93971	Duplex, venous, uni/ltd (ext)	\$122.65	4	\$490.60
	<b>Total For Treatment</b>			<b>\$2,467.00</b>



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## PRACTICE “JOULES”- DIFFICULTY WITH VENOUS ACCESS

Herman Pang, MD, Associated Thoracic & Cardiovascular Surgeons, LTD, Scottsdale, AZ

One significant benefit of EVLT® is a minimally invasive approach that requires no incisions. This is due in large part to the percutaneous approach utilized to access the varicose vein. Diomed's EVLT® Procedure Kit includes a 19-gauge percutaneous entry needle. Additionally, many physicians have chosen to also use a Micropuncture Kit which utilizes a 21-gauge needle. There are times, however; when one has extreme difficulty accessing the vein or the vein goes into spasms with no discernable lumen to do the percutaneous approach. In the past, I use to have to bring these patients back in for another attempt, which may or may not be successful. Here, I describe a possible solution to this rare but vexing dilemma.

In a situation where the micropuncture technique does not work and where the patient has given permission, I have heavily anesthetized the entry site. The ultrasound image can usually calculate the depth of the vein to be accessed. The micropuncture needle is inserted under ultrasound guidance to the varicose vein. A small incision is made, cephalad to the needle, approximately 1 cm in length. A sterile hemostat or small right angle clamp is carefully inserted and positioned behind the vein. The micropuncture needle will aid in locating the vein. The vein can be brought up to the operative field and under direct vision, the vein can be cannulated and the procedure completed, as per EVLT® protocol. Once the proce-



cedure is complete, a suture can be tied around the distal downstream portion of the vein and the 1 cm incision closed with a subcuticular technique.

I have done this technique on several patients with very satisfying results. The small 1 cm incision does leave a small scar, but almost always the patient is grateful to have the offending vein successfully treated.

## (CONTINUED FROM PAGE 4) STRAIGHT TALK ABOUT ANSWERING THE PHONE AT YOUR OFFICE

### A little training goes a long, long way to producing substantial revenue for your practice.

There's a possibility that you've got a great staff with a winning attitude. Chances are, they just need a little training. In a competitive marketplace, the best-trained receptionist usually gets the appointment, when a potential patient is shopping around for medical services.

But here's a part that can get a little confusing: Best trained doesn't mean best at giving out information. Some receptionists – in their quest to bring patients

into the office – become purveyors of information rather than helpful appointment setters.

That's a distinction that's important to note. When you hear your receptionist thoughtfully explaining the nuances of running a laser fiber through a sheath inserted through a catheter, you know they are on the wrong track. Trying hard to win the patient? Yes. Being most effective at setting an appointment? No. Just remember this: an information download doesn't bring a patient into your office, it usually confuses them. The best call converters

are the ones that ease the caller into an appointment. It's just that simple.

### Take a moment and review your practice. Your success depends on it.

We've never seen a practice that doesn't need a little bit of help. Even the best offices need to brush up on their skills now and then. With all you've got riding on the performance of your staff, you owe it to yourself to take stock and make the changes that will make you successful.

## LETTER FROM THE EDITOR

In this issue of *Spotlight on Veins*, I would like to introduce a new column, “Practice Joules”. Practice Joules is a vehicle for Diomed customers to share their best practices amongst one another. For its inaugural viewing, Dr. Herman Pang has kindly shared a best practice technique on venous access.

Your commitment and dedication to vein care is invaluable and I encourage you to share your thoughts and ideas in an upcoming issue. *Spotlight on Veins* is also now online at [www.evlt.com](http://www.evlt.com). To contribute to a future newsletter, please contact me. I look forward to hearing from you!

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