

## **How I use the Veinlite transilluminator**

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### **Introduction**

When dealing with lower extremity varicose veins, a practitioner should first exclude truncal saphenous reflux or treat it, if present. Then the patient is typically left with a combination of bulging varicosities, reticular veins and spider vein complexes. These are mostly of cosmetic concern.

While bulging varicosities may be treated by phlebectomy or sclerotherapy, it is universally agreed that reticular veins are best treated by sclerotherapy. These subdermal reticular veins, which appear blue, are often referred to as 'feeder veins', as they supply the more visible spider vein complexes. By treating them, the spider vein complexes are weakened and often disappear.

Depending on skin color and quality, and unlike spider veins, reticular veins may be difficult to see with the naked eye. Unlike varicosities, they are difficult to palpate as they do not bulge. Veinlite is a transillumination device which helps us in visualizing these reticular veins.

### **Transillumination and Side-Transillumination**

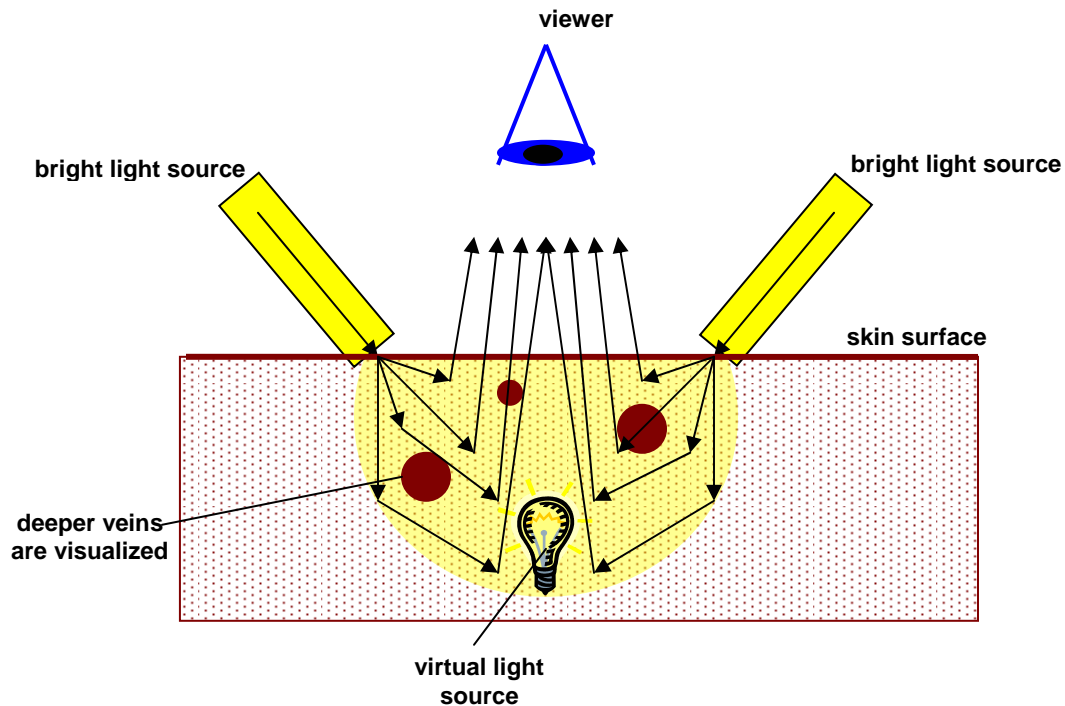
Transillumination, i.e. shining light through an object, has been used for many years to aid visualization of superficial veins. However, classical transillumination is of limited use since light is absorbed by body tissue and can not pass through thicker body parts.

A new patented transillumination method, called Side-Transillumination, removes the need to transmit light through an object. In side-transillumination, light shines into the skin at an angle from outside the area of interest. A circular array of bright fiberoptic lights is directed to the circle's center, and inclined at an angle, so the light is focused below the skin surface. The focused light creates a conical volume of illumination, with the central focus acting as a virtual light source under the skin. This technique achieves uniform transillumination of a small region of tissue, anywhere on the body.

Veinlite uses a very bright ring light, or ring illuminator, to form a virtual light source at a depth of approximately 1 cm. Blood vessels are seen with great clarity. Varicose and feeder veins are easily identified and can be accessed through an opening in the ring.

See Figure 1.

Figure 1, Side Transillumination



## Technique

To me, the Veinlite transilluminator is much more than a visualizing aid. In the following paragraphs, I will describe how I use Veinlite and its versatility.

### Patient education

Unless they are fair skinned, patients usually do not complain about their reticular veins. By transilluminating the skin, the practitioner can show the patient how the feeder vein is the foundation of the overlying spider vein complex. Then patients easily understand the logic behind treating the reticular veins. Within minutes of meeting you, the patient will be educated and convinced.

### Key to successful sclerotherapy

After I visualize the vein to be treated, **I press lightly on the skin with the Veinlite ring and pull it back, stretching the skin in the direction opposing the opening in the ring.**

To me this action is the key to successful sclerotherapy as it achieves two vital objectives:

First, it stabilizes the vein and facilitates accurate entry of the needle into the stabilized vein that does not 'run away' from the needle.

Second, it tightens the overlying skin and permits an almost painless entry through the skin into the vein, which would be difficult otherwise, especially if the skin is loose and or redundant. This is particularly useful when treating older patients, with sagging skin, and is vital when doing sclerotherapy on reticular breast veins. See Figure 2.

Figure 2, Vein Stabilization and Injection Technique



#### **Additional technical points**

After securing entry into the vein, confirmed by blood return, I gradually release some of the pressure that I originally applied to the skin by pressing on the Veinlite ring. Then, using a 3cc luer lock syringe with a 30 gauge needle, and with minimal force on the plunger, I gently inject sclerosing agent. As soon as I see the vein segment within the ring blanch, I re-exert pressure on the skin by pressing on the Veinlite ring and I keep my thumb firmly on the plunger for around 10 seconds. This minimizes the rapid refilling of the vein with blood and allows the sclerosing agent to stay in contact with the intima for longer.

In general, I start with the patient in the supine position and work on the anterior limb, from just above the ankle up to the groin. Then, I ask the patient to roll (one quarter turn) laterally and I do the same procedure on the outside of the limb. The patient rolls again to lie prone and I treat the posterior limb. Finally, after the patient rolls again, I perform the procedure on the inside of the limb.

Compression stocking is used after the treatment, applying a light, thigh high liner under it. The liner allows for easier application of the stocking and keeps it clean.

To help the Veinlite ring slide easily over the skin, I ask patient not to apply any lotion to their legs the on day of treatment, and I spray the skin with 70% alcohol. Between patients, the ring is cleaned using lint free gauze and 70% alcohol.

#### **Limitations of the Veinlite**

For the technique to be most effective, a tight seal is needed between the ring and the skin. This is difficult when treating over bony prominences such as the

ankle, anterior shin or knee cap. This limitation may be overcome by using a smaller ring on these difficult areas. However, the smaller ring is more difficult to use, owing to its smaller opening.

The second limitation is that the phlebologist is obliged to perform the aspiration of blood and the injection of sclerosing agent, with a one hand technique, as the other hand is holding the ring. While this is easy for some of us, others find it more difficult. Fortunately, there are new devices that facilitate the one hand injection technique.

## **Other uses for Veinlite**

### **Assisting in mini-phlebectomy**

My preferred method for treating bulging varicosities is mini-phlebectomy. The sites of puncture must be accurately marked on the skin. Most of us do this with the patient standing. However, when the patient lies down to undergo the phlebectomy, the skin marks applied when standing become inaccurate. I have 'found the mark', so to speak, when the patient is lying down in position for phlebectomy or is undergoing phlebectomy, when I look with Veinlite. So now, I use Veinlite to accurately mark my stab sites with the patient in the operating position and the leg positioned exactly as it will be after the skin is prepped and the leg draped. See Figure 3.



Figure 3, Marking In Position

### **Aiding in evacuation of trapped blood:**

Occasionally, blood becomes trapped in a treated vein. This can be painful or annoying to the patient and may cause skin discoloration. Practitioners recommend evacuating this by performing a stab with an 18 or 20 gauge needle. While this is often easy to do, because the vein is hard and palpable, you can achieve a more exact and less painful stab if you use Veinlite to guide your way.

**“There isn’t a leg sclerotherapy session that I don’t use the Veinlite in. “**