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Endovenous Laser Therapy INFORMATION & TREATMENT INSTRUCTIONS

Varicose veins are extremely common, occurring in over 25% of women and 10% of men. Varicose veins are often the result of blood flowing backwards through faulty (incompetent) valves in the superficial venous system. The great saphenous vein and the small saphenous vein are the two main veins in the superficial system. When there is reflux in either of these veins, the back pressure can cause visible varicose veins. Factors that increase the chance of varicose vein formation are heredity, being overweight, pregnancy, prolonged sitting or standing, hormones and leg trauma. Varicose veins are often asymptomatic but cosmetically displeasing. Over time, untreated varicose veins can cause pain, inflammation (phlebitis), ankle swelling, skin damage, scarring, discolouration, spontaneous bleeding, blood clots or leg ulcers.

Endovenous laser therapy, EVLT (also known as Endovenous Laser Ablation or EVLA) is a minimally invasive, outpatient procedure that treats refluxing large veins. Developed in 1999 by physicians, EVLT has virtually replaced vein stripping or ligation in the United States and around the world. EVLT has success rates over 95-97% meaning that after 4 to 5 years or more the recurrence rate of varicose veins is less than 3-5%. EVLT has a very low complication rate and few side effects. A thorough investigation will confirm EVLT is appropriate for you.

EVLT involves inserting a laser fiber at the level of the knee (after local anesthetic in the area) and feeding it up the great saphenous vein (the root of your problem) under ultrasound guidance. Anesthetic fluid is injected along the vein to surround the vein and compress it against the laser. This fluid also protects the surrounding tissue from the heat of the laser. The laser is slowly withdrawn while firing. Firing of the laser inside the vein damages the inner vein wall and causes inflammation and eventually fibrosis (scarring) leading to closure of the vein. This will relieve the backflow pressure, which is causing your varicose veins. Following the procedure we will put you in a compression stocking which you will wear for 14 days. Please note you are required to purchase a pair of 30-40mmHg thigh compression stockings.

The goal of EVLT is to close off refluxing dilated veins and most often this is the great saphenous vein. Other dilated veins present may improve as well or they may require additional treatment. Every individual is unique which makes it difficult to guarantee a specific response. Results vary with the individual depending on underlying vein issues that may not be present at the time of assessment. Rarely EVLT will not be successful and may require a repeat treatment or an alternative treatment. Additional treatments such as sclerotherapy may result in a visible reduction of varicose veins. If the varicose veins are still present 3 to 6 months after treatment they may require sclerotherapy to close them down. Sclerotherapy after EVLT is

likely to be more successful or longer-lasting because of the closure of the great or short saphenous vein.

The superficial venous system is responsible for less than 5-10% of the return blood flow to the heart. After EVLT the remaining superficial vessels and the deep system continue to return blood back to the heart. This procedure is very safe, mildly uncomfortable and involves minimal downtime. There will be no hospitalization, general anesthetic or stitches. The procedure itself takes 45 to 60 minutes but the total time required including before and after treatment is approximately 2 hours. You will be able to walk out of the clinic and resume normal activities the next day with the exception of prolonged standing, strenuous exercise and travel.

The majority of individuals have uncomplicated treatments. Expected side effects include **bruising, itching, burning and aching or pain** in the laser treated or injected areas. **Fainting or lightheadedness** may occur before, during or after the procedure especially if you have a history of fainting. **Bruising** is increased if you take aspirin or other blood thinners. Uncommon and rare complications include **blood loss, pigment changes, blood clots (less than with traditional surgery) skin ulcerations, skin numbness or tingling due to nerve trauma, phlebitis (inflammation of the vein), infection, ankle swelling, spider veins, skin burns, scarring or allergic reaction. Eye damage** can occur if protective goggles provided are not worn. The procedure may not relieve all of the symptoms of varicose veins and a small percent may show no improvement and will need re-treatment by the same or other methods. There will be an additional cost for re-treatment. There may be **risks not yet known** associated with EVLT. **These risks may be increased if both legs are treated on the same day.**

Smoking and being exposed to second hand smoke can lead to **poor tissue healing** and may increase the risk of **infection, side effects and other complications.**

Treatment is **not recommended** if you are pregnant or breastfeeding, have active infection or a recent history of a blood clot in the legs or lungs or are prone to blood clots, an unstable medical condition or are unable to ambulate. EVLT is not recommended if you are going to **travel within one month before or after** the procedure. EVLT cannot treat very small or crooked veins.

Other options for treatment of varicose veins include conservative treatment with daily use of medical support hose, regular exercise, healthy eating, weight control and avoidance of prolonged standing and/or surgery such as vein stripping, ligation or phlebectomy. Radiofrequency ablation is another technology similar to EVLT. Ultrasound-guided sclerotherapy is an option for varicose veins of certain diameter. Choosing not to do anything is an option and the varicose vein disease may or may not progress.

Conservative treatment with compression stockings can enhance any treatment option chosen as well as slow or prevent worsening of varicose veins and decrease the possibility of complications mentioned above but varicose veins may not be resolved by this method alone.

Surgery (stripping or ligation) is the alternative treatment of saphenous vein reflux and is fully covered by provincial health care. A general or spinal anesthetic is needed, there is at least one incision at the knee and the groin which, at least one week of time off is required, there may be long wait periods for the procedure. Stripping, like EVLT, is a definitive treatment. Ligation, however has a high recurrence rate of approximately 25 to 80% or more at 3 years. Major complication rates of surgery approach 0.1 to 1% (example: blood clot) while minor complication rates approach 15% (infection, bleeding, numbness, tingling).

Ultrasound-guided sclerotherapy (UGS) can be done in an outpatient office, requires no anesthetic, has no surgical scar, little “down” time, can treat veins that are difficult to treat with surgery such as smaller veins. It has a lower complication rate than surgery and is associated with minimal discomfort. UGS may also be an option for treatment of the larger superficial veins (the great saphenous vein) when they are too tortuous or too small to treat with EVLT. UGS in larger veins has a recurrence rate of up to 30% at 2 to 3 years, has a small risk of medication allergy of 3 in 1000 for a skin reaction and less than 1 in 10 000 to 1 in 50 000 may have a major allergic reaction. There is the risk of blood clot formation in the deep veins, as with surgery, of less than 1/1000 to 1/10 000. This is usually preventable with daily exercise. There is a very rare potential risk of skin or muscle damage if the medication is injected outside the vein or into an artery. If Ultrasound-Guided Foam Sclerotherapy (UGFS) is used there are additional risks which may include neurological side effects such as vision changes, numbness, tingling or extremity weakness. There may be other risks associated with UGS and UGFS not yet known. There is a fee for any ultrasound-guided sclerotherapy.

It is important to know that **varicose veins and spider veins are chronic and recurrent conditions**. The variety of treatments available may not offer a cure, but rather a control of the condition. It is unlikely that laser-ablated veins will recur but other veins present may require further treatment. Treating varicose veins will decrease the rate of appearance and severity of other varicose veins.

Prior to the procedure you should:

- have an appointment with the EVLT nurse for stocking measurement and review consent and instruction forms.
- make a \$500 non-refundable deposit to secure the procedure date. The remainder of the fee will be due the week before the procedure.
- Fill prescription for pain medication (Tylenol #3 or Percocet), anti-anxiety relaxing medication (lorazepam) and anti-inflammatory medication (naprosyn 500mg twice a day or ibuprofen 800mg three times a day for 7 days with food). **Bring all prescriptions the day of the procedure.**
- wash your leg with antibacterial soap the night before and the day of the treatment. Do not apply cream to the leg(s) to be treated. Do not shave the day of treatment.
- arrange for transportation to and from the clinic. Because of the mildly sedating medication given 1 hour before your procedure, you should not drive that day. If you are driving then no sedating/pain medication will be used.
- notify at consultation or treatment if your medical situation.

The day of the procedure you may/will/should:

- bring your stockings with you and arrive 1 hour prior to your procedure time meet with the EVLT nurse who will review post op instructions, take your vital signs and prepare you for the procedure which may include giving you medication to help you relax.
- meet with the vascular technician or doctor to map out the vein being treated with ultrasound.
- ask for the physician at any time prior to the procedure if you have any questions. We want you to be as relaxed as possible. When you are relaxed so are your veins and this will make the procedure much easier.
- use the washroom before we start the procedure
- feel discomfort from the local anesthetic needle at the start of the procedure and during the procedure when the anesthetic fluid is injected around the treatment vein.
- not feel pain from the laser but may feel warmth or smell odd odours as the laser is being activated. **If you feel pain, let the physician know immediately.**
- bring a book or an MP3 to listen to during the procedure

After the procedure you:

- will have your leg covered with a compression stocking.
- should go immediately for a **20 to 30 minute walk**. This may be done in the clinic.
- should not drive or operate hazardous equipment until the next day due to the sedating effects of the medication.
- Should follow the EVLT Post Operative Instructions sheet
- should contact the clinic at anytime if you have questions. We are here to help you and would like your experience to be a pleasant one.

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