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SPECIALISTS
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Facts about Varicose Veins

Varicose veins are a very common problem, generally appearing as twisting, bulging rope-like cords on the legs, anywhere from groin to ankle. Spider veins are smaller, flatter, red or purple veins closer to the skin surface.

While many people have heard about varicose veins, very few truly understand their underlying cause, and the potential they have for developing into a serious medical issue. Fortunately, there are new and exciting treatments for varicose veins that make solving your problem easier than ever.

Facts about varicose veins
Varicose veins affect an estimated 40% of women and 25% of men. There are a number of factors which lead to varicose veins, including:

- **Heredity –** One of the most important factors. If your parents and grandparents had the problem, you are at increased risk.
- **Gender** – Women have a higher incidence of varicose vein disease due in part to female hormones and their effect on the vein walls.
- **Pregnancy** – Blood volume increases during pregnancy and hormonal effects contribute to vein enlargement
- **Age** – The tissues of our vein walls lose elasticity as we age causing the valve system to fail.

The Following factors, while not directly causing varicose veins, may speed up the development of this disease and make the veins worse:

- **Prolonged Standing –** Occupations that involve standing for a long period of time cause increased volume and pressure of blood in the lower limbs due to the effects of gravity.
- **Obesity –** Increases in weight often increase abdominal pressure which may worsen vein problems.
- **Hormone levels** – Treatments like birth control pills and post-menopausal hormone replacement may cause the same hormonal effect as pregnancy
- **Physical Trauma –** Injury to the lower limbs can damage underlying blood vessels and add to the problem.

What are the symptoms? Will they get worse?
In addition to the visual appearance of purplish, knotted veins, many patients may experience one or more of the following leg symptoms:

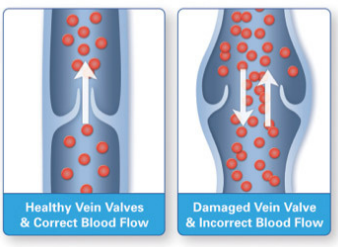
- **Pain (an aching or cramping feeling)**
- **Heaviness/Tiredness**
- **Burning or tingling sensations**
- **Swelling/Throbbing**
- **Tender areas around the veins**

If you experience symptoms and delay treatment, your symptoms may progress onward to more serious complications including:

- **Inflammation (phlebitis)**
- **Blood clots (e.g. DVT)**
- **Ankle sores or skin ulcers**
- **Bleeding**

If you are experiencing any of the above, consult your physician as treatment may be required.

How varicose veins occur
Arteries carry blood from your heart out to your extremities (hands, feet, head, skin) delivering oxygen deep into the tissue. Veins then return the 'de-oxygenated' blood (now bluish in color) back to your heart to be recirculated. Nearly 75% of the body's blood is found in your lower limbs.



To return this blood to the heart, your leg veins must work against gravity. Muscles in the leg squeeze deep veins to help push blood flow forward. Small, one-way valves in the veins open to allow blood flow upward, towards the heart, and then close to prevent it from flowing backwards. While deep veins are assisted in their efforts by muscles, a second type of leg vein, lying outside the muscle layer and closer to the skin (superficial veins), are not.

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The largest superficial vein is called the Great Saphenous Vein (GSV), which begins at the ankle and ends at the groin.

Varicose veins occur when the valves in these superficial veins malfunction. The vein walls can lose elasticity (due to age or hormones) causing them to stretch. When this occurs, the valve may be unable to close, allowing blood that should be moving towards the heart to flow backward (called venous reflux). Blood collects in your lower veins causing them to enlarge and become varicose. In this manner, faulty valves high on the leg may cause varicose veins lower down (e.g. mid or lower leg).

Can varicose veins be prevented?
The underlying conditions described above usually make 'curing' varicose veins impossible, however certain measures may help relieve discomfort from existing varicose veins and prevent others from arising:

- Exercise regularly to improve leg strength and circulation (walking is ideal)
- Avoid standing for long periods of time
- Avoid sitting for long periods of time by taking short walks every 30 minutes. If possible, try to elevate your legs.
- Control weight to avoid placing increased pressure on leg circulation
- Avoid clothing which limits the use of the calf muscles (e.g. high heels) or restricts blood flow in the groin or calf

Since the above measures do not treat the underlying cause of the disease, varicose veins will usually enlarge and worsen over time. Legs and feet may begin to swell and sensations of pain, heaviness, burning or tenderness may occur. If and when this happens, consult your physician immediately.

Treatment Alternatives for varicose veins
Your physician will usually try methods that don't involve surgery first to relieve your symptoms. These may include preventive techniques or the use of compression stockings. If your varicose veins do not respond to this conservative therapy, more active treatment may be required. Fortunately, new minimally invasive techniques like endovenous laser treatment now allow effective treatment of varicose veins with no hospital stay, no scarring, minimal postoperative pain and nearly immediate relief from your symptoms.

Conservative Management (Stockings) Includes lifestyle changes (exercise, weight loss, elevating legs, avoiding long periods of standing/sitting), and for more severe cases compression stockings. Elastic stockings will squeeze your veins and attempt to stop excess blood flowing backwards. You may need to wear compression stockings daily for the rest of your life.

Sclerotherapy This procedure is the treatment of choice for spider veins or smaller varicose veins. A physician will inject a chemical directly into your vein, causing them to close. These veins will eventually be absorbed by your body. Some stinging or itching at the site of injection may occur.

Endovenous Ablation (e.g. Laser) These minimally invasive procedures offer the latest advance in treatment of varicose veins and are quickly supplanting surgery as the 'gold standard'. The fastest growing of these are endovenous laser procedures which offer superior results with minimal side effects. Advantages include:

- Designed to be 45-minute office procedure
- Uses only local anesthetic
- High success rate (93-98%)
- No scarring
- No hospitalization
- Lower risk of complications
- Fast return to normal activities(normally 1-2 days)
- Reimbursable by most health insurance plans

The physician will, using ultrasound, insert a very small catheter into the affected vein (usually below the knee) and advance it up towards the groin. An energy source (e.g. laser fiber) is inserted through the catheter and fired to cause damage to the internal vein wall, causing it to seal down on itself. The closed vein will eventually be absorbed by the body. A slightly older version of this technology exists, which uses electrically generated heat delivered via electrodes to achieve a similar effect.

Patients are generally encouraged to walk immediately after the procedure and able to resume normal activities (aside from heavy lifting) the next day.

Surgery (Ligation & Stripping) Use of traditional surgery is decreasing due to the effectiveness of minimally invasive procedures. Surgery can be quite painful, has a long recovery time, and is associated with recurrence rates of 10 to 25 percent. It is generally performed in an operating room, often with general anesthesia, and involves two large incisions at the groin and knee. The vein is tied off, cut and then stripped (from other attached tributaries) out of the leg. Bruising and swelling often occur post-procedure and nerve tissues surrounding the treated vein can be damaged, causing numbness or burning around the surgical scar.

Side Effects & Complications
Minimally invasive procedures, may have some side effects, including some slight bruising, which commonly disappear within the first few weeks. With laser treatment, you will feel a delayed tightness (or "pulling" sensation) 4-7 days after treatment which is normal and expected following a successful treatment.

All surgical procedures involve some element of risk and have the potential for complications. Potential complications include, but are not limited to, vessel perforation, thrombosis, pulmonary embolism, phlebitis, hematoma, ecchymosis, paresthesia, skin burn and infection. Consult your physician for further information.

Don't I need my superficial vein(s)?
Venous reflux (faulty valves) in the greater saphenous or other superficial veins actually interferes with the normal venous return of blood. Closing or removing these areas improves venous circulation as blood is diverted to normal veins with functional valves. The resulting improvement in venous circulation significantly relieves symptoms and improves appearance.

Adjunctive treatments
To achieve optimal cosmetic outcomes, some physicians may perform adjunctive treatments at the same time or following a minimally invasive or surgical procedure.

- Sclerotherapy – Used to address spider veins. Described above
- Micro-Phlebectomy – Your physician removes smaller varicose veins through a series of small skin punctures. Local anesthesia is used and scarring is minimal.

AM I A CANDIDATE FOR TREATMENT?

1. Have you or anyone in your family previously been diagnosed with varicose veins or venous reflux?

2. Do you have varicose veins which exhibit any of the following characteristics:
   - Large, bulging veins on your legs
   - Swollen, red, or warm to the touch
   - Skin discoloration or texture changes

3. Are you experiencing any of the following symptoms in your legs, ankles, or feet:
   - Pain (an aching or cramping feeling)
   - Heaviness/Tiredness
   - Burning or tingling sensations
   - Tender areas around the veins
   - Sores or skin ulcers near ankle
   - Swelling

4. Have you previously had skin ulcers on the leg (or areas that were slow to heal)?

5. Have you previously attempted conservative treatments without success (e.g. exercise, weight loss, elevating legs, avoiding long periods of standing/sitting, compression stockings)

If you answered YES to any of the above questions, you may be a candidate for treatment.

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