

Getting to the bottom of Varicose Veins and How to Boost Vein Health



as young as 20! They are affected by a number of other common conditions which are becoming more prevalent in Singapore such as diabetes, obesity and coronary heart disease. There is around 97,000 km of vasculature in the adult body if they were all laid out in a line, which could circumvent the earth (circumference approximately 40,000 km) twice over, so you can imagine there are many potential points of problems in holding up blood supply! Problems that affect the "muscle pump" efficiency of the calf like osteoarthritis of the knee and poor mobility are associated with varicose veins and chronic venous insufficiency.

Most people have seen or heard of them but what exactly are varicose veins?

Varicose veins are abnormal dilated veins, which can be seen on the skin surface of the legs, ankles and feet, especially upon standing. They are blue or purple in colour and can appear lumpy, twisted or bulging in nature. They are caused by damaged valves within the veins and when the vein wall loses its elasticity, which result in blood moving backwards against gravity and pooling in the legs. This condition is known as *venous reflux* and is considered as a spectrum under *chronic venous insufficiency*.

What are the different types of varicose veins?

Truncal varicose veins vs reticular veins vs thread veins

Truncal varicose veins are the larger thicker lumpy, twisted veins seen on the surface of the skin. Normally located on the inner side of the thigh and calf and back of the leg, these imply that there is a significantly amount of venous reflux in the major veins just beneath the skin.

Reticular veins lie in the deeper layers of the skin and are less lumpy than truncal varicose veins. They are red and can appear close together in a network and may be the first sign of underlying high pressure within the veins in the leg.

Commonly known as spider veins, **thread veins** are smaller than reticular veins and look like blue or red vessels, which sit nearer to the skin's surface. They can appear in small clusters or spread across the legs and body. Most of the time, thread veins are painless, but they may cause itchiness or pain. Thread veins like reticular veins may be the first sign of underlying high pressure within the veins in the leg, when the valves begin to fail.

What causes varicose veins?

We do not yet have a full understanding why this exactly happens, but there are certain risk factors. Genetics, especially in females, play a role and to some extent ageing and pregnancy. Vein issues especially in the legs are more common than you think and affect millions worldwide, especially as you get older and can affect people

Working in certain professions that involve long periods of standing or sitting.

Professions susceptible to developing vein problems in your legs:

1. People in the retail line – standing up for most of the day (8-12 hours) is heroic but not helpful to your veins
2. People in the F&B industry such as restaurateurs and chefs for the same reasons
3. Architects
4. Nurses
5. Doctors!

What symptoms do varicose veins cause?

Varicose veins, as a result of venous reflux may not cause any symptoms but are unsightly. More common, our patients report a wide range of symptoms, including:

- Ache and heaviness especially towards the end of the day
- Restless legs syndrome especially at night
- Pain, itchiness or throbbing, burning sensation over a prominent vein or particular area of the leg
- Swollen ankles and feet
- Muscle cramping especially at night
- Dry skin
- Colour changes in the lower leg – especially brown pigmentation and some redness

Can varicose veins cause other health issues?

Apart from being a cosmetic issue, varicose veins can lead to other health complications if left untreated, including bleeding, inflammation (phlebitis), blood clots and skin issues such as cellulitis and eczema. If left untreated, this condition can lead to venous ulcers in the lower leg and around the ankle, which can be difficult to treat and heal, with potential recurrence problems. The good news is that with the right treatment and care, varicose veins and their associated complications can be treated.



So how can you improve the health of your patients' veins and symptoms?

1. **Stay active** – regular exercise is always touted but this activates the muscles in the legs to push the blood back up to the heart! So flexing and extending the knee regularly can help the blood pumping action back towards the heart. Walking, yoga, aqua walking (not necessarily swimming) and cycling are very good options.
2. **Keep well hydrated** – especially in the temperate climate of Singapore you can become dehydrated easily making the blood thicker and flow less easily, making vein problems worse in the legs
3. **Eat healthily** – fruits and vegetables, salmon (Omega rich) are excellent for the health of the vein walls to keep them elastic to pump the blood. Foods rich in flavonoids such as berries, oranges, tomatoes, kale and tea help with improving the tone of the veins in the legs allowing more efficient pumping. More excuse for drinking more red wine and eating dark chocolate, which have decent amounts of flavonoids in! You can also prescribe Daflon 500mg (*Servier*, micronized purified flavonoid fraction 500mg; 450mg diosmin; 50mg flavonoids expressed as hesperidin), which can be effective for nocturnal cramps and pain, not so much for leg swelling. A positive effect should take place within a few days of commencement if it is going to work.
4. **Don't smoke!** – smoke damages the vein walls and can lead to hardening and narrowing of the arteries at the same time! The nicotine and chemicals in the smoke also cause the blood to thicken and clot
5. **Leg elevation** – is a great activity after a long day at work or after a long walk, to help boost the circulation. Even activities such as shopping can cause undue stress on the veins.
6. **Wear comfortable clothes and shoes** – Avoid wearing tight-fitting garments, hosiery and high-heeled shoes for long periods.
7. **Massage** – Gently massage the legs to help improve blood flow back up the leg. Commercial foot and leg massagers may be useful.
8. **Use compression stockings** – great daily treatment for people with varicose veins especially those with long standing jobs. These socks help contract the veins from the outside around your calf to help push blood back to your heart, lessening pain, swelling, tiredness and progression of vein disease. They come in different patterns or colours so no worries about keeping dress sense. I take a practical approach to its use and usually go for a Grade I below the knee with open toe cut for most patients with early varicose veins to improve compliance and use. My patients often find a grade II stocking a bit too tight especially in our temperate climate and the above knee cut often just falls down during the day, which makes it frustrating for the patient.
9. **Seek specialist treatment** – with worsening symptoms such as tiredness, fatigue easily after a day's work, heaviness, leg or ankle swelling, restless legs with cramps especially at night and new brown pigmentation on the legs would be the time to seek a vein evaluation by your local friendly vascular surgeon.

Is a venous evaluation necessary?

An evaluation is necessary to determine the underlying cause of the varicose veins. The patient's history, an examination and an ultrasound scan are all used in determining the type and extent of treatment needed. A Duplex ultrasound is required to determine the extent of venous reflux, the severity and anatomy of the varicose veins, which can guide the vascular specialist to offer the best treatment. This is mandatory to detect any problematic veins. We can determine which veins are damaged and which ones are causing circulation problems to target which veins need treating.

What are the treatment options?

We offer a full range of effective vein treatment options based on the NICE guidelines for patients with varicose veins. Traditional open surgery can be painful and demands a significant amount of downtime. We offer an array of minimally-invasive procedures as an alternative to conventional open surgery, including endovenous thermal ablation techniques such as laser, radiofrequency and microwave and endovenous non thermal options such as cyanoacrylate glue (VenaSeal™) and mechano-chemical ablation (MOCA – or ClarVein®). Sometimes we do offer these main line therapies along with foam sclerotherapy and ambulatory phlebectomy to remove the side branches at the same sitting. Patients are back to normal daily activities normally within 1-2 days. All these procedures can usually be performed as day surgery.



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Dr Tjun Tang graduated from Queens' College in Cambridge, UK and qualified from Addenbrooke's Hospital, Cambridge in 2000 with a Distinction in Surgery. He was awarded his *Doctorate of Medicine* by the University of Cambridge in 2009 for research into carotid plaque inflammation imaging in the setting of stroke. Just after completion of surgical training in late 2012, he was awarded a prestigious Cook British Society of Endovascular Therapy (BSET) fellowship and undertook further endovascular training at Leicester Royal Infirmary, UK followed by a postgraduate fellowship at the Prince of Wales Hospital in Sydney, Australia. He has dual accreditation in both general and vascular/endovascular surgery. He is a Fellow of both the Royal College of Surgeons of England and Royal College of Physicians and Surgeons of Glasgow and is a MRCS Examiner for the Royal College of Surgeons of Edinburgh.

Dr Tang is an experienced senior vascular and general surgeon previously practicing at Singapore General Hospital. Delivering excellence in patient care with the most advanced and evidence-based treatments is a driving force of his clinical practice. He emphasizes the importance of maintaining patients' quality of life and support for their families and believes in giving the best and most appropriate care to patients through a collaborative approach. He has active subspecialty clinical interests in diabetic foot salvage, superficial and deep venous surgery to treat varicose veins and venous leg ulcers, renal access creation and its rescue. He utilises the latest advances in minimally invasive techniques and technology to treat severe peripheral artery disease and is highly sought after for his opinions on complex redo and hybrid vascular cases. In recognition of his dedicated clinical service contributions to his patients he has been awarded both the Silver and Long Service Awards by SingHealth and Service with a Heart Award by SGH. He is also a proven leader in the vascular surgery field nationally. He was a co-founding member of the Society of Vascular and Endovascular Surgery of Singapore (SVES) in 2016. He has written or co-authored 300+ peer-reviewed publications. Regionally, he has travelled extensively to run multiple endovascular lower limb revascularisation workshops, serves as an expert proctor and case demonstrator for superficial and deep endovenous surgery devices and is a regularly invited speaker at international and regional vascular conferences.

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