

THE VENOUS SYSTEM IN THE LEG

The Venous System

The three main parts of the venous system are the deep venous system, superficial venous system and the perforator/communicator veins. These systems return blood from the arms and legs to the heart.

The deep veins are well supported by muscle tissue and protected by the bones in the body. These veins have a direct route back to the heart and lungs.

The superficial veins lie much closer to the skin and do not have a direct route back to the heart. They achieve this by either connecting to the deep veins or by connecting through perforator/communicator veins.

When we breathe and move our arms and legs, blood is propelled towards the heart. In a properly working venous system, blood flow to the heart is regulated by "valves" in the blood vessel walls that open on the pulse-beat and close on the rest-beat, "stair-stepping" blood back to the heart.

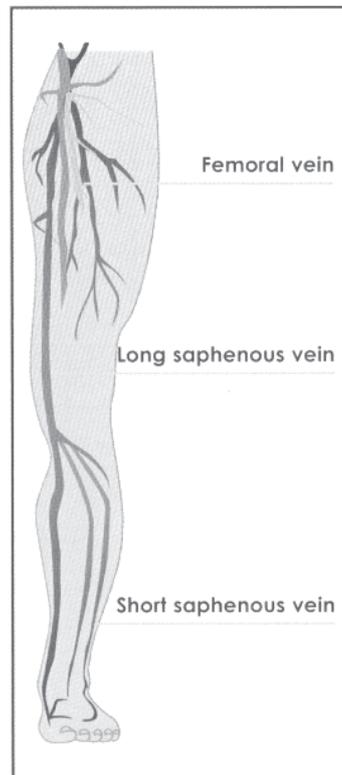
Inactivity and disease can cause the legs' venous muscle pumps (valves) to malfunction causing improper closure of the vein valves. This allows blood flow to slow and back-flow to the lower legs. This causes blood to pool and stagnate. The veins swell and contort (the onset of varicose veins) and tissue begins to swell (edema) with increasing pain. This process further restricts blood nutrients from reaching muscle, nerve and skin tissues with resulting serious, irreversible damage.

Venous disease takes many forms, is often not diagnosed early and frequently treated too late.

Venous (vein) disease affects one in five adults aged 45 and older. Most venous disease is preventable, however once it begins, it can seldom be cured, only treated and, hopefully, controlled.

Many factors contribute to venous maladies: heredity, age, excess weight, inactivity and hormonal change especially during pregnancy. Another major contributing factor is prolonged sitting or standing - both of which cause dangerous pooling of blood in the lower legs.

Early detection of venous insufficiency is critical to ward off serious problems. Symptoms of early circulatory maladies include: heaviness, fatigue and swelling in the



feet and lower legs and chronic pain, tingling and numbness in feet, ankles or the legs.

Spider Veins

Spider veins are very fine blood vessels which are close to the surface of the skin. While they are not regarded as serious, they may be an indication of varicose veins further below the surface.

Varicose Veins

Varicose veins are larger than spider veins usually more than 5mm in diameter – and often distended. They are generally dark red, purple or blue. They tend to bulge or twist and are usually much more painful. While spider veins are usually only of cosmetic concern, varicose veins can pose a health risk. Over 40% of women aged between 40 and 50 years old have varicose veins, while 72 percent of women aged 60 to 70 have them. For men, it's less common, with 43 percent of men over 70 having varicose veins.

Phlebitis (Inflammation of the veins)

This condition is caused by the slowing down of the blood circulation in the veins or in blood that clots easily. Phlebitis can also result from vein injury in those with impaired circulation. It can develop following varicose vein damage in the legs. Risk factors of developing phlebitis include smoking, prolonged inactivity, obesity, pregnancy or an injury to the affected area.

Thrombosis

If a blood clot (thrombus) blocks the flow of blood through the vein, blood begins to build-up below the site. Swelling and pain may develop. The valves in the blood vessels may be damaged, leading to venous hypertension. If the thrombus breaks free and travels through the veins, it can reach the lungs, where it is called a pulmonary embolism (PE). A pulmonary embolism is a potentially fatal condition that can kill very quickly.

Early treatment is crucial for the health of your feet and legs...

As with any illness, early detection and treatment of venous disease will greatly limit the seriousness of damage to your health. Venous maladies occur quickly and if left untreated can intensify rapidly. A mild case of varicose veins can lead to critical complications – impaired veins can often progress to phlebitis, skin ulceration, permanent nerve damage in the feet and legs and the formation of life threatening blood clots in the legs. The progression and the seriousness of venous insufficiency can often be efficiently and quickly controlled by graduated compression applied to the surface of the legs.

Graduated Compression is a time-tested and medically proven therapy for both the prevention of vein related maladies and relief from the pain and damaging effects

GRADUATED COMPRESSION STOCKINGS

of poor circulation in the feet and legs.

For decades, physicians the world over have recommended graduated compression hosiery to treat every type of venous malady. This type of medical hosiery is recognised as the most effective, least expensive method of treatment possible. Graduated compression hosiery is a safe, non-invasive medical product with an undisputed history of therapeutic benefits.

Graduated Compression Hosiery is scientifically designed to regulate blood flow velocity through the feet and legs. These stockings are knitted to apply maximum pressure at the ankles with gradually reducing compression up the length of the hosiery. The stocking forces blood from tiny surface veins into the deep vein system that carries blood to the heart. In this process, the vein walls are constricted assuring proper vein-valve closure. This helps to prevent back-flow and pooling of blood in the lower legs, producing correct blood flow pressure through the veins back to the heart.

There is a compression level for every type and stage of venous insufficiency.

Compression levels are defined in millimetres of mercury (mmHg) – the universal measure of pressure. Graduated compression hosiery is available in four basic classes. Your physician can help you determine the correct compression for your specific needs.

Medical Stockings offers a complete line of graduated compression hosiery for men and women and includes knee-high, thigh-length, pantyhose and maternity styles in Class 1, Class 2 and Class 3 compression levels. Both men's and women's products are available in a variety of fashionable colours and styles which patients will enjoy wearing.

What does gradient compression hosiery do?

Gradient compression stockings improve venous and lymphatic blood flow. Therafirm stockings are designed to deliver a controlled amount of pressure which is greatest at the distal end (ankle) of the garment and gradually decreases towards the proximal end (top) of the stocking. This gradient pressure promotes better venous blood flow which in turn helps to control swelling, varicosities, leg fatigue and other problematic leg conditions.

Many brands of stockings advertised as support stockings are merely stretch nylon – not gradient compression – and therefore do not deliver the therapeutic benefits of gradient compression hosiery. Some of these non-therapeutic "support stockings" can even restrict blood flow and should be avoided especially if not fitted properly.

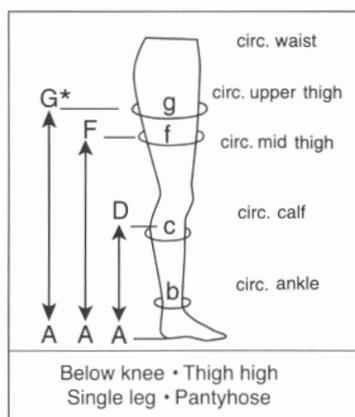
Who should wear gradient compression stockings?

People who have or are experiencing any of the following conditions could benefit from wearing our gradient compression hosiery:

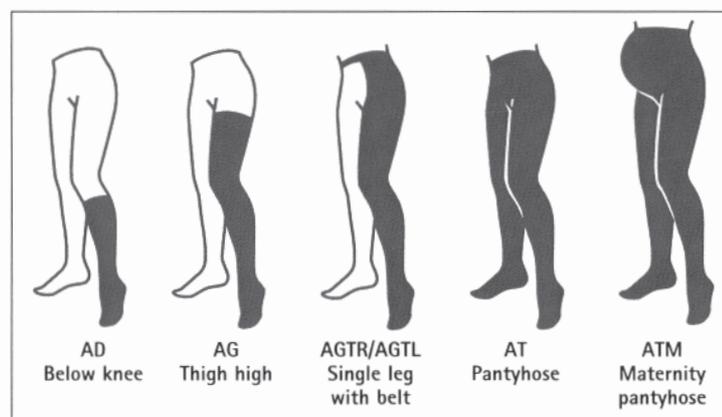
- Heaviness and fatigue in the legs
- Moderate to severe varicosities
- Venous ulcerations
- Overweight
- Lymphoedema
- Family history of venous leg disorders
- Pregnancy
- Oedema
- Sclerotherapy
- DVT
- Cardiac failure

Many individuals who do not share any of the preceding conditions can also benefit from wearing Varisan or Therafirm gradient compression stockings. Most people love the way their legs feel when wearing compression hosiery. Patients should consult with their physicians before wearing compression stockings.

How to take measurements



Stocking Styles



Hosiery Graduated Compression

