



Tired, Aching Legs?  
Swollen Ankles?  
Varicose Veins?



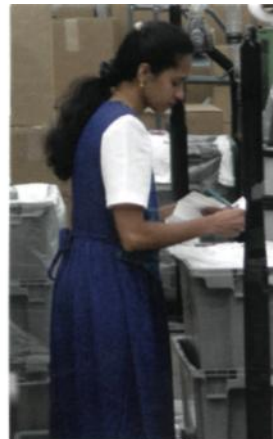
## Venous disorders are widespread

Leg problems are widespread throughout the world, but what most people don't know is that approximately 90% of leg disorders originate within the veins. If you have tired, aching swollen legs, or if you see the beginning of varicose veins, it is time to learn how to improve the health of your venous circulation. Vein problems can progressively worsen over time and can affect your health and well being for the rest of your life.



Much can be done to decrease the risk of developing venous disorders, but SIGVARIS® believes that understanding the cause of venous disease is an important first step.

This advisory pamphlet is intended for the many women and men, who because of certain risk factors, are particularly in danger of developing venous disorders or are already suffering from such conditions.





## The circulatory system

### Arteries and Veins

The heart is a muscle that pumps oxygen-rich blood through the arteries and into tiny capillaries where body cells exchange the oxygen for carbon dioxide. The blood then enters the veins, which carry the blood back to the heart.

But pumping the blood efficiently through the veins in the legs back to the heart is a challenge because, by the time the blood enters the veins, the force pushing the blood in the veins has become weak and the blood must fight gravity on its way up the legs back to the heart.

#### Arterial:

- Flows from heart
- Laden with oxygen and nutrients
- Heart provides pumping energy

#### Venous:

- Returns to heart
- Laden with waste and metabolic residue
- Fights gravity to return to heart



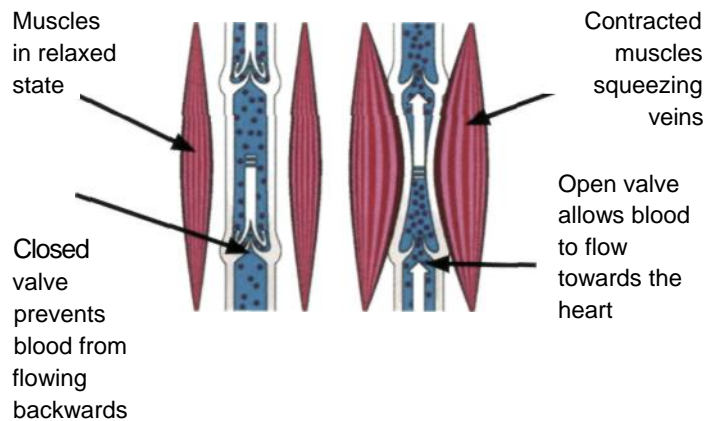


## The venous return

There are two types of veins in the legs: the *surface* or superficial veins and the *deep* veins. Venous blood in the surface veins empties into the deep veins, which take the blood back to the heart.

The body has two important ways to help blood move up the legs. The first is with the help of calf muscles. These muscles surround the deep veins and contract and relax as a person walks, rhythmically squeezing the deep veins and acting as a "second heart" to push venous blood up the veins.

The second way venous blood is returned to the heart is by one-way valves in both the surface and deep veins. When the calf muscles contract, these valves open to allow blood to flow back to the heart, and when calf muscles relax they close to prevent blood from flowing backwards into the lower part of the vein. These valves are fragile and are easily damaged.





## Venous problems in the legs

Venous *insufficiency* is a condition in which blood pools in the vein rather than being efficiently pumped back to the heart. About 90% of venous problems in the legs are the result of venous insufficiency. **Anything that slows down the flow of blood, changes or damages the vein wall or venous valves, or thickens the blood can lead to venous insufficiency.**

Venous insufficiency can lead to varicose veins, phlebitis, thrombophlebitis, blood clots, and changes in the skin, including leg ulcers.

## Danger signals

In most cases, leg problems do not just occur "out of the blue." There are typical warning signs such as:

- Heavy, hot, or tired legs
- A feeling of tension, cramps, fatigue or stabbing in calves
- Swollen ankles
- First signs of small varicose veins

## Causes and risk factors

- High-fat, low-fiber diet
- Obesity
- Lack of exercise
- Jobs requiring prolonged sitting or standing
- Heredity
- Surgery or trauma
- Infectious disease
- Pregnancy
- Use of hormone medication
- Age over 40

## Descriptions of venous problems

*Varicose veins* are visibly enlarged veins that are often bluish in color and may appear twisted. They are caused by the pooling of blood in a damaged vein and can be painful, or they may not cause any discomfort at all. In the early stages of varicose veins, the legs may feel:



*Phlebitis* is the inflammation of a vein wall, and is the most common problem associated with varicose veins. Symptoms can include:

- Swelling, redness, and heat in the irritated area
- Superficial veins become more noticeable
- Pain or discomfort over the involved area

*Superficial Thrombophlebitis* is a blood clot in a superficial (surface) vein that can be caused by irritation or are similar to, but more severe than, those associated with phlebitis.

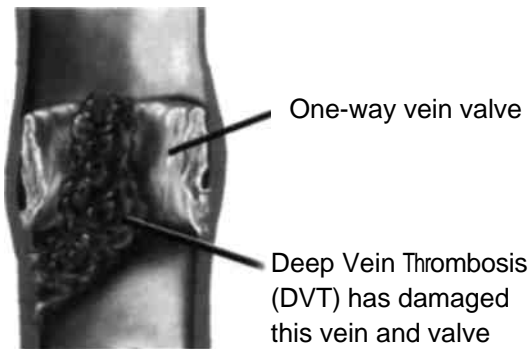


## Descriptions of venous problems

A *Deep Vein Thrombosis (DVT)* is a blood clot in one of the deep veins, which can have life-threatening consequences. About 25% of DVTs move away from the deep veins where they form and flow through the bloodstream to the lungs. This is known as a *pulmonary embolism*, and can cause death. Symptoms can include:

- Pain and tenderness in one leg
- Swelling in one leg
- Increased warmth and redness in one leg
- Shortness of breath and fainting
- Pain in the chest

*DVTs can occur with no symptoms.*



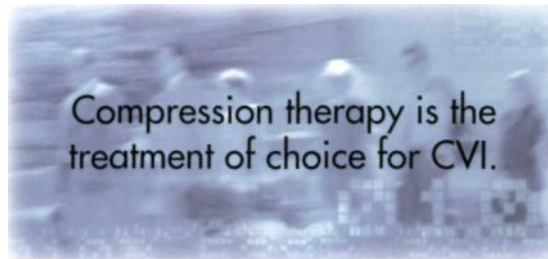


## Description of venous problems

*Chronic Venous Insufficiency (CVI)* is a condition in which the veins are constantly congested with pooled blood, causing circulation to be significantly impaired. Symptoms include:

- Edema (swelling)
- Feeling of heaviness in the legs
- Pain or cramps in the calves
- Uncomfortable puffiness of the feet and ankles that subsides during the night
- Skin discolorations
- Dermatitis (skin problems)
- Dry or weeping eczema
- Venous leg ulcer

A *Venous Leg Ulcer* is an open wound that usually forms near the ankle and is due to chronic poor circulation. The ulcer has a weeping, raw appearance and the skin surrounding the ulcer is dry, itchy, and brownish or blackish in color. Venous leg ulcers are usually slow to heal.

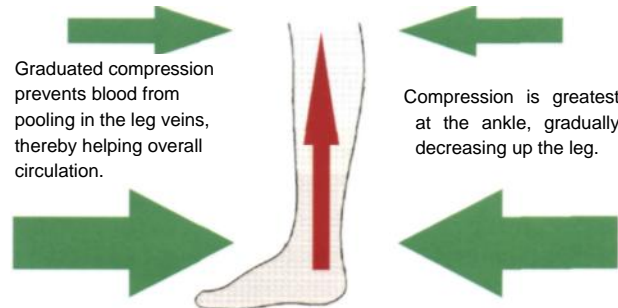




## Why compression works

*Compression therapy* means wearing socks or stockings that are specially designed to support your veins and increase circulation in your legs. The socks or stockings are normally worn in the morning upon arising, and removed at night. Throughout the day the compression they provide prevents blood from pooling in leg veins, thereby helping overall circulation.

Remember that the heart attempts to pump blood against gravity up the veins of the legs, and as a person walks, the regular contraction and relaxation of the calf muscles around the veins are necessary to help the heart move blood up the legs efficiently. But, it is unlikely that a person will walk continuously throughout the day - most of us sit or stand some of the time. Also, some people have inherited weakness of the vein walls or valves, which create additional challenges to venous circulation. This is why wearing compression socks or stockings is vital for the treatment or prevention of varicose veins and other circulatory problems, especially for individuals who are at risk.





## You can play your part

### Six easy steps to better blood flow

1) *Avoid sitting or standing for long periods of time.* Exercise, especially walking, contracts and relaxes the calf muscles. The regular contraction and relaxation of these muscles act like a "second heart" as the veins are alternately squeezed and released, causing blood to be pushed towards the heart, thereby improving blood flow.



2) When it is necessary to sit or stand for a long time, *rock your feet up and down.* This exercise simulates the beneficial effects of walking and promotes venous circulation.

3) *Elevate your feet.* Elevating your feet above the level of the heart several times each day helps venous blood fight the effects of gravity.





## You can play your part

### Six easy steps...continued

4) *Avoid excessive heat*, such as sunbathing and very hot baths. Heat dilates veins, reducing effective circulation and increasing the pooling of blood.

5) *Control your weight*. Excess weight burdens the entire circulatory system.

6) *Wear graduated compression socks and stockings*. SIGVARIS® quality compression socks and stockings improve venous circulation to prevent and treat venous problems.





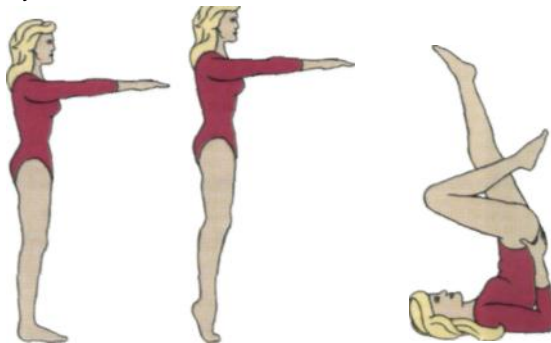
## Special exercises you can do to help your circulation



Sit on the floor, draw up your legs and press your knees outwards onto the floor with the help of your arms.



Sit on the floor, draw up your legs, and then straighten them so that they do not touch the floor.



Stand up straight, arms forward, raise yourself onto your toes and lower yourself again until the foot sole is back on the floor. Repeat in a rhythmic movement.

Lie on your back, support your hips with your arms and "cycle" with your legs in the air.



courtesy of:



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LIT-ACH162 REV 10/04