



ANKLE SWELLING & PERIPHERAL OEDEMA

Swelling of the the ankles is a common complaint in General Practice, affecting up to 30% of the population. There are many possible causes of swelling of the ankles, but thankfully the most common causes are not serious. It is important though that if you develop swelling to see your doctor in order that the necessary examination and investigations are conducted and a diagnosis for the swelling reached.

The most common causes of peripheral oedema (swelling of the ankles) include chronic venous insufficiency, idiopathic oedema and heart failure. Medications are also a very common cause of swelling of the ankles, and should be considered if ankle swelling develops after starting medication. The symptoms and treatment for each of the causes is discussed below.

A special mention should be made of Deep-Vein Thrombosis or DVT. It is a cause of **Sudden** swelling of the ankle or leg and not a cause of generalised swelling, but important to recognise as early treatment is necessary. It is more common following surgery or prolonged periods of immobility, and typically produces a swollen, hot, painful swelling in the lower leg and ankle. If this occurs, you should see your doctor.

HEART FAILURE AND PULMONARY HYPERTENSION

Although accounting for less than 1% of all peripheral oedema, it is an important cause to identify as the treatments are different and will improve the health of the individual. As well as generalised swelling patients will often be short of breath, or have difficulty in lying flat without becoming breathless. Patients who snore and have high blood pressure may also suffer from a condition termed pulmonary hypertension.

The treatment of heart failure consists of investigations to assess the severity and several medications including, β -blockers, ace-inhibitors and diuretics (water tablets).

MEDICATIONS

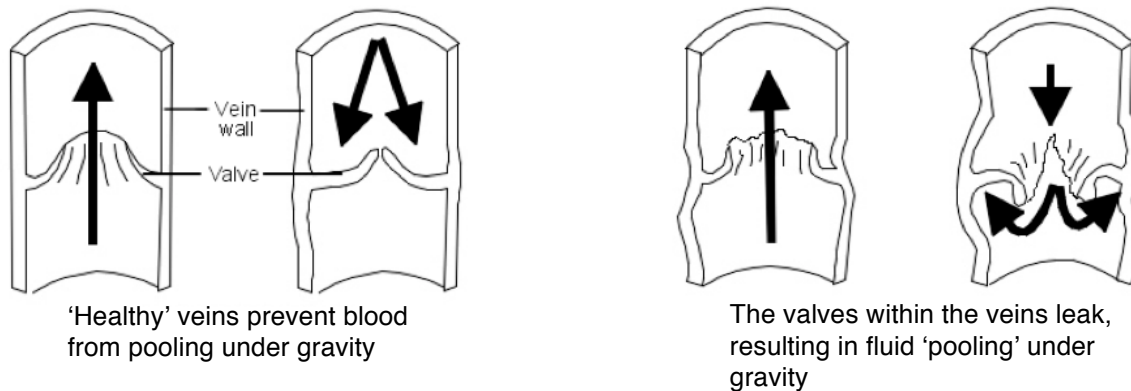
There are many medications which can cause swelling of the ankles, and a few that are common. The calcium channel-blockers (i.e amlodipine), non-steroidal anti-inflammatory medications (ibuprofen/diclofenac) and steroids (prednisolone – long term) can all cause swelling and should be reviewed. The swelling improves with reducing or stopping the medication.

LYMPHOEDEMA

Primary lymphoedema is a rare cause of swelling, but it commonly results seondarily to other casues of oedema. It is more common in overweight patients and is the result of chronic changes within the skin and lymphatics. There is less 'pitting' and the swelling does not change significantly with posture, or diuretics. Compression stockings are used but there affects are small, and counselling the patient with living with the condition is important.

CHRONIC VENOUS INSUFFICIENCY

This is the most common cause of swelling, and typically presents with bilateral swelling of the ankles, often in association with varicose veins. There may be pigmentation over the lower legs, and the skin may become inflamed. In chronic cases ulcers may form over the lower aspects of the shins. It is a gradual process which to some extent occurs in everyone. The underlying process results from 'stasis' of blood within the veins of the lower leg resulting in fluid, pigment and proteins leaving the circulation and being deposited in the skin. At the heart of the problem are faulty valves within the veins



The treatment aims to counter-act the effect of gravity. Keeping the ankles as high as possible when sitting, and the use of compression stockings prevents blood from 'pooling' back and is helped back to the heart. Diuretics in general are not useful as the principle problem is one of fluid in the wrong place, as opposed to heart failure, when there is too much fluid. In some instances, vein stripping can be used to limit the progression of the skin changes.

IDIOPATHIC OEDEMA

This is the commonest cause of swelling in women between the age of 20-50, and may be also associated with face and hand swelling. The cause of the swelling is not fully understood, but thought to be due to changes in salt metabolism. The condition itself is not serious. Treatment consists of lifestyle measures such as salt reduction, and prevention of prolonged immobility. Diuretics are not effective as they are short-term treatments, their long-term use resulting in adaptive kidney changes and paradoxical fluid retention.

DIURETICS

In general these should be used in cases where there is excess fluid, which occurs in renal, liver and heart failure. Their use in most cases of leg swelling is limited and often simply impairs renal function with little effect on the swelling itself, and can even make the swelling worse with stimulation of inappropriate adaptive renal mechanisms (see above).

REFERENCES

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- **I Ely JW, Osheroff JA, Chambliss ML, et al;** Approach to leg edema of unclear etiology. *J Am Board Fam Med*. 2006 Mar-Apr;19(2):148-60.
- **Patient.co.uk** 'Oedema' advice leaflet
- **Patient.co.uk** 'Varicose Veins' advice leaflet