CONDITION

Venous skin ulcer

A venous skin ulcer is a slow-healing lower-leg wound caused by poor blood flow back through the veins.

WHAT IT IS
Slow-healing lower-leg wound linked to damaged veins

BODY SYSTEM
Skin, heart and circulation

MAIN SYMPTOMS
Open sore, swelling, aching, skin discoloration

WHAT CAUSES IT
Long-term high pressure in leg veins

HOW IT IS DIAGNOSED
Leg examination, ankle pressure test, vein ultrasound

MAIN TREATMENT
Compression therapy and wound care

CAN IT BE CURED?
Sometimes - wounds heal, vein problems can persist

IS IT AN EMERGENCY?
Sometimes - sepsis signs or sudden breathlessness

LONG-TERM OUTLOOK
Healing often takes months; recurrence is common

Overview

A venous skin ulcer, often called a venous leg ulcer, is an open wound caused by poor blood flow through the veins of the leg. It usually develops between the ankle and knee, often around the inner ankle.

Veins return blood to the heart. Valves inside the leg veins help stop blood from flowing backward. If these valves or veins are damaged, blood can collect in the lower leg. This raises pressure in the veins and nearby tissues. Over time, the skin can become inflamed, fragile and slow to repair.

The wound may begin after a minor knock or scratch, or the skin may break down without a clear injury. A venous ulcer is more than a surface cut. It often needs compression treatment and regular wound care to heal.

Many ulcers do heal, but this can take weeks or months. The underlying vein problem may remain after the skin closes, so ongoing care is often needed to reduce the chance of another ulcer.

Symptoms

Venous ulcers are usually shallow wounds with uneven edges. The base may look red or pink and may produce clear or yellowish fluid. They are most often found around the ankle or lower calf.

Other features can include:

Pain differs from person to person. Some ulcers are only mildly uncomfortable, while others cause persistent pain. Severe or suddenly worsening pain is not typical and needs prompt assessment.

A wound can contain bacteria without being infected. This is called colonisation. Infection is more likely when redness or swelling is spreading beyond the ulcer, pain is increasing, or there is fever or a general feeling of being unwell. Odour or discharge alone does not always mean there is an infection.

- Swelling of the ankle or lower leg, often worse later in the day
- Aching, heaviness, itching or tenderness
- Brown, red or purple discoloration around the wound
- Firm, tight or thickened skin around the ankle
- Dry, flaky or inflamed skin
- Varicose veins
- Fluid leaking from the wound or nearby skin

Causes and risk factors

The main cause is long-term high pressure in the leg veins, known as venous hypertension. It commonly develops when vein valves do not close properly. Blood then flows backward and collects in the lower leg.

Previous deep vein thrombosis, or DVT, can damage the deeper veins and their valves. DVT is a blood clot in a deep vein, usually in the leg. Varicose veins and previous leg injuries or surgery may also affect venous circulation.

The calf muscles normally squeeze the veins when you walk, helping move blood upward. Limited walking or ankle movement can weaken this pumping action.

Factors linked with a higher risk include:

Several factors may be present at the same time. A leg wound is not automatically venous; arterial disease, diabetes, inflammation, pressure and skin cancer can also cause ulcers.

- Previous venous ulcer
- Varicose veins or ongoing leg swelling
- Previous DVT
- Reduced mobility or paralysis
- Older age
- Obesity
- A previous lower-leg injury
- Conditions that affect calf or ankle movement

Diagnosis

A healthcare professional will examine the wound, surrounding skin and both legs. They will ask when it appeared, how it has changed, and whether you have had swelling, varicose veins, DVT or previous ulcers.

Blood flow through the arteries must usually be checked before strong compression is used. This is commonly done with an ankle-brachial pressure index, or ABPI. A cuff and handheld Doppler device compare blood pressure at the ankle with blood pressure in the arm. A low result may suggest reduced arterial blood flow.

A duplex ultrasound may be arranged. This painless scan uses sound waves to show the leg veins, the direction of blood flow and whether valves are working properly. It can help identify vein problems that may be treated with a procedure.

Swabs are not routinely needed simply because an ulcer is open. They may be taken when infection is suspected and treatment is not working as expected. Blood tests may be used to look for related conditions.

An unusual-looking ulcer, or one that does not improve despite appropriate care, may need specialist review and a biopsy. A biopsy removes a small skin sample for examination.

Treatment and management

Compression therapy is the main treatment for most venous ulcers when arterial blood flow is adequate. It gently squeezes the lower leg, reduces swelling and helps blood move back toward the heart.

Compression may be provided with layered bandages, wraps or compression hosiery. It should be selected and fitted by a trained professional after circulation has been assessed. Strong compression can be unsafe when arterial blood flow is severely reduced. Modified treatment may be needed when venous and arterial problems occur together.

Wound care usually includes cleaning the ulcer and applying a suitable dressing. Dressings protect the wound, manage fluid and support a moist healing environment. No single dressing is best for every ulcer. The choice is based on the wound, the amount of leakage and the condition of nearby skin.

Dead or heavily damaged tissue may be removed through debridement. This can help wound assessment and healing. Pain relief can be discussed before dressing changes or debridement.

Movement supports the calf-muscle pump. Walking and ankle exercises may help if they are safe for you. Raising the leg when resting can reduce swelling. The leg is usually raised so the ankle is above the level of the hip, without placing pressure directly on the ulcer.

Antibiotics like amoxicillin or doxycycline do not make an uninfected venous ulcer heal faster. They are used when there are clinical signs of infection, such as spreading redness, increasing pain, fever or worsening swelling.

A vascular specialist may recommend treatment for poorly working surface veins. Options include closing the affected vein with heat, medical adhesive or foam, or removing selected veins. Treating suitable veins can support healing and lower the risk of recurrence. Large or difficult wounds may sometimes need a skin graft or other specialist wound treatment.

After healing, compression stockings are often used to control swelling and reduce recurrence. They need correct measurement and replacement when they lose their shape or elasticity.

Complications

The most common long-term problem is another ulcer. The wound may reopen in the same area, especially if swelling and venous pressure are not controlled.

Possible complications include:

Rarely, a wound that remains open for a very long time can develop cancerous changes. A

raised, hard, rapidly changing or repeatedly bleeding area should be assessed rather than assumed to be part of the ulcer.

- Cellulitis, an infection of the deeper layers of skin
- Persistent pain or heavy wound leakage
- Reduced movement and sleep problems
- Allergic or irritant reactions to dressings or products
- Scarring and lasting skin changes
- Bleeding from fragile tissue or nearby varicose veins

Prevention

Not every first venous ulcer can be prevented. Some people develop one because of lasting vein damage, including damage after a DVT.

If an ulcer has healed, controlling leg swelling is central to reducing the chance of recurrence. This often includes wearing prescribed compression hosiery during the day. Compression should be reviewed if it becomes painful, slips, damages the skin or no longer fits.

Regular walking and ankle movement can support venous blood flow. Raising the legs when resting may help with swelling. Skin can be protected with gentle washing and an unperfumed moisturiser, while avoiding moisturiser between the toes.

Checking the lower legs regularly can help identify cracks, blisters, increasing swelling or skin inflammation before a larger wound develops. Suitable footwear and care around sharp furniture or garden tools may reduce minor injuries to fragile skin.

Treatment of varicose veins or abnormal vein flow may help selected people. It does not remove every risk, so compression and follow-up may still be needed.

Living with it and what to expect

Healing is usually gradual. The ulcer should become smaller, produce less fluid and develop healthier tissue over time. Progress may not be steady every week. Swelling, infection, reduced mobility, poor arterial circulation and other health conditions can slow healing.

Appointments may involve measuring the wound, checking the surrounding skin and changing compression or dressings. Tell the wound-care team if compression causes new numbness, unusual coldness, marked colour change or severe pain.

Dressings and leakage can affect clothing, sleep, work and social activities. A more absorbent dressing or a review of compression may help if leakage is difficult to manage. Persistent pain, low mood or problems keeping up with appointments also deserve attention.

Once the skin has closed, it remains vulnerable. The healed area may stay discoloured, firm or sensitive, and the underlying vein damage usually does not disappear. Long-term compression, movement and skin care can lower recurrence risk, but cannot guarantee that the ulcer will not return.

Most people can continue ordinary activities, including walking, while receiving treatment. Activities may need adjustment if there is heavy leakage, significant pain or another circulation problem.

When to get medical help

Arrange a routine appointment if you have a break in the skin below the knee that is not healing, especially if you also have leg swelling, varicose veins or brown skin changes. Early assessment can identify the cause and prevent unsuitable treatment.

Contact your healthcare service promptly if:

Seek emergency help for confusion, fainting, severe weakness, rapidly worsening illness or uncontrolled bleeding. Sudden chest pain, unexplained breathlessness or coughing up blood can be signs of a clot in the lungs and also require emergency help.

- The ulcer is becoming larger or more painful
- Redness, warmth or swelling is spreading beyond the wound
- There is new pus, fever or a general feeling of illness
- The foot becomes unusually pale, blue, cold or numb
- Compression causes severe pain or marked colour change
- The wound develops a raised, hard or repeatedly bleeding area

Common questions

Is a venous skin ulcer the same as a varicose ulcer?

Usually, yes. "Varicose ulcer" is an older term often used for a venous leg ulcer. Not everyone with a venous ulcer has visible varicose veins, however.

How long does a venous ulcer take to heal?

Healing often takes several weeks or months. The time is influenced by the ulcer's size and duration, swelling, arterial blood flow, infection, mobility and how consistently compression can be used.

Should I keep a venous ulcer covered?

Usually, yes. A suitable dressing protects the wound and manages fluid. Leaving it open to dry out generally does not correct the underlying vein pressure. Dressing choice should match the wound and surrounding skin.

Can I walk with a venous leg ulcer?

Walking is often encouraged because calf movement helps return blood through the veins. Your activity plan may need adjustment if you have severe pain, poor arterial circulation or another condition that limits walking.

Is a venous ulcer contagious?

No. You cannot catch a venous ulcer from another person. Basic hygiene and proper disposal of used dressings still matter because an open wound can contain bacteria.

Will it come back after it heals?

It can. Venous valve damage and leg swelling may continue after the skin closes. Correctly fitted compression, regular movement, skin care and treatment of suitable vein problems can reduce the risk.

Sources

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