Erysipelas of the leg: Symptoms, treatment and its connection to varicose veins

Erysipelas is an acute bacterial skin infection that most often affects the lower leg. It causes a sharply defined, bright red, warm, and painful area of skin, often with a fever. Erysipelas is **common in patients with chronic venous insufficiency, varicose veins, and lymphoedema** - and can recur repeatedly if the underlying cause is not treated.

What is erysipelas?

Erysipelas is an infection of the superficial skin layers and lymphatic vessels, most often caused by **group A streptococci** (Streptococcus pyogenes), and less commonly by staphylococci [1]. The bacteria enter through a small break in the skin - a fissure between the toes (athlete's foot), an insect bite, a wound, or venous eczema.

Symptoms

Erysipelas develops rapidly, often over a few hours:

- **Sharply defined redness** with "map-like" borders
- Warm, tender, and swollen skin
- **Fever above 38.5°C**, chills, and a general feeling of being unwell
- Swollen lymph nodes in the groin
- In severe cases: blisters, bullae, or skin necrosis
- It often starts in one foot or calf and spreads upwards

Unlike deep cellulitis, erysipelas is **superficial and sharply demarcated**.

Why are varicose veins a risk factor?

Patients with varicose veins, chronic venous insufficiency, and lymphoedema have a **3-10 times higher risk** of developing erysipelas [2,3]:

- Increased venous pressure damages the skin, causing microscopic cracks
- Lymphatic drainage is reduced → bacteria cannot be "flushed away"
- Venous eczema and athlete's foot provide entry points for bacteria

- A single episode further damages the lymphatic vessels, increasing the risk of another one

In a large French case-control study, **chronic venous disease and lymphoedema were the strongest risk factors** for a first episode of erysipelas (OR 2.7 and 71.2, respectively) [3].

Treatment

1. Antibiotics Penicillin V is the first-choice treatment for 10-14 days [1,4]. For patients with a penicillin allergy, clindamycin or a macrolide is used. Hospital admission for IV antibiotics may be considered in cases of fever > 39°C, widespread infection, bullae, immunosuppression, or a lack of response to oral treatment.

2. Elevation and compression Elevate the leg above heart level as much as possible for the first few days. When the fever has subsided and the redness has decreased (typically after 3-5 days), compression therapy is started to reduce the swelling (oedema).

3. Treating the entry point

- Athlete's foot is treated with antifungal medication
- Skin fissures are cared for with moisturiser
- Venous eczema is treated
- Venous ulcers are debrided

Recurrence - and how to prevent it

Erysipelas recurs in **30-50%** of cases within 3 years if predisposing factors are not addressed [5]. Prevention includes:

- **Treating the underlying venous insufficiency** - endovenous laser therapy (EVLT) closes the diseased vein and reduces venous pressure
- Daily use of class 2 compression stockings
- Good skincare and use of moisturiser

- Prompt treatment of athlete's foot and skin fissures
- For ≥ 2 episodes per year: **prophylactic penicillin** for 6-12 months significantly reduces the risk of recurrence (the PATCH II study) [5]

When to seek urgent medical attention

- A sudden, intensely painful, red, and warm area on your leg, accompanied by a fever
- Rapid spreading of the redness
- A general feeling of being unwell, nausea, or vomiting
- Suspicion of a deep infection (black/bluish skin, severe pain that seems disproportionate to the redness)

Erysipelas is an acute condition that **requires antibiotics** - it will not go away on its own.

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Erysipelas of the leg is not "just a skin irritation" - it is a bacterial infection that requires antibiotics and elevation. If you have had erysipelas once, you should be evaluated for chronic venous insufficiency and varicose veins. Treatment with endovenous laser therapy reduces venous pressure and thereby lowers the risk of new episodes.

References

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5. Thomas KS, et al. *Penicillin to prevent recurrent leg cellulitis (PATCH II).* N Engl J Med 2013;368(18):1695-703.