Guidance for the assessment and management of lower limb inflammation (commonly known as red legs)

The aim of this document is to provide:

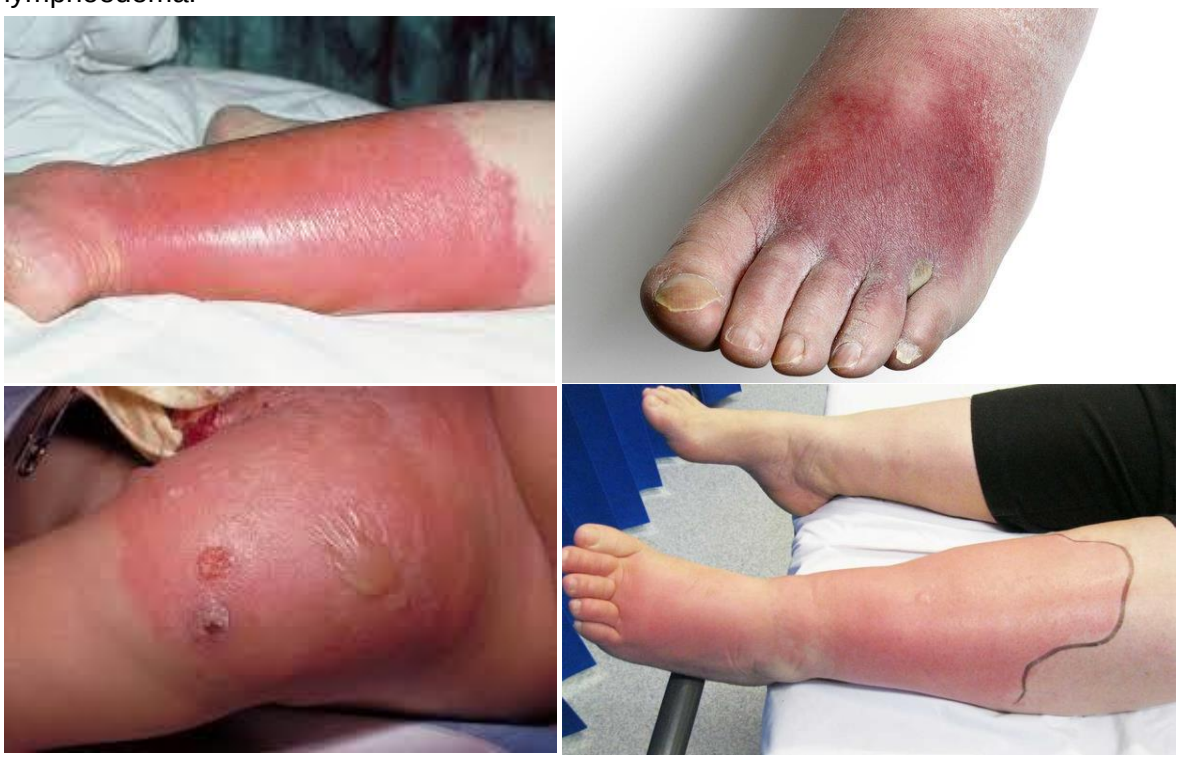
Practical information for clinical decision-making for health care professionals managing red legs.

Cellulitis is over diagnosed and there is increasing dependence on antibiotics to treat which are often ineffective when the cause of bilateral red legs is unlikely to be acute cellulitis. The overall aim was to develop a guide to support differential diagnosis in patients with suspected cellulitis and to promote the prompt identification and treatment of Red Leg Syndrome (British Lymphology Society, Red Legs Pathway)

Erythema (from the Greek erythros, meaning red) is a change in colour of an area of skin, caused by increased blood flow. It is a symptom common to many diseases, particularly inflammatory skin diseases.

While redness can be an obvious symptom in people with less darkly pigmented skin, where it contrasts clearly against light skin tones, this is not necessarily the case in those with dark skin tones, for example, black, brown and olive skin tones. The term redness itself can be misleading, as the colour change can run the spectrum of pink, red, and purple – in some cases it may be limited to a subtle darkening of the existing skin colour. If you suspect that inflammation is not easy to spot on your patient's skin, then it is sensible to take into consideration other potential symptoms of their condition. The warmth of the skin, pain and sensation changes, fibrotic changes, colour changes compared to the surrounding skin, any malodour, exudate type and any systemic symptoms.

Cellulitis is an acute bacterial infection which can affect any part of the body but can commonly affect the leg (unilateral). **BILATERAL CELLULITIS IS RARE.** There is often a rapid onset within hours, sometimes less time if the patient already has an underlying lymphoedema.



Unilateral Leg Redness

Unwell / feverish patient

Unilateral leg redness, pyrexia, heat, pain, oedema, possible skin blistering, consider a diagnosis of **acute cellulitis.** Differential diagnosis may include necrotising fasciitis. Refer to Nottinghamshire Area Prescribing Committee Antimicrobial Guidelines website: Nottinghamshire Shared Medicines Management Team (nottsapc.nhs.uk), consider sepsis and need for urgent escalation if identified. Refer to wound care formularies for topical antimicrobial wound care products. Check pulse rate, blood pressure, respirations, and temperature.

Advice is to draw around the area with an indelible pen to monitor the extent and speed of the redness spreading.

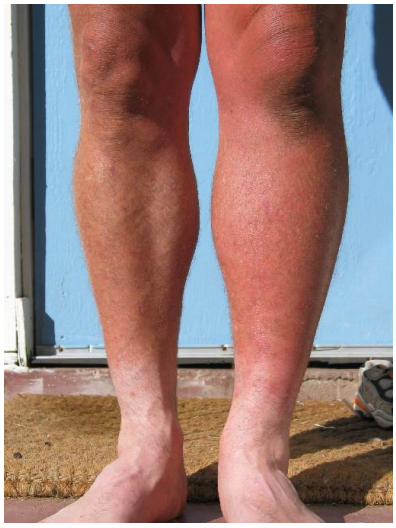
Always treat any underlying conditions e.g. athletes' foot which can cause inflammation leading to cellulitis. Dry cracked skin to the feet and toes can be entry points for bacteria causing skin and wound infection. Regular skin care by washing with emollients and keeping skin well hydrated and removal of dry skin scales is essential for cellulitis prevention.

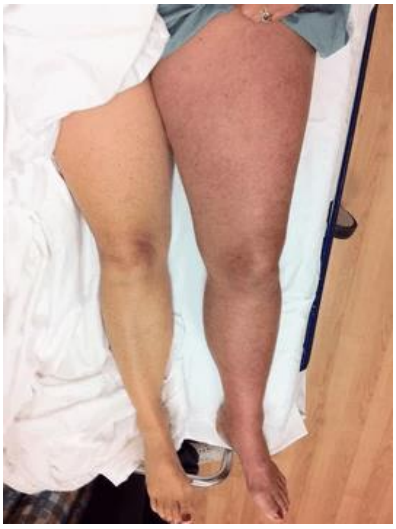
Unilateral Leg Redness

Well patient

Assess Deep Vein Thrombosis (DVT) risk and rule out if suspected. Consider other causes venous hypertension, inflamed varicosities / phlebitis, acute lipodermatosclerosis, inflamed existing haemosiderin staining.

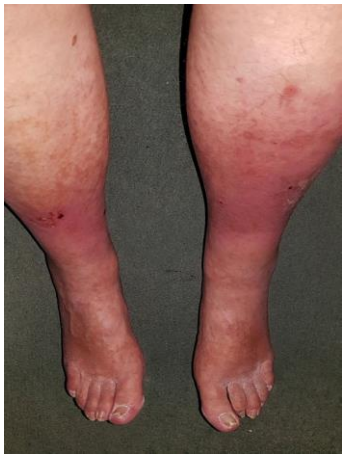
In unilateral leg swelling which may extend above the knee differential diagnosis should include: extrinsic venous compression due to undiagnosed tumour/ recurrent disease, exclude with appropriate pelvic investigation/ blood tests. Chronic DVT – exclude with venous duplex and D-dimer. Refer to **NICE Venous thromboembolic diseases: diagnosis, management and thrombophilia testing. 25 March 2022** **www.nice.org.uk/guidance/ng158**

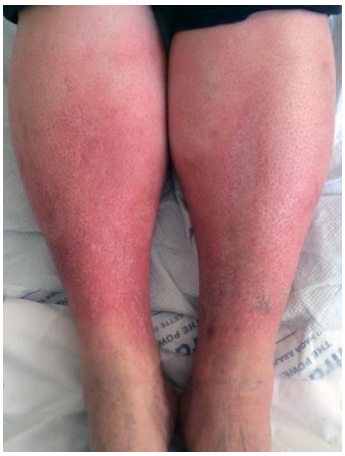




Bilateral Leg Redness

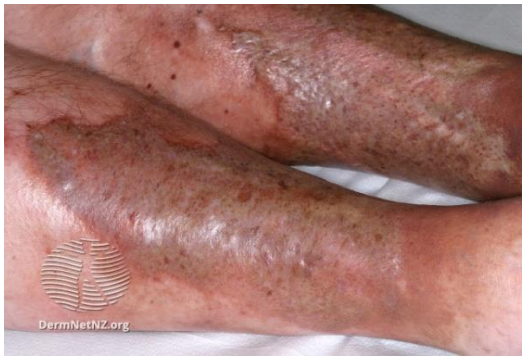
Can be acute but is more likely to be chronic, often present for weeks and months, in some cases years. Chronic redness can of course also be seen following cellulitis (post cellulitic **staining**). Obese and immobile elderly patients have an increased risk.

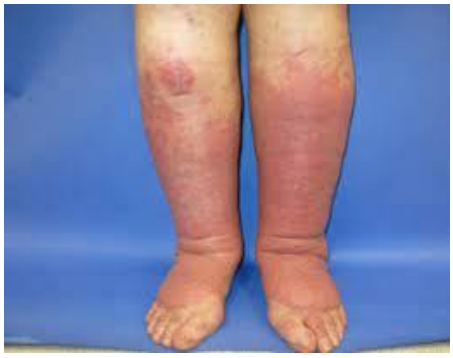




Lipodermatosclerosis

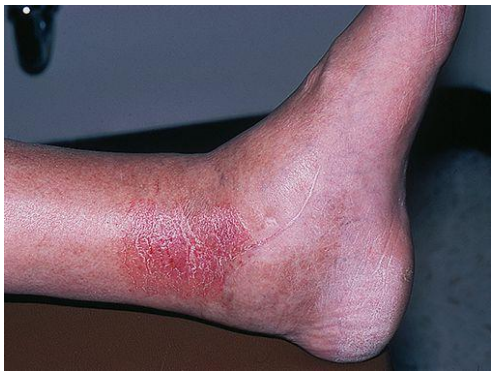
Can be acute or chronic. Also, the acute on chronic exacerbation caused by venous hypertension which gives rise to bilateral lower leg redness. In acute cases there may be associated warmth, pain and swelling. Acute lipodermatosclerosis may mimic cellulitis, with induration, erythema, pain, itch, aching, and a feeling of swelling or heaviness in one or, more often, both lower limbs (DermNet NZ, 2021). In chronic cases there may be dull redness, normal skin temperature and little or no pain. These are the patients who are often treated with antibiotics with no benefit. Effective management is compression and elevation following lower limb assessment which can actually give pain relief once fitted.

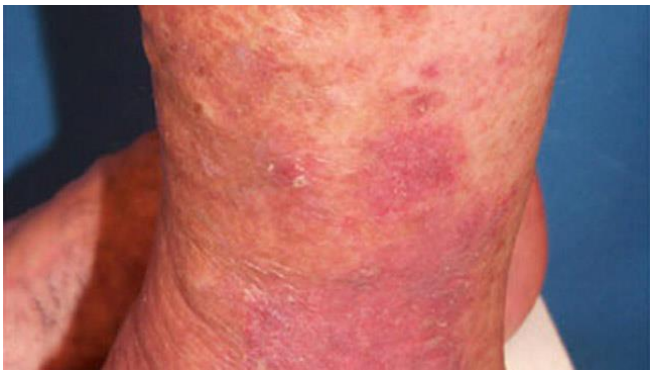




Varicose eczema and gravitational dermatitis.

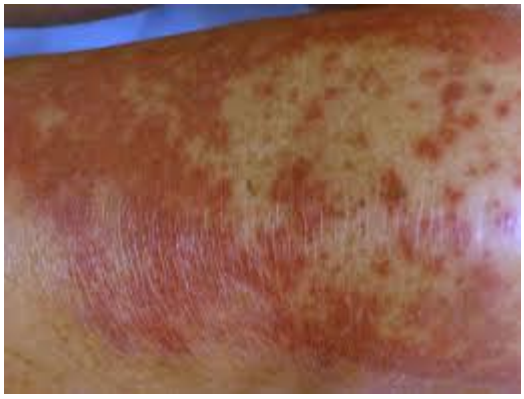
Varicose eczema/gravitational dermatitis is caused by increased pressure in the leg veins. When the small valves in the veins fail, venous reflux is seen, which can cause fluid to leak into the surrounding tissue. It is thought that varicose eczema may develop as a result of the immune system reacting to this fluid. The skin can be itchy, red, swollen, dry and scaly and there may be associated haemosiderin staining, lipodermatosclerosis and atrophe blanche.
Chronic skin discolouration in a patient with venous insufficiency is common and often mistaken for cellulitis however antibiotics are not indicated in chronic venous changes. Presence of haemosiderin deposits, spider veins and generalised erythema in a non-hot leg, often bilateral does not indicate infection it is symptomatic of venous disease. Effective management is usually topical steroid therapy, elevation and compression following lower limb assessment which can actually give pain relief once fitted.





Contact dermatitis

Allergic contact dermatitis is a form of dermatitis/eczema caused by an allergic reaction to a material, called an allergen, in contact with the skin. Allergic contact dermatitis is also called contact allergy. If suspected patch testing by Dermatology is advised. Cleanse with clean water no products containing soap. Replace topical treatments with hypoallergenic products i.e., plain ointment / emollients, non-latex products. Effective management is to identify and remove the allergen, usually topical steroid therapy ointment to reduce inflammation, compression following lower limb assessment when associated with ulceration which can give pain relief once fitted.

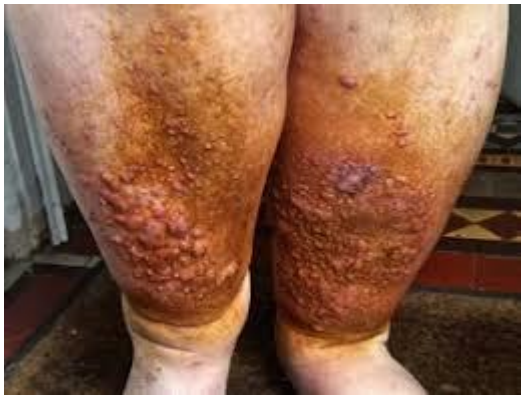


Lymphoedema – skin changes

Lymphoedematous lower limbs have changes to the skin – papillomatosis the projection of dermal papillae above the surface of the skin, resulting in an irregular undulating configuration of the epidermis, lymphoerrhea (leaking), hyperkeratosis, skin loss, maceration and ulceration, eczematous and venous changes in the absence of acute cellulitis antibiotics are not recommended however patients with repeated problems with cellulitis prophylactic antibiotics are recommended following the British Lymphology Society Guidance (2016) **https://www.thebls.com/documents-library/consensus-documenton-the-management-of-cellulitis-in-lymphoedema**

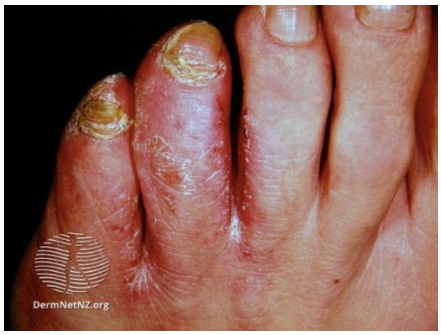
Diuretics are not indicated for the treatment of Lymphoedema unless the patient has other medical issues requiring diuretics such as congestive cardiac failure.

Treatment is lower limb / lymphoedema assessment, elevation, skin and woundcare and compression



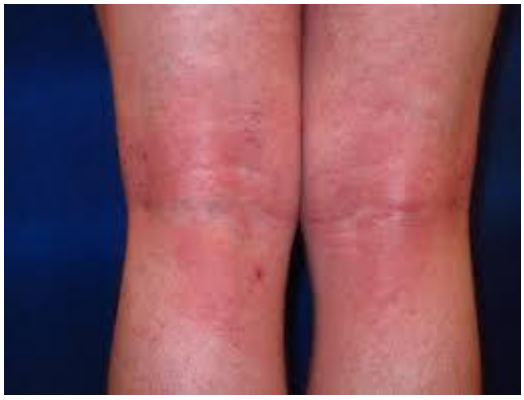
Fungal infection

Use anti-fungal cream. Encourage thorough drying especially in the toes/folds and creases. Use separate towels, wear clean socks/compression hosiery daily and disinfect the inside of shoes when not worn.



Intertrigo

In skin folds. Redness/rash in the feet and intertrigo in deep skin folds in the legs especially in obese patients. Can lead to fungal infections. Daily washing, thorough gentle drying and use of anti-fungal cream. In both conditions see GP if symptoms do not improve.

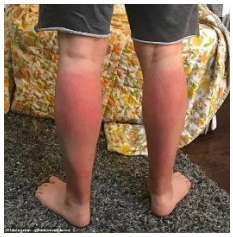


Drug induced

Drugs which can exacerbate or cause lower limb oedema may be associated with redness at the onset of oedema due to an inflammatory response. Pregabalin (to a lesser extent Gabapentin) Corticosteroids, Calcium channel blockers, NSAIDs, Parkinson's medication).

Heat induced redness

e.g. sunburn and radiators/ open fires/hot water bottles.
Beware of lines from sandals or clothing. Explore history of the occurrence of the redness.

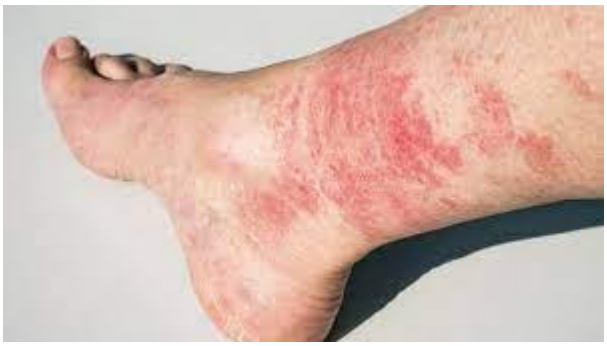


Exercise induced vasculitis

The Disney rash is a kind of blood vessel inflammation called vasculitis that affects the lower parts of the legs after you perform strenuous exercise or activity for a long time, especially in warm weather. It is more commonly seen in women aged over 50. Medically, this rash is called exercise-induced vasculitis (EIV). It is also called golfer's rash or golfer's vasculitis. It is harmless, and it often disappears on its own within 2 weeks after it appears. The Disney rash is not named after someone called "Disney." But, the name came about because the rash is common among visitors to Disney World and other major theme parks.

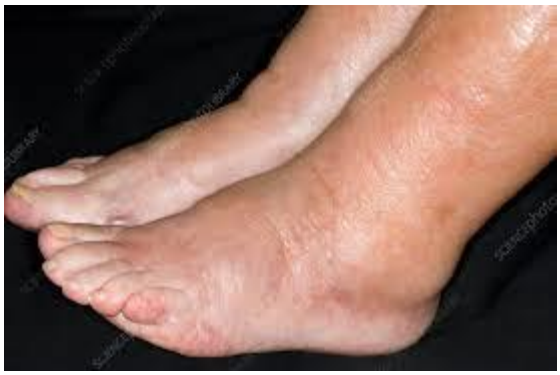
Alleviation of the symptoms:

- Stay out of the heat. It will help bring down your body temperature.
- Stop all forms of exercise or strenuous activities until the condition clears up. This will give your body the time it needs to heal.
- Keep your feet elevated for as long as possible when you're sitting or lying down.
- Wear compression socks or stockings.



Underlying medical conditions

That cause increased oedema such as heart failure may lead to some degree of redness (perform Echocardiogram, Natriuretic peptide tests Brain natriuretic peptide (BNP) and N-terminal pro b-type natriuretic peptide (NT-proBNP), Urea and Electrolytes as clinically indicated). Oedema can be secondary to venous hypertension and arterial disease but other causes need to have investigation. Uncontrolled oedema can result in 'leaky legs'. See guidance for management of leaky legs, lower leg oedema

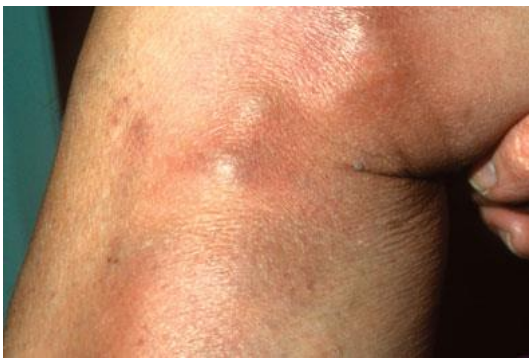


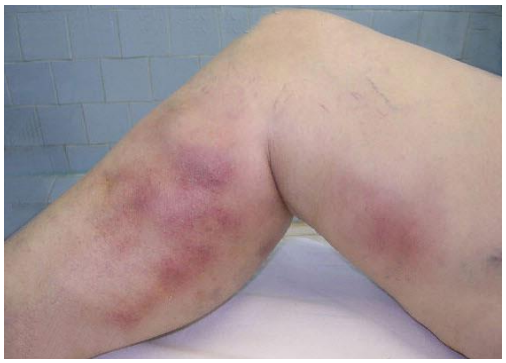
Venous hypertension – varicosities

High blood pressure inside the vein. Many people with varicose veins in the legs have no symptoms others have pain or aching, feel swollen and heavy or itchy. Consider referral to vascular services. Advise lower leg assessment - if not contraindicated compression and elevation

Phlebitis/superficial thrombophlebitis.

Inflammation of a vein. Symptoms include painful hard lumps underneath the skin, causing redness.





Failure to improve / Follow up

Diagnostic uncertainty. Full lower limb (leg ulcer assessment) will indicate underlying arterial or venous disease this is recommended within 2 weeks of a wound developing (National Wound Care Strategy Guidance). If suspected peripheral arterial disease vascular assessment is recommended, symptomatic varicose veins or non-healing leg ulcer refer to vascular services for vein surgery. If concerns re skin malignancy or other skin condition, consider referral to dermatology.

Skin care and exercises for patients

Wash lower legs daily with emollients. For patients with lower leg wounds wash at least weekly when dressings are changed with soap substitute, dry thoroughly, moisturise with bland emollient. Refer to Nottinghamshire Area Prescribing Committee Emollient Formulary. Zinc and zinc with ichthammol bandages can be very useful for itching and soothing if the patient does not have sensitivity to the ingredients and these do not require a circulatory assessment prior to application toe to knee. Encourage lower limb exercise e.g. chair based exercises

References

British Lymphology Society Guidance (2016) **https://www.thebls.com/documents-library/consensus-documenton-the-management-of-cellulitis-in-lymphoedema**

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Nottinghamshire Area Prescribing Committee Emollient Formulary

Nottinghamshire Area Prescribing Committee Antimicrobial Prescribing Formulary

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