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#### Patient information

# Lower limb cellulitis

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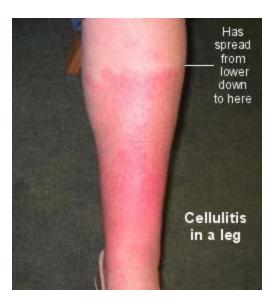


## **Definitions:**

- Cellulitis is an infection of the deep layer of skin (dermis) and the layer of fat and tissues just under the skin (subcutaneous tissues)
- 2. **Erysipelas** is an infection of the skin which is nearer to the skin surface (more superficial) than cellulitis.

In reality, it is difficult to tell how deep an infection is, so cellulitis and erysipelas are difficult to distinguish

#### What is Cellulitis?



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#### What causes cellulitis?

The skin is a good barrier against infection. However, a break in the skin from a cut, skin ulcer, injection, athlete's foot, scratch, etc, is a way in which bacteria (germs) can get into and under the skin. A tiny cut is all that is needed to allow bacteria in.

The bacteria may then multiply and spread along under the skin surface to cause an infection. However, sometimes the infection occurs for no apparent reason. Various types of bacteria can cause cellulitis. Most commonly these are Staphylococcus aureus or beta-haemolytic Streptococci.

#### Who gets cellulitis?

Cellulitis is a common problem. It can affect anyone. However, there are some things that can make you more prone to cellulitis. For example, if you:

- Have athlete's foot (see below).
- Have skin abrasions (cuts).
- Have swollen legs (for various reasons), or are overweight.
- Have previously had an episode of cellulitis.
- Have a poor immune system for example, if you take steroids or chemotherapy.
- Have poorly-controlled diabetes.
- Are an intravenous drug user (via injection).
- Have had an insect bite.
- Have skin problems such as eczema.

#### A common cause of cellulitis is due to athlete's foot

Athlete's foot is usually a mild fungal skin infection. However, it can cause tiny cracks in the skin between the toes. Bacteria may then get under the skin to cause a leg cellulitis.

The cellulitis can be treated, but it may recur if the athlete's foot is not treated. Unless athlete's foot is looked for, it can easily be missed as the source of the problem. People more prone to cellulitis, such as those with swollen legs and those who are overweight, should be careful to treat any athlete's foot promptly with terbinafine cream (an antifungal cream used to treat athlete's foot).

### What are the symptoms of cellulitis?

The lower part of the leg is the most common site for cellulitis to develop. However, cellulitis can affect any area of the skin. Affected skin feels warm, may look swollen, and looks red and inflamed. The infected area may spread and is usually tender. Sometimes blisters occur on the skin. The nearest lymph glands may swell and become tender. This is because they are fighting off the infection to stop it spreading to other parts of the body. For example, the glands in the groin may swell during cellulitis of the leg.

You may feel unwell and have a fever. Indeed, the first symptom is often to feel feverish and shivery for up to 24 hours before any changes to the skin appear.

With erysipelas, the face or legs are commonly affected. If erysipelas affects the face, infection has often travelled from the nasal (nose) passages. On the face, infection typically spreads from the nose area across both cheeks (see page 5).

So, symptoms to take special note of are:

- Pain 'out of proportion' to the look of the skin changes.
- Feeling unwell and becoming ill 'out of proportion' to the look of the skin.
- Symptoms that get worse rapidly either skin symptoms, or how you feel generally.
- Affected skin that goes dusky, purple or blisters.

Necrotising fasciitis is a medical emergency - you need immediate treatment.

But remember, most cases of infected skin are cellulitis and not necrotising fasciitis. Cellulitis is common and necrotising fasciitis is exceptionally rare.

# How can I prevent cellulitis?

Cellulitis may not always be preventable. The following may help to reduce your risk of developing cellulitis:

- Clean any cuts that you may have. You can wash them under running tap water. You may use an antiseptic cream. You can also cover the cut or wound with a plaster but make sure it is regularly changed.
- Don't let your skin become too dry. Dry skin can crack easily and bacteria can enter through the skin cracks. Use a moisturiser regularly on your skin.
- Avoid scratching your skin if possible. Conditions such as eczema can make skin very itchy. If your fingernails are long, they can cause breaks in the skin when you are scratching.
- In patients with recurrent leg cellulitis, your doctor may prescribe an antibiotic, penicillin V, 250mg (o) bd, for at least a year to prevent further episodes.



### Is cellulitis serious?

Cellulitis can range from affecting a small area of skin to a large, spreading infection affecting a large area of skin. Therefore, cellulitis can range from mild to serious. Without treatment, a 'battle' is fought between the immune system and the invading bacteria. Often, the body would fight off the bacteria and the infection would clear. However, a spreading cellulitis that is getting worse can be worrying. Therefore, treatment is usually advised as soon as cellulitis is diagnosed to stop it spreading.

In particular - cellulitis around the eye (periorbital cellulitis) needs urgent treatment. An underlying infection of the maxillary sinus (air space in skull beneath the eye socket) needs to be excluded.

Possible complications of untreated cellulitis include septicaemia (blood poisoning) which can be life-threatening. Occasionally, cellulitis can necrotise and needs surgical debridement or removal.

Also, if the cellulitis is severe before it is treated, it can leave longterm damage to the lymph drainage from affected tissues. This means that in some cases the swelling of tissues may remain, become worse, and can become permanent after the infection has gone.

#### What is the treatment for cellulitis?

#### Antibiotics

If you are being treated with intravenous (IV) antibiotics out of hospital you are likely to be receiving IV ceftriaxone or, if penicillin allergic, IV teicoplanin. Oral alternatives include oral flucloxacillin, amoxicillin, co-amoxiclav or, in severe penicillin allergy, oral clindamycin or linezolid.

## Elevation

Elevating the affected body part uses gravity to help prevent excess swelling, which may also ease pain.

When told to elevate a leg, many people put their leg on a chair or foot-stool. This is rarely sufficient (even if the chair reclines) as the ankle has to be higher than the hip. The easiest way to raise your leg is to lie on a sofa with your heel up on the arm of the sofa (but avoid pressure on the calf). When in bed, put your foot on several pillows so that it is higher than your hip. Alternatively, empty a deep drawer and put it under the mattress at the foot of your bed.

You may need to keep your foot elevated as much as possible for a few days. However, to aid circulation, you should go for short walks every now and then, and wiggle your toes regularly when your foot is raised.

If you have cellulitis in a forearm or hand, a high sling can help to raise the affected area.

## • Other things that may help include:

- Painkillers such as paracetamol or ibuprofen can reduce pain and reduce fever.
- Treatment of athlete's foot if it is present. (e.g. terbinafine cream.)
- Using a moisturiser cream and soap substitute on the affected area of skin until it heals. This helps to prevent the skin from becoming dry and damaged.
- Drinking plenty of fluids to help prevent dehydration.

#### What to look out for

Most people with cellulitis recover fully without any complications. However, serious and life- threatening complications may develop in some cases such as necrotising fasciitis (see below). Deep venous thrombosis (DVT) or a blood clot in the veins of the calf can appear similar to lower limb cellulitis.

## **Necrotising fasciitis**

This is also an infection that affects the skin and the tissues under the skin (the subcutaneous tissues). It is similar to cellulitis but it is more serious. Various bacteria can cause necrotising fasciitis but most commonly it is due to the streptococcus bacterium.