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Cellulitis

Cellulitis and erysipelas are infections of the skin and in the tissues just below the skin surface. Erysipelas is a less serious version of cellulitis that often affects the face. For the purposes of this leaflet, cellulitis and erysipelas will be discussed as if they are the same thing.

Anywhere on the body can be affected but the leg is the most common site. A course of antibiotic medication will usually clear the infection. If you have cellulitis of your leg, as much as possible keep your foot raised higher than your hip. This helps to prevent excess swelling, which may ease pain.

What is cellulitis?

Cellulitis is a bacterial infection of the deeper layers of the skin (dermis) and the layer of fat and tissues just under the skin (the subcutaneous tissues).



By John Campbell, CC0, via Wikimedia Commons

Types of cellulitis

There are different types of cellulitis infection affecting different parts of the body. Cellulitis most often affects the legs and feet, but other areas, such as the arms, hand, face, ears, and trunk, can also be affected.

However, cellulitis can also affect the tissues around the eye (periorbital cellulitis) or the eye itself (orbital cellulitis). This needs to be seen by a specialist for assessment and treatment urgently because orbital cellulitis, although very uncommon, is a potentially sight-threatening and sometimes even life-threatening eye (ophthalmic) emergency.

What is erysipelas?

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 usually treated in the same way.

What causes cellulitis?

Cellulitis is mainly caused by two bacteria: Staphylococcus aureus and beta-haemolytic streptococcus ('strep'). It can therefore be referred to as a staphylococcus infection or streptococcus infection.

We all have bacteria, including these ones, living harmlessly on our skin. You can develop cellulitis if the skin is broken and the bacteria can delve down deep into the skin.

How common is cellulitis?

Cellulitis is quite common but often things that aren't cellulitis are misdiagnosed as it. In theory it can affect anyone but is very rare in children and healthy young adults. There are some things that can make you more at risk of cellulitis. For example, if you:

- Are elderly.
- Have swollen legs (for various reasons) or [are overweight or obese](#).
- Have previously had an episode of cellulitis.
- Have a weakened immune system – for example, if you take steroids or chemotherapy.
- Are pregnant.
- [Have poor circulation \(peripheral arterial disease\)](#).
- [Have poorly controlled diabetes](#).
- [Are an intravenous drug user](#).
- Have severe [eczema](#) or other skin conditions that cause breaks in the skin, like [athlete's foot](#).

Cellulitis symptoms

Symptoms of cellulitis include:

- Skin discoloration – redness in the skin on the affected part of the body, usually the lower leg.
- The redness gets worse over a day or two, becoming painful.
- The cellulitis skin will look a bit shiny.
- The skin is smooth; it is not bumpy or raised.
- Cellulitis is not normally itchy until it starts to go away and the skin heals. Cellulitis is not itchy in the early stages of the infection.
- You may feel unwell, with a raised temperature (fever).
- If the cellulitis becomes very bad you may feel shivery and weak.

What does cellulitis look like?

Here is a photo of cellulitis affecting the eyelid:



By Bobjgalindo (Own work), [CC BY-SA 4.0](#), via Wikimedia Commons

The photo below shows the slightly less serious infection, erysipelas, on a lady's face. Erysipelas is more likely on the face than cellulitis, and often goes across the nose and cheeks:



By CDC/Dr. Thomas F. Sellers/Emory University, Public domain, via Wikimedia Commons

Where do you get cellulitis?

- Cellulitis mainly starts on the lower leg, just around the ankle.
- It can also occur anywhere on the face, particularly around the eyelids when it is called [periorbital cellulitis](#).
- Sometimes the infection can spread into the eye when you have very bad [sinusitis](#). This causes the eye to bulge out. This is very serious and is called orbital cellulitis.
- Sometimes it can occur on the back of the elbow, from leaning on the elbow too much (this is similar to [olecranon bursitis](#), also called student's elbow).

Is there anything else cellulitis could be?

- A lot of conditions look like cellulitis but aren't: it's important the diagnosis of cellulitis is correct, otherwise you'd be taking antibiotics for no reason.
- [Insect bites](#) often give a red circle of skin around where the bite was: a lot of people (and doctors) think it is cellulitis and give antibiotics. It's actually very rare for insect bites to become infected. The redness and pain around an insect bite are just a normal mild allergic reaction: it will go away in a few days and you can take antihistamines to help. The key difference between insect bites and cellulitis is that insect bites are itchy, but cellulitis isn't (at least, not until it is healing and the skin is flaky). Also, the redness around an insect bite comes on quickly – often overnight. Cellulitis takes a few days to spread.
- A lot of elderly people have [varicose eczema](#): this causes red legs and can make a lot of people think they have cellulitis. The key difference is, varicose eczema usually affects both legs, whereas cellulitis affects only one at a time. Varicose eczema also isn't painful, whereas cellulitis is. And elderly people have usually had varicose eczema for years; cellulitis comes on over a few days and gets worse and worse if it isn't treated.

Why is cellulitis so painful?

The infection in the skin causes swelling. It is this swelling that is painful, because it presses the skin out.

Is cellulitis serious?

In general, cellulitis can be treated effectively at an early stage with antibiotics and does not normally become a serious problem or life threatening in developed countries. If the person has a particularly weak immune system – for example, from medications that suppress the immune system, or from HIV – then it could become serious.

If left untreated, possible complications of cellulitis include:

- [Blood poisoning \(septicaemia\)](#) which can be life-threatening.
- A ball of pus (an [abscess](#)) forming in the infected area.
- Muscle or bone infections which can be serious.
- Cellulitis around an eye, which can spread to infect the brain.
- Bacteria that get into the bloodstream and which can cause an infection of the heart valves.

So, the 'take home message' is: if you have a patch of skin that is red, warm and seems to be getting larger, see a doctor as soon as possible. With treatment, most people with cellulitis make a full recovery without any complications developing.

Cellulitis treatment

Antibiotics

[A course of antibiotic tablets will usually clear cellulitis.](#)

The antibiotics that usually work for cellulitis include:

- [Flucloxacillin.](#)
- [Clarithromycin.](#)
- [Erythromycin.](#)
- [Doxycycline.](#)
- [Co-amoxiclav](#) (if near the eyes or nose).

Usually it is sufficient to take a week of antibiotic tablets. The usual course would be a week, followed by a second week if it hadn't cleared.

Sometimes it will be necessary to be given antibiotics through a vein (intravenous antibiotics). This would be necessary if you had a high temperature (fever) from the cellulitis, or had bad shivering. Your doctor will assess whether they think intravenous (IV) antibiotics are necessary.

The National Institute for Health and Care Excellence (NICE) has produced guidance on a new antibiotic option called oritavancin. It is given through a vein as a single treatment. It is likely to be used only in hospitals and is not suitable for general use. However, it offers another option for people with severe cellulitis or erysipelas, if standard treatments aren't suitable for them. It has the potential to treat MRSA (methicillin-resistant staphylococcus aureus).

Elevation

Raising (elevating) your affected body part uses gravity to help to reduce swelling, which may also ease pain. Do this as much as possible until the infection clears.

If you have a cellulitis of the leg, 'raised' means that your foot is higher than your hip so gravity helps to reduce the swelling. When they are told to elevate a leg, many people put their leg on a chair or footstool. This is rarely sufficient (even if the chair reclines), as the ankle has to be higher than the hip for elevation to be useful.

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). Or, lie on a sofa with your foot on two or three thick cushions. 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 at least 48 hours. 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 cellulitis

These include:

- **Painkillers** such as **paracetamol** or **ibuprofen**, which can ease pain and reduce a fever.
- Treatment of athlete's foot if it is present.
- Using a moisturiser cream and soap substitute on the affected area of skin until it heals. This helps to keep the skin clean and prevent the skin from becoming dry and damaged.
- Drinking plenty of fluids to help prevent lack of fluid in the body (dehydration).

When to see a doctor for cellulitis

- Cellulitis usually gets better with antibiotics: you should feel an improvement within two days of taking them.
- If the skin redness gets bigger and more painful, that is a sign that the antibiotics aren't working: see your doctor in case they think you need a higher dose or a different antibiotic.
- If you feel really unwell, with a high temperature (fever) and the shivers: this could be a sign the bacteria have spread into your bloodstream.
- If the skin colour, which was red, turns dark purple or black: this could be a sign you have dead soft tissue (which doctors call gangrene). This needs immediate hospital admission.
- If the pain of the cellulitis seems out of proportion to the size of the redness: this could be a sign the infection has spread deeper into your skin and you might be developing necrotising fasciitis, which is a very serious skin infection. This needs immediate hospital admission.

How to prevent cellulitis

Cellulitis may not always be preventable, particularly in the elderly or people with a weak immune system. However, the following may help to reduce your risk of developing cellulitis in some cases:

- If you have swollen legs, try to keep them elevated as high as possible while you're sitting down. This may well be the most important thing you can do to prevent skin infections like cellulitis in your lower legs.
- Clean any cuts or wounds that you may have. You can wash them under running tap water. You may want to use an antiseptic cream. You can also cover the cut or wound with a plaster. However, make sure that you change the plaster regularly (particularly if it becomes wet or dirty).
- Don't let your skin become too dry. Dry skin can crack easily and germs (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 a break in the skin when you are scratching. These breaks can be an entry point for germs. So, keep your fingernails short and avoid scratching as much as possible.
- If you have had episodes of cellulitis in the past then you may be given a long-term course of low-dose antibiotics (eg, [penicillin](#) or [erythromycin](#)). These have been shown to reduce future episodes of cellulitis.

Does cellulitis go away?

In most cases, cellulitis goes away with treatment, but how long it takes depends on the severity.

How long does cellulitis last?

- Mild cellulitis that is treated early could be completely clear within 7 days after starting antibiotics, particularly if you are otherwise healthy.
- In the elderly, or if the cellulitis has set in for a while before starting treatment, it is quite common to need two weeks of antibiotics before cellulitis will clear up.

- If you have had bad cellulitis requiring hospital admission you may find that the cellulitis doesn't quite go away completely for several months.

What are the signs that cellulitis is healing?

You should notice signs that your cellulitis is healing a few days after starting antibiotics. The pain will improve, the swelling will go down and the colour of your skin will begin to fade back to normal.

Is cellulitis contagious?

Thankfully not! The infection is deep in the skin, not on the surface. You can't catch cellulitis by touching it, nor do you have to wear gloves if touching the skin of someone with cellulitis as it doesn't spread by skin-to-skin contact.

How long do I need off work for cellulitis?

- If you have cellulitis it is important to rest, stay well hydrated and keep your legs elevated (or whichever part of your body has the cellulitis). If your work involves standing up for long periods of time (like a hairdresser or teacher) or if you are sitting in an office chair most of the day, you may well need to have a week off work.
- Most doctors would advise being off work until the cellulitis is completely better: probably a week at the minimum.
- Your doctor will be best placed to advise you on this.

Further reading

- [Cellulitis and erysipelas: antimicrobial prescribing](#); NICE Guidance (September 2019)
- [Antimicrobial prescribing: oritavancin for acute bacterial skin and skin structure infections](#); NICE Evidence summary, May 2022
- [Cellulitis – acute](#); NICE CKS, March 2024 (UK access only)

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