

Infections and eczema factsheet

Skin infections are common in people with eczema and it is highly likely that at some time you will experience either a bacterial, fungal or viral infection. All of these infections require intervention to clear them up as they do not improve on their own. The quicker the infection is recognised and the sooner treatment is started, the better the response to treatment. Preventing infection is also important – from simple hand washing before applying your creams to more sophisticated methods using antiseptics.

When you have eczema, the top layer of the skin (the epidermis) is often damaged. This damage is often clearly visible to the naked eye, appearing as cracks and areas opened up by scratching. There is also less protection *within* the skin, which you cannot see. These alterations in the barrier function of the skin increase the potential for skin infection. These infections are often described as secondary infections, which means they develop because of the underlying condition of eczema.

Bacterial infection

The skin is the most important protection we have against infection as it provides a barrier that prevents the billions of bacteria found on our skin from entering the body.

Staphylococcus aureus (Staph. aureus) is the bacterium that is most commonly responsible for secondary infection of eczema. It is often associated with hair follicle infections (folliculitis), boils and abscesses. ‘Impetiginized eczema’ is another label or name given to eczema infected with Staph. aureus. When the bacteria penetrate the epidermis, an immune reaction can be triggered, which aggravates the eczema and brings about a flare.

Initially, eczema infected by Staph. aureus will appear itchy and red; and if you look closely in natural light, you might see a tangerine glisten to the skin – a little bit like orange body shimmer dust. As the infection progresses, weeping and crusting with a yellow/golden tinge will be evident.

Bacterial skin infections are treated with antibiotics, either topically (applied to the skin) using a cream, or orally (by mouth) in the form of tablets or a liquid suspension. Whether the doctor gives you a topical or oral treatment depends on the size and number of places where the infection occurs. It is important when treating the infection with a cream that you apply it consistently and for the prescribed duration (in the same way you would take a course of oral antibiotics). Topical antibiotics should not be used for longer than 14 days due to the risk of bacterial resistance.

Skin infections can sometimes be caused by a resistant strain of *Staphylococcus aureus* such as **Methicillin-Resistant Staph. aureus (MRSA)**, often referred to as a ‘superbug’ in the media. If you are not responding to antibiotics, then a skin swab should be taken to confirm the strain of bacteria and also what antibiotics it is sensitive to. MRSA bacteria are usually spread through skin-to-skin contact with someone who has an MRSA infection or has the bacteria living on their skin. MRSA can also be spread through contact with everyday objects such as towels, sheets, taps, surfaces and door handles.

Infections and eczema factsheet

There are some steps you can take to reduce your risk of picking this up:

- Careful hand washing before applying your emollients and treatments.
- When visiting a clinic or hospital, use the hand gels at doorways in the hospital and report any unclean toilet or bathroom facilities to the staff.

Fortunately, MRSA bacteria are not resistant to all antibiotics and so are still treatable. Skin infections due to MRSA are usually treated with antibiotics in tablet form, or sometimes injections if the infection is widespread.

Fungal infections

As with bacteria, certain fungi live naturally on everyone's skin. There are two main fungal infections which infect people with eczema. One is caused by **candida**, a yeast which thrives in warm, moist areas of the body such as under the arm, groin, and the neck area in children. The other type originates from moulds called dermatophytes which cause an infection known as **tinea** or **ringworm** (this describes the shape of the skin lesions and has nothing to do with actual worms!).

Candida infections can be treated with a cream containing clotrimazole. This can be purchased from a pharmacy.

Tinea infections are named according to the part of the body where they are found: tinea corporis on a body site, tinea capitis on the scalp, tinea pedis on the feet. Tinea infections are often difficult to distinguish from discoid eczema. Usually the doctor or nurse will advise a fungal treatment (miconazole cream) – available over the counter from pharmacists – to see if the skin responds and the lesions clear. For tinea infections of the scalp or nails, an oral antifungal agent will be necessary. Your GP will need to prescribe this. A skin scraping can be taken for mycology (fungal) analysis when there is difficulty resolving the lesions and there is doubt about the diagnosis.

Antifungal creams do not cause the same resistance concerns as antibiotic creams so you can apply them as and when they are needed. For best results, consistency with application is required until the lesions are clear, applying three times a day or as directed by your doctor.

Viral infections

Eczema herpeticum

The herpes simplex virus, usually just causes cold sores, but in people with eczema it can spread through the skin and develop quickly into a serious condition called **eczema herpeticum**. The symptoms of this viral infection include:

- areas of painful eczema that quickly get worse
- groups of fluid-filled blisters that break open and leave small, shallow open sores on the skin
- a high temperature and generally feeling unwell (in some cases).

Obtaining treatment quickly is important with this infection – it can't be left until the morning! You should see a doctor immediately if you think you have eczema herpeticum; and if you cannot be seen by your GP, call NHS 111 or attend the nearest A&E department.

The virus is spread through direct contact, both skin to skin and contact with surfaces (the virus can live for a few hours on a hard surface). To prevent infection spreading, let the surgery or hospital staff know on arrival that you think you have eczema herpeticum, so you can wait in a private area until the doctor assesses you.

If you have eczema herpeticum, you will be treated with an antiviral drug called acyclovir; often patients are admitted to hospital for a few days in order to receive the therapy intravenously.

Common childhood infections and infestations

Childhood infections which can be worse when you have an underlying diagnosis of eczema include the following:

Chickenpox

The presentation of chickenpox can be variable, from just a few pustules to extensive pustules covering the entire skin's surface and inside the mouth and ears. The infection is spread through blood, saliva and cough droplets. Children with atopic eczema have a slightly higher likelihood of developing a complication of the infection and so parents will need to closely monitor them and their well-being (i.e. check their temperature, look for infected lesions and seek medical advice if concerned).

If you have taken oral steroids within three months of contracting chickenpox, you may have a lowered ability to fight the infection and you will require closer monitoring by your GP. Oral antivirals or hospital admission may be needed to prevent complications. Topical corticosteroids or topical immunomodulators (pimecrolimus and tacrolimus) are less of an issue. See your GP for advice on continuing these treatments whilst you have new chickenpox lesions. Calamine lotion can be drying on the skin and is not usually helpful in children with eczema.

Molluscum contagiosum

This is a common childhood infection. The papules last between a few months and up to two years. They are highly contagious, and rubbing or scratching the papules helps them to spread on the skin. Treatment is not usually given as these viral lesions do eventually go away by themselves.

Scabies

Scabies are tiny mites that burrow and lay eggs in the outer layers of skin. Scabies infestations are very itchy and produce a rash. They are more common in children with eczema and are difficult to diagnose as the presentation is similar to that of eczema; also, the

scabies may be hidden by the eczema. Scabies like warm places, such as skin folds, in-between the fingers, the feet and around the buttock or breast creases. They can also hide under watch straps, bracelets or rings. The incubation period is up to 8 weeks, and dry, scratched skin helps the infestation to spread. See your GP or pharmacist if you think you have scabies – it's not a serious condition but it does need treating. Permethrin cream and malathion lotion are both medications that contain insecticides which kill the scabies mite. They are available to purchase over the counter from a pharmacist.

Preventing infection

Simple measures to help to prevent infection include the following:

- **Always wash your hands before applying topical creams.**
- Remember to **decant emollients** from any tubs you may be using – if you dip your fingers into a tub, it can easily become contaminated with bacteria. A metal dessert spoon is good for decanting emollient and washes well under the tap. If you are using pump-handle dispensers for your emollients, you do not need to decant – you can just pump the emollient onto your hand (avoid touching the nozzle).
- If you have eczema infected by Staph. aureus, or by fungal or viral infections, **avoid sharing towels, bedding and clothing** until the infection has cleared.
- Some people with eczema suffer recurrent bacterial infections and require antibiotic treatment on several occasions. These people are often advised to use **antiseptic washes or creams** to reduce the amount of Staph. aureus on the skin. Commonly these antiseptics are triclosan, chlorhexidine gluconate or sodium hypochlorite. These antiseptics come combined with emollient preparations and can be used to wash with in the bath or as a leave-on preparation. One of the advantages of controlling infections with antiseptics is that they do not create or develop bacterial resistance.

Infections and eczema factsheet

• **Bleach bathing** is an emerging strategy for treating people with recurrent infections. There are a few small trials that report positive outcomes but as yet there are insufficient large-scale studies that provide an evidence base for the use of bleach bathing, so it must be used with caution and under the supervision of your doctor. Care must be taken as the wrong substance or too high a concentration can be harmful. Bleach bathing uses the chemical sodium hypochlorite, which is effective against bacteria, fungi, viruses and MRSA. The principle of bleach bathing is to bathe in the bleach solution twice a week, and in-between continue with your usual treatment routine.

You must not use household bleach for bleach bathing as the concentration of sodium hypochlorite will vary in products and most will have additional chemicals that could damage your skin.

Milton Sterilising Fluid, at a strength of 2% sodium hypochlorite, is the only product that currently provides the strength used in research trials. It has been adopted by hospitals and can be bought cheaply from pharmacies. It does not contain any perfumes or colourants and does not degrade, so it provides a stable strength. When adding it to bath water you should aim for a strength of 0.004%, and nothing else should be added to the bath. *To create the right dilution, you will need 2 ml of Milton for every litre of bath water;* a useful tip is to first measure out the right volume in litres for your bath and make a mark on the bath tub for future filling – a small strip of Gaffer tape just above the water line works well for this.

DISCLAIMER

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