# Secondary bacterial infection of eczema: antimicrobial prescribing

NICE National Institute for Health and Care Excellence

## Background

Symptoms and signs can include weeping, pustules and crusts, no response to treatment, rapidly worsening eczema, and fever and malaise

Not all eczema flares are caused by a bacterial infection, even if weeping and crusts are present.

Eczema is often colonised with bacteria but may not be clinically infected, and can also be infected with herpes simplex virus (eczema herpeticum)

## Prescribing considerations

When choosing an antibiotic, take account of:

- the evidence, which suggests antibiotics are of limited benefit
- the risk of antimicrobial resistance with repeated courses of antibiotics
- the extent and severity of symptoms or signs
- the risk of complications
- possible adverse effects
- local antimicrobial resistance data
- patient preference
- how practical it is to administer
- previous topical antibiotic use

## Microbiological sampling

**Do not routinely take a skin swab for microbiological testing at the initial presentation**

Consider sending a skin swab if the infection is worsening or not improving as expected

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## Secondary bacterial skin infection including eczema

- Manage underlying eczema and flares with treatments such as emollients and topical corticosteroids
- Offer an oral antibiotic for people who are systemically unwell
- Do not routinely offer either a topical or oral antibiotic for people who are not systemically unwell

Advise people to seek medical help if symptoms:

- worsen rapidly or significantly at any time (whether antibiotics have been taken or not)
- have not improved after completing a course of antibiotics

If an antibiotic is given, advise people:

- about possible adverse effects
- to continue treatments such as emollients and topical corticosteroids
- that it can take time for the infection to resolve fully

If an antibiotic is not given, advise about:

- the reasons why an antibiotic is unlikely to provide any benefit
- seeking medical help as needed

If infection recurs frequently, send a skin swab and consider taking a nasal swab and starting treatment for decolonisation

When microbiological results are available:

- review the choice of antibiotic and
- change the antibiotic according to the results if symptoms are not improving, using a narrow spectrum antibiotic if possible

**Reassess if:**

- **the person becomes systemically unwell or has pain out of proportion to the infection**
- **symptoms worsen rapidly or significantly at any time**
- **symptoms have not improved after completing a course of antibiotics**

**Take account of other possible diagnoses, anything suggesting a more serious illness or condition, and previous antibiotic use that may have led to resistant bacteria**

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Refer to hospital if there are symptoms or signs suggesting a more serious illness or condition such as necrotising fasciitis or cellulitis. Consider referral or seeking specialist advice if the person:

- has cellulitis and is severely unwell
- has spreading infection that is not responding to oral antibiotics
- is systemically unwell
- is at high risk of complications
- has infections that recur frequently

# Secondary bacterial infection of eczema: choice of antibiotics

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## People aged 18 years and over

| Treatment | Antibiotic, dosage and course length |
|---|---|
| Do not routinely offer either a topical or oral antibiotic for people with secondary bacterial infection of eczema who are not systemically unwell. | |
| **First-choice topical** if:<br><br>a topical antibiotic is appropriate (see prescribing considerations on the first page of this summary) | **Fusidic acid 2%**<br><br>Apply three times a day for 5 to 7 days<br><br>Extended or recurrent use may increase the risk of developing antimicrobial resistance |
| **First-choice oral** if:<br><br>an oral antibiotic is appropriate (see prescribing considerations on the first page of this summary) | **Flucloxacillin**<br><br>500 mg four times a day for 5 to 7 days |
| **Alternative oral antibiotic** if:<br><br>• the person has a penicillin allergy or<br>• flucloxacillin is unsuitable | **Clarithromycin**<br><br>250 mg twice a day for 5 to 7 days<br><br>The dosage can be increased to 500 mg twice a day for severe infections |
| **Alternative oral antibiotic** if the person is pregnant and:<br><br>• has a penicillin allergy or<br>• flucloxacillin is unsuitable | **Erythromycin**<br><br>250 mg to 500 mg four times a day for 5 to 7 days |
| If methicillin-resistant *Staphylococcus aureus* is suspected or confirmed | Consult a microbiologist |

See the BNF and the BNF for Children for appropriate use and dosing of the antibiotics recommended in specific populations, for example, people with hepatic or renal impairment, and in pregnancy and breast-feeding.

The age bands for children apply to children of average size. In practice, they will be used alongside other factors such as the severity of the condition being treated and the child's size in relation to the average size of children of the same age.

See Medicines for Children, Helping your child to swallow tablets.

## People aged 1 month and over to under 18 years

| Treatment | Antibiotic, dosage and course length |
|---|---|
| Do not routinely offer either a topical or oral antibiotic for people with secondary bacterial infection of eczema who are not systemically unwell. | |
| **First-choice topical** if:<br><br>a topical antibiotic is appropriate (see prescribing considerations on the first page of this summary) | **Fusidic acid 2%**<br><br>Apply three times a day for 5 to 7 days. Extended or recurrent use may increase the risk of developing antimicrobial resistance |
| **First-choice oral** if:<br><br>an oral antibiotic is appropriate (see prescribing considerations on the first page of this summary) | **Flucloxacillin** (oral solution or capsules)<br><br>**1 month to 1 year**: 62.5 mg to 125 mg four times a day for 5 to 7 days<br><br>**2 to 9 years**: 125 mg to 250 mg four times a day for 5 to 7 days<br><br>**10 to 17 years**: 250 mg to 500 mg four times a day for 5 to 7 days |
| **Alternative oral antibiotic** if:<br><br>• the person has a penicillin allergy or<br>• flucloxacillin is unsuitable | **Clarithromycin**<br><br>**1 month to 11 years:**<br><br>under 8 kg: 7.5 mg/kg twice a day for 5 to 7 days<br><br>8 to 11 kg: 62.5 mg twice a day for 5 to 7 days<br><br>12 to 19 kg: 125 mg twice a day for 5 to 7 days<br><br>20 to 29 kg: 187.5 mg twice a day for 5 to 7 days<br><br>30 to 40 kg: 250 mg twice a day for 5 to 7 days<br><br>**12 to 17 years:**<br><br>250 mg twice a day for 5 to 7 days. The dosage can be increased to 500 mg twice a day for severe infections |
| **Alternative oral antibiotic** if the person is pregnant and:<br><br>• has a penicillin allergy or<br>• flucloxacillin is unsuitable | **Erythromycin**<br><br>**8 to 17 years**: 250 mg to 500 mg four times a day for 5 to 7 days |
| If methicillin-resistant *Staphylococcus aureus* is suspected or confirmed | Consult a microbiologist |