

NICE on antimicrobial prescribing for impetigo

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NICE's antimicrobial prescribing guidelines offer evidence-based advice to help healthcare professionals and patients manage common infections and reduce antimicrobial resistance. Here, we provide a summary of the guideline on managing impetigo in children and adults (NG153).



Impetigo is a problem that, if left untreated, usually takes two to three weeks to clear up. An unusual topic for a NICE guideline, then, except that it is the most common bacterial infection in two- to five-year-olds – with a prevalence of about 12% and an annual incidence of about 3% in children under four years. It is often treated with an antibiotic and therefore requires diligent prescribing. Most cases are caused by *Staphylococcus aureus*, *Streptococcus pyogenes* or both. Resistance to widely prescribed antibiotics is a persistent problem with these organisms in primary care, and the number of impetigo cases due to methicillin-resistant *S. Aureus* (MRSA), though still rare, is increasing.

Impetigo: Antimicrobial Prescribing (NG153)¹ is a short guideline setting out when prescribing an antibiotic is appropriate and which antimicrobials (ie antibiotic or antiseptic) to use and by which route. The recommendations are divided into two sections: managing impetigo and the choice of treatment.

Management

Impetigo is easily passed on through close contact with an infected person or indirectly via contaminated objects such as toys, clothing or towels. The first management step is good hygiene to stop it spreading among family and friends. The guideline doesn't provide information about this but there is a link to the NICE Clinical Knowledge Summary (CKS),² where full details are available, with a further link to a downloadable patient information leaflet from the British Association of Dermatologists.³

The CKS monograph recommends common sense measures such as washing, not sharing towels and not scratching the affected skin, but many families will be unaware that Public Health England recommends exclusion measures (stay away from school, other child-care facilities or work until lesions are healed, dry and crusted over or 48 hours after initiation of antibiotics) and that food handlers are required by law to inform employers immediately if they

have impetigo. The CKS monograph points out that although most episodes of impetigo are mild, children may be excluded from school or nursery to prevent outbreaks. Furthermore, some people, including neonates and individuals who are immunosuppressed, are at increased risk of developing serious complications such as glomerulonephritis, cellulitis, scalded skin syndrome, lymphangitis, septicaemia, osteomyelitis and scarlet fever. There is little evidence on how best to treat such individuals.

Impetigo might be a common minor infection but if it's not managed well, it can have a significant health, economic and social impact. This underpinned NICE's approach to management and guided its advice on early use of antibiotics in particular, though it acknowledges the lack of evidence on which to base its choice between topical hydrogen peroxide or an antibiotic as initial treatment.

The first treatment to consider for localised non-bullous impetigo in a person who is not systemically unwell or at high risk of complications is hydrogen peroxide 1% cream. This recommendation is based on evidence from one randomised controlled trial, indicating it is as effective as a topical antibiotic, and clinical experience. NICE notes that other antiseptics are available but there is no scientific evidence to support their use for impetigo. Hydrogen peroxide 1% cream may be a new treatment approach for GPs, and it is more expensive than some alternatives, but NICE concluded it is well tolerated and a useful option to avoid using an antibiotic. Note that hydrogen peroxide cream should not be applied around the eyes and a topical antibiotic is indicated if impetigo affects this area, or if hydrogen peroxide is otherwise unsuitable.

It is worth noting that in its advice to patients, the NHS website currently states that a GP can prescribe an antibiotic cream if impetigo is suspected (or an oral antibiotic if it is severe),⁴ which is the course of action NICE recommends if hydrogen peroxide is unsuitable. There is currently no mention of the use of hydrogen peroxide on the NHS patient website (which is due for review in January 2021).

Impetigo that is non-bullous but widespread (and the person is not at high risk

of complications) should be treated with a short course of a topical or oral antibiotic, taking into account personal and family preferences, the size of the area to be treated, and possible adverse effects; they are both effective. Previous topical antibiotic use should be borne in mind because repeated or extended use increases the risk of developing resistance. A short course of an oral antibiotic is recommended for bullous impetigo, and for individuals who are unwell or at high risk of complications.

Topical and oral antibiotics should not be used together: this approach does not improve effectiveness but it does increase the risks of resistance and adverse effects. Patients or their families should be advised to come back if symptoms worsen rapidly or significantly, or if they don't improve after treatment. This would prompt questions about the diagnosis (alternatives include herpes simplex and cellulitis), and the possibility of bacterial resistance. Treatment may then be escalated from hydrogen peroxide to a topical antibiotic if the impetigo remains localised, or possibly an oral antibiotic if it is more widespread.

If treatment has not improved after completing a course of a topical antibiotic, an oral antibiotic should be offered, and taking a skin swab for microbiological testing should be considered, in order to guide choosing a different antibiotic (preferably narrow spectrum). People with frequent impetigo should also have a skin swab taken, and consideration should be given to taking a nasal swab and starting decolonisation treatment.

Impetigo can be difficult to treat in people who have symptoms or signs of a more serious condition (eg cellulitis), or who have more widespread infection and are immunocompromised, and these patients should be referred to hospital. Referral or specialist advice should be considered for patients with bullous impetigo (especially those aged ≤ 1 year), frequent recurrences, and those who are systemically unwell or who are at high risk of complications.

Choice of antimicrobial

NICE provides two tables to guide the choice of antimicrobial agent – one for

patients aged over 18 years, one for under-18s. The tables differ only in the doses recommended, with the rank order of antimicrobial agents the same.

The only topical antiseptic recommended is hydrogen peroxide 1%. This should be applied two to three times daily for five days. If that is unsuitable (eg impetigo is around the eyes) or ineffective, the topical antibiotic of choice is fusidic acid cream 2%, which is equally effective and as well tolerated. PHE estimates that 13% of methicillin-susceptible *Staphylococcus aureus* bloodstream isolates are resistant to fusidic acid. While this does not mean that a similar proportion of skin isolates are resistant, mupirocin cream 2% is an alternative if resistance is suspected or confirmed. This is as effective as fusidic acid but is associated with a higher risk of adverse reactions. Both antibiotic creams should be applied three times daily for five days. Application frequency is the same in children and adults.

The oral antibiotic of first choice is flucloxacillin, a narrow-spectrum penicillin that is still standard treatment for suspected staphylococcal infections of the skin. The recommended adult dosage is 500mg four times daily. For children, the dosage is 62.5–125mg four times daily at age one month to one year; 125mg to 250mg four times daily for age two to nine years; and 250mg to 500mg four times daily from the age of 10 to 17 years. In both adults and children, a course of treatment should normally last five days but can be increased to seven days if the lesions are numerous and/or severe.

NICE is sceptical that penicillin allergy is as common as people say: about 10% of people claim they are allergic, often based on their recollection of skin rash in childhood, but NICE states that fewer than 10% who think they are allergic are truly allergic. However, this is not usually a question that GPs are in a position to clarify at the point of prescribing. In cases of suspected penicillin allergy, or if there are problems with taking flucloxacillin, eg due to the taste of the solution or swallowing the capsules, the next choice is clarithromycin (except in pregnant women). For adults, the standard dosage is 250mg twice daily for five days, but this

can be increased to 500mg twice daily and the duration of treatment increased to seven days if needed for severe infection. Pregnant women should be prescribed erythromycin 250–500mg four times daily for five (or seven) days. In children aged up to 11 years, the dose of clarithromycin is based on body weight and is given twice daily for five (or seven) days. Older children (12–17 years) should take 250mg twice daily for five (or seven) days, with the possibility of increasing the dose to 500mg twice daily for severe infections; erythromycin is again the suggested alternative during pregnancy.

For help persuading a child to take tablets, NICE refers readers to a downloadable leaflet at the Medicines for Children website.⁵

MRSA colonises the nose, skin and gut in one quarter to one third of the population, so it is a realistic possibility that it might be the cause of impetigo that proves refractory to standard treatment. NICE states that clinical experience suggests this is in fact a rare occurrence but one that is increasing. If MRSA is sus-

pected or confirmed, the local microbiologist should be consulted.

Summary

Impetigo is a common and readily transmissible nuisance that can escalate into a problem affecting school, work and social life. Management is straightforward for most individuals, child and adult alike. Good hygiene and topical hydrogen peroxide should normally be the initial strategy for localised non-bullous impetigo, but early treatment with a topical antibiotic is also an option if hydrogen peroxide is unsuitable. More extensive lesions and bullous impetigo should be treated with an oral antibiotic, and specialist help should be sought for people at high risk of complications. The recommended first-line antibiotics are primary care standards and should be prescribed in line with good stewardship principles. Prescribers should be alert to the possibility of emerging resistance. MRSA currently appears to be a rare occurrence, though the possibility of an increase in cases due to this organism is a concern.

References

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Declaration of interests

None to declare.

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