Topical antibiotics: keep reducing use

Encouraging progress has been made by prescribers in New Zealand in reducing the use of topical antibiotics such as fusidic acid; however, the challenge is to maintain this momentum and reduce use even further as there are very few indications for prescribing these medicines.

KEY PRACTICE POINTS:

- Dispensing of topical antibiotics has reduced by around 50% over the last two years; however, there are very few indications for use and further reductions are possible
- Good skin hygiene measures (e.g. "clean, cut and cover") and the use of topical antiseptics such as hydrogen peroxide or povidone iodine are recommended for treating localised or minor skin infections, including impetigo
- If antibiotic treatment is indicated for a skin infection, oral antibiotics are almost always the most appropriate choice
- Topical antibiotics are not required following minor invasive procedures, e.g. removal of benign skin lesions

Over the last few years there has been much focus on the high rates of topical antibiotic use in New Zealand and increasing resistance. bpac^{nz} most recently addressed this topic in February, 2017 with guidance highlighting that many patients with mild bacterial skin infections do not require antibiotics and emphasising the problems associated with topical antibiotic use in New Zealand:

- Increasing resistance leads to ineffective treatment; latest data from 2016 show that approximately 20–50% of *Staphylococcus aureus* samples isolated from skin and soft tissue infections are resistant to fusidic acid[1]
- The use of topical fusidic acid can result in the emergence of *Staphylococcus aureus* strains which are also resistant to methicillin;[2] methicillin-resistant *Staphylococcus aureus* (MRSA) is resistant to all beta-lactam antibiotics and can cause severe infections and outbreaks in healthcare settings and the community.[3]
- Increasing resistance to topical fusidic acid threatens the effectiveness of oral formulations of fusidic acid, which has a role in the treatment of invasive infections of bones and joints

Hydrogen peroxide is increasingly prescribed in place of topical antibiotics

Since 2016, dispensing of topical fusidic acid has dropped by approximately 42%: from approximately 50,000 dispensings per quarter in 2016 to 29,000 dispensings in the first quarter of 2018 (Figure 1). Use of topical mupirocin (partially subsidised) has reduced by 55% since the beginning of 2016. Dispensing of mupirocin dropped during 2016 due to supply issues, after which it levelled out at a reduced rate of 8,000–10,000 dispensings per quarter over the last year. N.B. There are ongoing supply issues with mupirocin. Dispensing of topical hydrogen peroxide has more than doubled since 2016 and dispensing of topical iodine is also increasing.

The decrease in dispensing of topical antibiotics is a positive change and reflects informed prescribing behaviour. However, there are very few situations in which the use of topical antibiotics is warranted therefore it is possible for prescribing rates to be further reduced.

See your personalised prescribing data online:
www.bpac.org.nz/2018/topical-antibiotics.aspx

Most localised or minor skin and soft tissue infections can be treated without antibiotics

Impetigo is typically self-limiting and patients or caregivers can be advised to follow simple skin hygiene advice; the "clean, cut (nails) and cover" strategy. Topical antiseptics* can be used for small, localised areas of infection (three or less lesions/clusters) and oral antibiotics considered if infection is more widespread; flucloxacillin is first-line. If a patient with localised infection has not improved after treatment with topical antiseptics, the lesions remain localised and an oral antibiotic is not considered appropriate, then topical fusidic acid may be considered.

"School sores (impetigo)", information for caregivers:
www.kidshealth.org.nz/school-sores-impetigo

* subsidised options are hydrogen peroxide cream 1% or povidone-iodine ointment 10%, other options available over-the-counter

Infected eczema can often be managed by optimising use of topical corticosteroids and emollients.[5] Oral antibiotic treatment can be considered for patients with worsening or severe infection; prescribe an oral antibiotic based on local resistance patterns with appropriate coverage for *Staphylococcus aureus* and *Streptococcus pyogenes* (Group A ß haemolytic streptococcus). There is no role for topical antibiotic treatment in patients with infected eczema.

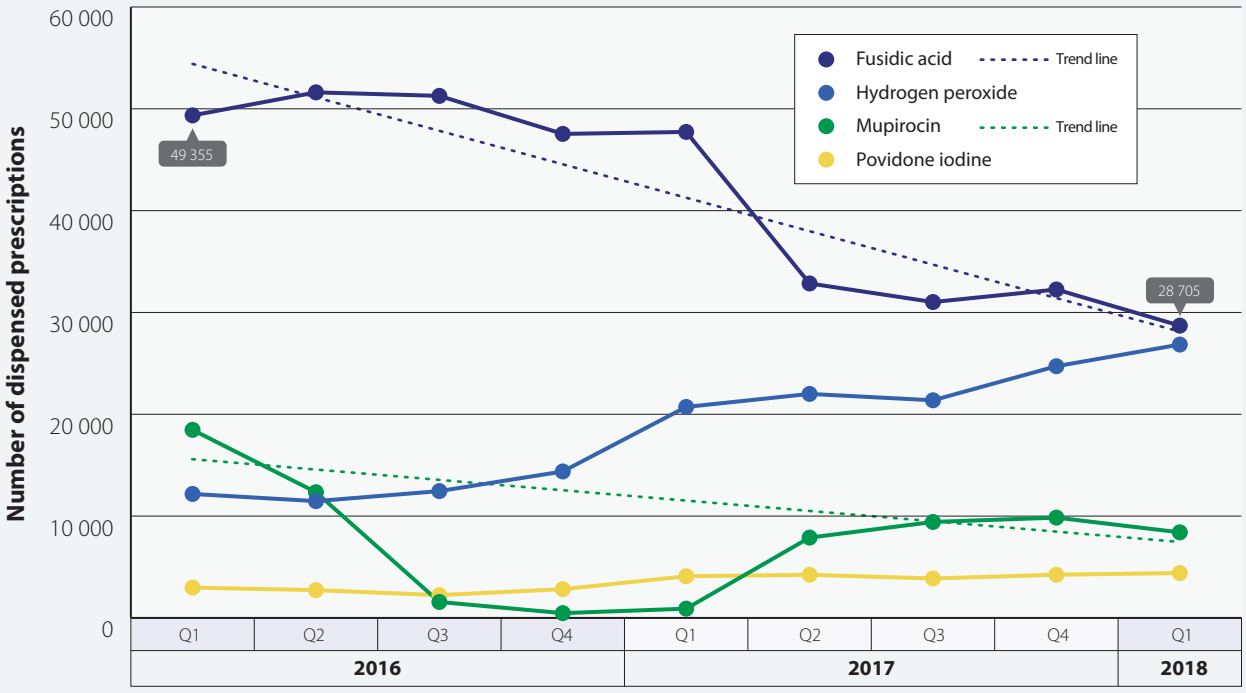

Figure 1: Dispensing of topical antibiotics and antiseptics 2016–2018.[4] N.B. the "dip" in mupirocin dispensing during 2016 was due to a lack of supply.

For further information on managing eczema, see: "Childhood eczema: improving adherence to treatment basics": **www.bpac.org.nz/2016/childhood-eczema.aspx** and "Topical corticosteroids: clearing up the confusion": **www.bpac.org.nz/2016/topical-corticosteroids.aspx**

"Eczema care: 3 easy steps", information for caregivers: **www.kidshealth.org.nz/eczema-care-3-easy-steps**

Other skin and soft tissue infections, such as furuncles, carbuncles or folliculitis typically do not require topical antibiotic treatment. Furuncles and carbuncles can be treated with incision and drainage. Folliculitis can be due to bacterial infection but also viral or fungal infection, or sterile folliculitis due to occlusion with adhesive dressings or emollients. Management should focus on effective skin hygiene, avoiding or treating any underlying cause and topical antiseptics.[6] If the skin lesions are spreading or are in a site associated with complications, e.g. the face, or patients have fever or co-morbidities which place them at higher risk, e.g. diabetes, an oral antibiotic such as flucloxacillin can be prescribed. Erythromycin can be used for patients with flucloxacillin allergy. Routine use of oral antibiotics for uncomplicated abscess does not improve treatment outcomes compared to incision and drainage alone.[7]

"Boils", information for caregivers: **www.kidshealth.org.nz/boils**

Topical antibiotics are not required for **preventing infection following minor invasive procedures**, e.g. removal of benign skin lesions. People aged over 75 years have one of the highest rates of topical fusidic acid use in New Zealand, and it is thought that using topical antibiotics as a preventative measure following the removal of benign skin lesions contributes to this high use.[8, 9]

When are topical antibiotics used?

The main clinically appropriate use for topical antibiotics in New Zealand is the eradication of nasal carriage of *S. aureus* in patients with recurrent skin and soft tissue infections, or the eradication of MRSA, with the choice of topical antibiotic determined by susceptibility testing. However, the initial focus should be on optimising skin hygiene, e.g. antibacterial washes, avoiding sharing personal care items, and environmental decolonisation, e.g. frequent washing of linen and cleaning of regularly touched surfaces.

If topical antibiotics are prescribed, include the intended duration of use so this will appear on the prescription label and prescribe just enough volume for the current condition. Encourage patients to discard the remainder of any tubes once treatment is completed, rather than keeping an unfinished tube for use on other occasions or by other household members.

Further reading: two-part series on topical antibiotic use in New Zealand –
"Topical antibiotics for skin infections: should they be prescribed at all", available from:
www.bpac.org.nz/2017/topical-antibiotics-1.aspx

"Topical antibiotics for skin infections: when are they appropriate?", available from:
www.bpac.org.nz/2017/topical-antibiotics-2.aspx

Patient information
"Looking after your child's skin": a guide for parents and families, available from: **www.health.govt.nz/system/files/documents/publications/skin-infections-booklet-nov13v2.pdf**

Kids Health skin infection resources, including information on specific conditions and resources in Māori, Samoan and Tongan languages, available from: **www.kidshealth.org.nz/tags/skin**

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