

## ▶ ECZEMA - SAFE PRESCRIBING - A TOPICAL ISSUE

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Eczema is a chronic relapsing itchy inflammation of the skin affecting approximately 20% of New Zealand children<sup>1</sup> and has disproportionately higher rates among Māori and Pacific children.<sup>2</sup> Onset can be any age but is most common before the age of 5 years. Often there is a family history of eczema, asthma or hayfever.<sup>3</sup>

There is evidence that good skin barrier management in early life can help in allergy prevention.

Skin with eczema has altered integrity and an increased risk of infection with bacteria (eg staphylococcus and streptococcus) and viruses (eg herpes and molluscum). Genetic abnormalities in the skin barrier proteins have recently been identified in patients with eczema, suggesting that abnormal skin barrier function is a key determinant of eczema.<sup>4,5</sup>

General management principles include: daily moisturising, appropriate use of topical steroids, avoidance of possible irritants and education about signs of infection to ensure prompt treatment. The under-use of topical treatment is more of a concern than overuse, it is important that this is emphasised to parents and caregivers.<sup>1</sup> Most children with eczema can be managed with topical treatment in primary care<sup>1</sup> potentially avoiding complications such as infections and cellulitis that may require admission to secondary care and lead to significant morbidity and costs for children and their families.<sup>2</sup> Optimising treatment and encouraging treatment adherence may increase quality of life.

### USE SOAP SUBSTITUTES

Soaps can be drying and irritating to the skin so 'soap-free' washes should be used.<sup>6</sup> A funded option is Cetomacrogol with glycerol—Boucher brand<sup>®</sup> which can be used like a body wash, or alternatively applied before a bath and washed off. Lukewarm baths of 10-15 minutes are best,<sup>7</sup> avoid hot water which can cause pruritus via vasodilation and potentially damage the skin barrier by scalding.<sup>5</sup>

### ANTISEPTIC WASHES

To reduce staphylococcus colonisation and reduce eczema severity, antiseptic baths can be used 2-3 times per week. These baths can be prepared by adding 1 mL of bleach (4.2% Value Extra Strength Bleach, not Janola) to 1 Litre of

bath water - approximately 80mL of this bleach to 10 cm deep, regular sized bath.<sup>18</sup> Ideally the child should stay in the bath for 10-15 minutes and then rinse with fresh water.<sup>1</sup> Antiseptic bath oils are available but these are not subsidised.<sup>7</sup>

### EMPHASISE THAT EMOLLIENTS ARE ESSENTIAL

Emollients are the mainstay of therapy but are often underused which can result in poorly controlled eczema.<sup>7</sup> They should be applied even when eczema is well controlled.<sup>7</sup> Ideally, they should be applied several times a day because their effects are short-lived.<sup>10</sup> Adequate skin hydration preserves the stratum corneum barrier, minimizing the effects of irritants and allergens and maximizing topically applied therapies. This will potentially decrease the need for topical steroids. After bathing, lightly pat the skin with a towel to remove excess moisture, rather than complete drying. Then liberally apply an occlusive emollient over the entire skin surface to retain moisture in the epidermis. Smooth in the direction of hair growth. It is recommended to apply this within 3 minutes of leaving the bath to avoid evaporation which may cause excess drying of the skin.<sup>5</sup>

NICE guidelines endorse the provision of large quantities of emollients to children with eczema and recommend prescribing 250-500 g each week to encourage sufficient supply for daily moisturising, bathing and washing.<sup>11</sup> Ointments are preferred for dry skin, creams for flexures, face and exudative skin and lotions are useful over hairy areas. Products within tubs should be removed with a clean spoon or spatula to reduce bacterial contamination.<sup>10</sup>

Ideally, emollients should be hydrophobic and ointment-based but they are very greasy and may be too occlusive in hot summer months. Cream-based alternatives may be used (eg Cetomacrogol with glycerol—Boucher brand<sup>®</sup>) although they are slightly less effective. Oily creams such as HealthE fatty cream<sup>®</sup> are in between ointments and creams and are usually acceptable.<sup>4</sup>

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Regular aqueous cream is no longer recommended as a leave-on emollient.

**Table 1 Emollients**

SUBSIDISED EMOLLIENTS	BRAND NAME
<ul style="list-style-type: none"> <li>Cetomacrogol aqueous cream + glycerine</li> <li>Cetostearyl alcohol + paraffin liquid + paraffin soft white</li> <li>Paraffin liquid + paraffin soft white + wax-emulsifying</li> <li>Paraffin liquid + paraffin soft white</li> <li>Cetomacrogol wax-emulsifying + paraffin liquid + paraffin soft white + water purified</li> </ul>	<ul style="list-style-type: none"> <li>Cetomacrogol with glycerol—Boucher brand</li> <li>O/W Fatty Emulsion (Boucher &amp; Muir)</li> <li>Emulsifying Ointment BP (HealthE)</li> <li>White soft/Liquid Paraffin (HealthE)</li> <li>Non-Ionic (HealthE)</li> </ul>

*Please note: This is not an exhaustive list and funded products may have a different manufacturer; please refer to the on-line Pharmac schedule or the NZF for the most up-to-date information.*

### USE CORTICOSTEROIDS APPROPRIATELY

Most parents worry about steroid-related adverse effects. Reassure them that when used appropriately, alongside regular emollient use and with potency of the steroids tailored to the skin thickness, that the benefit will outweigh the harm. Topical steroids reduce inflammation and pruritus during acute exacerbations.<sup>14</sup> The absorption of topical steroids is increased through hydrated skin and the benefits are optimal if applied soon after bathing. It is recommended to apply them first for maximal absorption. The most occlusive preparations are ointments which are best for very dry skins, followed by gels, creams and lotions. Systemic steroids are not recommended for the treatment of eczema.

Facial and flexural eczema should be treated with a low-potency topical steroid in all age groups. Moderate-potency topical steroids can be used as a second line treatment for short periods of less than 2 weeks.

For eczema on the body (trunk, arms and legs), infants under one year can usually be managed with a low or occasionally moderate-potency topical steroid. Pre-schoolers may require a moderate or potent topical steroid. An effective topical steroid will typically result in improvement within 1-2 weeks allowing the steroid to be used less frequently or stopped.<sup>14</sup>

In general, short bursts of more potent steroids are more effective and have fewer adverse effects than long-term continuous use of lower potency agents.<sup>7</sup> Once daily dosing of topical steroids may be as effective as twice daily and is often more convenient.<sup>15</sup> Advise to apply to all areas with active eczema; it is better to apply early rather

than waiting for the eczema to get worse. When the eczema is no longer red and itchy, the steroid cream may be stopped, but continue with emollients. Restart steroids whenever the eczema returns.<sup>8</sup>

If there is no benefit within 1-2 weeks, investigate the possibility of poor adherence, the need to use a more potent topical steroid or that eczema is not the correct diagnosis. Consider referral for specialist advice if there is recurrent treatment failure.

**Table 2 Topical corticosteroids<sup>14</sup>**

POTENCY	SUBSIDISED EXAMPLES
<b>Mild</b>	
Hydrocortisone 1%	Hydrocortisone cream 1%
<b>Moderate (25 x hydrocortisone 1%)</b>	
Triamcinolone acetonide (0.02%)	Aristocort cream/ointment <sup>®</sup>
<b>Potent (50-100 x hydrocortisone 1%)</b>	
Betamethasone valerate (0.1%)	Beta cream/ointment/application <sup>®</sup> Betnovate Lotion <sup>®</sup>
Hydrocortisone 17-butyrate (0.1%)	Locoid Lipocream/ointment/lotion <sup>®</sup> Crelo <sup>®</sup> (milky emulsion)
Mometasone furoate (0.1%)	Elocon cream/lotion/ointment <sup>®</sup>
Methylprednisolone aceponate (0.1%)	Advantan cream/ointment <sup>®</sup>

**Note:** Very potent steroids such as Dermol<sup>®</sup> (clobetasol propionate 0.05%) should not be used for childhood eczema.

Make sure adequate amounts of topical steroid are used, suboptimal use early on can lead to poor control of symptoms and potentially discontinuation or non-compliance.<sup>16</sup>

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**Note:** regular aqueous cream and emulsifying ointment contain sodium lauryl sulphate which can cause irritation and damage to the skin barrier in some people.<sup>12,13</sup>

Use the fingertip unit (FTU) to measure the amount of medication. One FTU is the amount of cream that will cover an adult index finger from the tip of the

	6 month old	12 months old	5 years old	10 years old
Arm & hand	1	1.5	2	2.5
Leg & Foot	1.5	2	3	4.5
Trunk	1.5	2	3	3.5

metacarpophalangeal joint: it is approximately 0.5g.<sup>14</sup>

**Table 3 Approximate number of adult FTUs needed for children**<sup>14</sup>

Table 4 provides approximate weights of steroid cream required for a once daily application to cover the entire body.<sup>17</sup> More detailed information about this and FTU

TOPICAL STEROID	6 month old	12 month old	5 years old	10 years old
Daily (g)	5	6	10	15
Weekly (g)	35	40	70	100

requirements are available on the New Zealand Formulary for Children website [www.nzfchildren.org.nz/nzf\\_6272](http://www.nzfchildren.org.nz/nzf_6272)

**Table 4 Approximate weight required of topical corticosteroids**

Always give instruction on which areas to avoid (eg the face)

Encourage the continued use of emollients during acute flares.<sup>14</sup> A useful resource is available on the Starship website: [www.starship.org.nz/guidelines/outpatient-primary-care-management-of-childhood-eczema/](http://www.starship.org.nz/guidelines/outpatient-primary-care-management-of-childhood-eczema/)

### IDENTIFY UNDERLYING TRIGGERS IF POSSIBLE

To reduce the frequency and severity of irritant-induced flares, avoid any likely irritants that may trigger the itch-scratch-itch cycle (eg soaps, detergents, chemicals, abrasive clothing and extremes of temperature).<sup>5</sup> The following advice may help:

- Wash new clothes before use to remove formaldehyde and other chemicals
- Use mild liquid detergents (rather than powders) and a

second rinse cycle to remove residual detergent

- Shower after swimming in chlorinated pools and apply emollients
- Dress children in loose cotton clothing, avoiding wool and synthetics next to the skin if possible.
- Always choose fragrance-free hypoallergenic products for “sensitive skin”
- Avoid topical products containing alcohol or other astringents
- Test a new sunscreen or new skin product on a small patch of skin, before application over all skin. (covering up is the best protection while out in the sun)

Frequent follow-up is needed early in the course to assess response to therapy and compliance. Be mindful that contact dermatitis to preservatives in steroid preparations, can occur.<sup>5</sup>

### REFER IF NECESSARY

If the condition is severe, involves eyelids/hands or is refractory to first-line treatments, consider further assessment by either a nurse specialist or paediatrician, or consultation with a dermatologist.<sup>6</sup> The following conditions should be referred:

- Erythroderma or extensive exfoliation
- Serious infectious complications eg eczema herpeticum, or recurrent infective exacerbations
- Ocular complications
- Eczema requiring hospitalisation or systemic immunosuppressant
- Eczema causing persistent loss of sleep, school absenteeism or inability to enjoy activities
- Eczema causing significant psychosocial impact
- Eczema requiring persistent topical steroids with risk of localized cutaneous effects eg striae

Eczema has multiple triggers and it is not usually possible to identify and exclude all of them. Anaphylactic (immediate hypersensitivity) reactions to food proteins can occur in children with eczema, especially in children with early-onset (before 6 months) generalised eczema. Be aware that skin-prick testing and RAST (radioallergosorbent) testing can have high rates of false positives for eczema; results need to be interpreted with caution. Although parents often report food triggers for eczema, current evidence doesn't support food exclusion for eczema management. Excluding food carries a risk of nutritional deficiency and loss of immune tolerance. Referral for assessment by a paediatrician, paediatric

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▶ For further information on other high-risk medicines visit our website at : [www.saferx.co.nz](http://www.saferx.co.nz)