MANAGING ECZEMA IN CHILDREN

A health professionals guide to moisturisers and corticosteroids

Eczema management overview

- A comprehensive approach which encompasses education, identification and avoidance of trigger factors (where possible) and a stepped approach to treatment.
- Topical corticosteroids are the mainstay of treatment.
- Topical calcineurin inhibitors may be recommended for troublesome facial eczema where children are requiring frequent application of an appropriate topical steroid on the face. In this instance Pimecrolimus 1% cream is recommended for mild facial eczema and Tacrolimus 0.03% ointment is recommended for moderate to severe facial eczema.
- Eczema can be improved with good daily skin care routines that use creams and/or ointments and avoidance of soaps and irritants.
- Poorly controlled eczema significantly impacts the health and well-being of affected children, as well as their family.
- Emotional distress, fatigue, and sleep disturbance are largely responsible for the impact on quality of life and are directly correlated with eczema severity.
- Referral to a patient support organisation with a medical advisory board, can provide support.

Why use moisturisers?

- Dry skin contributes to eczema, therefore daily use of moisturisers to improve skin hydration and maintain the skin barrier, is essential.
- Moisturising the skin helps with restoring and maintaining the epidermal barrier structure and function.
- Regular and generous use of moisturisers reduces trans-epidermal water loss, reduces xerosis and supports skin barrier repair and can have steroid-sparing effects.
- Moisturisers produce better results when used with active treatments (such as topical corticosteroids), prolonging the time between flare ups, reducing the number of flares and reducing the quantity of topical corticosteroids used.

Control of inflammation is important

- Topical corticosteroids or topical calcineurin inhibitors are used to actively treat the redness and inflammation in the skin.
- Fear of side effects of cortisone creams and ointments can result in delayed use and/or an inadequate amount applied.
- It is important to educate patients and parents about the following:
  - Corticosteroid creams and ointments are extremely safe when used as directed.
  - It is better to use the recommended amount of topical corticosteroid to quickly manage the eczema than use an inadequate amount for a longer period of time.
- Topical corticosteroids should be applied to the skin before or after applying moisturisers.
- Topical corticosteroids can be applied to broken skin.
- Patients should continue to moisturise the skin.
- Wet dressings can often help with inflammation, itch and sleep.

This resource received funding from the Australian Government Department of Health and was supported by the Perth Children's Hospital Foundation.

It is important to educate patients about how to manage their eczema

Poorly controlled eczema may be the result of:

- fear of using topical corticosteroids
- misunderstanding of treatment routines
- inadequate use of emollient creams/ointments
- families unable to cope with time intensive treatment routines
- the child and/or parent being sleep deprived (scratching), waking with itch and not always cooperative with moisturising routines
- inadequate patient education
- infection
- severe environmental allergy
- contact allergy
- immunodeficiency

Stepwise approach to management of eczema

To help optimise eczema management, the table below provides an example of a stepwise approach to the management of eczema.

	Mild eczema	Moderate eczema	Severe eczema
General measures	• Use soap-free wash • Avoid irritants such as heat, synthetic and scratchy clothing, contact fragrances, sand and grass • Daily short luke warm showers or baths		
Moisturisers	• Moisturise 1-2 times a day	• Moisturise at least twice daily	
Treatments	• Mild potency topical corticosteroids	• Moderate or potent topical corticosteroids • Topical calcineurin inhibitors (if face moderate)	• Potent topical corticosteroids • Topical calcineurin inhibitors • Persistent eyelid or facial dermatitis might need steroid sparing with topical calcineurin inhibitors • Phototherapy • Consider systemic therapy
Bleach baths and wet dressings		• Consider bleach baths for infected eczema • Wet dressings nocte for 3-5 days	• Consider bleach baths for infected eczema • Wet dressings bd for 2 days then nocte for 3-5 days

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Moisturisers

- Dry skin contributes to eczema, therefore frequent use of moisturisers to improve skin hydration is essential.
- Moisturising the skin helps with restoring and maintaining epidermal barrier structure and function.
- Regular and generous use of moisturisers reduces trans-epidermal water loss, supports skin barrier repair and can have steroid-sparing effects.
- All moisturisers are mixtures of lipids and water and are available in three main forms – lotions, creams and ointments.

	 Lotion	 Cream	 Ointment
Consistency	Very thin and light High water content	Thicker than lotions Water based but contain more oil content than lotions	Highest oil content Can be greasy May be needed when eczema is severe
Helpful tips	✓ More quickly absorbed ✓ Less greasy ✓ May be better for use on the face ✓ Less likely to cause overheating and blocked pores ✓ Creams tend to moisturise the skin better ✗ Lotions are rarely used in babies and children as they are not moisturising enough and commonly sting		✓ May be more effective ✓ Last longer so can apply less often ✓ Lower risk of irritation ✗ Feels oily/greasy on the skin ✗ Can cause heating and blocked pores
Preventing food allergy and skin infections	 Use a moisturiser that does not contain food ingredients (e.g. nuts, coconut, milk, oats)  Wash hands with soap and warm water before application  Consider using a moisturising cream in a pump style container to reduce the risk of germs  Use a clean spatula to scoop the moisturiser out of a tub style container to reduce the risk of germs		

Adapted from Matthew J Ridd et al. BMJ 2019;367:bmj.l5882

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Other considerations

'Natural' products

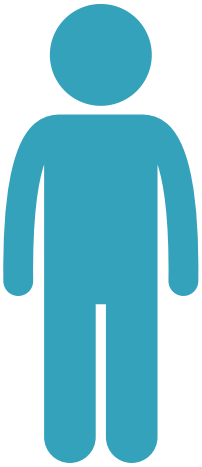
- 'Natural' does not always mean 'safer' or 'effective'.
- Most plant extracts are mixtures of compounds from different chemical classes (for example, alkaloids, phenolics, and terpene), some of which could be pharmacologically active and hence increase the potential for adverse effects. For example, plant extracts of lavender, rosemary and tea tree have been shown to cause allergic eczema, especially in people with an atopic tendency.
- Many natural products contain food allergens and should be avoided, especially if the person has broken skin and does not readily eat the food or has an allergy to it.

Aqueous creams

- Aqueous creams are not advised in the management of eczema, as the sodium lauryl sulphate increases trans-epidermal water loss and disruption of the skin barrier function.
- Aqueous cream may be used as a soap-free wash.

How much?

- You need to use more moisturiser than most people realise.
- Apply plenty of moisturiser to the entire body irrespective of whether eczema is present.
- Pay special attention to high-risk areas that are often missed when applying (e.g. behind the ears, eyelids, but take care not to get the product in the eyes).
- If using a tub, remove the cream from tub with a spoon or spatula to prevent cross-infection. If parent is using an interpreter, ensure they know NOT to feed it internally to the child if you suggest using a spoon.

		
Baby	**Small child**	**Bigger child or teenager**
Use at least 125 grams of moisturiser per week	Use at least 250 grams of moisturiser per week	Use at least 500 grams of moisturiser per week

How often?

- Moisturise the whole body and face at least twice daily and more frequently if skin is dry.
- Apply immediately after bathing and patting dry the skin, while the skin is still damp (within a few minutes of getting out of the bath/shower is best).
- Avoid moisturising ointments in hairy areas of the body to help reduce development of folliculitis.

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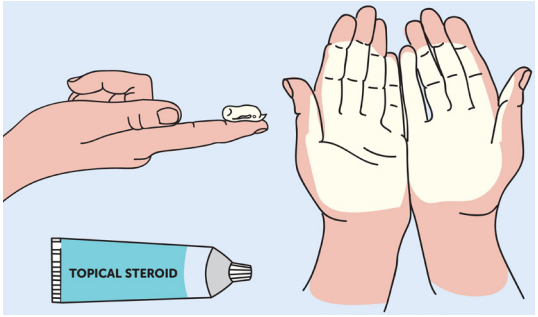
Topical corticosteroid creams and ointments

- Moisturisers produce better results when used with active treatments (for example, topical corticosteroids), including prolonging the time between flare ups, reducing the number of flares and reducing the quantity of topical corticosteroids used.
- Topical corticosteroids should be applied to all the affected areas immediately after bathing, either before or after applying moisturiser to whole body and face.
- In the UK, there is a move towards using the term 'flare control creams or ointments' to prevent steroid phobia.

<table>
<tr><th></th><th>Mild potency (class I)</th><th>Moderate potency (class II)</th><th>Potent (class III)</th><th>Very potent (class IV)</th></tr>
<tr><td></td><td>• Hydrocortisone 0.5-1%
• Hydrocortisone acetate 0.5-1%</td><td>• Clobetasone butyrate 0.05%*
• Hydrocortisone butyrate 0.1%*
• Betamethasone valerate 0.02–0.05%
• Triamcinolone acetonide 0.02–0.05%
• Methylprednisolone aceponate 0.1%</td><td>• Betamethasone dipropionate 0.05%
• Betamethasone valerate 0.05–0.1%
• Mometasone furoate 0.1%</td><td>• Clobetasol propionate 0.05%
• Betamethasone dipropionate 0.05% in optimised vehicle</td></tr>
<tr><td>When to use</td><td colspan="2">Mild to moderate atopic dermatitis</td><td colspan="2">Severe atopic dermatitis</td></tr>
<tr><td>Where to use</td><td>  </td><td> 
* Under medical supervision</td><td colspan="2">  </td></tr>
<tr><td>How much to use</td><td colspan="4">✓ Wash hands with soap and warm water before application to help prevent food allergies and skin infections
✓ It is important to use enough topical corticosteroid to manage the eczema well
✓ Fingertip units (FTU) provide a guide about how much topical corticosteroid to use
  </td></tr>
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Further information

National Allergy Council
National Allergy Council eczema resources
nationalallergycouncil.org.au/resources-links/eczema

Australasian Society of Clinical Immunology and Allergy (ASCIA)
allergy.org.au

DermNet NZ
dermnetnz.org

Patient support organisations:

Allergy & Anaphylaxis Australia
allergyfacts.org.au

Allergy New Zealand
allergy.org.nz

The National Allergy Council is a partnership between ASCIA and Allergy & Anaphylaxis Australia, the peak medical and patient support organisations for allergy in Australia.

National Allergy Council resources are based on published literature and expert review, however they are not intended to replace medical advice. The content of National Allergy Council resources is not influenced by any commercial organisations.

A food allergy education project developed by:

ascia australasian society of clinical immunology and allergy

national allergy council

Allergy & Anaphylaxis Australia

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