Topical corticosteroids in paediatric eczema

**Purpose:** to provide recommendations on the safe and effective use of topical corticosteroids in paediatric eczema

**Audience:** Health professionals

**Acknowledgement:** This statement has been adapted from Mooney E, et al. *Adverse effects of topical corticosteroids in paediatric eczema: Australasian consensus statement.* Aust J Dermatol. 2015 Nov;56(4):241-51 by The Australasian College of Dermatologists with permission from the authors.

**Endorsement:** This consensus statement has been reviewed and approved by the ACD Board of Directors.

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**First endorsed by ACD:** Feb 2017  
**Current:** June 2020  
**Review due:** June 2022
**Purpose**

The Australasian College of Dermatologists is the sole medical college accredited by the Australian Medical Council for the training and continuing professional development of medical practitioners in the speciality of dermatology. As the national peak membership organisation, we represent over 550 dermatologist Fellows (FACD) and 100 trainees.

As the leading authority in Australia for dermatology, we provide information, advocacy and advice to patients, communities, government and other stakeholders on skin health and dermatological practice. Our vision is for the highest standard of skin health and dermatology care to be available and accessible to all patients and communities.

The purpose of this consensus statement is to:

- Provide recommendations to health professionals on the safe and effective use of topical corticosteroids in paediatric eczema
- Summarise the evidence on adverse effects of topical corticosteroids
- Clarify misconceptions surrounding adverse effects to promote compliance amongst patients and their carers and curb steroid phobia within the community.

**Background**

Atopic eczema is a chronic inflammatory disease affecting about 30% of Australian and New Zealand children. Severe eczema costs over AUD6000 per year per child in direct medical, hospital and treatment costs, as well as time off work for caregivers and untold distress for the family unit. In addition, it has a negative impact on a child’s sleep, education, development and self-esteem.

Topical corticosteroids (TCS) remain the mainstay of the management of active atopic eczema in combination with the regular use of emollients, the management of triggers and the treatment of concurrent infection. The safety profile of TCS remains robust when it is used appropriately.

**Context**

The advice given by dermatologists to parents of children with eczema regarding the use of TCS is unfortunately frequently undermined by misinformation among the general community and even health care professionals. Unfounded concerns about their adverse effects has resulted in ‘steroid phobia’ and an underutilisation of TCS, leading to extended and unnecessary exacerbations of eczema for children.

There is a pressing need for the re-education of health professionals and the community on the excellent safety record of these medications.

**Methodology**

An Australian and New Zealand panel of paediatric dermatologists, paediatricians, dermatology nurses and advanced dermatology trainees was constituted to review the use of TCS in children with atopic eczema. The aim of the consensus meeting was to identify and address misconceptions on corticosteroid treatment of eczema, using published evidence combined with over 430 person-years of clinical practice in paediatric dermatology.

**ACD Consensus Recommendations for Health Professionals**

**Guidance on the application of topical corticosteroids**

**When to apply**

Apply 1–2 applications per day as per the product information, to all the inflamed skin until eczema is cleared. There is no requirement for intervals without therapy.

**How much to apply**

There is no requirement to use sparingly. It is recommended that an ample volume of cream is applied to sufficiently cover the entire affected area.

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**Potency ranking of selected TCS preparations**

<table>
<thead>
<tr>
<th>Class</th>
<th>Usual concentration (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Class I: mild</td>
<td></td>
</tr>
<tr>
<td>hydrocortisone</td>
<td>0.5–1.0</td>
</tr>
<tr>
<td>hydrocortisone acetate</td>
<td>0.5–1.0</td>
</tr>
<tr>
<td>Class II: moderate</td>
<td></td>
</tr>
<tr>
<td>clobetasone butyrate</td>
<td>0.05</td>
</tr>
<tr>
<td>hydrocortisone butyrate</td>
<td>0.1</td>
</tr>
<tr>
<td>betamethasone valerate</td>
<td>0.02</td>
</tr>
<tr>
<td>betamethasone valerate</td>
<td>0.05</td>
</tr>
<tr>
<td>triamcinolone acetonide</td>
<td>0.02</td>
</tr>
<tr>
<td>methylprednisolone aceponate</td>
<td>0.1</td>
</tr>
<tr>
<td>triamcinolone acetonide</td>
<td>0.05</td>
</tr>
<tr>
<td>Class III: potent</td>
<td></td>
</tr>
<tr>
<td>betamethasone dipropionate</td>
<td>0.05</td>
</tr>
<tr>
<td>betamethasone valerate</td>
<td>0.05–0.1</td>
</tr>
<tr>
<td>mometasone furoate</td>
<td>0.1</td>
</tr>
<tr>
<td>Class IV: very potent</td>
<td></td>
</tr>
<tr>
<td>betamethasone dipropionate in optimised vehicle</td>
<td>0.05</td>
</tr>
<tr>
<td>clobetasol propionate</td>
<td>0.05</td>
</tr>
</tbody>
</table>

**Key points**

- There is little difference in the clinical effect between 0.5, 1 and 2% hydrocortisone.
- Mixing a strong steroid with moisturiser does not reduce its clinical effect. Potency reduction is achieved by using a less potent steroid molecule.
- Most topical steroids can be applied once daily, preferably in the evening or at night.
- The recommendation ‘use sparingly’ is nonsensical and has no value.

All Class III & IV and some Class II TCSs are not suitable for face, axillary or inguinal folds.
ACD Consensus Recommendations for Health Professionals

Guidance on adverse effects

Misconceptions about adverse effects of TCS for the treatment of paediatric eczema are increasingly leading to its inappropriate use. The following guidance on adverse effects draws upon information from published medical literature and the combined clinical experience of the consensus panel.

Atrophy
What is commonly referred to as skin thinning by parents and non-dermatologists is usually a misinterpretation of active eczema. When TCS used for eczema in children are stopped on resolution of the dermatosis, irreversible skin thinning does not occur.

Striae / rubra distensae
TCS do not induce striae when used to treat atopic eczema in children, unless used inappropriately, or in overdose and only then at certain sites (i.e., axillae and groin).

Hypothalamic–pituitary–adrenal axis suppression
Physiological HPA suppression can occur with very widespread and prolonged, or occlusive use of potent / superpotent TCS. This recovers quickly. Clinically significant / pathological adrenal suppression is very rare in the treatment of paediatric eczema with TCS.

Infected or excoriated skin
There is no evidence that applying TCS on excoriated or infected eczema is harmful. TCS should be the first-line treatment for atopic eczema, regardless of whether the skin is excoriated or infected. Clinically significant concurrent infection (e.g., S. aureus, H. simplex, Molluscum) should be treated.

Allergic contact dermatitis to TCS
Allergy to TCS is rare in children with atopic eczema, but should be considered in those children who demonstrate a poor response to appropriate strength TCS.

Osteopaenia / osteoporosis
Reduced bone mineral density is very unlikely to occur in children with eczema treated with TCS.

Ocular effects
Prolonged use of potent TCS in the periorbital area has rarely been associated with cataract and glaucoma. TCS use away from the eyes has not been shown to cause ocular sequelae.

Hypertrichosis
Transient hypertrichosis has been seen in discoid eczema and prurigo nodularis treated with potent TCS.

Periorificial dermatitis / rosacea
TCS may aggravate a tendency for periorificial / perioral dermatitis, in predisposed individuals.

Red face
The red face has not been described in children with eczema, but should be kept in mind in teenagers who continue to deteriorate despite increasing steroid potency.

Tachyphylaxis
There is no evidence to show that tachyphylaxis occurs in children with eczema treated with TCS.

Purpura
TCS do not induce purpura in children with atopic eczema.

Hypopigmentation
The hypopigmentation seen in patients treated with TCS, as their eczema clears, is caused by the eczema (as in pityriasis alba), not the treatment. TCS do cause short-term vasoconstriction, which can be mistaken as hypopigmentation.

Telangiectasia
Routine use of TCS in children with eczema should not cause telangiectasia.
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Reference


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