Consensus statement

THE AUSTRALASIAN COLLEGE OF DERMATOLOGISTS

Topical corticosteroids in paediatric eczema

Purpose: To provide recommendations on the safe and effective use of topical corticosteroids.

Audience: Health professionals

Acknowledgements: 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 approved by The ACD Expert Advisory Committee.

Disclaimer: This consensus statement reflects the general views of The Australasian College of Dermatologists at the date of release and may be subject to amendment to reflect emerging clinical and scientific evidence. This information provides educational information and is not intended as a substitute for individual patient assessment. Practitioners are advised to interpret and apply recommendations according to the needs and circumstances of each patient.

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Key messages and recommendations

- Atopic eczema (also known as atopic dermatitis) is a chronic inflammatory disease of the skin with a relapsing course, affecting about 30% of young children in Australia.
- The psychosocial impact of eczema in children, and financial costs of treatment can have a significant impact.
- Topical corticosteroids (TCS) can be applied 1-2 times per day to all the inflamed skin until eczema is cleared.
- The recommendation ‘use sparingly’ is nonsensical and has no value. It is recommended that an ample volume of cream is applied to sufficiently cover the entire affected area of the skin.
- Mixing a strong steroid with moisturiser does not reduce its clinical effect. Potency reduction is achieved by using a less potent steroid molecule.
- There is little difference in the clinical effect between 0.5, 1 and 2% hydrocortisone.
- TCS use in paediatric eczema does not cause atrophy, hypopigmentation, hypertrichosis, osteoporosis, purpura or telangiectasia when used appropriately as per guidelines. In rare cases, prolonged and excessive use of potent TCS has contributed to striae, short-term hypothalamic-pituitary-adrenal axis alteration and ophthalmological disease.
- The Australasian College of Dermatologists recommends that TCS are a safe and effective treatment for managing atopic eczema in children with active inflammation.

ACD Consensus Statement – Topical corticosteroids in paediatric eczema

Background

Atopic eczema (also known as atopic dermatitis) is a chronic inflammatory disease of the skin with a relapsing course, affecting about 30% of young children in Australia.[1,2]

While the psychosocial impact of eczema in children can be significant,[3] the financial costs of treatment can have a considerable effect on a household's income.[4] The combined direct (i.e., medical, hospital, treatment) and indirect costs (i.e., time off work for parents and caregivers, family stress) for eczema in Australia can range between $1,100 to $6,000 per year, depending on severity.[4] It is therefore, of considerable importance to have access to a safe and effective treatment.

Topical corticosteroids (TCS) have been available for use since the 1950s and recommended to manage active atopic eczema in combination with the regular use of emollients. However, TCS are often underutilised by many parents due unfounded concerns about their adverse effects and 'steroid phobia' which has resulted to extended and unnecessary exacerbations of eczema for children.

The Australasian College of Dermatologists (ACD) has developed a consensus statement on the safe use of TCS in children with atopic eczema, with a particular focus on addressing the misconceptions surrounding adverse effects to prompt uptake amongst health professionals and patients, including parents and caregivers. This consensus statement has been informed by Mooney et al.'s (2015) paper.[5]

Evidence-based for topical corticosteroids in paediatric eczema

The purpose of this consensus statement on Topical Corticosteroids in Paediatric Eczema is to present existing evidence on the adverse effects of topical corticosteroids.

Existing published and peer-reviewed evidence supports the use of topical corticosteroids in the management of atopic eczema in children.

For the purpose of this consensus statement, the College defines appropriate use of TCS as 1 – 2 generous applications per day to all inflamed skin until the active eczema is controlled as per the guidelines (see Appendix A).

The potency of TCS depends on the inherent characteristics of the steroid molecule and the amount of the molecule that reaches the target cell. There is little difference in the clinical effect between 0.5, 1 and 2% hydrocortisone (refer to Table 1).

Evidence to support this statement can be found in Mooney et al.'s (2015) paper.[5]

Topical corticosteroid	**Concentration (%)**
Class I: Mild	
Hydrocortisone	0.5-1.0
Hydrocortisone Acetate	0.5-1.0
Class II: Moderate	
Clobetasone Butyrate	0.05
Hydrocortisone Butyrate	0.1
Betamethasone Valerate	0.02
Betamethasone Valerate	0.05
Triamcinolone Acetonide	0.02
Methylprednisolone Aceponate	0.1
Triamcinolone Acetonide	0.05
Class III: Potent	
Betamethasone Dipropionate	0.05
Betamethasone Valerate	0.05-0.1
Mometasone Furoate	0.1
Class IV: Very potent	
Betamethasone Dipropionate in Optimised Vehicle	0.05
Clobetasol Propionate	0.05

Table 1. Potency ranking of selected TCS preparations

Best practice management to prescribing topical corticosteroids in the treatment of paediatric eczema

A list of key practice points to assist patients and their health professional in informed decision-making for the use of topical corticosteroids in the treatment of paediatric eczema have been developed. These practice points are supported with the best available evidence and provide advice on how to appropriately use topical corticosteroids when treating children affected by eczema, and for the prevention or management plan of adverse effects.

Key practice points

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 or rubra distensae: TCS does not induce striae when used to treat atopic eczema in children unless used inappropriately or in overdose and only then at certain sites, such as the axillae and groin.

Hypothalamic-pituitary-adrenal axis suppression: Physiological HPA suppression can occur with very widespread and prolonged, or occlusive use of potent/super-potent 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: 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.

Osteopenia/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 does 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 does cause short-term vasoconstriction, which can be mistaken as hypopigmentation.

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

References

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3. Lewis-Jones S. Quality of life and childhood atopic dermatitis: the misery of living with childhood eczema. Int J Clin Pract 2006; 60:982-992
4. Su J, Kemp A, Varigos G, et al., Atopic eczema: Its impact on the family and financial cost: Arch Dis Child 1996; 76: 159-162.
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Appendix A: Guidelines for the practical use 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.

Patient's age	Face and neck	Arm and hand	Leg and foot	Anterior chest and abdomen	Back and buttocks
3-12 months	1	1	1 ½	1	1 ½
1-3 years	1 ½	1 ½	2	2	3
3-6 years	1 ½	2	3	3	3 ½
6-10 years	2	2 ½	4 ½	3 ½	5
>10 years	2 ½	4	8	7	7

Table 2. Fingertip Unit[1,2]

[1] Long CCC, Mills CMC, Finlay AYA. A practical guide to topical therapy in children. Br J Dermatol 1998; 138: 293-296.
[2] Long CC, Finlay AY. The finger-tip unit – a new practical measure. Clin Exp Dermatol 1991; 16: 444-447

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- Trains and supports dermatologists
- Advocates for better skin health for our communities
- Sets the clinical standard in dermatology

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