March 2017

Clearing up childhood eczema

Atopic dermatitis (eczema)

Eczema has been reported to affect approximately 20% of children in New Zealand, with disproportionately higher rates among Māori and Pacific children.[1] Over 90% of eczema cases develop in children before the age of five and 60% of these cases occur in the first year of life.

Key Messages:

- Prescribe enough (500g will only last 1 to 2 weeks) and advise parents/caregivers to use emollients frequently and in large quantities.
- For children with frequent flares eg 2/month, "weekend treatment" with topical corticosteroids may reduce the frequency of flares and overall corticosteroid use.
- Use lowest potency corticosteroid needed to control symptoms.
- Specify where each product should be used, or should not be used.
- Avoid the term "use sparingly": encourage appropriate use.
- Address adherence due to "corticosteroid phobia" concerns.
- Review within 2-4 weeks of prescribing corticosteroids – assess response, reinforce education.
- Infected eczema should ideally be treated with oral antibiotics instead of topical antibiotics.

Essential emollients are the mainstay of therapy for childhood eczema. Appropriate use of emollients:

- reduces flares or relapses,
- improves sleep and quality of life,
- improves symptoms, and
- decreases the amount and potency of topical corticosteroids required.[2,3]

Use creams or ointments – lotions do not provide enough moisture. As a general rule, the greater the oil content, the more effective it will be in treating dry skin. It will also provide better barrier protection but may be least convenient because it is more greasy/sticky on the skin.

Emollients should be applied during both symptomatic and asymptomatic periods, and in sufficient quantities for the patient's body size and the area of skin affected.[2] Application can be continued when topical corticosteroids are being used and can be applied before or after the corticosteroid.

Soap substitutes – make using a soap substitute easier by prescribing an emollient suitable for use as both a soap substitute and moisturiser. Many emollients contain sodium lauryl sulphate (SLS), a known skin irritant. The currently subsidised formulation of aqueous cream is SLS-free so can be used as a soap substitute and can also be left on as a moisturiser. Emulsifying ointment contains SLS and should not be used as a leave-on emollient; however it is an effective soap substitute. Soap substitutes or 'wash-off' emollient products can be applied before a bath or shower then washed off. There is no clear evidence as to whether showering or bathing is better for controlling eczema symptoms.[2]

Dilute bleach baths are an inexpensive antiseptic option to reduce colonisation with *S. aureus*. If using daily, use only ¼ cup or use twice weekly for ongoing prevention of infection and flares.[3]

Escalate treatment during flares. Appropriate potency topical corticosteroids should be applied on all areas of active eczema and stopped once it has cleared – unless following the "weekend treatment" regimen.

As with emollients, underuse of topical corticosteroids rather than overuse is more common, and when used correctly, result in minimal adverse effects.[4]

Potency of the topical corticosteroid prescribed should be matched to the eczema flare severity and to the area of the body affected. If prescribing more than one topical corticosteroid, ensure parents/carers know what area each of the corticosteroid creams or ointments should be applied to.

General rules: [4]

- Low-potency should be used first-line in children of all ages with facial or flexural eczema
- Moderate potency can be considered as a second-line, short-term (5-7 days) treatment for use on the face in severe cases
- Eczema on the trunk, legs or arms of infants less than one year can usually be managed with a low potency formulation
- Potent corticosteroids should not be prescribed for children less than one year, and very potent topical corticosteroids should not be prescribed for children of any age without specialist advice.
- In general, short bursts of more potent treatments are more effective and have fewer adverse effects than longer term use of lower potency products.
- Topical corticosteroids can be applied up to twice a day, but once daily application is sufficient in most cases. Leave 10-30 minutes between applying the steroid and moisturiser for best results.

What should parents/carers/patients know? [2]

- **Which** corticosteroid to apply, ie using the right potency and formulation
- **Where** on the body to apply it
- **When** to apply it, ie when to start treatment **and** how long to use it for
- **How** much to apply

Infected eczema generally requires treatment with an oral antibiotic, with the selected regimen based on local resistance patterns. It should be active against *S. aureus* and streptococci. [5] Topical antibiotics eg fusidic acid and mupirocin, are not generally recommended to treat small areas of infected eczema due to high rates of resistance in the community.

Where possible, topical emollients and treatments should be provided in a pump dispenser or tube to reduce the risk of contamination if the child has an infection. After an infection, parents/carers should be advised to discard and renew topical medicines.

Consider under-treatment or non-adherence with treatment in children who get frequently recurring infected eczema. Adherence to treatment regimens should be addressed and a referral made to dermatology if this persists despite intervention. [6]

References:

1. Clayton T, Asher MI, Crane J et al. Time trends, ethnicity and risk factors for eczema in New Zealand children: ISAAC Phase Three. Asia Pac Allergy 2013;3:161-78.
2. Childhood eczema: improving adherence to treatment basics. Best Practice. Dec 2016. Retrieved from http://www.bpac.org.nz/2016/childhood-eczema.aspx (Feb 2017)
3. 3D Health Pathways. Eczema in children. Retrieved from http://www.healthinfo.org.nz/patientinfo/Bleach%20Bath%20Family%20Resource.pdf (Feb 2017).
4. Treating childhood eczema – a topical solution for a topical problem. Best Practice Journal 2015;67:32-42.
5. Topical corticosteroids for childhood eczema: clearing up the confusion. Best Practice. Dec 2016. Retrieved from http://www.bpac.org.nz/2016/docs/topical-corticosteroids.pdf (Feb 2017)
6. Topical antibiotics: very few indications for use. Best Practice Journal. 2014;64:26-35.
7. Pharmaceutical Schedule Online. Retrieved from http://www.pharmac.govt.nz/PharmaceuticalSchedule/Schedule (Feb 2017)

Childhood eczema treatment

Minimum quantities of emollient for children with eczema depending on age and area of body affected. (Adapted from NZFC).[2]

	Quantity of emollient per week*			
Patient age	3 months to 2 years	3 – 5 years	6 – 10 years	10 – 18 years
Area of the body:				
Both arms or legs	30 – 50 g	50 g	50 – 100 g	100 – 200g
Trunk	50 – 100g	150 g	200 g	400 g

* The amounts shown above are usually suitable for twice daily application for one week. If emollients are used more frequently, larger amounts will be required. Additional amounts will be required for use as a soap substitute.

Comparative topical corticosteroid potency.

POTENCY	SUBSIDISED BRANDS (Feb 2017)[7]
MILD	
• Hydrocortisone 1%	• DermAssist • Pharmacy Health • DP Lotion-HC 1%
MODERATE (2-25 X as potent as hydrocortisone)	
• Clobetasone butyrate 0.05% • Triamcinolone acetonide 0.02%	• Eumovate cream (part subsidy) • Aristocort cream/ointment
POTENT (100-150 X as potent as hydrocortisone)	
• Betamethasone diproprionate 0.05% [t] • Betamethasone valerate 0.1% [t] • Diflucortolone valerate 0.1% • Hydrocortisone butyrate 0.1% • Methylprednisolone aceponate 0.1% • Mometasone furoate 0.1%	• Diprosone cream/ointment • Beta cream/ointment/scalp; Betnovate lotion • Nerisone cream/fatty ointment (part subsidy) • Locoid lipocream/ointment/crelo (milky emulsion) • Advantan cream/ointment • Elocon lotion/cream/ointment
VERY POTENT (up to 600 X as potent as hydrocortisone)	
• Betamethasone diproprionate 0.05% (in propylene glycol base)[t] • Clobetasol proprionate [t]	• Diprosone OV cream/ointment • Dermol cream/ointment/scalp

[t] Betamethasone diproprionate and clobetasol proprionate not approved for use in children aged under 12 months.

Approximate number of adult fingertip units (FTU) of corticosteroid need per application for children.[4]

	6 months old	12 months old	5 years old	10 years old
One entire arm and hand	1	1.5	2	2.5
One entire leg and foot	1.5	2	3	4.5
Torso (front)	1.5	2	3	3.5
Back and buttocks	1.5	3	3.5	5