

Eczema management in school-aged children



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Background

Atopic eczema is a relapsing inflammatory skin condition that can be lifelong. Management of eczema is often focused on infants, with many school-aged children undertreated. Uncontrolled eczema has a significant impact on the quality of life of the child and their family.

Objective

The objective of this article is to discuss the practical management of eczema in school-aged children.

Discussion

This article will describe how eczema manifests in school-aged children, focusing on when to suspect triggers and how to manage these from a general practice perspective, and when to refer the child on to specialist services.

Atopic eczema is a chronic inflammatory skin condition that affects up to 30% of children in Australia.¹ Although often referred to as a childhood illness, with many parents told their child will grow out of eczema before they start school, the increasing prevalence of eczema is seeing a greater number of school-aged children with poorly managed eczema.²

In older children and adolescents, the distribution of eczema commonly involves the flexor surfaces, neck, wrists, ankles and hands, with lichenification (thickening of the skin) and dryness. Itch is the main clinical feature of eczema. This can be severe and can cause profound sleep disturbance, irritability and generalised stress for the affected patient and their family. The effect of eczema on quality of life is significantly correlated with severity, and uncontrolled eczema also affects concentration, behaviour, self-esteem and confidence in the school-aged child.³

Although there is no cure for eczema, with good adherence to management most patients can expect to respond well to treatment and obtain optimal control of their eczema. In this paper we discuss practical, first-line management of eczema, which can be implemented by the general practitioner (GP), with advice for when to refer patients to specialists.

Treatment of eczema targets the underlying skin abnormalities such as dryness, itch and inflammation, secondary infection, and avoidance of other triggers.^{4,5} Eczema is inevitably multifactorial in aetiology, and the key to successful management is to individualise the relative emphasis of the different triggers. This section will endeavour to explain this aspect.

Dryness

Skin dryness is likely to have a greater role in patients whose skin feels particularly xerotic, and when eczema predominates in exposed dry areas (eg lower legs and faces of children), particularly during winter. Dry skin alone can cause itch and contribute to further breakdown of the skin barrier function.

Patients with suspected skin dryness as the trigger of their eczema should avoid drying agents (eg soaps, shampoos), and

use regular emollient, bath oil and/or soap substitutes. The thickness of the moisturiser and regularity of application should depend on the individual, taking into account the dryness of the skin, age of the patient and their lifestyle. We often recommend a thick cream of the patient's choice to be applied head to toe once to twice per day. Advise patients and parents not to put their hands in the moisturiser tubs, to avoid contamination with bacteria. Creams can be removed from the tubs with a spatula or clean spoon and placed on paper towel at the time of application.

Heat

Heat is likely to be a greater factor when eczema presents predominately in hotter sites, such as the flexures, occiput and trunk. On the trunk, pinpoint erythema is often noted with overheating. This should be treated as eczema, but can be avoided by keeping cool. Overheating will exacerbate itch, and eczema is often worse during the winter months when children are overdressed and heaters are on.

Patients with suspected heat as the trigger of their eczema should:

- dress in lightweight layers and remove when necessary, particularly if the child is recurrently sweating and/or flushed
- keep their bath/shower temperature tepid
- turn heating off in the bedroom and have it low in the rest of the house
- use a cotton sheet and cotton blanket or summer-weight quilt on the bed – avoid doonas, woolen blankets, and flannelette sheets and pyjamas.

If children wake at night because of the itch, or have blood on the sheets in the morning, wet dressings can be worn at night (refer to www.rch.org.au/derm/eczema).

Irritants

Irritants may contribute to localised patches of eczema. The more sensitive areas of skin that are more likely to be irritated include the face, flexures and groin. Irritants include physical irritants, such as carpets, harsh fabrics, seams and sand, and chemical irritants, such as soaps, detergents, antiseptics, chlorine, shampoos, urine, faeces and saliva. Even water can be a mild irritant for sensitive skin.

Patients in whom irritants are suspected of contributing to their eczema should be educated about the various different irritants. Their exposure to these irritants should be minimised; for example, apply a moisturiser all over before and after swimming to protect the skin from prolonged exposure to the pool water, or use a bland lip balm regularly to minimise lip licking.

Contact allergy

Allergic contact dermatitis should be suspected when there is a persistent and severe localised reaction, particularly if it is symmetrical. Common contact allergens include nickel in metals, rubber products and topical medicaments.

Patients with suspected allergic contact dermatitis as the trigger for their eczema should avoid the suspected allergen. For older children, refer the patient for patch testing if unable to identify the allergen. Referrals can be made to a dermatologist or allergist who offers patch testing.

Environmental allergy

Allergies to environmental agents, such as house dust mite, grasses and animal danders can contribute to eczema, particularly with an 'exposed' area distribution. If relevant for eczema, the eyelids will almost always be involved. Hay fever and asthma may also be present. Allergies to these agents are common and a positive test does not necessarily indicate relevance.

Management of patients with suspected environmental allergies includes:

- skin prick or specific immunoglobulin E (IgE) testing to delineate the allergens
- minimisation of exposure to these allergens
- use of oral antihistamines prior to anticipated exposure to the allergen.

Children can also be irritated by the feel of grass or animal fur. Use a blanket when sitting on grass and keep animals out of living areas and bedrooms if possible.

Food allergy

IgE-mediated food allergy affects about 20% of infants with eczema. With the prevalence of food allergy decreasing with age, the role of food allergy as a trigger of eczema will usually have been established by school age.⁶ It is exceptionally rare for a food that was once tolerated and did not cause problems to then start to trigger eczema. Look for a history of immediate flaring of eczema, urticaria or angioedema with ingestion of a new food. Food allergy not mediated by IgE is much more difficult to identify as reactions are delayed. Ask the patient or family to keep a food diary if suspected.

Management of patients with suspected IgE-mediated food allergies includes a history of eczema flaring with certain foods, specific IgE or skin-prick test to confirm suspected allergens, and avoidance of the allergen. Significant dietary manipulation should always be managed in conjunction with a dietitian or paediatric allergist.

Food intolerance

Food intolerance refers to any non-immunological reaction to food and may play a part in a small proportion of patients with eczema. The relevant foods that can contribute to eczema include tomatoes, strawberries, citrus fruits and artificial colours, flavours and preservatives. In our experience, food intolerance is a real entity for a small percentage of patients with eczema, even if the food is eaten without contact on the skin; however, the mechanism of this is unknown. Food intolerance should be suspected in children with stubborn perioral eczema.

There is no formal test and so critical trial and error is the only option for patients with a suspected food intolerance. Unlike allergic reactions, an intolerance does seem to depend on quantity and concentration and, therefore, 'cutting down' is often adequate rather than strict avoidance.

Infection

Infection is primarily a complication of eczema. However, once an infection is present, it tends to flare the eczema, creating a vicious cycle. Infection is most commonly due to bacteria (impetigo), but other infections and infestations can, at times, flare eczema. These include *Herpes simplex virus* (eczema herpeticum), molluscum, *Malassezia* yeast (seborrhoeic dermatitis) and scabies infestation.

When eczema is infected, weeping, yellow crusts and scabs are often present. There is often a sudden exacerbation of general eczema. The usual organism is *Staphylococcus aureus*. The role of *Staphylococcus* in clinically non-infected eczema is more controversial, but should be kept in mind as a factor for difficult-to-clear eczema. With grouped, clear, fluid-filled vesicles, or painful, bloody, punched-out lesions, suspect secondary infection with *H. simplex* 1.

Management of patients in whom infection is suspected should include:

- taking skin swabs for bacterial and/or viral testing and sensitivities
- gently removing crust by soaking in the bath/shower
- bleach baths for children with moderate-to-severe eczema⁷ (refer to www.rch.org.au/kidsinfo/fact_sheets/Skin_infections_-_bleach_baths for correct dilution and instructions)
- treatment of overt signs of infection with oral antibiotics (ie cephalexin)
- treatment with intranasal bactroban for recurrent infections and positive (*Staphylococcus*) nasal swab results
- *Staphylococcus* reduction measures (eg wash hands before applying creams and use a spatula/spoon to remove creams from tubs)
- keeping fingernails short to minimise skin damage from scratching.

Stimulation of the immune system

Any stimulation of the immune system can temporarily induce an eczema flare. This can be caused by a viral infection, a hidden bacterial infection (eg urinary tract infection), vaccination or emotional stress. Antihistamine therapy may be helpful in patients with a suspected stimulation of the immune system if symptomatic dermatographism is present.

Discoid eczema

Discoid (nummular) eczema is a process in the skin whereupon coin-sized patches of eczema develop and are extremely difficult to clear. There does not seem any particular trigger and there is

a very significant vicious cycle of flaring in place. Discoid eczema should be suspected in children with round patches of eczema, which are often misdiagnosed as ringworm. The diagnosis is generally on a background of normal skin. Management of discoid eczema involves being very persistent with potent topical corticosteroids in an attempt to clear the recalcitrant patches.

Itch and inflammation

Signs of inflammation, such as erythema and itch, must be treated early and aggressively to gain control of the eczema. First-line immunosuppressive therapy for patients with eczema is topical corticosteroid creams. For sensitive areas, such as the face and groin, a mild cortisone cream, such as hydrocortisone, will usually suffice. Most other areas need and will tolerate stronger creams, such as methylprednisolone or mometasone. It is not only important to relieve symptoms, but also to restore the integrity of the epidermal barrier and minimise the damaging effect of scratching.

Underuse of topical corticosteroids due to a widely held fear of side effects leads to poor management of eczema in children. When corticosteroids are used to treat active eczema and stopped once active inflammation has resolved, adverse effects are minimal.⁸ There is no absolute time limit for their use, and they should be used until the eczema has cleared. It is best not to suggest to use them 'sparingly' as this will frequently have patients significantly underusing them. Corticosteroids may be used on scratched or open areas. Ensure patients are prescribed enough cream to effectively treat their eczema. Authority prescriptions for increased quantities of potent topical corticosteroids (ie methylprednisolone, mometasone, betamethasone dipropionate) are now streamlined. Patients should be prescribed enough topical corticosteroid to last until their next review.

The calcineurin inhibitor pimecrolimus is available as an alternative to topical immunomodulation. This product does not have the power of potent topical corticosteroids, but it is very useful in sites where corticosteroids may produce side effects with longer term usage, such as the face and around the eyes.⁹ Hydrocortisone and pimecrolimus can be applied to eczema areas on the face twice a day. Methylprednisolone or mometasone can be applied daily to eczema areas on the body until clear.

When to refer to specialist

Patients requiring further education or demonstration of treatments can be referred to a paediatric eczema nurse practitioner. Patients who fail compliant first-line management should be referred to a paediatric dermatologist or dermatology service. It is not acceptable to expect children to cope with moderate-to-severe eczema without optimal management. Stronger therapies, such as immunosuppressive medications, can be used if necessary, and it is important to refer if adequate control of eczema is not obtained.

Key points

- The age of the child, presentation and distribution of eczema help determine the relative relevance of various triggers.
- Topical corticosteroids are very safe and play an important part in management.
- The life impact of severe eczema is extreme, and it is important to gain control of the disease.
- Poor adherence to management is a major cause of treatment failure in atopic eczema.
- Refer patients on if unable to control eczema with first-line treatments.
- As children get older and take over more responsibility for their eczema care, ensure they have a simple and individualised plan that they can follow every day.

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