Atopic eczema in under-12s: diagnosis and management [CG57]

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Introduction

The NICE guideline on atopic eczema in under-12s covers diagnosing and managing atopic eczema in children under 12. It aims to improve care for children with atopic eczema by making detailed recommendations on treatment and specialist referral. The guideline also explains how healthcare professionals should assess the effect eczema has on quality of life, in addition to its physical severity.

Find the full guideline at: nice.org.uk/guidance/cg57

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What is atopic eczema?

Atopic eczema (atopic dermatitis) is a chronic inflammatory itchy skin condition that develops in early childhood in the majority of cases. It is typically an episodic disease of exacerbation (flares, which may occur as frequently as two or three per month) and remissions. In some cases, it may be continuous. Atopic eczema often has a genetic component that leads to the breakdown of the skin barrier. This makes the skin susceptible to trigger factors, including irritants and allergens, which can make the eczema worse.

Many cases of atopic eczema clear or improve during childhood, whereas others persist into adulthood. Some children who have atopic eczema will go on to develop asthma or allergic rhinitis; this sequence of events is sometimes referred to as the 'atopic march'. Although atopic eczema is not always recognised by healthcare professionals as being a serious medical condition, it can have a significant negative impact on quality of life for children and their parents and carers.

Assessment of severity, psychological and psychosocial wellbeing and quality of life

Adopt a holistic approach when assessing a child's atopic eczema at each consultation, taking into account the severity of the atopic eczema and the child's quality of life, including everyday activities and sleep, and psychosocial wellbeing. There is not necessarily a direct relationship between the

severity of the atopic eczema and the impact of the atopic eczema on quality of life.

Guidance

Diagnosis

- Take clinical and drug histories of children with atopic eczema, including questions about:
  - time of onset, pattern and severity of the atopic eczema
  - response to previous and current treatments
  - possible trigger factors (irritant and allergic)
  - the impact of the atopic eczema on the child and their parents or carers
  - dietary history including any dietary manipulation
  - growth and development
  - personal and family history of atopic conditions.
- Diagnose atopic eczema when a child has an itchy skin condition plus three or more of the following:
  - visible flexural dermatitis involving the skin creases, such as the bends of the elbows or behind the knees (or visible dermatitis on the cheeks and/or extensor areas in children aged 18 months or under)
  - previous flexural dermatitis (or dermatitis on the cheeks and/or extensor areas in children aged 18 months or under)
  - dry skin in the past 12 months
  - asthma or allergic rhinitis (or history of atopic disease in a first-degree relative of children under four years)
  - onset of signs and symptoms under the age of two years (do not use this criterion in children aged under four years).

Healthcare professionals should be aware that in Asian, Black Caribbean and Black African children, atopic eczema can affect the extensor surfaces rather than the flexures, and discoid (circular) or follicular (around hair follicles) patterns may be more common.

Epidemiology

- Explain to children with atopic eczema and their parents or carers that:
  - the condition often improves with time, but not all children will grow out of atopic eczema and it may get worse in teenage or adult life
  - children with atopic eczema often develop asthma and/or allergic rhinitis
  - sometimes food allergy is associated with atopic eczema, particularly in very young children.

Identification and management of trigger factors

- When assessing children with atopic eczema, identify potential trigger factors, including:
  - irritants, for example soaps and detergents (including shampoos, bubble baths, shower gels and washing-up liquids)
  - skin infections
  - contact allergens
  - food allergens
  - inhalant allergens.
- Consider a diagnosis of food allergy in:
  - children with atopic eczema who have had immediate symptoms from eating a particular food
  - babies and young children with moderate or severe atopic eczema that has not been controlled by optimum management, particularly if associated with gut dysmotility (colic, vomiting, altered bowel habit) or failure to thrive.
- Consider a diagnosis of inhalant allergy in:
  - children with seasonal flares of atopic eczema
  - children with atopic eczema associated with asthma or allergic rhinitis
  - children aged three years or over with atopic eczema on the face, particularly around the eyes.
- Consider a diagnosis of allergic contact dermatitis in children with:

Stepped treatment options

Mild atopic eczema	• Emollients • Mild-potency topical corticosteroids
Moderate atopic eczema	• Emollients • Moderate-potency topical corticosteroids • Topical calcineurin inhibitors • Bandages
Severe atopic eczema	• Emollients • Potent topical corticosteroids • Topical calcineurin inhibitors • Bandages • Phototherapy • Systemic therapy

- an exacerbation of previously controlled atopic eczema, or
- reactions to topical treatments.

- Reassure children with mild atopic eczema and their parents or carers that most children with mild atopic eczema do not need to have tests for allergies.
- Advise children with atopic eczema and their parents or carers not to use high street or internet allergy tests, because there is no evidence of their value in managing atopic eczema.
- For bottle-fed babies aged under six months with moderate or severe atopic eczema that has not been controlled by optimal treatment with emollients and mild topical corticosteroids, offer a six- to eight-week trial of an extensively hydrolysed protein formula or amino acid formula in place of cow's milk formula.
- For children who are being breast fed, explain that it is not known whether changing the mother's diet will reduce the

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severity of the atopic eczema. If food allergy is strongly suspected, consider a trial of an allergen-specific exclusion diet.

Treatment

Stepped approach to management

- Use the stepped approach in the table on page 5 for managing atopic eczema in children.
- Emollients are the basis of management and should always be used, even when atopic eczema is clear.
- Management can then be stepped up or down, according to the severity of symptoms, with the addition of the other treatments listed in the table.
- Offer children with atopic eczema and their parents or carers information on how to recognise flares of atopic eczema (increased dryness, itching, redness, swelling and general irritability). Give clear instructions on how to manage flares according to the stepped-care plan, and prescribe treatments that allow children and their parents or carers to follow this plan.
- Start treatment for flares of atopic eczema as soon as signs and symptoms appear, and continue treatment for approximately 48 hours after symptoms subside.

Emollients

Emollient creams are vital in helping to manage dry skin conditions. But there are Medicines and Healthcare products Regulatory Agency (MHRA) warnings about fire hazards associated with build-up of emollient residue on clothing and bedding.

Offer children with atopic eczema a choice of unperfumed emollients to use every day for moisturising. This may be a combination of products or one product for all purposes. Prescribe large quantities of leave-on emollients (250g to 500g weekly) that are easily available to use at nursery, pre-school or school.

If their current emollient causes irritation or is not acceptable, offer a different way to apply it or offer an alternative emollient.

When children with atopic eczema are using emollients and other topical products at the same time of day, explain that:

- They should apply one product at a time, and wait several minutes before applying the next product.
- They can choose which product to apply first.

Offer personalised advice on washing with emollients or emollient soap substitutes, and explain to children with atopic eczema and their parents or carers that:

- They should use leave-on emollients or emollient soap substitutes instead of soaps and detergent-based wash products.
- Leave-on emollients can be added to bath water.
- Children aged under 12 months should use leave-on emollients or emollient soap substitutes instead of shampoos.
- Older children using shampoo should use a brand that is unperfumed and ideally labelled as suitable for eczema, and they should avoid washing their hair in bath water.

Do not offer emollient bath additives to children with atopic eczema.

Topical corticosteroids

- Discuss the benefits and harms of treatment with topical corticosteroids with children with atopic eczema and their parents or carers, emphasising that the benefits outweigh possible harms when they are applied correctly.
- Tailor the potency of topical corticosteroids to the severity of the child's atopic eczema (which may vary according to body site):
  - use mild potency for mild atopic eczema
  - use moderate potency for moderate atopic eczema
  - use potent for severe atopic eczema

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- use mild potency for the face and neck, except for short-term (three to five days) use of moderate potency for severe flares
- use moderate or potent preparations for short periods only (seven to 14 days) for flares in vulnerable sites such as axillae and groin
- do not use very potent preparations in children without specialist dermatological advice.

- It is recommended that where more than one alternative topical corticosteroid is considered clinically appropriate within a potency class, the drug with the lowest acquisition cost should be prescribed, taking into account pack size and frequency of application.
- It is recommended that topical corticosteroids for atopic eczema should be prescribed for application only once or twice daily.
- Explain to children with atopic eczema and their parents or carers that they should only apply topical corticosteroids to areas of active atopic eczema (or eczema that has been active within the past 48 hours), which may include areas of broken skin.
- If a mild or moderately potent topical corticosteroid has not controlled the atopic eczema within seven to 14 days:
  - exclude secondary bacterial or viral infection
  - for children aged 12 months or over, use potent topical corticosteroids for as short a time as possible (no longer than 14 days, and not on the face or neck)
  - if the atopic eczema is still uncontrolled, review the diagnosis and refer the child for specialist dermatological advice.
- Do not use potent topical corticosteroids in children aged under 12 months without specialist dermatological supervision.
- Once the atopic eczema has been

controlled, consider treating problem areas with topical corticosteroids for two consecutive days per week to prevent flares in children with frequent flares (two or three per month). Review this strategy within three to six months.

Topical calcineurin inhibitors

- Do not use topical tacrolimus and pimecrolimus for mild atopic eczema, or as first-line treatments for atopic eczema of any severity.
- Topical tacrolimus is recommended, within its licensed indications, as an option for the second-line treatment of moderate to severe atopic eczema in adults and children aged two years and older that has not been controlled by topical corticosteroids,[1] where there is a serious risk of important adverse effects from further topical corticosteroid use, particularly irreversible skin atrophy.
- Pimecrolimus is recommended, within its licensed indications, as an option for the second-line treatment of moderate atopic eczema on the face and neck in children aged two years to 16 years that has not been controlled by topical corticosteroids,[1] where there is a serious risk of important adverse effects from further topical corticosteroid use, particularly irreversible skin atrophy.
- It is recommended that treatment with tacrolimus or pimecrolimus be initiated only by physicians (including GPs) with a special interest and experience in dermatology, and only after careful discussion with the patient about the potential risks and benefits of all appropriate second-line treatment options.
- For facial atopic eczema in children that requires long-term or frequent use of mild topical corticosteroids, consider stepping up treatment to topical calcineurin inhibitors.

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Dry bandages and medicated dressings including wet-wrap therapy

- Do not use occlusive medicated dressings and dry bandages to treat infected atopic eczema in children.
- Think about using localised medicated dressings or dry bandages with emollients as a treatment for areas of chronic lichenified (localised skin thickening) atopic eczema in children.
- Think about using localised medicated dressings or dry bandages with emollients and topical corticosteroids for short-term treatment of flares (seven to 14 days) or areas of chronic lichenified atopic eczema in children.

Antihistamines

- Do not routinely use oral antihistamines to manage atopic eczema in children.
- For children with severe atopic eczema or children with mild or moderate atopic eczema who have severe itching or urticaria, offer a one-month trial of a non-sedating antihistamine. If treatment is successful, think about continuing it while symptoms persist, and review every three months.
- If sleep disturbance has a significant impact

on the child or parents or carers, offer a seven- to 14-day trial of an age-appropriate sedating antihistamine to children aged six months or over during an acute flare of atopic eczema. Think about repeating this during subsequent flares.

Managing infections

See also NICE guideline NG190, Secondary bacterial infection of eczema and other common skin conditions: antimicrobial prescribing (nice.org.uk/guidance/ng190).

- Offer children with atopic eczema and their parents or carers information on how to recognise the symptoms and signs of bacterial infection with staphylococcus and/or streptococcus:
  - weeping
  - pustules
  - crusts
  - eczema failing to respond to therapy
  - rapidly worsening eczema
  - fever
  - malaise.

Provide clear information on how to access treatment for infected atopic eczema.

- Consider herpes simplex (cold sore) infection if a child's infected atopic eczema fails to respond to treatment with antibiotics and an appropriate topical corticosteroid.
- If a child with atopic eczema has a lesion on the skin that is suspected to be herpes simplex, treat with oral aciclovir even if the infection is localised.
- If eczema herpeticum (widespread herpes simplex) is suspected in a child with atopic eczema, immediately start treatment with systemic aciclovir and refer the child for same-day specialist dermatological advice. If secondary bacterial infection is also suspected, start treatment with systemic antibiotics.
- If eczema herpeticum involves the skin around the eyes, treat with systemic aciclovir and refer the child for same-day ophthalmological and dermatological advice.
- Offer children with atopic eczema and their parents or carers information on how to recognise eczema herpeticum:
  - areas of rapidly worsening, painful eczema
  - clustered blisters that look like early-stage cold sores
  - punched-out erosions (circular, depressed, ulcerated lesions), usually 1mm to 3mm, that are uniform in appearance (these may coalesce to form larger areas of erosion with crusting)
  - possible fever, lethargy or distress.

Complementary therapies

- Explain to children with atopic eczema and their parents or carers that the effectiveness and safety of the following therapies has not yet adequately been assessed in clinical trials:
  - homeopathy
  - herbal medicine
  - massage
  - food supplements.
- Explain to children with atopic eczema and their parents or carers that:
  - they should be cautious about using herbal medicines in children, particularly for products that are not labelled in English or that do not come with information about safe usage (see the MHRA's Using herbal medicines: advice to consumers)
  - topical corticosteroids are deliberately added to some herbal products intended for use in children with atopic eczema
  - liver toxicity has been associated with the use of some Chinese herbal medicines intended to treat atopic eczema.
- Ask children with atopic eczema and their parents or carers to tell their healthcare professionals if they are using or intend to use complementary therapies.
- Explain to children with atopic eczema and their parents or carers that if they plan to use

complementary therapies, they should keep using emollients as well.

Education and adherence to therapy

- Provide education to children with atopic eczema and their parents or carers about atopic eczema and its treatment. Provide verbal and written information, with practical demonstrations, and cover:
  - how much of the treatments to use
  - how often to apply treatments
  - when and how to step treatment up or down
  - how to treat infected atopic eczema.

  Reinforce this at every consultation, addressing factors that affect adherence.
- Explain to children with atopic eczema and their parents or carers that atopic eczema may temporarily cause the skin to become lighter or darker.

Indications for referral

- Immediately (same day) refer children for specialist dermatological advice if eczema herpeticum is suspected.
- Urgently (within two weeks) refer children for specialist dermatological advice if:
  - their atopic eczema is severe and has not responded to optimum topical therapy after one week
  - treatment of bacterially infected atopic eczema has failed.
- Refer children with atopic eczema for specialist dermatological advice if:
  - the diagnosis is, or has become, uncertain
  - management has not controlled the atopic eczema satisfactorily, based on a subjective assessment by the child, parent or carer (for example, the child is having one to two weeks of flares per month or is having adverse reactions to many emollients)
  - atopic eczema on the face has not responded to appropriate treatment
  - the child or their parents or carers may benefit from specialist advice on how to apply treatments (for example, bandaging techniques)
  - contact allergic dermatitis is suspected (for example, persistent atopic eczema or facial, eyelid or hand atopic eczema)
  - the atopic eczema is causing significant social or psychological problems for the child or their parents or carers (for example, sleep disturbance or poor school attendance)
  - atopic eczema is associated with severe and recurrent infections, especially deep abscesses or pneumonia.
- If atopic eczema is responding to optimal management but the child's quality of life and psychosocial wellbeing has not improved, refer them for psychological advice.
- Refer children with moderate or severe atopic eczema and suspected food allergy for specialist investigation and management.
- Refer children with atopic eczema for specialist advice relating to growth if they are not growing at the expected growth trajectory (as reflected by UK growth charts).

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Reference

1 For the purposes of this guidance, atopic eczema that has not been controlled by topical corticosteroids refers to disease that has not shown a satisfactory clinical response to adequate use of the maximum strength and potency that is appropriate for the patient's age and the area being treated.

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Cabout E, Eymere S, Launois R, Aslanian F, Taïeb C, Seité S. Cost Effectiveness of Emollients in the Prevention of Relapses in Atopic Dermatitis. Clin Cosmet Investig Dermatol. 2020 Dec 21;13:987-996. doi: 10.2147/CCID.S279233. PMID: 33376376; PMCID: PMC7762264.

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