NHS
National Institute for Health and Clinical Excellence

Quick reference guide

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Atopic eczema in children

Management of atopic eczema in children from birth up to the age of 12 years

NICE clinical guideline 57
Developed by the National Collaborating Centre for Women's and Children's Health

About this booklet

This is a quick reference guide that summarises the recommendations NICE has made to the NHS in 'Atopic eczema in children: management of atopic eczema in children from birth up to the age of 12 years' (NICE clinical guideline 57).

Who should read this booklet?

This quick reference guide is for healthcare professionals and other staff who care for children with atopic eczema.

Who wrote the guideline?

The guideline was developed by the National Collaborating Centre for Women's and Children's Health, which is based at the Royal College of Obstetricians and Gynaecologists. The Collaborating Centre worked with a group of healthcare professionals (including consultants, GPs, pharmacists and nurses), patients and carers, and technical staff, who reviewed the evidence and drafted the recommendations. The recommendations were finalised after public consultation.

For more information on how NICE clinical guidelines are developed, go to www.nice.org.uk

Where can I get more information about the guideline?

The NICE website has the recommendations in full, reviews of the evidence they are based on, a summary of the guideline for patients and carers, and tools to support implementation (see page 19 for more details).

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This guidance is written in the following context

NICE clinical guidelines are recommendations about the treatment and care of people with specific diseases and conditions in the NHS in England and Wales.

This guidance represents the view of the Institute, which was arrived at after careful consideration of the evidence available. Healthcare professionals are expected to take it fully into account when exercising their clinical judgement. The guidance does not, however, override the individual responsibility of healthcare professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer, and informed by the summary of product characteristics of any drugs they are considering.

Introduction

Atopic eczema (atopic dermatitis) is a chronic inflammatory itchy skin condition that usually develops in early childhood and follows a remitting and relapsing course. It 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. Although atopic eczema is not often thought of as a serious medical condition, it can have a significant impact on quality of life.

This guideline covers the management of atopic eczema in children from birth up to the age of 12 years, and provides guidance on diagnosis and assessment, management, and providing information and education for children and their parents and carers.

Contents

Child-centred care

Treatment and care should take into account the individual needs and preferences of children with atopic eczema, and those of their parents and carers. Good communication is essential, supported by evidence-based information, to allow parents and carers to reach informed decisions about their child's care. Follow Department of Health advice on seeking consent if needed.

Key priorities for implementation

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

- Healthcare professionals should 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 (see stepped-care plan on pages 10–11). 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.

Identification and management of trigger factors

- When clinically assessing children with atopic eczema, healthcare professionals should seek to 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.
- Healthcare professionals should consider a diagnosis of food allergy in children with atopic eczema who have reacted previously to a food with immediate symptoms, or in infants 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.

Treatment

Stepped approach to management

- Healthcare professionals should use a stepped approach for managing atopic eczema in children. This means tailoring the treatment step to the severity of the atopic eczema. Emollients should form the basis of atopic eczema management and should always be used, even when the 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 stepped-care plan (see pages 10–11).
- Healthcare professionals should 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). They should 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.

Emollients

- Healthcare professionals should offer children with atopic eczema a choice of unperfumed emollients to use every day for moisturising, washing and bathing. This should be suited to the

child's needs and preferences, and may include a combination of products or one product for all purposes. Leave-on emollients should be prescribed in large quantities (250–500 g weekly) and easily available to use at nursery, pre-school or school.

Topical corticosteroids

- The potency of topical corticosteroids should be tailored to the severity of the child's atopic eczema, which may vary according to body site. They should be used as follows:
  - use mild potency for mild atopic eczema
  - use moderate potency for moderate atopic eczema
  - use potent for severe atopic eczema
  - use mild potency for the face and neck, except for short-term (3–5 days) use of moderate potency for severe flares
  - use moderate or potent preparations for short periods only (7–14 days) for flares in vulnerable sites such as axillae and groin
  - do not use very potent preparations in children without specialist dermatological advice.

Treatment for infections

- Children with atopic eczema and their parents or carers should be offered information on how to recognise the symptoms and signs of bacterial infection with staphylococcus and/or streptococcus (weeping, pustules, crusts, atopic eczema failing to respond to therapy, rapidly worsening atopic eczema, fever and malaise). Healthcare professionals should provide clear information on how to access appropriate treatment when a child's atopic eczema becomes infected.
- Children with atopic eczema and their parents or carers should be offered information on how to recognise eczema herpeticum. Signs of eczema herpeticum are:
  - areas of rapidly worsening, painful eczema
  - clustered blisters consistent with early-stage cold sores
  - punched-out erosions (circular, depressed, ulcerated lesions) usually 1–3 mm that are uniform in appearance (these may coalesce to form larger areas of erosion with crusting)
  - possible fever, lethargy or distress.

Education and adherence to therapy

- Healthcare professionals should spend time educating children with atopic eczema and their parents or carers about atopic eczema and its treatment. They should provide information in verbal and written forms, with practical demonstrations, and should 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.

  This should be reinforced at every consultation, addressing factors that affect adherence.

continued

Key priorities for implementation *continued*

Indications for referral

- Referral for specialist dermatological advice is recommended for children with atopic eczema 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 1–2 weeks of flares per month or is reacting adversely to many emollients)
  - atopic eczema on the face has not responded to appropriate treatment
  - the child or parent/carer may benefit from specialist advice on treatment application (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 giving rise to significant social or psychological problems for the child or parent/carer (for example, sleep disturbance, poor school attendance)
  - atopic eczema is associated with severe and recurrent infections, especially deep abscesses or pneumonia.

Diagnosis

- 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 (or visible dermatitis on the cheeks and/or extensor areas in children aged 18 months or under)
  - personal history of flexural dermatitis (or dermatitis on the cheeks and/or extensor areas in children aged 18 months or under)
  - personal history of dry skin in the last 12 months
  - personal history of asthma or allergic rhinitis (or history of atopic disease in a first-degree relative of children aged under 4 years)
  - onset of signs and symptoms under the age of 2 years (do not use this criterion in children under 4 years).

In children of Asian, black Caribbean and black African ethnic groups, atopic eczema can affect the extensor surfaces rather than the flexures, and discoid or follicular patterns may be more common.

Assessment

- Take detailed history:
  - time of onset, pattern and severity
  - response to previous and current treatments
  - possible trigger factors
  - the impact of the condition on children and their parents or carers
  - dietary history
  - growth and development
  - personal and family history of atopic disease.
- Adopt a holistic approach at each consultation.
- Take 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 atopic eczema and its impact on quality of life.

- Consider using the following tools:
  - visual analogue scales (0–10) capturing the child/parent/carer's assessment of severity, itch and sleep loss over the previous 3 days and nights
  - Patient-Oriented Eczema Measure (POEM)
  - Children's Dermatology Life Quality Index (CDLQI)
  - Infants' Dermatitis Quality of Life Index (IDQOL)
  - Dermatitis Family Impact (DFI) questionnaire.
- Take into account the impact of atopic eczema on parents or carers as well as the child and provide appropriate advice and support (see 'education and information' on page 18).

Trigger factors

- When assessing a child, identify potential trigger factors, including:
  - irritants (such as soap and detergents)
  - skin infections
  - contact allergens
  - food allergens
  - inhaled allergens.

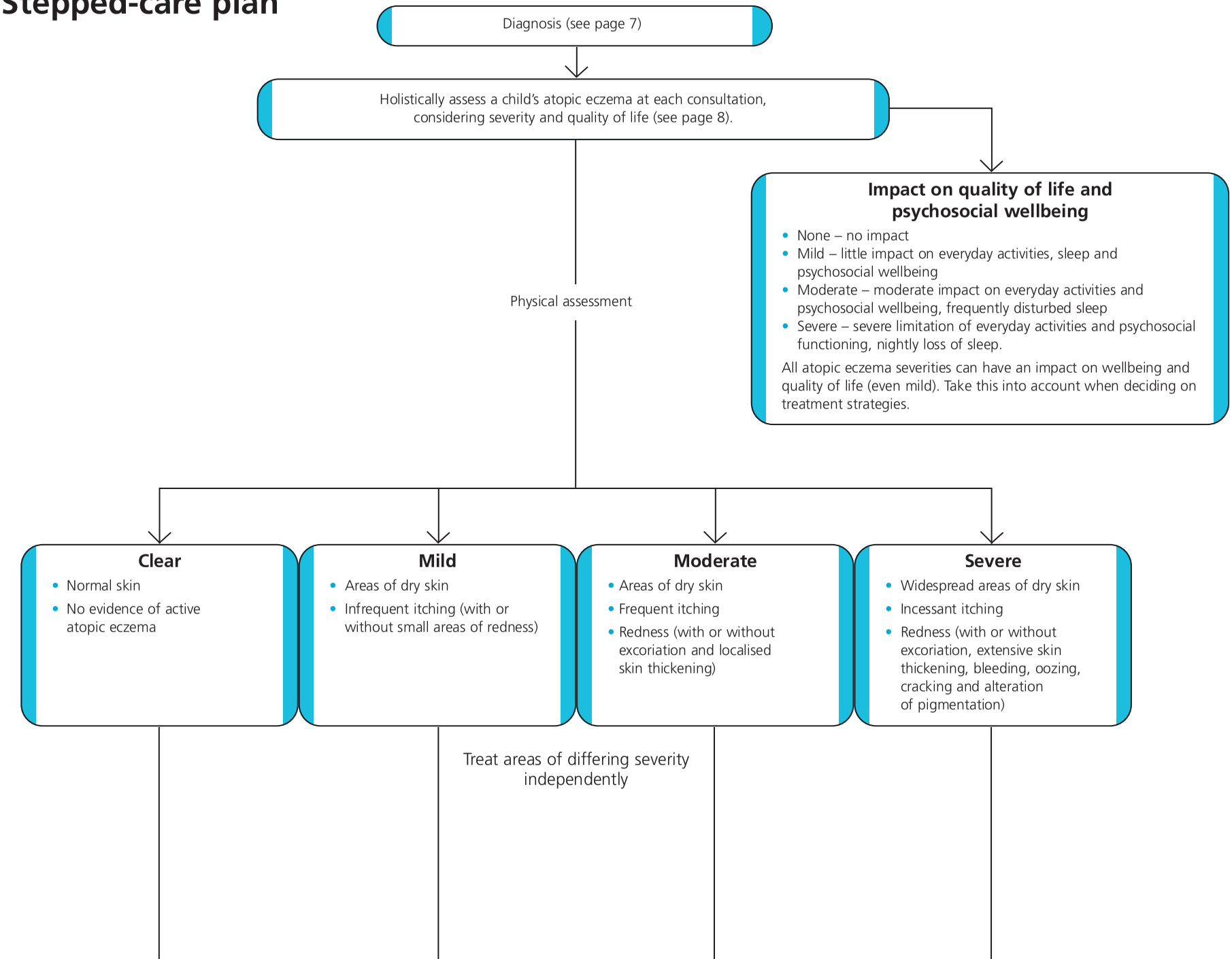
Allergy

- Consider food allergy in:
  - children who have reacted immediately to a food
  - infants and young children with moderate or severe uncontrolled atopic eczema, particularly with gut dysmotility or failure to thrive.
- Consider inhalant allergy in:
  - children with seasonal flares of atopic eczema
  - children with associated asthma and rhinitis
  - children over 3 years with atopic eczema on the face.
- Consider allergic contact dermatitis in:
  - children with an exacerbation of previously controlled atopic eczema
  - children who react to topical treatments.
- Reassure children with mild atopic eczema and their parents or carers that most children with mild atopic eczema do not need clinical testing for allergies.
- Advise children and their parents or carers not to have high street or internet allergy tests because there is no evidence of their value in the management of atopic eczema.

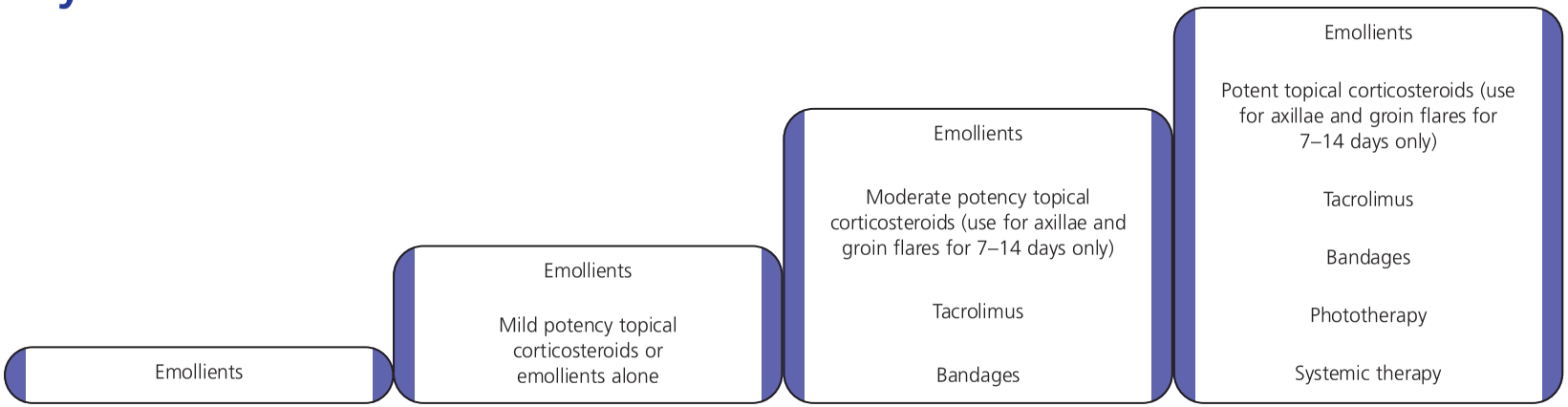
Diet

- Offer a 6–8 week trial of an extensively hydrolysed protein formula or amino acid formula in place of cow's milk formula for bottle-fed infants under 6 months with uncontrolled moderate or severe atopic eczema.
- Do not use diets based on unmodified proteins of other species' milk (for example, goat's or sheep's milk) or partially hydrolysed formulas for the treatment of suspected cow's milk allergy. Diets including soya protein can be offered to children over 6 months with specialist dietary advice.
- Refer for specialist dietary advice children who follow a cow's-milk-free diet for more than 8 weeks.
- Inform breastfeeding women that it is not known whether altering the mother's diet is effective in reducing the severity of the condition. Consider a trial of an allergen-specific exclusion diet under dietary supervision if you strongly suspect food allergy.

Stepped-care plan



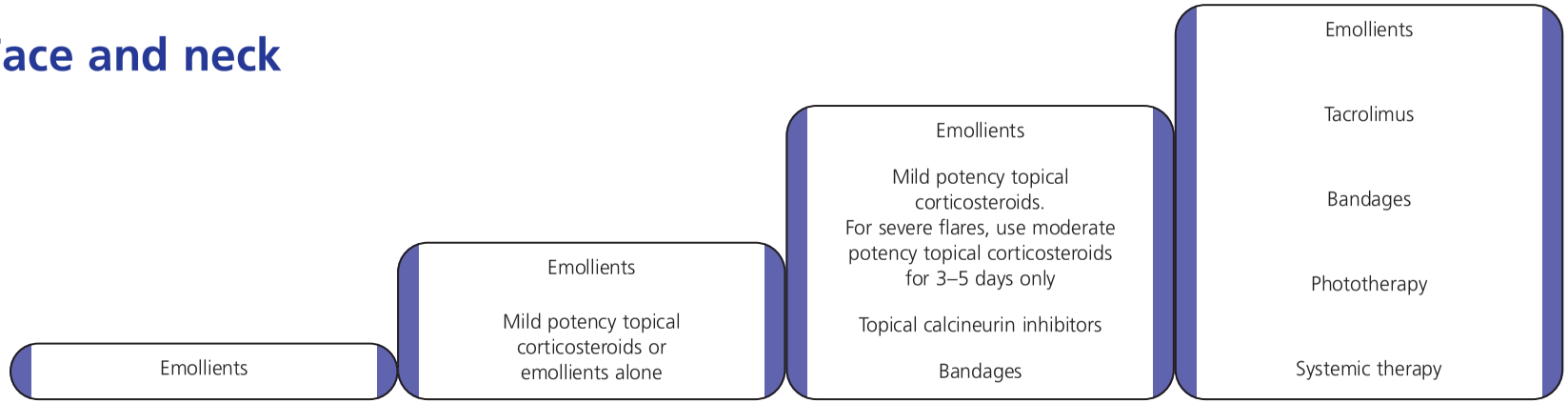
Body



Step treatment up or down according to physical severity

See 'treatments' on pages 12–14

Face and neck



Step treatment up or down according to physical severity

See 'treatments' on pages 12–14

Treatments

Emollients

- Offer a choice of unperfumed emollients:
  - suited to the child's needs and preferences
  - for everyday moisturising, washing and bathing.
- Emollients should be:
  - used more often and in larger amounts than other treatments
  - used on the whole body even when atopic eczema is clear
  - used while using other treatments
  - used instead of soaps and detergent-based wash products
  - used instead of shampoos for children under 12 months
  - offered as a single product or a combination (offer alternatives if one emollient causes irritation or is not acceptable)
  - easily available to use at nursery, pre-school or school.
- For children aged over 12 months, use a shampoo labelled as suitable for eczema.
- Prescribe leave-on emollients in large quantities (250–500 g weekly).
- Show children and their parents or carers how to apply emollients.
- Where multiple topical products are used at the same time of day, children or parents/carers should apply them one at a time with several minutes between applications.
- Review repeat prescriptions with children and their parents or carers at least once a year.

Topical corticosteroids

- Explain that:
  - the benefits of topical corticosteroids outweigh the risks when applied correctly
  - topical corticosteroids should only be applied to areas of active atopic eczema (or eczema that has been active in the past 48 hours – see 'treating flares' on page 14).
- Do not use:
  - potent topical corticosteroids on the face or neck
  - potent topical corticosteroids in children under 12 months without specialist dermatological supervision
  - very potent preparations without specialist dermatological advice.
- Prescribe topical corticosteroids for application only once or twice daily.[1]
- Where more than one topical corticosteroid is appropriate within a potency class, prescribe the drug with the lowest acquisition cost, taking into account pack size and frequency of application.[1]

[1] These recommendations are summarised from NICE technology appraisal 81 (www.nice.org.uk/TA081).

- Exclude secondary bacterial or viral infection (see pages 15–16) if a mild or moderately potent topical corticosteroid has not controlled the atopic eczema within 7–14 days. Then, in children over 12 months, use potent topical corticosteroids for as short a time as possible and no longer than 14 days. If this treatment does not control the atopic eczema, review the diagnosis and refer for specialist dermatological advice.
- Label topical corticosteroid containers (not outer packaging) with the potency class.
- Consider treating problem areas of atopic eczema with topical corticosteroids for two consecutive days per week to prevent flares in children with two or three flares per month. Review this strategy within 3–6 months to assess effectiveness.
- Consider a different topical corticosteroid of the same potency as an alternative to stepping up treatment if you suspect tachyphylaxis.

Topical calcineurin inhibitors

- Do not use topical tacrolimus or pimecrolimus:
  - for mild atopic eczema[2]
  - as first-line treatment for atopic eczema of any severity[2]
  - under bandages or dressings without specialist dermatological advice.
- If atopic eczema is not controlled by topical corticosteroids (see below), and if there is risk of important adverse effects from topical corticosteroid treatment, options for treatment with topical calcineurin inhibitors are:
  - tacrolimus for moderate to severe atopic eczema in children aged 2 years and over[2]
  - pimecrolimus for moderate atopic eczema on the face and neck in children aged 2–16 years.[2]
- Only physicians with a specialist interest and experience in dermatology should start treatment with tacrolimus or pimecrolimus, and only after discussing the risks and benefits of all appropriate second-line treatment options.[2]
- Explain that topical calcineurin inhibitors should only be applied to areas of active atopic eczema, which may include areas of broken skin.
- Consider topical calcineurin inhibitors for facial atopic eczema in children requiring long-term or frequent use of mild topical corticosteroids.

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 child's age and the area being treated.[2]

[2] These recommendations are summarised from NICE technology appraisal 82 (www.nice.org.uk/TA082).

Bandages and dressings

- Localised medicated dressings or dry bandages can be used:
  - on top of emollients for areas of chronic lichenified atopic eczema
  - on top of emollients and topical corticosteroids for short-term treatment of flares (7–14 days) or chronic lichenified eczema.
- Use whole-body occlusive dressings on top of topical corticosteroids for 7–14 days only (or for longer with specialist dermatological advice). Use can be continued with emollients alone until the atopic eczema is controlled.
- Treatment with occlusive dressings or dry bandages should only be started by a healthcare professional trained in their use.
- Do not use:
  - occlusive medicated dressings or dry bandages to treat infected atopic eczema
  - whole-body occlusive dressings or whole-body dry bandages as first-line treatment.

Phototherapy and systemic treatments

- Consider for severe atopic eczema when:
  - other management options have failed or are inappropriate
  - there is a significant impact on quality of life.
- Treatment should be undertaken only under specialist dermatological supervision by staff who are experienced in dealing with children.

Antihistamines

- Do not routinely use oral antihistamines.
- Offer a 1-month trial of a non-sedating antihistamine to:
  - children with severe atopic eczema
  - children with mild or moderate atopic eczema where there is severe itching or urticaria.
- If successful, treatment can be continued while symptoms persist. Review every 3 months.
- Offer a 7–14 day trial of a sedating antihistamine to children over 6 months during acute flares if sleep disturbance has a significant impact. This can be repeated for subsequent flares if successful.

Treating flares

- Offer information on how to recognise flares.
- Give instructions on how to manage flares according to the stepped-care plan (see pages 10–11), and prescribe treatments accordingly.
- Treatment for flares should be started as soon as signs and symptoms appear. Continue for approximately 48 hours after symptoms subside.

Infections

- Explain that topical treatments in open containers can be contaminated with microorganisms and act as a source of infection. New supplies should be obtained at the end of treatment for infected atopic eczema.

Bacterial infection

- Explain how to:
  - recognise the symptoms and signs of bacterial infection with staphylococcus and/or streptococcus
  - access appropriate treatment when a child's atopic eczema becomes infected.
- Take swabs from infected lesions of atopic eczema only if you suspect microorganisms other than *Staphylococcus aureus* or if you think antibiotic resistance is relevant.

Treatment	Use for	Time
Systemic antibiotics active against *S. aureus* and streptococcus	Widespread bacterial infections	1–2 weeks
Topical antibiotics, including those combined with topical corticosteroids	Localised clinical infection	Maximum of 2 weeks
Flucloxacillin	First-line treatment of *S. aureus* and streptococcal infections	As indicated
Erythromycin	First-line treatment of *S. aureus* and streptococcal infections in the case of allergy to flucloxacillin or flucloxacillin resistance	As indicated
Clarithromycin	First-line treatment of *S. aureus* and streptococcal infections in the case of allergy to flucloxacillin or flucloxacillin resistance and intolerance to erythromycin	As indicated
Antiseptics such as triclosan or chlorhexidine	Adjunct therapy for decreasing bacterial load in cases of recurrent infected atopic eczema	Avoid long-term use

Herpes infection

- Consider infection with herpes simplex virus if a child's infected atopic eczema fails to respond to antibiotic treatment and an appropriate topical corticosteroid.
- Treat suspected eczema herpeticum immediately with systemic aciclovir and refer for same-day specialist dermatological advice.
- If eczema herpeticum involves the skin round the eyes, refer for same-day ophthalmological and dermatological advice.
- If you suspect secondary bacterial infection, start treatment with appropriate systemic antibiotics as well.
- Explain how to recognise eczema herpeticum:
  - areas of rapidly worsening, painful eczema
  - possible fever, lethargy or distress
  - clustered blisters consistent with early-stage cold sores
  - punched-out erosions (usually 1–3 mm) uniform in appearance which may coalesce.

Referral

- Refer immediately (same day) for specialist dermatological advice if you suspect eczema herpeticum.
- Refer urgently (within 2 weeks) for specialist dermatological advice if:
  - the atopic eczema is severe and has not responded to topical therapy after 1 week
  - treatment of bacterially infected atopic eczema has failed.
- Refer for specialist dermatological advice if:
  - the diagnosis is uncertain
  - the atopic eczema is not controlled based on a subjective assessment by the child or parent/carer
  - atopic eczema on the face has not responded to appropriate treatment
  - you suspect contact allergic dermatitis
  - the atopic eczema is causing significant social or psychological problems
  - the atopic eczema is associated with severe and recurrent infections
  - the child or parent/carer might benefit from specialist advice on treatment application.
- Refer for psychological advice children whose atopic eczema has responded to management but for whom the impact on quality of life and psychosocial wellbeing has not improved.
- Refer children with moderate or severe atopic eczema and suspected food allergy for specialist investigation and management.
- Refer children with atopic eczema who fail to grow at the expected growth trajectory, as reflected by the UK growth charts, for specialist advice relating to growth.

Education and information

- Discuss the severity of each child's atopic eczema with them and their parents/carers.
- Explain that:
  - the condition often improves with time, but that not all children will grow out of atopic eczema and it may get worse in teenage or adult life
  - atopic eczema can be linked to asthma, allergic rhinitis and food allergies
  - it is not clear what role factors such as stress, humidity or extremes of temperature have in causing flares of atopic eczema
  - atopic eczema may make the skin darker or lighter temporarily.
- Discuss complementary therapies with the child and their parent/carer and explain that:
  - the effectiveness and safety of complementary therapies and food supplements for atopic eczema have not been adequately assessed
  - caution should be exercised with the use of herbal medicines in children, especially any herbal product that is not labelled in English or does not come with information about safe usage
  - topical corticosteroids are deliberately added to some herbal products
  - liver toxicity has been associated with some Chinese herbal medicines
  - they should inform their healthcare professional if they are using or intend to use complementary therapies
  - they should keep using emollients as well as any complementary therapies
  - regular massage with emollients may improve the atopic eczema.
- Spend time educating children with atopic eczema and their parents or carers about atopic eczema and its treatment; reinforce at every consultation, addressing factors that affect adherence.
- Provide information in verbal and written forms, with practical demonstrations. 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.
- When discussing treatment options, tailor the information to suit children's cultural skin-care and bathing practices.

Implementation tools

NICE has developed tools to help organisations implement this guidance (listed below). These are available on our website (www.nice.org.uk/CG057).

- Slides highlighting key messages for local discussion.
- Implementation advice on how to put the guidance into practice and national initiatives that support this locally.
- Costing tools:
  - costing report to estimate the national savings and costs associated with implementation
  - costing template to estimate the local costs and savings involved.
- Audit criteria to monitor local practice.

Further information

Ordering information

You can download the following documents from www.nice.org.uk/CG057

- A quick reference guide (this document) – a summary of the recommendations for healthcare professionals.
- The NICE guideline – all the recommendations.
- 'Understanding NICE guidance' – information for patients and carers.
- The full guideline – all the recommendations, details of how they were developed, and reviews of the evidence they were based on.

For printed copies of the quick reference guide or 'Understanding NICE guidance', phone the NHS Response Line on 0870 1555 455 and quote:

- N1427 (quick reference guide)
- N1428 ('Understanding NICE guidance').

Related NICE guidance

For information about NICE guidance that has been issued or is in development, see the website (www.nice.org.uk).

- Frequency of application of topical corticosteroids for atopic eczema. NICE technology appraisal guidance 81 (2004). Available from www.nice.org.uk/TA081
- Tacrolimus and pimecrolimus for atopic eczema. NICE technology appraisal guidance 82 (2004). Available from www.nice.org.uk/TA082

Updating the guideline

This guideline will be updated as needed, and information about the progress of any update will be posted on the NICE website (www.nice.org.uk/CG057).

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