



Estimated educational
content: 1 hour

Eczema explained: A common dry skin condition

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Overview

Dry skin conditions constitute a significant burden to the health and wellbeing of the population. They are a feature of many skin complaints, including the various forms of eczema and psoriasis. Dry skin is also a physiological process in ageing skin, and so is an increasing challenge with our changing age demographic.

Eczema, synonymous with the term dermatitis, is a collective term for a group of related skin conditions in which the skin barrier is dysfunctional, characterised by scaliness, dryness and invariably itchiness. These conditions are responsible for 10–20% of secondary care referrals and 30% of all dermatological workload.¹

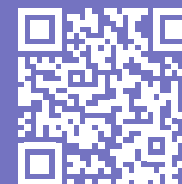
Dry skin conditions can be very rewarding to treat for the clinician as, with appropriate therapy, both prompt and dramatic improvement can be achieved with significant enhancement of quality of life. This booklet provides an overview of the various common dry skin conditions, with associated treatment guidelines.

Learning objectives

This guide to common dry skin conditions is suitable for all healthcare professionals who deal with dermatological conditions.

The learning objectives for this module are to:

- Increase confidence in the diagnosis of the common dry skin conditions, including eczema and psoriasis
- Increase knowledge of treatment and management techniques, including use of emollients (moisturisers) and steroids
- Reinforce the importance of a positive doctor/healthcare professional reaction to patients with problematic dry skin and learn what to do when a patient presents with eczema



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Quick Facts

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Deficiency of filaggrin is a major factor for compromising skin cell structure.²

Clinical learning

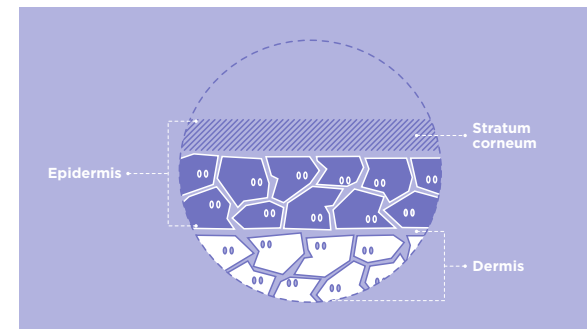
The skin's natural barrier function

The skin is the largest organ in the body. It has multiple, important physiological functions, fundamentally acting as a barrier to diverse threats from our external environment (physical, chemical, microbiological and allergenic). It also has a vital role in maintaining moisture and regulating temperature.

The skin's outer layer (epidermis) consists of skin cells (corneocytes), bound together by a protein called filaggrin. These cells contain natural moisturising factors (NMFs) that attract and retain water, causing the cells to swell and fit tightly together, leaving no gaps.

A genetically determined deficiency of filaggrin has been identified as a major factor for compromising skin cell structure.² Where filaggrin is deficient, the cells can dehydrate and reduce in size, resulting in gaps between them.

With the skin's natural barrier damaged, water is lost from the skin surface, resulting in dryness; moreover, irritants in the form of micro-organisms and allergens can penetrate the skin, invoking an immune response that results in irritation and itching. Subsequent scratching further damages the skin, perpetuating an itch-scratch-itch cycle of damage.





Atopic eczema

Atopic eczema (atopic dermatitis) is the most common form of eczema, affecting up to 15-20% of children by the age of 7 and 2-10% of adults.³ It is an increasingly recognised condition in the elderly too, with 1-3% of older patients developing eczema for the first time with no history.⁴

Eczema is a chronic, inflammatory, itchy skin condition that develops, in most cases, in early childhood. Episodic in character, it is a disease of exacerbations (flares) and remissions, although in some cases it may be continuous.⁵ Many cases of eczema clear or improve during childhood while others persist into adulthood.

Atopic eczema often presents alongside other atopic diseases, specifically asthma, allergic rhinitis and urticaria. Although atopic eczema is often not recognised as a serious medical condition, it can have a significant, negative impact on the quality of life for affected children and their parents and carers, and adults.

Diagnosis

The diagnosis of eczema is often straightforward, classically developing in the first 3-6 months of life with a positive family history of allergic disease (atopy). Initially, the condition can be patchy and more widespread in babies, developing to the more classical pattern of symmetrical involvement of the flexural areas at the toddler stage of development. Persistent rubbing and scratching will produce the characteristic changes of lichenification (thickening of the skin) in the more severely affected.

A diagnostic rule of thumb is, “if it isn’t itchy, it isn’t eczema”. The NICE criteria for diagnosis⁵ are an itchy skin condition plus 3 or more of the following:

- Visible flexural eczema
- Personal history of flexural dermatitis
- 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
- Onset of signs and symptoms under the age of 2

Atopic eczema

A number of presentations can occasionally cause diagnostic confusion. Sometimes atopic eczema can present in a so-called “reverse pattern” where it is the extensor surfaces that are involved. Occasionally, flexural and extensor surface eczema can co-exist. This can sometimes be confused with psoriasis, but psoriasis is uncommon in early childhood and is usually much more sharply delineated with characteristic silvery scale, a variable degree of itch and classic involvement of the scalp margin, umbilicus and nails. There are, however, overlap syndromes which can variably be described as psoriasiform eczema or eczematous psoriasis.

Fungal infection can sometimes be misdiagnosed as eczema too, particularly if it has been inappropriately treated with topical steroids. Treatment of fungal infection with topical steroids can lead to the development of the clinical entity described as ‘tinea incognito’, resulting in extension of the fungal rash but a reduction of the inflammatory element. Fungal infections, however, are classically asymmetrical and any diagnosis of unilateral eczema must therefore be treated with suspicion.

Conditions can often become secondarily eczematized and underlying infection and infestation can be missed. Conversely, eczema can become secondarily impetiginized or infected and this is particularly true of chronic eczematous change on the lower limbs of older patients, which is frequently misdiagnosed as cellulitis.

Eczema severity

Mild eczema	A person with areas of dry skin and/or infrequent itching (with or without small areas of redness).
Moderate eczema	A person with areas of dry skin, frequent itching, and redness (with or without excoriation and localised skin thickening).
Severe eczema	A person with widespread areas of dry skin, incessant itching, and redness (with or without excoriation, extensive skin thickening, bleeding, oozing, cracking and alteration of pigmentation).
Infected eczema	Indicated by areas of weeping, crusting, or pustules; fever or malaise; rapidly worsening eczema; or eczema that has failed to respond to treatment.

Investigations

Further investigation of atopic eczema is not normally indicated, although there is often pressure on the clinician to investigate for 'allergy'. Such testing can take the form of blood tests, patch tests or prick tests. These are frequently requested inappropriately by patients and doctors alike due to a lack of clear understanding of the mechanisms of immune reaction (hypersensitivity reaction).

Patch tests: patch testing for Type 4 Hypersensitivity Reactions is applicable when contact allergens, such as rubbers, metals and cosmetic products, are clearly implicated or suspected after careful history taking. This is particularly relevant in cases of occupational eczema/dermatitis. Increasingly, these are carried out on patients with severe atopic eczema to exclude exacerbating environmental factors but this should be at the discretion of the specialist.

Prick tests: prick testing is normally carried out in immunology departments for Type 1 Hypersensitivity Reactions, which result in immediate allergic/urticarial type reactions following exposure to an allergen, and would not be routinely carried out in the investigation of eczema.

Blood tests: allergy testing through blood tests can be unreliable and misleading with high rates of false positives and negatives which need expert interpretation. There is no benefit from such tests being used in the routine assessment of eczema.



Quick Fact

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Topical steroids must never be used as monotherapy⁶ as they do not constitute effective moisturisers on their own. The cornerstone remains Complete Emollient Therapy (CET).

Management principles

Treatment plans

Enough time must be invested into patients/caregivers to enable them to self-manage their condition. Patients should be confident about the recognition and management of flares and when to seek help. They must be provided with an appropriate range of treatments to achieve these aims. This will usually include:

- A maintenance emollient of their choice (although different types may be required for different body areas)
- A wash product
- Topical steroids of differing potencies for normal skin and the more sensitive, thinner areas of skin, such as the face and flexures

Age is also an important consideration to factor into any treatment plan.

Treatment plans with clear guidance on appropriate product amounts (and potencies for steroids) should be put in writing. Tailored information can be supported with widely available treatment tools such as the 'fingertip unit' and weekly usage guidelines (it is recommended that an adult should use at least 500g emollient per week and a child at least 250g).⁷



Image courtesy of dermnetnz.org

Escalation plans should be included and clear lines of communication established for further advice and ongoing support. Eczema flares are most often infective in origin but can be checked with a stepped approach, either introducing a steroid preparation or stepping up to a more potent steroid. Very often this is sufficient to reduce a flare without recourse to antibiotics. In the cases of overt infection, a short course of oral antibiotics and sometimes oral steroids may need to be considered.



Important information

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If emollient products come into contact with dressings, clothing and bedding, the fabric can be easily ignited with a naked flame. It is recommended to keep away from fire when using these products.⁸

The regular extensive use of topical antibiotics should be discouraged due to the concerns regarding increasing resistance.

Topical steroids must never be used as monotherapy as they do not constitute effective moisturisers on their own. The cornerstone remains Complete Emollient Therapy (CET).

Calcineurin inhibitors (pimecrolimus and tacrolimus) are alternative preparations to topical steroids and can be safely used to treat sensitive skin areas. They can be prescribed in General Practice although there remains a general lack of confidence in doing so.



Important information

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If emollient products come into contact with dressings, clothing and bedding, the fabric can be easily ignited with a naked flame. It is recommended to keep away from fire when using these products.⁸

Complete Emollient Therapy (CET)

The mainstay of the management of atopic eczema, and very relevant to the management of other forms of eczema, is **Complete Emollient Therapy (CET)**. This term encompasses both the use of moisturisers and soap substitutes, with an emphasis on soap avoidance. This must remain the cornerstone of treatment.

An extensive range of emollient products is available and you should be comfortable with the various preparations and their different formulations and indications. Ideally, a patient should be allowed to try a variety of the available products and the best emollient will be the one that the patient is willing to use.⁹ This principle is fundamental to sustained adherence to treatment.

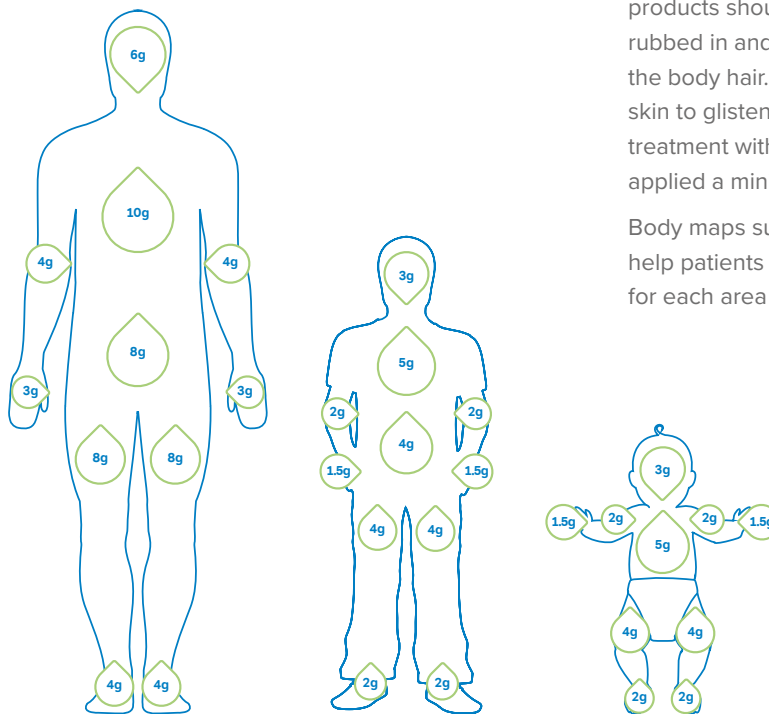
Time must be invested clinically in assessing the extent of the eczema as this can vary considerably, but an accurate estimate of body surface area is vital to calculate the amount of emollient required. Using words such as 'liberally' or 'sparingly' are subjective and require guesswork, and because patients often underestimate the amount of emollient needed, it is better to advise specific amounts. Clear and concise guidelines about optimal quantities are widely available.

Generally, ointments are more effective than creams and have less potential for allergic reaction, but compromise often has to be reached with patients who may prefer to use creams, particularly on certain body sites such as the face. Lotions and gel formations are often more useful for hairy areas but care must be taken where the skin is broken as alcohol-based preparations can often cause uncomfortable stinging.



Quick Fact

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If moisturisers and soap substitutes are used and detergent-based cleansers are avoided, daily bathing or showering can show a positive impact.



Emollients need to be applied at least twice daily and more often if practicable, most particularly directly after bathing or showering to seal in moisture. These products should be applied using strokes rather than rubbed in and this should always be in the direction of the body hair. The patient should be told to expect the skin to glisten after applications. If there is concomitant treatment with a topical steroid, the steroid should be applied a minimum of 15 minutes before any emollient.

Body maps such as those shown below can be used to help patients quantify the amount of emollient required for each area of their body.

Other management principles

Bathing

Historically, patients and parents with children with eczema were encouraged to reduce the frequency of bathing. There is certainly evidence that the increase in eczema in general is in part due to the vastly increased use of wash products and washing in general. However, on balance, it is felt that if moisturisers and soap substitutes are used and detergent-based cleansers are avoided, daily bathing or showering shows a positive impact.

Domestic allergens

Regular dusting and vacuuming to reduce house dust mite populations and animal dander, if indicated as an allergen, and ensuring an environment that is neither too hot nor humid but, equally, not too dry are simple and sensible cautionary measures. At times of high pollen counts there is also an argument for keeping windows and doors closed. However, more extreme measures including vacuum wrapping mattresses and investing in very expensive filter systems or high-powered vacuum cleaners are unlikely to provide significant benefit when weighed against cost.

Diet

This is one of the most common issues raised by patients but it generally remains a factor only in young children and has little role to play in the management of eczema in adults.

The possibility of foods causing allergic reactions is more likely if the skin barrier function is impaired so it remains very important to control eczema through treatment when it develops in early childhood. This is particularly the case for the facial and peri-oral areas where food sensitisation could occur through broken skin areas, further exacerbated by the irritancy of saliva.

Dietary manipulation in young children can itself produce its own risks, so any significant manipulation should be carried out under expert supervision with input from professional dieticians.

Moisturisers with additional properties

There are a range of ‘added value’ moisturisers containing anti-bacterial, anti-pruritic and humectant properties.

Intuitively, these should give added benefit if the clinical situation calls for intervention beyond moisturising, but these products often tend to be more expensive and the evidence base regarding their efficacy and cost-effectiveness remains unclear.

Garments and bandages

Both wet-wraps and dry-wraps can be used for intervention. These are time-consuming and require dedication from the parent, and expertise in advising how to use them. They are likely only to be of benefit at the more severe end of the eczema spectrum. Recent research evidence suggests that there is no benefit in the use of silk garments, which currently costs the NHS around £2million per year.¹⁰

Antihistamines

Antihistamines are very widely prescribed as part of a regime for itchy skin conditions in general, and for eczema, however histamine is not the dominant mediator of itch in eczema, unlike urticaria for which these drugs are of paramount importance.

The use of sedative antihistamines at night may be helpful for achieving better sleep, particularly in young children.¹¹ Care must be taken when using sedation in the elderly, however, the sedative effects are usually short-lived. This class of drugs should not be considered for long term maintenance therapy as it becomes quickly ineffective due to increased tolerance over time.



Image courtesy of dermnetnz.org



Image courtesy of dermnetnz.org

Other eczemas

While atopic eczema is by far the most common form, the following types will be encountered in primary care clinical practice sooner or later and will require accurate diagnosis in order to choose optimum treatment courses.

Seborrhoeic eczema

This form of eczema most commonly presents in children and young adults. The pathogenesis is different from atopic eczema and the overgrowth of yeast colonisation of the skin, particularly with pityrospora, is a significant aetiological factor.

It has predilection in children for the nappy area, and the scalp and face in all age groups. Seborrhoea capitis (dandruff) is part of the spectrum of the disease. The degree of itching tends to be much less marked and flexural involvement less common.

Specific treatment revolves around the use of topical antifungal preparations, often combined with mild to moderate topical steroids for the inflammatory element. Calcineurin inhibitors can often be useful.

It can be difficult to distinguish between seborrhoeic eczema and psoriasis at times and there are often elements of both, which are described as sebo-psoriasis. Adult seborrhoeic eczema classically involves the scalp, eyebrows, nasolabial folds, post-auricular creases and the pre-sternal area. There may be a co-existent blepharitis. Should the onset in adults be very sudden and extreme, this may suggest an immuno-suppressive process, particularly HIV.



Image courtesy of dermnetnz.org

Discoid eczema

This is a distinctive pattern of eczema that can occur at all ages but is most frequent in older patients.

It is considered an endogenous form of eczema and manifests with classically well-demarcated annular areas of intensely itchy, scaly eczema with a predilection for the limbs, but can also involve the trunk. Although self-limiting, it can persist for many months and sometimes years and can prove quite resistant to treatment. It benefits from a similar approach to atopic eczema, with Complete Emollient Therapy (CET), but often requires more potent topical steroids to control the itch.



Image courtesy of dermnetnz.org

Pompholyx eczema

This type of eczema presents very differently and typically involves the palms of the hands (cheiropompholyx) and soles of the feet (podopompholyx). It presents with small, intensely itchy “sago-grain” type blisters, more deeply sited in the skin, although often the blisters can be much larger; it is normally symmetrical in its distribution. There is often no background of atopy and it can occur at any age, although is most common in younger adults. Secondary infection is common. The condition can remit and relapse and often parallels periods of stress.

Treatment revolves around the basic principles of Complete Emollient Therapy (CET) but “super potent” steroids are often required with or without occlusion on the much thicker areas of skin on acral surfaces (palms of hands and soles of feet), and recourse to short courses of oral steroids may be required.

Exacerbations can be extremely debilitating and will require referral to secondary care for consideration of second-line oral therapies.



Image courtesy of dermnetnz.org

Varicose eczema

Chronic venous hypertension and venous insufficiency can lead to several skin changes that are collectively known as lipodermatosclerosis. This can result in thickening and discolouration of the skin but also eczematous changes and in most severe cases can result in frank ulceration.

The legs can commonly also develop super-imposed contact allergy to various medicaments and dressings that are used to treat the condition, complicating the diagnostic picture.

It is important to treat the condition proactively to reduce the chances of secondary infection and ulceration.

The regular use of antibacterial cleansers, moisturisers and suitable dressings along with mild to moderate potency steroids are the mainstay of treatment. Bandages impregnated with 20% zinc oxide can be particularly useful in controlling the early stages, especially in the driest varieties of varicose eczema. Patch testing may also need to be considered.

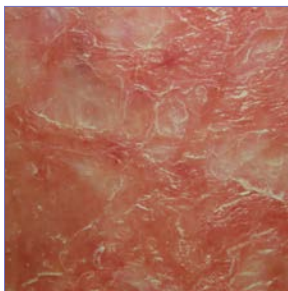


Image courtesy of dermnetnz.org

Asteatotic eczema (eczema craquelé)

This most commonly presents with a 'crazy paving' pattern on the lower limbs of predominantly elderly patients. Often, such patients are in residential or nursing homes and over-washing and over-heating are major aetiological factors.

Systemic and metabolic factors should be considered if the condition is extensive and may include conditions such as hypothyroidism or indeed malnutrition. Treatment revolves around the diligent use of soap substitutes and liberal emollients, preferably with an ointment base.



Image courtesy of dermnetz.org



Image courtesy of dermnetz.org

Contact dermatitis

Contact dermatitis can be both allergic and irritant, with the latter the much more common cause.

Certain areas of the body are particularly prone, including the face, hands, lower legs and genital and peri-anal regions. Given that atopic eczema is most common in children, contact allergic dermatitis is relatively rare in this age group.

Patients with background atopy are much more likely to develop irritant dermatitis, which is caused by direct physical or chemical injury. It can be acute, caused by a single exposure, or chronic from cumulative exposure. The most common irritants are detergents, cleansers, lubricants and industrial oils, preservatives and synthetic fibres.

Allergic dermatitis, often related to occupational substance contact, is a specific individual reaction and is a Type 4 cell-mediated delayed hypersensitivity phenomenon. Common allergens include rubber, nickel, cement, plants, topical antibiotics and cosmetics.

Careful history taking is key, particularly as to whether patch testing, which can be labour intensive and protracted, is indicated. The patch test standard European battery series covers up to 80% of all common contact allergens. There are often high pick-up rates in presentations both of pruritus ani and pruritus vulvae, with up to 41% of people found to have relevant positive patch tests.¹²

Some professions are particularly prone to both contact irritant and contact allergic eczema. This includes: hairdressing, nursing, engineering, construction and all forms of occupation that require a high degree of wet work. Once the condition is established, the prognosis can be poor even after a change of occupation and exclusion of the allergen.

The key to successful management in both contact irritant, and contact allergic dermatitis is identifying the allergen and irritant or removing it.



Image courtesy of dermnetz.org

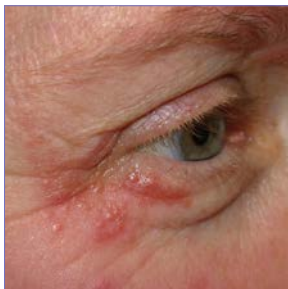


Image courtesy of dermnetz.org

Peri-oral/peri-ocular eczema

This is a very specific presentation of eczema which most commonly affects the peri-oral area but can also be peri-orbital or indeed both. It presents with a scaly, papular eruption. Typically, the skin just next to the lips is not affected, or is affected much less than the skin just a little further away from the lips. So, in some cases, it can look like a ring around the mouth.

The condition can be variably itchy and can be both caused and exacerbated by topical steroids. Treatment revolves around topical steroid avoidance, courses of anti-inflammatory antibiotics, most commonly Lymecycline for 6-8 weeks, and the use of moisturisers. The condition does not normally recur.

Consultation hints and tips

1 Invest time

Consultations on the management of atopic eczema require time and patience, listening to the patient's concerns, acknowledging psychosocial aspects, and managing their expectations, particularly regarding further investigation. It is important to communicate to the patient the concept of 'controlling and not curing' as the condition they live with is often chronic.

2 Prescribe generously

Clinicians must be prepared to prescribe medication generously. It is vital that the patient is given enough medication to address the extent of their condition. Traditionally, doctors have been reluctant to prescribe more than 500g of a topical preparation at any one time, but given that this should only last 2-3 weeks in a patient with widespread dry skin, or only 1 week for patients with very extensive eczema, this is clearly inadequate. Patients can become disillusioned by frequent requests for repeat prescriptions and their associated costs, and may decide to use their moisturisers and soap substitutes less frequently than they should, to the detriment of their condition.

Prescribing generously will also help communicate the message to patients that they should apply their emollient in generous quantities, every day. Emphasise the importance of daily treatment by stating that treatment **must** be administered **at least** twice a day, every day of the year, even in the absence of any symptoms.

3 Prescription payment options

Treating chronic skin conditions may require quite a number of different preparations. We have already highlighted the importance of prescribing adequate amounts, and that prescription costs can be considerable, so make patients aware of the option of pre-payment certificates which can be issued for different periods of time and can prove more cost effective.

Consultation hints and tips

4 Supply multiple support options

Equip patients with as many options as possible for ongoing help and support. This will partly depend on the local health community's availability of appropriately trained healthcare professionals and their accessibility in Primary, Community and Secondary Care. Reliable information sources should be identified for the patient, some of which are detailed at the end of this article.

5 Educate in accessible language

It is useful to use analogy to help the patient understand the nature of their condition, and how treatment will help.

For example, compare the skin barrier to a well-mortared brick wall, waterproof and impervious to the external environment; dry and eczematous skin is like a wall that has developed cracks between the bricks, allowing moisture to get out, and allergens and bacteria to get in. This helps explain the importance of continuing to re-seal the skin (wall) with an emollient to restore and maximise its function.

Each clinician should develop their own analogies or sayings that help patients understand and remember the principles of effective management.



Quick Fact

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Of the 14 million primary care dermatology GP consultations each year, around 5.6% are referred for specialist advice. This is a comparatively high referral rate.¹³

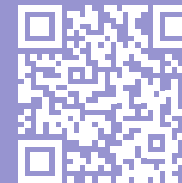
CRITERIA FOR REFERRAL

Criteria for referral

Referral to more specialised care, whether to community or hospital base, should be considered in the following circumstances:

- Infection
- A failure to respond to what would be considered appropriate and adequate treatment, prompting need for further investigation into the need for second-line drugs, dietary manipulation or other intervention
- If contact allergy is strongly suspected, consider referring patients for appropriate patch testing





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Summary of learning

1. Be aware of common diagnostic pitfalls:

- Eczema should always be itchy and if it is not, alternative diagnoses may need to be considered
- Beware of unilateral presentations of eczema as this may represent fungal infection
- A diagnosis of bilateral cellulitis should always be questioned as, most commonly, this presentation is one of secondarily infected eczema rather than true cellulitis

2. Provide the patient with clear, concise and, preferably, written treatment plans and defined routes of access to ongoing advice and support

3. The mainstay of the management of atopic eczema is Complete Emollient Therapy (CET), so prescribe generously

4. The most common cause of significant eczema flares relates to underlying infection which must be treated appropriately

5. Eczemas other than atopic need different, specific treatment

6. Invest time in educating patients on their condition and on how to self-care

Continuing Professional Development

This clinical learning booklet has been endorsed by the CPD Certification Scheme and can be used as a CPD resource.

If you are a GP, you can use it towards your CPD accreditation scheme and as part of your Personal Development Plan (PDP).

If you are a nurse, you can use it towards NMC revalidation for both individual and participatory learning.

Individual learning may involve you reflecting on your learning, and identifying points to improve practice in caring for patients with skin care needs – see questions below to help with this reflection.

Individual learning – enquiry-based reflection

Recall a patient case where skin symptoms or conditions of eczema were present:

1. What were the skin symptoms identified?
2. What was the resulting diagnosis?
3. How were you able to treat the skin of the patient?
4. What can you do in the future to improve patient outcomes?

SUMMARY OF LEARNING

Further reading

Primary Care Dermatology Society:

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www.pcids.org.uk

The National Eczema Society:

.....
www.eczema.org

British Association of Dermatologists:

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www.bad.org.uk

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