The Management of Atopic Eczema:

The Sheffield Children’s Hospital Dermatology Team Approach

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**Appendices**

Diagnostic Criteria for Atopic Eczema

Flow Charts:

- Initial Management of normal, dry and eczema skin
- Stepped Emollient Regime
- Stepped steroid regime
- Treatment of Itching, i.e. pruritus, in atopic eczema
- When is infection or infestation causing a flare in atopic eczema?
- Treatment of infected eczema

Atopic Eczema Care Plan

Finger Tip Units

Emollient Chart

*Guidelines written by Dr. Catherine Holden, GP Clinical Assistant in Dermatology and Sr. Julie Carr, Paediatric Specialist Dermatology Nurse, in consultation with Dr. Andrew Messenger and Dr. Michael Cork, Consultant Dermatologists at Sheffield Children’s Hospital, and Dr. Richard Oliver, GP on the Sheffield Formulary Committee.*

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**Aims and objectives**

Ours aims and objectives are as follows:

1) To increase expertise within the community when managing mild to moderate eczema.

2) To help patients and their parents become ‘experts’ at managing their eczema.

We have involved General Practitioners, Health Visitors and other interested parties in the development of this document and will review these guidelines annually (next due December 2004).

We would be grateful for any comments on these guidelines, or suggestions for the next review to be forwarded to either:

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**Disclaimer:**

Management suggestions reflect the experience of the Sheffield Children’s Hospital Dermatology Team to date. Principles with an evidence base are referenced. The results of future studies may require alterations in the conclusions or recommendations of this report. Treatment of individual patients should also be modified to reflect clinical need and social circumstances.
Emollient Advice

General advice to parents for dry skin and mild eczema:

If there is a strong family history of atopy, even in the absence of atopic eczema developing it would be advisable to treat the child’s skin with a complete emollient regime using an emollient, a soap substitute and a bath oil or emollient shower gel. Emollient is the medical term for a moisturiser or moisturising product such as soap substitute or bath oil. It is important the parents understand this term is synonymous with moisturiser.

Many parents will approach Health Visitors with anxieties regarding their child’s skin. A large proportion of queries will be about dryness or which products to use or avoid.

Emollient tips:

- The best emollient is one, which the child and parent prefer using, which may well involve an element of trial and error. Ultimately this will increase rates of compliance and enhance control of eczema. These guidance notes and the emollient charts in the appendix are intended to support the choice of products.

- Encourage child and parent(s) to use around 250-500g of their chosen emollient a week, increasing to 1000g or above should the child’s eczema become very dry and flaky.

- Remember that a moisturiser should be used in conjunction with an emollient soap substitute and emollient bath oil. Some bath emollients can be applied directly onto wet skin, as indicated in the emollient charts in the appendix. Some parents find it helpful to apply the soap substitute or bath oil before entering the bath / shower and then rinse it off. Do not use antiseptic bath oils in this way because they may cause irritation. BEWARE OF SLIPPING IN THE BATH OR SHOWER!

- Adequate supplies are essential. Check parent(s) have enough emollients to last over holidays, weekends etc.

- Try warming up emollients before use, either leaving them in a warm airing cupboard or next to the radiator / fire, or decanting a quantity into a bowl and standing the bowl in warm water prior to application. Many children dislike the feeling of a cold emollient during the winter months. Equally, a few children will prefer using a cool emollient, especially during warm summer months. An hour or so before use try placing the emollient tub in the fridge. Doublebase is a new emollient can feel cooling when applied due to its formulation.

- Never rub the emollient vigorously into a child’s skin. This tends to irritate and can lead to the child scratching. Apply in gently downward strokes; this helps to reduce the occurrence of folliculitis (infection around hairs).

- Emollients can be applied before or after topical steroids but leave a gap of about 20 to 30 minutes to prevent diluting the steroid. Many people find having an emollient bath, applying the topical steroid then waiting and using the emollient is best. For children this is easiest as the topical steroid is usually once a day and evenings tend to be less hectic for parents. If using wet wraps or bandages, only apply emollients under them and use the steroid in the morning.
• A less greasy emollient can be used before school or during the day if preferred, leaving the thicker product for nighttimes.

• Some emollients can ‘double up’ as soap substitutes.

• Remember to ‘decant’ emollients from the tub with a clean spoon if they have no pump dispenser. This ensures cross infection from the child’s skin or the adult’s hand back to the product is kept to a minimum.

• Encourage the child to take a small pot of emollient to school if appropriate. The school nurse may be happy to get involved and offer a quiet room and privacy for the child to apply it. Some emollients come in handy tubes, which can be packed in school bags.

• Some teenagers will prefer to use a shower emollient particularly after sport. Some emollient shower products are now available on FP10 as well as over the counter.

• Encourage parents and children to maintain an emollient regime even when the eczema appears controlled or clear. This will prevent and reduce the severity of flare-ups, and reduce the quantities of topical steroids required. A good way to think about emollients is to liken them to preventative inhalers used in asthma. Emollients are the foundation of all skin care treatments.

• Demonstrate amount of emollient needed to the child and parents.

• If napkin dermatitis is present, try zinc paste mixed with 50:50 white soft paraffin / liquid paraffin, Morhulin or Metanium instead of Sudocrem, which contains more preservatives and fragrance. For cleansing the nappy area, one idea is to use the chosen emollient on a cotton wool pad and wipe the bottom clean gently.

• If cradle cap (scalp seborrhoeic dermatitis) is present, massage warmed olive oil into the scalp. Leave at least an hour or overnight. Wash out with a gentle shampoo.

• Ointments such as 50:50 white soft paraffin, Epaderm and Hydromol ointment are often preferred to creams by patients with Afro-Caribbean and Asian skin. Cosmetically they are more acceptable as they are translucent, whereas creams leave racially pigmented skin looking white until they are fully absorbed.

Swimming:
Chlorine in the water can be an irritant. The following advice should help minimise any irritation from the chlorine:

• Remember to moisturise well when getting up in the morning.

• After swimming, have a shower to rinse off the chlorine, ideally with an emollient soap substitute.

• Moisturise before getting dressed. Teenagers can put a tube of emollient into their sports bag, which will double as soap substitute and emollient.
Irritant and Allergic Contact Reactions

Children with atopic eczema are particularly susceptible to irritant skin reactions due to their reduced skin barrier function. Irritant reactions can cause flare ups of the eczema.

Soaps and detergents for example in cosmetic and toiletry products are common sources of skin irritants. They contain weak alkalis, emulsifiers, surfactants and sometimes enzymes. One common surfactant is sodium lauryl sulphate (SLS).

Skin susceptibility to the irritant effects of surfactants appears to decrease with age. Studies have shown that skin irritability to SLS peaks during childhood and declines steadily during adult life, reaching its lowest values by the sixth decade of life. This may account for the frequent reporting (up to 54%) from children, seen in the Dermatology Department at the Sheffield Children’s Hospital, that aqueous cream can give a stinging or burning sensation if it is applied to their skin. Aqueous cream contains SLS, but other factors may be involved as some children report reactions from some brands and not others.

Fragrances can be irritants as well as a cause of allergic contact dermatitis. Allergic reactions to lanolin are rare because hypoallergenic lanolin is now used in E45 cream and Oilatum bath. Previous reactions appear to have been due to unpurified lanolin.

We therefore recommend the following:

- Do not use bubble baths and soaps.
- Avoid washing hair when in the bath to prevent shampoo coming into contact with the skin.
- Water itself is a mild irritant. Always wash with an emollient soap substitute, bath or shower emollients.
- Avoid using emollients and toiletry products containing fragrances in children with atopic eczema.
- Avoid using wet wipes for cleaning the skin of babies and children.
- Avoid using aqueous cream as an emollient in children, unless it is the one a child has actively chosen as their preferred emollient. It is appropriately used as a wash-off soap substitute.

Choosing an emollient if there has been a previous adverse reaction:

Let the child try a few different emollients on their skin in clinic so that they can choose the one they like and which doesn’t sting when applied.

If a child is particularly sensitive and has had previous reactions to emollients, try a test patch on the same eczema free area for up to 3 consecutive days to check for a reaction (the usage test) before using elsewhere.

If you are having difficulties identifying any suitable emollient, consider referral for patch testing to include potential sensitisers. Clinically, irritant contact dermatitis is indistinguishable from allergic contact dermatitis.
Irritant Contact Reactions

- Common, especially on broken skin, and may cause a stinging or burning sensation.
- Irritancy is not reliably demonstrable by patch testing, or by any other test. Diagnosis relies on detailed history, examination and exclusion of contact allergy.
- Substance may be tolerated when the skin is intact.
- Irritant reactions can be acute or chronic (cumulative irritant dermatitis).

Allergic Contact Reactions

Allergic contact dermatitis is uncommon in children but occasionally atopic dermatitis is complicated by a superimposed allergic dermatitis. Medicaments are the most likely offenders, e.g. antibiotics, preservatives, steroids.

- Can be demonstrated by patch testing.
- Can be of immediate or delayed type.
- Avoid the substance whenever possible

The typical clinical picture of immediate-type allergy is an urticarial reaction with erythema and oedema.
The typical clinical picture of delayed-type allergy is an eczematous reaction.

The Wet Wrapping Technique

Wet wrapping has been used in dermatological practice for decades. 2003 saw a significant advance with the development of Tubifast garments, available on FP10. This makes the technique easier to teach, easier for carers to use and cost analysis implies savings for the Health Service.

For localised wrapping, tubular bandages are available as Tubifast, Actifast and Comfifast. All have similar fittings in red, green, blue, yellow and beige line.

Who benefits most from wet wraps?

- Younger children and infants with very dry skin.
- Infants and children not sleeping due to itching from their dry / eczematous skin.

How to apply wet wraps:

1. Select the correct size garment or bandage for the child’s age
2. Bathe the child as normal and apply large amounts of emollient
3. When using the garments ensure seams are on outside
4. Place garment or bandages in warm water then squeeze out gently
5. Apply the wet layers to the body
6. Apply the dry layers on top
7. Normal clothing can be applied following the application of wet wraps
Wet wrapping tips:
- Use a ‘double dose’ of emollient for best results.
- Try a greasier emollient as it will be contained more effectively within the bandages than a thin cream.
- Wet wraps can be used as and when required, every night to control eczema, and then as a ‘top up’ perhaps once or twice during the week or at weekends.
- If using topical steroids, apply these in the morning after taking off the bandages.
- do not use steroids under wet wraps.
- do not wet wrap a child who has badly infected eczema or eczema herpeticum.

Benefits of wet wraps:
- The effectiveness of the emollients is increased.
- Pruritus is reduced, helping to prevent scratching, which is particularly useful during the night as this aids sleep.

Disadvantages of wet wraps:
- Steroids should not be used under wet wraps as they are absorbed more readily, so atrophy, irreversible striae, or other side effects, which are usually seen with potent or very potent steroids, can occur with mild or moderate agents.
- The bandages will stick to any exudates and become painful to remove. They will occlude any infection and give it an ideal culture environment.
- It is time consuming, although this time is much reduced with Tubifast garments. Always check family circumstances to assess whether the parents or carers will be able to use this technique at home.
- There are no controlled trials to support their use.

Trouble Shooting

How do you put on wet wraps and wet wrap garments?

The company that produces Tubifast bandages and garments has free videos and booklets to help introduce the wraps to parents and children. Shiloh Healthcare has a range of educational information on Comfifast for parents and prescribers via their website. Educational information is available for Actifast. See appendix for contact details.

What size tubular garment shall I use?

When using the tubifast garments which are available on FP10, the sizing guide is quite straightforward. The garments are available in the following size brackets:

6-24 months, 2-5 years, 5-8 years, 8-11 years and 11 to 14 years. Vests and stockings are available for babies. Vests, leggings and socks are available for ages 2-14 years. These are now considered the easiest and quickest way to use the wet wrap technique. However if these are not available or localised wet wraps are required the tubular bandages may be cut to size.
**What size tubular bandage shall I use?**

Make sure the sizing is appropriate to the child’s age and body part. Be careful to ensure a large enough size is prescribed as a child grows to prevent any possible compromise to the circulation, or compression to a body part.

Tubifast provides a pocket measurement chart, which is useful. Comfifast has good advice on their web site.

<table>
<thead>
<tr>
<th>Colour of Stripe</th>
<th>Body Part</th>
<th>Limb Circumference (cm)</th>
<th>Unstretched Width (cm)</th>
</tr>
</thead>
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<tr>
<td>Red</td>
<td>Babies’ limbs under 4 months</td>
<td>8-15</td>
<td>3.5</td>
</tr>
<tr>
<td>Green</td>
<td>Legs of under 5 year olds &amp; all arms</td>
<td>10-25</td>
<td>5.0</td>
</tr>
<tr>
<td>Blue</td>
<td>Legs of over 5 year olds</td>
<td>20-45</td>
<td>7.5</td>
</tr>
<tr>
<td>Yellow</td>
<td>Children’s trunks</td>
<td>35-65</td>
<td>10.75</td>
</tr>
<tr>
<td>Beige</td>
<td>Adult trunks</td>
<td>50-120</td>
<td>17.5</td>
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**What is the best quantity to prescribe?**

The bandages are available in 1, 3 and 5 metre lengths. The 5 metre boxes are better to prescribe as there is less waste and parents can cut lengths to suit the child’s size. The garments will wash easier than the suits and can be tumble dried. Therefore a total of four suits would probably last at least a month or more depending on how active the child is and how greasy the emollient of choice is.

**My child is scared of bandages:**

Try the garments instead. Introduce them as a game. For example try wet wrapping their favourite doll, a parent or a willing sibling first.

If still having problems, try using emollients under a babygro. There are some shops that sell all in one suits for older children, which can be useful. Ask the National Eczema Society or see adverts in their quarterly journal ‘Exchange’ for sources.

**Do you re-use the garments and bandages?**

The garments can be machine washed at 30 degrees and can be tumble dried. They can be reused many times.

The bandages should be either hand washed after use or put in a ‘delicates bag’ before washing in a machine, followed ideally by a double rinse cycle. Realistically they may only manage to get two to three uses from them.
My child wakes up itchy in the night and the bandages have dried out:

During the summer month’s wet wraps can dry out overnight. Advise parents to fill a clean plant spray bottle setting it on ‘mist’ and try spritzing the first layer of bandage should it become dry. This will save time redoing the whole suit.

Can wet wraps be used in the daytime?

It is possible to use the wraps all day for particularly itchy dry babies or children. However, they will need to be re-wetted and more emollients applied half way through the day.

The weather / my house are too cold and damp to use wet wraps.

Try dry wraps, where both layers of tubular bandages are dry. It will help, but is not quite so effective as wet wraps.

Paste Bandages

Paste bandages are useful for treating eczema on the limbs, particularly if it is of the chronic lichenified variety.

The mostly widely used products are Steripaste, Icthopaste or Viscopaste PB7. The bandages create a firm barrier, which discourages the child to scratch. They can be used over resolving infection sooner than wet wraps due to the antiseptic and soothing effect of the zinc paste.

How to use paste bandages:

- Apply the bandages in a ‘folding’ or pleating technique to prevent constriction around limbs.
- Cover with a thin retention bandage.
- Try tying the bandages onto a body suit or vest if the bandages have been slipping down.
- Secure with a layer of Tubifast or equivalent.
- A top layer of Actiwrap following the retention bandage helps with very itchy children who seem to tear bandages off easily. This is available on prescription and is self-gripping. Actiwrap is cheaper and less restricting to the child’s movement and blood flow than the previously used Coban.

DO NOT APPLY PASTE BANDAGES OVER TOPICAL STEROIDS
DO NOT USE OVER SEVERELY INFECTED ECZEMA
Topical Corticosteroids

Prescribing guidelines

Which topical steroid?

The weakest steroid should be chosen to control the disease effectively; this may include a temporary step up approach (less potent to more potent) or a step down approach (more potent to less potent).

NICE advises when 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 the frequency of application^20.

Which topical steroid is considered clinically appropriate within each potency class?

We recommend prescribing by brand and not generically. This is because the base cream or ointment varies between different generic preparations. Different preservatives may be used; fragrance, lanolin and other excipients may be added. In practice we have seen allergic contact reactions to generic preparations.

When needing a moderate or mild steroid, we recommend using designated moderate or mild steroids, rather than diluted more potent steroids. A diluted potent steroid is called moderately potent in the BNF, but may still cause similar side effects to the undiluted version, e.g. skin atrophy, when in prolonged use. This is why Eumovate is the first line moderate steroid for children with eczema at SCH.

How often should a topical corticosteroid be used?

Apart from 1% hydrocortisone cream, which can be used once or twice a day, these are all used once a day only as there appears to be no clinical benefit from more frequent usage.

This concurs with the recent NICE guidelines^20.

When should topical corticosteroids be prescribed or used?

The emollient regime should be regarded as the on-going maintenance treatment of atopic eczema and prophylaxis, and not the topical steroids. A general rule of thumb is that emollient use should exceed steroid use by 10:1 in terms of quantities used^1.

In general, topical steroids should be regarded as an acute short-term therapy providing a major intervention for the treatment of exacerbations and flare ups of atopic eczema. If possible their use is limited to a few days to a week for acute eczema and up to 4-6 weeks for chronic eczema^1. In moderate to severe eczema, mild or moderately potent steroids may be used intermittently for longer under supervision (see flow charts). Mild steroids are relatively safe in long-term use, but they should be discontinued when not required.

In each approach, regular review of steroid use (especially when using potent steroids) is essential. This should be borne in mind when steroids are put on repeat prescription lists.

Very potent steroids (e.g. Dermovate) should not be used in children with atopic eczema^1.
Topical Steroid Potencies

Items in bold below indicate the preparations on the Sheffield Formulary and which are most commonly used by the Sheffield Children’s Hospital Dermatology Department (SCH).

Most topical steroids are available as creams and ointments. Patient preference usually decides which is used. Ointments may be more effective, but the creams are often better tolerated, and are thus more frequently used.

Mild:
- **1% Hydrocortisone**, once or twice a day. It can be used on the face. 0.5% and 2.5% hydrocortisone are also available, but of no known benefit compared to 1%.
- Fluocinolone acetonide 0.0025% (Synalar 1 in 10 Dilution)*

Moderately Potent:
- **Clobetasone butyrate 0.05% (Eumovate),**
- Betamethasone 0.025% (Betnovate-RD, a 1 in 4 dilution of Betnovate)*
- Alclometasone dipropionate 0.05% (Modrasone)
- Fluocinolone acetonide 0.00625% (Synalar 1 in 4 Dilution)*

Potent:
- **Mometasone furoate 0.1% (Elocon)**
- Betamethasone 0.1% (Betnovate)
- Fluticasone propionate 0.05% (Cutivate)
- Hydrocortisone butyrate 0.1% (Locoid)
- Fluocinonide 0.05% (Metosyn)
- Beclometasone dipropionate 0.025% (Propaderm)
- Fluocinolone acetonide 0.025% (Synalar)

Potent steroids are usually only used in courses in children, e.g. once a day for 1-2 weeks and then stopped.

Beware an irritant reaction with Elocon in children, possibly occurring in up to 10% of patients.

Very Potent:
- Clobetasol propionate 0.05% (Dermovate)

**Very potent steroids should not be used in children with atopic eczema in primary care.**

Check the potencies of steroids in combination creams.

Fucidin H is fusidic acid plus a mild steroid, 1% hydrocortisone.

FuciBET is fusidic acid plus betamethasone 0.1%, a potent steroid.
Topical Steroid Side Effects

- Potent topical steroids have the potential to cause adverse effects. However, in our experience side effects are very uncommon in children with atopic eczema when used as directed above.
- Stretch marks may occur through prolonged use of potent topical steroids particularly when applied in flexural areas, e.g. inner thighs, inner upper arms.
- Skin atrophy and telangiectasia may occur in any site, but particularly on the face with long-term use of potent topical steroids.
- If high potency topical steroids, e.g. Dermovate, are used in large quantities over long periods of time there may be sufficient absorption to suppress endogenous cortisol production and cause iatrogenic Cushing’s disease.

We emphasize that these side effects are all very uncommon in our practice.

Advice to parents regarding topical steroids:

- Demonstrate how to apply topical steroids and the amount required. This can be calculated using the fingertip unit (shown in the appendix, Lang et al 1991).
- Educate parents and older children who apply their own creams about the strengths of different steroid preparations, including steroid/antibiotic combinations if they have been prescribed.
- Apply with gentle downward strokes in the same way as emollients.
- Check that the parents/patients know which topical steroid goes where. On many occasions two topical steroids may be prescribed. For example, a mild steroid may be prescribed for the face e.g. 1% hydrocortisone and a moderate one, e.g. Eumovate for the body for a stated time period, before stepping down to no steroid on the face and 1% hydrocortisone on the body. A care plan (see appendix) may be useful for parents to refer to.
- If there is a poor response to topical steroids, check that parents are applying them to well-moisturised skin, as they are poorly absorbed through dry scaly skin.

Tacrolimus and Pimecrolimus in atopic eczema

*When should topical pimecrolimus and tacrolimus be used?*

NICE recommend the use of topical pimecrolimus, within its licensed indications, as an option for the second-line treatment of moderate atopic eczema on the face and neck in children aged 2 to 16 years that has not been controlled by topical corticosteroids, where there is a serious risk of important side effects from further topical corticosteroid use, particularly irreversible skin atrophy.

NICE recommend the use of topical tacrolimus, within its licensed indications, as an option for the second-line treatment of moderate to severe atopic eczema in adults and children aged 2 years and older that has not been controlled by topical corticosteroids, where there is a serious risk of important side effects from further topical corticosteroid use, particularly irreversible skin atrophy.
Topical pimecrolimus is sometimes been used on areas other than the face and neck at SCH, when children have disease otherwise requiring the use of third-line therapy. This usage is yet to be further evaluated at SCH and appraised by NICE before any guidance can be given.

**What is the definition of atopic eczema uncontrolled by topical steroids?**

For these purposes, NICE\textsuperscript{21} defines atopic eczema as being uncontrolled by topical corticosteroids when disease 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.

**Who should initiate treatment with tacrolimus or pimecrolimus?**

NICE\textsuperscript{21} recommends that treatment with tacrolimus or pimecrolimus be initiated only:

- by physicians, which includes general practitioners, who have a specialist knowledge of and experience in dermatology
- after careful discussion with the patient about the potential risks and benefits of all appropriate second-line treatment options.

**Treatment of Infected Eczema**

**For overtly infected eczema (e.g. crusting, weeping, pustulation &/or cellulitis):**

1. Use a topical antibiotic as a course, two or three times a day, for seven to fourteen days and then STOP.
2. Add a topical steroid, or step up the strength of steroid if using one already.
3. Step up the quantity of emollient used.
4. For moderate or severely infected eczema add an oral antibiotic for 14 days\textsuperscript{1}.
5. If unresponsive to oral &/or topical antibiotics, swab for bacterial and possibly viral culture.

- A combined steroid / antibiotic cream can be used if the steroid is the correct strength. It is also used two or three times a day for 7 up to a maximum of 14 days\textsuperscript{23} and then discontinued, reverting to a plain steroid once a day if required for residual eczema. Intermittent use of a combined steroid/antibiotic cream, e.g. 2 or 3 times a week, for an indefinite period may predispose to the development of resistance to the antibiotic.

- A cream is often better than an ointment in infected eczema as the latter may occlude the infection, encouraging the multiplication of the infecting agent, as could the use of wet wraps. Wet wraps may also stick to the exudate and consequently be painful to remove, so they are best deferred until the infection is under control. Be aware also that ointments usually do not contain preservatives and are not usually in pump dispensers, therefore the tub of ointment the patient is currently using when they present with infected eczema is highly likely to be contaminated, and may need discarding.

- Flucloxacillin is the most appropriate for Staph. aureus, erythromycin or clarithromycin for penicillin allergic patients. Clarithromycin is tolerated, absorbed and distributed to soft tissues better than erythromycin.
Streptococcal infection will need the addition of penicillin unless allergic. (Amoxicillin is better absorbed than penicillin V, and also as a three times a day regime, is easier to take)

Staph aureus cultured from eczematous skin is frequently resistant to fusidic acid. **Underlying Herpes simplex virus infection also needs to be considered.**

**Minimising the development of topical antibiotic resistance:**

1. Have only plain steroids on repeat prescription, not combinations.
2. Revert to a plain steroid after a 7 to 10 day course of a topical steroid/antibiotic combination has been used.
3. Tell patients to use topical antibiotics as a course for a maximum of fourteen days and not intermittently.

**Anti-Pruritic Guidelines**

Treating the eczema with a complete emollient regime plus topical steroids as required will generally help pruritus.

Specific additional suggestions include:

1. Optimise the emollient regime, possibly doubling the quantities of emollients used, as they have an anti-inflammatory effect. A few individuals find cool rather than warmed emollients more soothing. As mentioned previously, Doublebase can have a cooling effect when applied.
2. Try wet wraps at night.
3. Cut, then keep, finger nails short, to minimise trauma to the skin from scratching. Consider mitts, gloves or babygros with incorporated mittens for babies.
4. Consider an anti pruritic bath emollient, e.g. Balneum Plus for ages greater than 6 months.
5. Consider an emollient containing lauromacrogols, e.g. Balneum Plus cream. Note that there may be an upper limit per week for this, possibly in the order of 200gm for an adult, whereas there is no upper limit for quantities of plain emollients. (We are unable to give definite limits as the company does not).
6. If itching is more severe at night, consider house dust mite allergy or overheating.
7. Consider intermittent sedative antihistamines at night. These will stop working if used all the time (tachyphylaxis). Beware side effects, e.g. some children with become agitated or stimulated rather than sedated, or may have residual drowsiness the following day.
Eczema And The House Dust Mite

Does extreme reduction in house dust mite levels help in the management of atopic eczema?

One small randomised study, showed a reduced eczema severity score in patients with an insecticide spray + high filtration vacuuming + synthetic bed covers, unrelated to initial skin prick tests6.

Which is the easiest way to reduce house dust mite levels?

The use of bedding covers (mattress, pillow and duvet covers made of micro-porous or polyurethane coated materials) appears to be the simplest and most effective way to reduce house dust mite exposure levels in children. They have been shown in isolation or in combination with other measures to reduce dust mite allergen levels2.

At what temperature should I wash my child’s bedding?

Washing bedding at 55°C is effective as shown in 2 RCTs2. These suggested that levels of dust mite allergen were reduced by > 95%, and that it kills 100% of mites2.

How much does intense vacuuming help?

It is difficult to be sure as some studies showed benefit when this was used together with other methods6. Intense vacuuming showed a small effect in reducing mite levels in mattresses in another trial, but this wasn’t accompanied by improvement in symptoms, possibly because conventional rather than high filtration cleaners were used2.

Does the type of vacuum cleaner matter?

Conventional cleaners may increase levels of airborne mite allergens and aggravate atopic disease, in distinction to high filtration cleaners (1 RCT in 16 rooms)2. However data from Tan et al suggest ordinary cleaners can achieve the same reduction in bedroom carpets as the high filtration cleaners6.

Does it help to remove the carpets and curtains?

The effect of this is unknown.

How can I reduce levels of house dust mite in soft toys?

Putting soft toys in the freezer for an unspecified period of time should kill house dust mites. However there are no RCTs to support this2 and the process does not remove the house dust mite extracts already present in the toys. Similarly there are no data in eczema patients to recommend putting pillows in the freezer to kill mites, which has been suggested for asthma and house dust mite allergy. Lack of evidence, however, does not necessarily equate with lack of efficacy!

Does my child need blood (RAST) or prick tests to detect house dust mite allergy?

No. Some tests show benefit with reduction of house dust mite levels regardless of test results.

Do I need to do anything about reducing house dust mite levels?

No. It is important to be aware that the level of improvement of eczema from house dust mite avoidance is likely to be small at best, especially in relation to the effort and cost involved. We do not recommend it unless other simpler measures have failed. As stated above, the simplest, but not necessarily the cheapest way is protective bedding.
**Dietary Manipulation and Atopic Eczema**

Parents often ask about the possible benefits of dietary modification in atopic eczema. A small proportion of children have a clear history that a specific dietary factor exacerbates their eczema and removal of the offending food can be helpful in these children. However, the great majority of children do not show dietary exacerbation and there is little evidence that dietary manipulation is of value in managing their eczema. In the absence of a positive history, skin and blood tests have no predictive value in identifying possible dietary allergens.

We strongly advise seeking the support of a qualified dietician if dietary modification is used in treating eczema.

**Eggs**

There is some evidence that an egg exclusion diet in children with a proven sensitivity to eggs (a history suggestive of egg allergy and a positive specific IgE to eggs) reduces eczema extent and severity \(^2,6\).

**Cows milk**

There is little evidence to support a milk-free diet in unselected eczema patients \(^2,6\).

A small proportion of children with eczema will also have cow’s milk intolerance. This is usually manifested by gastro-intestinal symptoms such as poor weight gain, excessive milk reflux, vomiting or diarrhoea. This group of children may show an improvement in their eczema when they are on a cow’s milk free diet.

**Problems can be associated with the different substitutes for cow’s milk**

Soya milk: A report in September 2003 by COT (Committee on Toxicity of Chemicals in Food, Consumer Products and the Environment) regarding phytoestrogens and health, advised “soy-based infant formulae be fed to infants only when indicated clinically”. The Chief Medical Officer (CMO) responded in January 2004 “Soya-based formulas should only be used in exceptional circumstances to ensure adequate nutrition.”\(^19\)

Extremely allergen reduced milk (eARM), e.g. Nutramigen, Cow and Gate Pepti-Junior: This tastes differently to other milks, so an infant or child may refuse it. It can just be used for cooking or on cereal where the taste can be disguised.

Partly allergen-reduced milk: Some studies in Europe have shown this is preferential to eARM, but the write-up was by someone who worked for Nestle who made the milk. We do not know if similar products are available in the UK.

A dietician should ideally supervise any diet using milk substitutes. This is both to ensure an adequate dietary intake of calories, calcium and basic food groups as the different milks vary in their composition, and to advise on gradually re-introducing milk into the diet.

**Few foods diets**

An RCT in which all but a handful of foods were excluded found no benefit on eczema severity \(^2\). The use of a few foods or elemental diet also cannot be supported due to the risks of calcium, protein and calorie deficiency especially in children.
References


4. Van Onselen J. Br J Dermatol Nursing Spring 1999; 3 (1)

5. Cork MJ et al, Comparison of parent knowledge, therapy utilisation and severity of atopic eczema before and after explanation and demonstration of topical therapies by a specialist dermatology nurse, due publication in the British Journal of Dermatology.


**Useful addresses**

National Eczema Society
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Skin Care Campaign
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