Atopic eczema and emollients: guidance for GPNs

Atopic eczema is a common dry skin condition, and, as with any dry skin condition, emollients are a fundamental aspect of care. With so much choice there can be uncertainty around which product to use. Choosing one product over another can create confusion for both healthcare professionals and patients. This paper looks at emollients, the products available, how to use them and the current evidence and research relating to emollient use for atopic eczema. The reader is also directed to additional resources to support clinical practice.

KEY WORDS:
- Atopic eczema
- Emollients
- Current research
- Prescribing
- Resources

Sandra Lawton OBE
Nurse consultant dermatology, Queen’s Nurse, Nottingham University Hospitals NHS Trust
Atopic eczema (atopic dermatitis) is a common inflammatory, dry, itchy skin condition which usually develops in early childhood, with as many as one-fifth of children in developed countries now suffering from the condition (Flohr and Mann, 2014). Nationally, there is clear guidance on how to manage this condition (Box 1). However, for parents, coping with their child’s eczema can be challenging, and they need to be supported by competent healthcare professionals who can provide practical advice, demonstrate treatments and offer realistic plans of care (Lawton, 2014). One of the fundamental aspects of this care is the use of emollients.

**EMOLLIENTS**

The term emollient comes from a Latin word meaning to soften, and implies a substance that acts to smooth the skin’s surface. The word emollient and moisturiser are used interchangeably (Voegeli, 2007). Not all emollients are the same; emollient products are available in different formulations with additional ingredients which impact on skin hydration and acceptability for patients (Moncrieff et al, 2013), for example:

- Simple emollients (occlusive), such as petrolatum or mineral oil, leave a fine occlusive layer of lipid or oil on the skin’s surface, which reduces the water loss from the stratum corneum (SC).
- Enhanced emollients which contain humectant ingredients such as urea and glycerol attract and hold water in the SC and have a longer-lasting hydrating effect on dry skin.
- Emollients also contain lipids such as ceramides, cholesterol and free fatty acids, naturally found in the SC (Moncrieff et al, 2013).
- Some emollients contain a mixture of occlusive and humectant substances, with the humectant drawing and holding the water in the epidermis, and the occlusive element ensuring that it is trapped there (British Dermatological Nursing Group [BDNG], 2012).

It is important that general practice nurses (GPNs) are aware of the different preparations and additional ingredients so that they can help patients to make an informed choice (Lawton, 2013). Prescribing should always be guided by clinical need and informed patient choice, with the following considerations:

- Patients should be given the opportunity to choose emollients which are suitable for their skin. This includes a variety of formulations, such as oils, lotions, creams, ointments and sprays (Table 1) (Moncrieff et al, 2013).
- Emollient routines need to be realistic and achievable for the patient, who should be prescribed adequate quantities for optimal effect (250–600g per week) and be offered smaller quantity packs for use at work, school, etc in addition to their main prescription. Patients may require more than one emollient product, dependent on their lifestyle, time of day.

### Box 1

**Eczema resources and guidance**

- Eczema Stories: [www.nottingham.ac.uk/research/groups/cebd/resources/psychology-and-eczema.aspx](http://www.nottingham.ac.uk/research/groups/cebd/resources/psychology-and-eczema.aspx)
- National Eczema Society: [www.eczema.org](http://www.eczema.org)
- Nottingham Support Group for Carers of Children with Eczema: [www.nottinghameczema.org.uk](http://www.nottinghameczema.org.uk)
- Primary Care Dermatology Society: [www.pcds.org.uk/a-z-clinical-guidance/clinical-a-z-list/b](http://www.pcds.org.uk/a-z-clinical-guidance/clinical-a-z-list/b)

---

**Red Flag**

Aqueous cream BP should never be used, either as a leave-on or wash product.

---
season and severity of eczema (Moncrieff et al, 2013). This may include a leave-on product and an emollient for washing, showering or bathing.

APPLICATION OF EMOLLIENTS

Emollients should replace detergents (soaps, shampoos, shower gels, bubble bath and hand washes, including so-called ‘soap-free’ products, which should be avoided). Patients will require an emollient wash product and a leave-on emollient (Moncrieff et al, 2013). Bathing and cleansing the skin with emollients is an important aspect of any skincare routine. Emollients cleanse the skin, remove old treatments and scale, hydrate, and prepare the skin for the application of topical therapies used to treat eczema (Lawton, 2013). These include topical corticosteroids and topical immunomodulators. There should be a time interval of at least 30 minutes between the application of topical corticosteroids and two hours between tacrolimus and emollient. Emollients have a steroid-sparing effect and should be supplied in a 10:1 ratio of emollient to steroid to achieve the full benefit (Moncrieff et al, 2013). They should be used at least twice daily, but frequency of use may increase depending on the severity of the skin condition, dryness of the skin and product used.

Emollients should be applied in smooth downward strokes in the direction of hair growth to reduce the risk of folliculitis (inflamed or infected hair follicles) (Lawton, 2013). This should be demonstrated to patients and they should be made aware of safety concerns regarding emollients (Table 2).

Emollients are generally safe, with some limited adverse effects; the most common being stinging or discomfort when applied. This is usually transient and is commonly associated with creams. If this becomes a problem for the patient, alternative emollients and consistencies should be used, and if an allergy is suspected, referral to a specialist for patch testing may be needed (Lawton, 2013). Further information can also be obtained regarding emollient products and how to use them from the National Eczema Society: www.eczema.org/emollients

EMOLLIENT RESEARCH

Although atopic eczema is a common condition, there are uncertainties regarding treatments used both for healthcare professionals and patients and their carers. A Priority

### Table 1: Emollient formulations (adapted from Moncrieff et al, 2013)

<table>
<thead>
<tr>
<th>Class</th>
<th>Definition</th>
<th>Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Leave-on products</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simple (occlusive) emollient cream</td>
<td>Simple oil-in-water emulsion that provides a film of lipid to help prevent water evaporation from the skin</td>
<td>Moderately dry skin conditions. Patient choice regarding the thickness of barrier, variable lipid content, severity of condition, body site</td>
</tr>
<tr>
<td>Simple (occlusive) emollient ointment</td>
<td>Simple water in oil emulsions intended to provide a thicker film of lipid on the skin, 100% lipid ointments are also included</td>
<td>Drier skin conditions requiring a thicker lipid film. May be limited in use because of patient acceptability</td>
</tr>
<tr>
<td>Humectant-containing emollients</td>
<td>Emollient product containing humectants (urea, glycerine). Humectant gives greater moisture retention at lower lipid levels. May also contain additional cellular lipids (ceramides)</td>
<td>Dry skin where other products are not acceptable or effective</td>
</tr>
<tr>
<td>Antiseptic emollient</td>
<td>Emollient products containing topically active antibacterial agents</td>
<td>Dry skin conditions where bacterial colonisation is involved</td>
</tr>
<tr>
<td>Antipruritic emollient</td>
<td>Emollient products containing antipruritic agents</td>
<td>Pruritus</td>
</tr>
<tr>
<td><strong>Wash products</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emollient wash products</td>
<td>Emollient products containing emulsifiers, designed for washing usage. Do not contain harsh detergents</td>
<td>Useful in managing flares of eczema. Should be used according to instructions</td>
</tr>
<tr>
<td>Antiseptic wash products</td>
<td>Emollient wash products containing topically active antibacterial agents</td>
<td>Useful in managing flares of eczema. Should be used according to instructions</td>
</tr>
<tr>
<td><strong>Bath emollients</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Simple bath oil</td>
<td>Deposit a layer of oil on the surface of bathwater, which coats the patient on exit</td>
<td>Protection of the skin barrier during bathing</td>
</tr>
<tr>
<td>Antiseptic bath oil</td>
<td>Bath oil containing topical antiseptic agent</td>
<td>Protection of the skin barrier during bathing when antiseptic also required</td>
</tr>
<tr>
<td>Antipruritic bath oil</td>
<td>Bath oil containing antipruritic agent</td>
<td>Protection of the skin barrier during bathing when pruritus is a problem</td>
</tr>
</tbody>
</table>

---

**Patient quotes**

*My nine-year-old daughter hates smelly and greasy creams.*

*She will not have the creams at all, it is a battle; it annoys her and sometimes she hates being reminded that she has eczema.*

*We have creams wars, he hates the creams and say they sting and make him itchy.*
Setting Partnership (PSP) highlighted the top 14 uncertainties, which has provided guidance for future research. Of these, several focused on emollients and their use with other treatments (Table 3; Batchelor et al, 2013). GPNs need to be aware of the current evidence base around the treatment and management of atopic eczema, as keeping up to date and implementing current guidance/research is the responsibility of every healthcare professional (Lawton, 2014). There are now excellent resources (Box 2) available to inform practice, and research is focusing on prevention, treatment and management of atopic eczema (Wedgeworth et al, 2013).

**CONCLUSION**

Emollients are first-line therapy for atopic eczema and should be used even when eczema is clear (National Institute for Health and Care Excellence [NICE], 2007).

Efficacy is dependent on usage and patient adherence and therefore informed patient choice is pivotal in determining which emollient is recommended. The patient’s age, individual needs, skin condition and preferences should be considered when selecting an emollient. An understanding of which emollient product (Table 1), additional ingredients, price, application frequency and safety issues are paramount. Appropriate use of emollients, prescribed at the right time and in sufficient quantities has the potential to improve patients’ quality of life and reduce prescribing costs (Moncrieff et al, 2013).

**REFERENCES**


---

**Table 2: Emollient safety**

<table>
<thead>
<tr>
<th>Correct application</th>
<th>It is important to demonstrate how to apply leave-on emollients (thirty, gently, quickly, frequently) in downward, sweeping strokes in the direction of hair growth to prevent folliculitis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pots versus pumps</td>
<td>If pots or tubs of emollient are used, advise against putting fingers directly into them to prevent contamination and infection (Carr et al, 2008). It is good practice to decant cream and ointment from open-lid pots using a clean spoon or spatula. Emollients in pumps or tubes reduce this risk. New supplies should be prescribed at the end of treatment for infected atopic eczema</td>
</tr>
<tr>
<td>Slipping</td>
<td>There is a risk of slipping so care should be taken when using emollients in the bath, shower, or on a tiled floor. The floor should be protected with a towel or bath mat and after bathing or showering the bath/shower should be washed with hot water and washing-up liquid, rinsed well and dried with a kitchen towel. This prevents a build-up of the emollient, skin debris and reduces the risk of infection and slipping. Using hot water and detergent helps to clear the drains and prevents a build-up of grease</td>
</tr>
<tr>
<td>Fire hazard</td>
<td>Patients should be advised to take care when near naked flames (fires and cigarettes) if they are using paraffin-based emollients, for example white soft paraffin, white soft paraffin plus 50% liquid paraffin or emulsifying ointment, as dressings and clothing soaked with the ointment can be easily ignited (National Patient Safety Agency [NPSA], 2007)</td>
</tr>
</tbody>
</table>

**Table 3: Top 14 treatment uncertainties for eczema (Batchelor et al, 2013)**

**Shared uncertainties**

- What is the best and safest way of using topical steroids for eczema: frequency of application, potency, length of time, alternating with other topical treatments and age limits for treatment?
- What is the long-term safety of applying steroids to the skin for eczema?
- What role might food allergy tests play in treating eczema?
- Which emollient is the most effective and safe in treating eczema?

**Patient and care**

- What is the best psychological treatment for itching/scratching in eczema?
- What is the best way for people with eczema to wash: frequency of washing, water temperature, bath versus shower?
- What are the best and safest natural products to apply to the skin for eczema?
- How much does avoidance of irritants and allergens help people with eczema?
- What is the role of diet in treating eczema: exclusion diets and nutritional supplements?

**Healthcare professional**

- Which is most effective in the management of eczema: education programmes, GP care, nurse-led care, dermatologist-led care or multidisciplinary care?
- Which is safer and more effective for treating eczema: steroids or calcineurin inhibitors?
- How effective are interventions to reduce skin infections in the management of eczema?
- Which should be applied first when treating eczema, emollients or topical steroids?
- What is the best and safest way of using drugs that suppress the immune system when treating eczema?


Further reading

Key points

- Atopic eczema (atopic dermatitis) affects one fifth of children in developed countries.
- The term emollient comes from the Latin meaning to soften and implies a substance that acts to smooth the skin’s surface.
- All healthcare practitioners advising patients regarding skin disease should understand the ‘spectrum’ of emollient options.
- Emollients are first-line therapy for atopic eczema and should be used even when eczema is clear.

Box 2

Emollients and eczema research and evidence

1. **BEEP study**
   (Barrier Enhancement for Eczema Prevention):
   www.beepstudy.org
   http://controlled-trials.com/ISRCTN84854178
   The BEEP study aims to find out whether skin care advice including applying emollients can prevent eczema in new-born babies compared with skin care advice alone

2. **BATHE**
   (Bath Additives for the Treatment of Childhood Eczema)
   www.wspcr.ac.uk/bathe.php
   http://controlled-trials.com/ISRCTN84102309
   This study aims to determine the clinical and cost-effectiveness of adding bath emollient to the standard management of atopic eczema in children

3. **COMET**
   (Choice of Moisturiser in Eczema Treatment):
   www.bristol.ac.uk/social-community-medicine/projects/comet/controlled-trials.com/ISRCTN18218118
   A feasibility study for a pragmatic, single-blind, randomised clinical trial to compare the clinical and cost-effectiveness of leave-on emollients in treatment of infant eczema in primary care

4. **Global Resource of Eczema Trials (GREAT)**
   www.greatdatabase.org.uk
   Brings together information on all randomised controlled trials (RCTs) and systematic reviews of eczema treatments

5. **Cochrane Skin Group**
   www.cochrane.org/CD012119/SKIN_emollients-and-moisturisers-eczema