Emollients factsheet

Emollients are medical moisturisers used to treat eczema and other dry skin conditions. Unlike cosmetic moisturisers, they are unperfumed and do not have 'anti-ageing' additives. Emollients have been used for over 5,000 years and form an essential part of the therapy for all dry skin conditions. Emollients are safe and effective – a good skin care routine using emollients can soothe, moisturise and protect the skin, helping to reduce the number of eczema flares.

Why are emollients so effective?

Dry skin is one of the main symptoms of eczema. In atopic eczema, dry skin is due to a genetically defective skin barrier. This defective skin barrier allows irritants, allergens and bacteria to enter it more easily.

Itchiness is another major and distressing symptom of eczema, which leads to an itch-scratch-damage cycle. Scratching causes skin damage and also allows irritants, allergens and bacteria to enter the skin.

Emollients soothe and relieve itch, producing an oily layer on the surface of the skin, which traps water beneath it. The restoration of the skin's barrier function by emollients prevents irritants, allergens and bacteria entering the skin, thereby avoiding or reducing eczema flares and infection.

Leave-on emollients

There are over 120 emollient products that are approved for use by the NHS (listed on what is known as the 'NHS Drug Tariff'). However, healthcare professionals are usually only allowed to prescribe a few different brands, and the range available will depend on where you live. These emollients can also be purchased in pharmacies and some shops, although they may need to be ordered specially.

It can be difficult to find the right emollient – one that works well and that you like. You may also need several emollients depending on skin needs. It's therefore helpful to understand the different emollient formulations and how they work, and consider these in the context of your skin and lifestyle needs.

Emollients that you use to keep the skin moisturised for several hours are sometimes called 'leave-on' emollients by healthcare professionals. They work by covering the skin with a thin layer or film to protect the skin barrier and prevent water loss. This is known as an 'occlusive' effect (a medical term meaning obstructing or preventing).

Most emollient lotions, creams and gels have a light occlusive effect. These can usually keep the skin moisturised for 1-4 hours.

Emollient ointments and sprays have a heavier occlusive effect, leaving a thicker film on top of the skin, and usually work for up to 8 hours.

Some emollient lotions, creams and gels have additional ingredients, such as glycerine/glycerol or urea, which have natural moisturising properties. These are known as humectant emollients. They have the largest occlusive effect and can last 6-24 hours. However, we would still recommend applying them at least twice a day to treat dry skin.

Formulations

Emollients are available in different formulations: lotions, creams, gels, sprays and ointments. They are all applied directly to the skin.

- **Lotions** contain more water and less fat than creams. Because of their high water content, lotions need to

contain preservatives, which people can become sensitised to, although this is rare. Lotions spread easily and are cooling, but are not that effective at moisturising very dry skin. This is because they are not thick enough to repair the skin barrier. They are useful for hairy areas and weeping eczema, or for quick absorption if time is short.

- **Creams** contain a mixture of fat and water, and feel light and cool on the skin. They are quite easy to spread over sore and weeping skin and are not greasy, so many people prefer them to ointments for daytime use. Like lotions, creams need to contain preservatives, which can cause sensitivity in some people. Creams need to be used liberally and applied frequently (every 3-4 hours) to effectively repair the skin barrier and stop the skin drying out. Humectant creams (containing natural moisturisers such as glycerine or urea) effectively repair the skin barrier and only need to be applied twice a day.
- **Hydrating gels** are formed, scientifically speaking, from molecules that make a three-dimensional network, which then traps other molecules in the spaces of the network. They are relatively light and non-greasy, despite having a reasonably high oil content.
- **Sprays** are spray-on ointments, and contain ingredients such as white soft paraffin, liquid paraffin and fractionated coconut oil dissolved in silicone (to enable the spray action). Emollient spray is particularly useful for treating hard-to-reach areas of skin.
- **Ointments** are often stiff and greasy, and some people may find them cosmetically unacceptable. However, because they are very effective at holding water in the skin and repairing the skin barrier, they are useful for very dry and thickened areas of skin. They are often applied before bed or under wet wraps. They should be applied every 6-8 hours. Ointments should not be used on weeping eczema. Ointments contain less water than other emollients and therefore require fewer preservatives. This makes them ideal for people who react to preservatives.

Added ingredients

Some emollients contain added ingredients:

Antimicrobials (antiseptics) are found in some leave-on lotions, creams and assorted wash products. They destroy bacteria. Some people become sensitised to the leave-on forms if they use them for a long time.

Humectants (for example, glycerine, propylene glycol and urea) are found in some leave-on lotions, creams and gels. They draw water into the epidermis (the outermost layer of skin) from the dermis (the second layer of skin). Emollients that contain humectants work for longer than those that don't (see the Table on page 5 for examples).

Anti-itch ingredients are found in several creams in the form of lauromacrogols, a local anaesthetic that helps relieve itch.

Ceramides are found in some leave-on lotions and creams. They aim to re-establish the balance of fats necessary for the appropriate functioning of the skin barrier.

Oatmeal is found in some lotions, creams and bath oils. It has antioxidant properties.

Washing with emollients (baths and showers)

Cleansing the skin is an important part of eczema care. A daily emollient bath/shower is recommended to remove dirt and skin debris, which could cause infection. Plain water without emollient will dry out the skin, whereas an emollient will cleanse the skin, reduce itchiness and repair the skin barrier by trapping moisture. The water should be tepid, as too much heat can aggravate eczema. If you find that the water stings your skin, apply your leave-on emollient all over before getting into the bath/shower and then gently wash it off.

Ordinary wash products (soap, wipes, bubble bath and other cosmetic creams and gels for the bath and shower) should be avoided as they are alkaline and

contain detergent and fragrance, which have the potential to dry out and irritate the skin.

Soap substitutes should be used for hand-washing, showering and bathing (although during the Covid-19 pandemic, people with eczema were advised to wash their hands first with soap and then with an emollient, as emollients were not considered effective at removing the Covid-19 virus). You can either use an emollient product designed specifically for washing, or your usual leave-on emollient as a soap substitute – simply apply it all over your body, just before or during showering or bathing, and then rinse it off. All leave-on emollients can be used for washing apart from 50:50 Ointment, which is very greasy. Soap substitutes may take a little getting used to as they don't foam like ordinary products, but they are nevertheless effective at cleansing the skin.

Emollient bath and shower oils are added to the bath water or applied directly to the skin in the shower. They hydrate the skin, coating it with a film of oil, which traps moisture. Some bath and shower products have additional antimicrobial and anti-itch properties. Bath and shower oils are readily available to buy but are rarely offered on NHS prescription. Healthcare professionals will suggest you use a leave-on emollient as a soap substitute. Bath oils can be useful for people with sensory issues, who find it difficult to tolerate the feel of leave-on emollient on their skin.

Caution: Emollients make surfaces extremely slippery, so always use a bath/shower mat. Grab rails are also a good idea if you struggle to get out of the bath. Use a baby bath support for babies under six months. Wipe the bath surfaces with paper towels or tissues to absorb excess oil. White vinegar is a good cleaning product for the bath. The bath can also be cleaned with an ordinary bath cleaner, but make sure you rinse it thoroughly afterwards. Warn other bath users that the bath or shower may still be slippery.

Choosing the right emollient

The best emollients are the ones that work well for you and that you like using, because you will use them more often. Healthcare professionals may sometimes provide samples of emollients for people to try. Always test new products on a small area of unaffected skin for 48 hours in case you have a reaction. You may need to use different types of emollient on different parts of the body to obtain the best hydration and to restore the skin's barrier function. You may prefer to use a cream or gel during the day and during the spring and summer months, and a greasier emollient just before bed and during the autumn and winter. Remember to also use your leave-on emollient as a soap substitute for washing (unless it's 50:50 Ointment).

Please note: **Aqueous cream is no longer recommended**, either as a leave-on emollient or as a soap substitute. In addition to being a poor moisturiser, it contains the ingredient sodium lauryl sulphate (SLS), which can irritate the skin and make eczema worse. Several emollients have been reformulated in recent years to remove SLS. Apart from aqueous cream and emulsifying ointment, no emollients available on prescription in the UK still contain it.

When and how to apply emollients

Emollients make the skin feel more comfortable and less itchy. They keep the skin moist and flexible, helping to prevent cracks. Unfortunately, they tend to be underused, as people often perceive them to be inactive moisturisers and don't understand why they are so important in controlling eczema. When used correctly on a daily basis, emollients become effective 'active treatments'. Emollient therapy is not just about products but also about understanding how and when to use them. The following tips will help you get the most out of your emollient therapy:

- Use your emollient of choice frequently. This should be at least twice a day, and every few hours when the

eczema is flaring or the skin is very dry. It's recommended that an adult uses at least 500g per week when the eczema is affecting a large area of the body (at least 250g for a child).

- Every time you wash or take a bath/shower, pat your skin dry afterwards with a soft towel and immediately re-apply your leave-on emollient (unless you're also using a topical steroid – see advice below).
- Apply emollient gently in the direction of hair growth. Never rub up and down, as this could trigger itchiness, block hair follicles and create more heat in the skin. It's a good idea to dot blobs of emollient around your limbs and trunk first (you may need someone to help you with your back), as this helps ensure that all areas of skin are moisturised.
- Apply emollient to all of your skin, not just the area/s with eczema.
- Continue to use emollient even when your eczema has improved. This will help prevent flare-ups.
- Remember to use a spoon to decant emollient from any tubs you may be using. If you dip your fingers into a tub, it can easily become contaminated with bacteria. A metal dessert spoon is good for decanting emollient and washes well under the tap. If you're using pump handle dispensers for your emollients, you don't need to decant – you can just pump the emollient onto your hand (avoid touching the nozzle).
- You can store your emollient at room temperature, or in the airing cupboard if you like it warm (but do not put your emollient on a hot radiator as this will encourage the growth of bacteria). Coldness helps soothe itch, so you may prefer to store emollient cream in the fridge (but do not freeze, and do not put emollient ointments in the fridge).
- Carry a small container of emollient with you whenever you are out and about, to use as needed.
- Protect your hands with emollient (and perhaps wear gloves) before handling substances such as sand, certain foods, paint and clay, so they don't irritate your skin.
- For information on using emollients before and after swimming, see our Eczema and swimming factsheet.
- You should continue to use emollients alongside other treatments prescribed.

Steroid creams and ointments (topical steroids): Recent research has shown that applying an emollient before a topical steroid can reduce the amount of topical steroid that reaches the skin, so it's best to apply the topical steroid first (you may choose to do this after a bath/shower). Leave 30 minutes if you can between applying the topical steroid and the emollient. The reason for the 30-minute gap is to avoid diluting the topical steroid with the emollient and spreading it to areas that don't need it.

For **topical calcineurin inhibitors**, the guidance is different. The manufacturer recommends that emollients should not be used within 2 hours of applying tacrolimus (Protopic). In practice, this means using leave-on emollients and/or soap substitutes, and then leaving a 2-hour gap before applying tacrolimus. With pimecrolimus (Elidel), no gap is needed.

Caution: Emollients are not flammable in themselves, or when they are on the skin. But when bedding, clothing and dressings containing dried emollient residue catch fire, they ignite and burn more quickly and intensely than they would if they didn't contain dried emollient residue. The risk of bedding, clothing or dressings catching fire is highest for people who smoke, because they use lighters or matches. If you use naked flames or other potentially flammable heat sources such as halogen heaters or incense burners, we strongly recommend that you take extra care and avoid using them near clothing, bedding or dressings. We also recommend that you wash clothing and bedding frequently, as this is likely to reduce residue build-up even if it does not remove residue completely.

Table: **Different types of leave-on emollients**

Product name	Lotion	Cream	Gel	Ointment	Humectant ingredients
50:50®				X	
Adex®			X		X
AproDerm®		X	X	X	X (Colloidal oat cream and gel)
Aquadrate® 10%		X			X
Aquamax®		X			
Aveeno®	X	X			X
Balneum® Intensiv		X			X
Balneum® Plus (anti-itch)		X			X
Cetraben®	X	X		X	X (lotion and cream)
Dermol® (antimicrobial)	X	X			
Diprobase®		X			X
Doublebase®			X		X
Doublebase® Dayleve			X		X
E45®	X	X			
E45® Eczema Repair		X			X
E45® Itch Relief (anti-itch)		X			X
Eczmol® 1% (antimicrobial)		X			
Emollin® (spray)					
Epaderm®		X		X	X (cream)
Epimax®				X	
Epimax® Original		X			
Epimax® Paraffin-free				X	
ExoCream®		X			
Hydromol®		X		X	X (cream)
Hydromol® Intensive 10%		X			X
imuDERM®		X			X
Lipobase®		X			
Menthoderm® (cooling)		X			
Oilatum®		X			X
QV®	X	X		X	X (lotion and cream)
Unguentum M®		X			X
ZeroAQS®		X			
Zerobase®		X			
Zeroderm®				X	
Zeroguent®		X			X

Please note: this is not an exhaustive list. All emollients can be used as soap substitutes for washing apart from 50:50 Ointment, which is a very greasy ointment emollient.

DISCLAIMER

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