HelpSheet

Atopic Eczema Management: It's hard to get consistent information!

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The terms atopic dermatitis and atopic eczema, mean the same thing. Eczema cannot be cured, it can only be managed, so it is important people do not constantly seek different treatments. In Australia, 1 in 3 children (Martin et al. 2013) and over 1 million Australians have eczema. For patients to get the best care, health professionals need to have a sound understanding of eczema and know where to find reliable information. Patients and carers also need to have the confidence to ask their health professional questions, especially if they are unsure about an issue, or it has not been explained to them clearly. Patients/carers often say it is hard to get a consistent message about eczema management.

Two messages are consistent:

1) The skin must be washed with non-soap cleansers

2) Use **ENOUGH moisturiser each day.**

How much is enough moisturiser?

The skin is the largest organ of the body. **Each week, you should use a minimum of:**

250gms per week for children

500gms per week for teenagers or adults (for many moisturisers this is the whole container!!).

125 gms per week for babies.

For all people with eczema this should be applied several times daily, when eczema is bad. When the skin looks as if the eczema has cleared moisturiser should still be applied at least once daily to maintain the skin barrier and help prevent the skin from being dry.

Several thick moisturisers come in pump packs, which reduce the need to scoop moisturiser from the tub. If the moisturisers come in a tub, the amount of moisturiser used each time the skin is moisturised, should be removed from the tub with a clean spatula, not the fingers or hands. This is important as our bodies are covered with what they call a micro-biome (microscopic organisms that usually keep us well- inside and out).

This article helps to explain why the information from health professionals about Atopic Eczema (AE) seems to vary depending on who you ask. We hope that after reading this information you might feel more confident to ask your doctor or health professional why they may have made different suggestions about eczema management.

What is the best way to manage Atopic Eczema?

The three main challenges with Atopic Eczema (and the other types of eczema) are:

- Dry skin
- Itchy skin that is usually red (inflamed) and
- Staphylococcal bacteria on the skin

That is why doctors usually prescribe **three treatments:** regular cleansing of the skin to reduce Staphylococcal bugs on the skin, moisturisers to help the dry skin and topical corticosteroids to help reduce the redness in the skin that causes the itchiness.

Why do some people get eczema and others don't?

Thinking of skin being like the brick wall of a house (Figure 1) helps to explain why some people have eczema and why treatments are needed. In people who have eczema, a difference in their 'genetic make-up', means that their body does not make as much of the oils and fats that are meant protect the skin from moisture escaping and things that irritate the skin (irritants) from entering. The skin barrier in people with eczema also has microscopic (extremely small) gaps in it. These gaps allow irritants (such as dust mites, wind, sweat, pollens) to get into the skin and the moisture to escape. This leads the skin to become dry and itchy. Different things can be triggers for eczema in different people (e.g. cold, heat, wind, fragrances in soaps and washing powders). Moisturising is essential to help stop moisture escaping and irritants entering the skin.

Eczema is not a condition that can be 'caught'. People cannot get eczema if the person next to them has eczema.

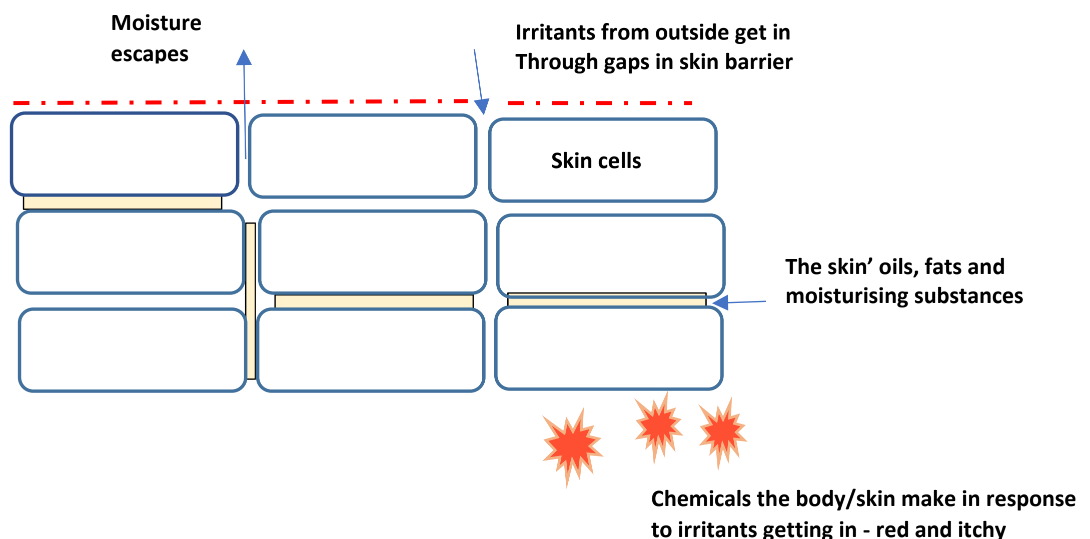

Figure 1: Brick wall analogy of skin with eczema (adapted from SA Health How to manage eczema 2016)

What is the role of Staphylococcal germ infections?

Staphylococcal 'bugs (bacteria)' are present on everyone's skin and these are part of the normal 'bacterial flora' of the skin as stated above. People with eczema have higher numbers of Staphylococcal bugs on their skin which can make eczema worse in two ways. Firstly, the Staphylococcal bugs that live on the skin produce substances called 'superantigens' which cause the immune system to increase inflammation in the skin. These superantigens activate ten times more immune cells than an allergen such as house dust mite would, so the effect of Staphylococcal bugs on the skin is quite significant. Reducing the number of Staphylococcal bugs on the skin can help to reduce the inflammation that they cause.

Your doctor or nurse practitioner may try to reduce the number of these bacteria on your skin by recommending the use of bleach baths or washes applied to the skin. It has also been shown that treatment of the eczema with cortisone ointments and creams may can lower the number of staphylococcal bugs on the skin. Another way that Staphylococcal bugs can make eczema worse is if they cause a sudden, severe skin infection, which leads to crusting and redness of the skin. Antibiotics can be used to treat this infection leading to improvement of eczema.

What thickness and how much moisturiser should be used? What is 'lots'?

People need to be using enough cream/ointment to fill up the gaps in the dry skin and replace the barrier. We recommend that you use the amounts mentioned earlier in the article.

Australia does not currently have a single 'best practice guideline' for eczema management. Most hospitals and professional bodies, such as those of the Australian College of Dermatology and the Australasian Society of Allergy and Immunology (ASCIA) have their own recommendations and resources. Importantly, if what a health professional is advising a person does not make sense, they must ASK them to EXPLAIN what needs to be done and why. Perhaps take along the brick diagram to help the explanation. Information links: ASCIA Eczema (Atopic Dermatitis) https://www.allergy.org.au/patients/skin-allergy/eczema and The Australian College of Dermatologists https://www.dermcoll.edu.au/atoz/atopic-dermatitis/

What is the best moisturiser?

The best moisturiser for each individual will vary. Choose a moisturiser you are happy to use, like the feel of and can afford to use in the correct amounts (see quantities mentioned earlier). It is important to think about what works best for you as to how and when you apply your moisturiser. Babies can have moisturiser applied at each nappy change, however with toddlers it may be best to apply before getting dressed in the morning and again after a bath in the evening. Many children, teens and adults do not like to go to school or work looking shiny and feeling greasy. For them, it may be best to apply a thick cream in the morning then the greasy one after school/work and/or at night time. When you look at the brick wall diagram, you can understand how no moisturisers can 'last all day', despite claims that may be on the label. Be guided by your doctor or health professional.

A useful eczema resource providing parents with the information and questions to ask when your child is starting kindergarten or school can be found at http://www.eczema.org/eczema-at-school

Safety of Moisturisers:

Most moisturisers are considered safe by reliable, scientific studies. Paraffin (in greasy moisturisers) is flammable, so people covered in greasy cream should not be near any fires, nor smoke cigarettes. Some moisturisers have food ingredients. We do not recommend these as some research has shown a link between exposure to allergens through the skin and the development of food allergies.

How does my moisturiser work?

The cream/grease needs to moisturise the skin by increasing the amount of water held in the skin. Moisturisers do this in two ways:

1) Keeping moisture of the skin in, and lessening loss of water from the skin.

2) By actively causing the moisture to get to the upper layers of skin cells from the lower layers of skin cells.

It may take some time to work out which moisturiser works best for your or your child's skin.

To keep moisture in, greasy moisturisers/ointments do what the body's skin fats and oils usually do. Studies have shown that greasy ointments do this, but oils (such as nut oils, olive or coconut oil) DO NOT, even though the oils may 'feel nicer' when applied.

The moisturisers in point (2) above, work by having 'water attracting' ingredients (e.g. glycerine). Some moisturisers have both types of ingredients in points (1) and (2). If your doctor/nurse can provide with you some samples of the different creams/ointments, you can see which one works best for you or your child. More importantly 'expensive' does not mean the product is better for the skin.

Why does the internet say to avoid petroleum based-products?

There is no reliable evidence that petroleum-based (or greasy) products are harmful when used for eczema despite some websites and blogs advising against using petroleum-based products. Note that in some skin conditions the grease consistency can block up the skin pores. Be guided by your doctor and tell them if greasy preparations are causing 'pimples' or bumps. **When** applying, the ointment/cream should be stroked onto the skin, in the direction of the hair growth.

What about bathing and showering:

There are different opinions about whether baths/showers should be daily or every few days. Ask your doctor/nurse why they suggest what they do. If you do not have a bath at home, explain that to your doctor and together, you can work on a manageable plan for you. When you bathe we recommend that using warm (no more than 30°C) not hot water as hot water can dry the skin further.

Reducing the number of Staphylococcal bugs on the skin.

People with eczema carry large numbers of Staphylococcal bugs on their skin which can make eczema worse by activating immune cells leading to inflammation (redness). It is important to reduce the numbers of Staphylococcal bugs on the skin by **cleansing regularly**. There are several approaches that can be recommended to reduce the number of Staphylococcal bacteria on the skin however the most common is bleach baths.

Bleach Baths

- Bleach contains the chemical sodium hypochlorite which can kill a number of bacteria (bugs)
- Your doctor or nurse practitioner will advise you on how much bleach to put in your bath. Ask for a written recipe if you are not provided with one. If your doctor is unsure go to https://www.rch.org.au/kidsinfo/fact_sheets/Skin_infections_-_bleach_baths/
- Soak in bath for 5 minutes. Bathe as usual, rinsing is not necessary
- Pat dry using old or white towels to avoid bleaching of coloured towels. Do not rub dry, as this is the same as scratching the skin
- Immediately apply any prescribed creams/ointments as advised by your doctor.

Repeat bleach bath twice a week or as suggested by your doctor or nurse practitioner – can be used daily if recommended by your doctor or nurse practitioner.

If there is redness, weeping and crusting, it is likely there is an infection. Speak with your doctor or nurse practitioner as infection must be treated with antibiotics.

A wash and a cleanser are the same thing (despite many cosmetic companies promoting that cleansers are for the face). For eczema, the 'cleansers' are used ALL over the body. Many specialists recommend the bath-oil products for babies. Make the strength up to the product recommendations and take great care when you remove the slippery baby from the bath. It is important you purchase products that do not contain preservatives and substances such as:

- Methylchloroisothiazolinone (MCI)- a preservative linked to contact dermatitis
- Methylisothiazolinone (MI)- often causes contact dermatitis
- Sodium Laurel Sulphate (SLS: especially if it is mentioned early in the ingredients list) can irritate the skin.

Also, aqueous cream should be avoided as a 'leave on' moisturiser. This product was designed as a wash off product and can cause reactions if used as a 'leave on' moisturiser, in some children (Cork and Danby 2011).

Shampoo:

For people with eczema, shampoo is still soap going onto the scalp skin, and it is usually drying... Most of the non-soap- based washes can work as shampoo, if you use them on your head. If you are a person who feels you must use 'shampoo', there are several reliable, special eczema shampoos and conditioners. If your specialist prescribes a special medicated shampoo, follow their recommendations. If you have hard to manage eczema on your neck (and/or face), you need to consider changing your shampoo to non-soap-based wash or a special eczema shampoo.

I only like using 'natural' ingredients on my body/ my baby

Many people declare this. If people have an 'atopic' (allergic) tendency: allergies run in the family, take care when using 'natural' eczema products containing plants, plant oils, food ingredients or fragranced oils in them. Some people or children may have already been diagnosed by an allergy/immunology specialist will have been advised on what products they can use.

People with allergic tendencies who have not seen any specialists, should be cautious about using 'natural' products as the food proteins (such as nut oils, avocado, safflower oil, goat milk and camomile just to mention a few of thousands) *may* cause a problem. Just 'be on the lookout' and ask your doctor/nurse if you are unsure or experience any reactions.

Common (non-allergic) triggers:

Common eczema triggers include:

- Teething in babies and children
- An illness or cold when your body/your child's body is fighting the illness (the skin is linked to the immune system)
- Stress (even babies feel stress if parents are stressed)
- Over-tiredness (children/adults who have eczema often scratch if overtired especially evening/night time)
- Scratching if the skin is dry (not moisturised) it becomes itchy and eczema can arise from an 'itch, scratch, itch' cycle
- Heat (overdressing babies with warm clothes or thick wraps or having heating on too high)
- Food such as tomatoes, strawberries and citrus (but this is not usually an allergy)
- Bathing too often (especially in hot water).

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What if food is suspected as a trigger?

Eczema is often 'blamed' on allergies but as you have read above, allergies don't cause eczema. Speak to your specialist, nurse and/or accredited practicing dietitian about foods that you think might make you/your child's eczema worse rather than remove it from your child's diet.

Reliable information about how allergies in children and adults can be accurately diagnosed, can be found at the ASCIA website www.allergy.org.au. Parents and people with eczema must not use the information in this article instead of seeing a doctor, but it may help people better understand an allergy diagnosis and help parents/patients to ask their doctor questions if things are unclear.

Taking foods out of children's diets to 'cure' eczema

Parents often read blogs that suggest removing foods (usually dairy and wheat), without medical advice, will cure/fix the eczema. Recent discoveries in allergy management have identified that children who tolerate foods in their diets (eat them without having any problems within 1-2 hours of eating the food), should not have those foods removed from the diet, unless advised by a **clinical allergy/immunology specialist** or a dietitian with special training in food allergy management. See the ASCIA website.

A note about food allergies (not eczema): If a child develops a rash or severe itching or facial swelling within 1-2 hours of eating a food, they MUST receive medical attention, preferably from their GP. If breathing problems occur or the baby/child becomes pale and floppy, an ambulance should be called, and the child must be taken to a hospital.

ASCIA has helpful information on:

Food allergy: see this link: Food allergy https://www.allergy.org.au/patients/food-allergy

Food intolerance: see https://www.allergy.org.au/patients/food-other-adverse-reactions/food-intolerance

Food allergy facts FAQs: https://www.allergy.org.au/patients/food-allergy/faqs

ASCIA also has information on when to obtain a referral to an **allergy/immunology specialist**. ASCIA also explains the importance of **reliable scientifically proven testing** to assist with accurate diagnosis.

But my friend had non-medically (scientifically) validated tests for her food or skin allergies!

ASCIA explains why the many different non-scientific tests advertised and often bought over the internet, sometimes claiming to identify more than a hundred allergens in one test, are not tests that have be shown to be reliable in making an **accurate diagnosis, despite the claims and the cost**. You can find reliable information at the ASCIA website link: Unorthodox testing and treatments. https://www.allergy.org.au/patients/allergy-testing/unorthodox-testing-and-treatment

So, why don't the doctors give everyone the same information to manage eczema?

Sometimes the doctors are giving the same advice, but may say it in different ways, so parents and carers often think they are saying different things. It is important that you ask questions of the person explaining things to you, if things do not make sense or are 'different' to what you have previously been told. Health professionals sometimes use language that is hard to understand, or they may even presume you understand something that you don't.

Evidence-based information, comes from strong (robust), well-researched and reliable studies carried out in specific research methods (Bowling & Ebrahim 2007). Finding the best kind of moisturiser for eczema, by research is quite difficult. So, most recommendations about eczema moisturisers are made on 'expert opinion' where panels of many specialists who care for the skin (commonly dermatologists and allergists/immunologists) gather all the current evidence, recommendations and guidelines and analyse information to try to agree on what will be 'best practice'. There may be different recommendations from different specialists, even in the same country. This means that Specialists, GPs and nurses across the world may give different messages, and parents/patients are often unsure of what is best.

A Cochrane review, where panels of experts examined all the available research in a very scientific way (very rigorous protocol following very specific rules) in 2017, looked at all the best available evidence about using moisturisers for eczema management. The review showed that using **enough** moisturise for eczema management was important and helpful, and reduced the amount of topical corticosteroids people needed to use. However, even this Cochrane review did not find y one product to be the "best brand". You can read the summary at this abstract Link: http://www.cochrane.org/CD012119/SKIN_emollients-and-moisturisers-eczema

I don't like using topical corticosteroids (TCS):

This is probably the most common phrase heard in eczema management. Many people 'fear' TCS.

Your doctor prescribes the topical cortico-steroids to try to 'turn off' the chemicals that your skin has made which cause the red, itchy patches (see Figure 1). The medication in the TCS reduces the redness, which in turn, usually helps reduce the itch. It is important to use the TCS as recommended: often one TCS is prescribed for the face and a different one for the body.

The amount of TCS to use can be guided by the finger-tip unit. Information and a guiding picture can be found at this link. https://www.allergy.org.au/patients/skin-allergy/eczema

A free App (created by Bayer) called Skin Peace is available in your app store to guide how much to apply on a child or adult by tapping the screen. https://appadvice.com/app/skin-peace/563492251.

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Do I use TCS before or after the moisturiser?

There is also confusion on this in eczema management with limited evidence to make a clear consistent statement (Smoker & Voegeli 2014). If your doctor recommends a greasy moisturiser and suggests putting the TCS cream on top of the moisturiser, please ask them how the medication will get through the grease. If you are using a cream moisturiser, again check what order the specialist advises. Also ensure the doctor/nurse explains clearly how long you need to use the TCS for. It is best if you are provided with a **written eczema care plan on how and when to apply treatments.** https://www.allergy.org.au/patients/skin-allergy/eczema-action-plan

There are many different recommendations about the time gap between applying TCS and moisturiser. The gap can vary from applying immediately after, to waiting for between 10 minutes to an hour between applying the TCS and moisturiser. Again, the evidence is varied, and it is important that both moisturiser and TCS are used. Ask your doctor or nurse why they advise what they do, and if their advice does not make sense to you, ask them to explain further. You should also ask for an alternative if you don't think you will be able to follow their advice. You should not mix the TCS and moisturiser together by yourself at home as you cannot be sure it is massaged onto the skin evenly and the medicated cream gets to the red, itchy areas.

Summary:

There are many different recommendations made by very reliable specialists, advanced practice nurses, nurse practitioners and health practitioners. If their recommendations vary from what you have been recommended previously, **ask them to explain**. Do not go home confused, as you need to keep skin cleansed, moisturised and reduce the redness and itchiness, if it is present.

You may now understand better why there seems to be so many 'differing recommendations' for managing and treating atopic eczema. More research will help get a more consistent approach. Check the reliability of any 'claims' made about new products and seek eczema information from reliable health professionals and websites.

Helpful Free Apps:

EmolliZoo children fun App, helping them to understand about applying creams:

http://www.eczema.org/emollizoo-app-for-children-with-eczema

Skin Peace for TCS application https://appadvice.com/app/skin-peace/563492251

Beat the itch: https://itunes.apple.com/au/app/beat-the-itch-with-qv/id694983370?mt=8

Useful written/online resources:

Eczema at school http://www.eczema.org/eczema-at-school

Beating the itch (different to the app above) modules to help manage itch written by a trained psychologist:

http://www.eczema.org/beating-the-itch

How to manage eczema (with brick wall diagram)

Reliable Practice/research-based Resources/Information:

Australasian Society of Clinical Immunology:
www.allergy.org.au
Australian College of Dermatology
https://www.dermcoll.edu.au/

The British Dermatology Nursing Group Emollient Best Practice guide (2012):

http://www.ingentaconnect.com/contentone/bdng/dn/2012/00000011/00000004/art00008#

Cochrane Review Evidence
http://www.cochrane.org/what-is-cochrane-evidence

Nottingham Centre of Evidence based dermatology
https://www.nottingham.ac.uk/research/groups/cebd/resources/index.aspx

Research Projects

https://www.nottingham.ac.uk/research/groups/cebd/projects/1eczema/index.aspx

Australian Clinical trials

https://www.australianclinicaltrials.gov.au/anzctr_feed/form

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