# GUIDELINES ON THE NURSING MANAGEMENT OF ATOPIC DERMATITIS (ECZEMA)

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### Document Change History

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1.0 Introduction

Atopic eczema (dermatitis) is a chronic inflammatory disorder affecting approximately 20% of school-age children (Lawton, 2014). It is acknowledged to be one of the most common and most distressing conditions which can have a substantial impact on the health and wellbeing of children and young people and also the family involved in their care (DermNet NZ, 2013). Early recognition of the condition and good control are essential, together with the detailed education on the management of the condition, for both the actual skin changes and also support, and an understanding of the patient, carers and family situation (Watkins, 2013).

2.0 Definition of Guidelines

Eczema is derived from Greek meaning ‘boiling over’, as eczematous skin appears to bubble. It is characterised by an itchy red rash (National institute for Health and Clinical Excellence (NICE) 2007).

3.0 Aetiology

The causes of eczema can be a mixture of genetic and environmental factors but the actual cause is still uncertain. An underlying primary immune dysfunction resulting in IgE sensitisation or a primary defect in the epithelial barrier have been suggested (Kim, 2013).

4.0 Complications

- Loss of sleep.
- Poor self-esteem.
- Secondary infection with Herpes Simplex Virus / Staphylococcus. (Horn et al 2003)

5.0 Management

- Baths.
- Emollients.
- Intermittent Topical steroids / calcineurin inhibitors (protopic)
- Antihistamines.
- Occlusive therapy.
- Ultraviolet light.
- Systemic drugs in severe cases – Cyclosporin or Azathioprine. (Horn et al 2003)
6.0 Aims of Treatment

- To replace moisture loss in skin.
- To provide a waterproof barrier preventing further moisture loss, and thereby protect the skin.
- To reduce inflammation and relieve the itch/scratch cycle.
- To improve the quality of life for the child and family.
- To do no harm.

Bathing:

Daily baths are essential and effective in the management of eczema (McAleer et al. 2012, NICE 2007, RCH 2007).

- Cleanses skin and prevents infection, by removing scale, crusts, dried blood and previous topical therapy.
- Hydrates skin by re-introducing moisture which is the quickest way to hydrate the skin.
- Prepares skin for application of topical treatments, making the skin more receptive to topical therapies (Donald 1997).

Emollients / Moisturisers:

In eczematous skin, the protective stratum corneum is damaged and cracked and the result is rapid loss of fluid by evaporation from the skin. This is very uncomfortable and healing cannot take place while it continues (Atherton 1995).

Emollient application is a very important aspect for the prevention and treatment of atopic dermatitis (Peterson & Chan, 2006) Regular use of emollients could mean that the patient potentially uses less steroids over a life-time (Peters 2001, Cork 2003, Lawton 2005)

Emollients provide a surface lipid layer on the skin which slows down the escape of water. They may be creams or ointments. Creams are used for wet and weepy skin. Ointments are usually used for dry scaly skin.

Creams contain water and evaporate off the surface quickly, so more frequent applications are required. They also contain preservatives which may cause stinging. Therefore ointments, being oil based, are usually prescribed in the paediatric setting (Peters 2001).
Topical Steroids:
Topical steroids reduce skin inflammation and itchiness, by constricting the blood vessels and restricting fluid loss into the tissues (Harper et al 2011).

Different strengths may be used depending on the severity of the eczema. As the child improves the lower potency steroids will be prescribed. A mild steroid (e.g. 1% Hydrocortisone) is the treatment of choice, and is used on the face, axilla, groin where the skin is thin and delicate. (Leung et al., 2004) Caution is advised with prolonged use of steroids around the eyes as some children are at risk of glaucoma.

Note: absorption of steroids is increased in the nappy area due to thin genital skin and the occlusive effect of a nappy (Peters 2001).

Potential side effects:
- Thinning and fragility of skin resulting in telangiectasia (dilation of capillaries on the skin surface).
- Redness of skin due to permanent dilation of the surface blood vessels.
- Permanent stretch marks.
- Delayed healing.
- Over absorption of the steroid via the skin affecting functioning of adrenal glands.
- Masking of fungal and bacterial infection.
- Exacerbation of pustular acne.
- Hypopigmentation.

Occlusion therapy:
Potent steroids should never be used under occlusion unless otherwise prescribed by a Dermatologist. Occlusion can increase the permeability of steroid absorption (Harper et al 2011).

Oclusive therapy is achieved by using Viscopaste bandages and they are ideal for treating excoriated and lichenified eczematous areas. They are impregnated with a bland emollient and zinc oxide which contain anti-inflammatory properties which are soothing to help reduce itch. They act as a physical barrier to prevent damage to the skin caused by scratching. (Donald 1997).

Wet wraps are also a form of occlusive therapy found to be effective in the management of chronic eczema. (See wet wrap guideline)
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<th>RATIONALE &amp; REFERENCE</th>
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<td>Assess the child, the extent of the eczema, affected areas, document appropriately.</td>
<td>To facilitate the planning and evaluation of care (An Bord Altranais 2002)</td>
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<td>Explain what treatment involves to the child and parents/guardian.</td>
<td>To help reduce anxiety of child and parents, by appropriately informing them of treatment (Trigg &amp; Mohammed 2010).</td>
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<td>Ensure privacy for the child throughout the treatment.</td>
<td>To maintain dignity in accordance with (OLCHC, 2007)</td>
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**Baths**

Prepare the bath in accordance with The guideline on bathing (OLCHC 2008)

A non-perfumed emollient (e.g. emulsifying ointment) should be used in the bath to soften the water.

Use non perfumed wash as soap substitute

**Preparing Emulsifying Ointment Bath:**

Place 2 tablespoons of Emulsifying Ointment into a jug.

Add boiling water (out of range of child) and whisk to a creamy froth. Add to bath under running tap water and mix well.

Child should remain in bath for approx. 5 to 10 minutes

Administer Sodium Hypochlorite(bleach) baths twice weekly if prescribed for infected eczema

1 capful of capful of Milton is 30mls - Adjust accordingly on type of bath used

Heat simulates itch, water that is too hot causes vasodilation and increases evaporation of water from the skin causing dehydration (Peters 2001).

Emulsifying ointment is very effective (Haper *et al* 2011). Bath water without an emollient can be dehydrating to existing dry skin. Emollient oils are also found to be an effective bath additive.

Normal soap too drying and can irritate the skin (Harper *et al* 2011)

To correctly dissolve the ointment (Trigg & Mohammed 2010).

Ensure safety by preparing this away from the child.

More than 15 minutes soaking can cause excess drying of the skin (Peters 2001).

Dilute sodium hypochlorite baths are helpful in decreasing infection rates and disease severity. (Huang *et al*. 2009)
125mls Milton 2% in 100 litres of water (1/2 bath)
62 mls Milton 2% in 50 litres (1/4 bath)
17 mls Milton 2% in 14 litres (1/2 baby bath)

Application of emollients:
Apply frequently throughout the day, once or twice a day or even more frequently if skin very dry.

Ointments rather than cream moisturisers are generally more effective.

Application in smooth downward strokes in the direction of hair growth.
Apply in a soft gentle manner.

Topical Corticosteroids:
Administer as prescribed according to local medication guidelines

Use the least potent preparation required to keep the eczema under control. Apply a thin layer to red inflamed areas as prescribed.

Ointments are greasier but are occlusive. They should be applied in small amounts frequently, rather than a large quantity infrequently (Harper et al 2011, Trigg & Mohammed 2010).
Ointments contain higher concentrations of lipids. (McAleer et al. 2012)

To prevent hair follicles becoming blocked, causing folliculitis (Trigg & Mohammed 2010).
To avoid irritating the skin’s surface and causing itch sensation (Peters 2001).

Local adverse effects, such as skin atrophy (thinning) and telangiectasia (broken blood vessels) can occur with inappropriate use of topical corticosteroids. (McAleer et al. 2012)

Skin pores are open and receptive to treatment
To avoid stimulating the itch scratch cycle

The topical corticosteroid should be applied immediately after a bath or approximately 30 minutes after a topical emollient has been applied.
Rub the corticosteroid cream / ointment in gently with your fingertips until it has disappeared. It is not necessary to use gloves unless skin is oozing or bleeding, whereby universal precaution should be adhered to.
Nurses should be alert to the potential side effects of steroid application, and wash hands thoroughly after having applied steroids.

**Other Medications**

Administer as prescribed (for example Calcineurin Inhibitors (protopic), anti-histamines and analgesia.

Analgesia is not usually required. However, pain may be assessed using a validated age appropriate pain assessment scale, and appropriate analgesia administered.

Medications are administered as prescribed

**Occlusion Therapy:**

Viscopaste bandage should be applied in a pleated pattern or short strips with a cover bandage over it to hold it in position (crepe or coban).

Observe skin for signs of clinical infection.

Viscopaste bandages may be left in place for 24 hours, though they may need to be changed more frequently if they dry out due to the child’s body heat.

Document care given and evaluate effectiveness of treatment provided.

Calcineurin inhibitors are anti-inflammatory topical treatments that do not contain steroids. Available in 2 strengths 0.03% and 0.1%, apply as prescribed (Peterson & Chan., 2006)

Children often cannot or will not report pain to their Health care providers. Health professionals must have a high degree of awareness of pain (RCN 2001)

To ensure safe administration of medications (OLHSC 2001 Bord Altranais 2007)

If they dry out they can become tight, uncomfortable or ineffective.

A moist occlusive environment is ideal for the multiplication of organisms (Trigg & Mohammed 2010).

To break the itch scratch cycle (Donald 1997).

To facilitate communication, to provide evidence of delivery of quality care, and to ensure evaluation of the effectiveness of care provided (An Bord Altranais 2002 NHO 2009).
REFERENCES


Our Lady’s Children’s Hospital (2007). Prevention of Abuse of Children by a Staff Member while in the Care of the Hospital. Our Lady’s Childrens Hospital, Crumlin, Dublin 12.


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