

## ECZEMA

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### Definition

The UK working party definition of atopic dermatitis is an itchy skin condition, plus three of:

- History of involvement of skin creases
- Personal history of asthma or hayfever
- History of generalised dry skin in the last year
- Visible flexural eczema
- Onset less than two years of age

### Background

Eczema is characterised by intraepidermal oedema, leading to exudation, lichenification and pruritis. Under eczema, the following are considered

- Atopic dermatitis
- Seborrhoeic dermatitis
- Contact dermatitis
- Nummular eczema
- Dyshidrotic eczema
- Pityriasis alba

Atopic and seborrhoeic dermatitis are the most common presentations.

	<b>Atopic Dermatitis</b>	<b>Seborrhoeic Dermatitis</b>
Age of onset	>3/12 (90% by 5y)	<3/12
Location	Face, extensor surfaces	Scalp, genitalia, flexures
Clinical features	Erythema, papules and vesicles	Erythema, greasy scales
Other	Pruritic	Non pruritic

### Indications for Admission to Hospital

The usual indications for admission to hospital include

- Control of infection
- Intensification of topical therapy
- Controlling the itch/scratch cycle

Usually all three are involved.

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### Treatment

#### Treatment of infection

- Antibiotics: First line would be intravenous Flucloxacillin, 100mg/kg/day (max. 1000mg per dose) in four doses, followed by oral Flucloxacillin 100mg/kg/day (max 1000mg per dose) if tolerated, or Cephalexin (KEFLEX®) 50-75 mg/kg/day in 3 doses (max. 1000 mg per dose) for children unable to swallow Flucloxacillin solid dose forms. Erythromycin (40mg/kg/day in 4 divided doses, max. 500mg/dose) is an alternative. Swabs will be needed initially because of MRSA and Staphylococcal Aureus resistant to Erythromycin.
- Antiseptics: If the skin is infected with pus and oozing, Potassium Permanganate can be added to the bath water so that it is purple. Add 5gm to a half filled bath (50litres) to give a concentration of 1:10000. If using 400mg tablets add one to each 4L of water. This gives antiseptic and drying properties and can be used in the first two days of treatment. This may stain the bath.
- Acyclovir: If there is evidence of eczema herpeticum, Acyclovir should be given at 250mg/sq m/dose 8hrly with a max of 500mg/dose (3/12 - 12 years) intravenously for five days. For babies less than 3/12 old check with Infectious Disease service.

#### Emollients

These are essential and frequently underused and should be applied liberally and should ideally be applied within 3 minutes after the bath. Children should be given a bath twice daily. Soap should be avoided. Aqueous cream or emulsifying ointment can be used as a soap substitute. Bathing should last up to 20 minutes to ensure adequate skin hydration but not long enough to cause wrinkling. The skin should be pat dried. Emollients should be then applied as often as is required, to keep the skin "slippery" over the next 24 hours. The suggested emollient in the acute situation is emulsifying ointment.

#### Topical steroids

In general, ointments should be used on dry skin, creams on oozing skin and the weakest strength required should be used. Hydrocortisone 1% is only readily available as a cream. However, in the acute situation, it is usually necessary to use a moderately potent or potent steroid, such as Locoid and this should be applied approximately half an hour after the emollient. The potency of steroids varies:

	RELATIVE POTENCY	
• 1% Hydrocortisone	1	Mild
• Elocon® (Mometasone furoate 0.1%)	175	Potent
• Locoid® (Hydrocortisone butyrate 0.1%)	100	Potent
• Beta® (Betamethasone valerate 0.1%)	100	Potent
• Dermol® (Clobetasol proprionate 0.05%)	600	Very Potent

Always check whether the cream or ointment you are prescribing is fully funded by Pharmac (can be checked via the Pharmac website).

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### Bandages

**Wet wraps** (sometimes referred to as wet bandages) potentiate the use of steroid, stop scratching, keep the skin cool and well hydrated. They are an effective way of treating extensive atopic eczema. In general, the aim is to apply these dressings overnight and remove them in the morning. If eczema is severe, they may be applied twice daily for a short period.

Their application is:

- Prepare lengths of Tubigrip tubular bandages, two lengths for each arm and leg and two lengths for the vest
- One length of each is soaked in warm water
- Bath and wash child as above
- Apply the prescribed moisturiser/steroid to front and back of body liberally
- Put on the moist vest first and then the dry one on top
- Do the same for the arms and legs
- Secure lengths of Tubifast on arms and legs to the vest, by using a small piece as a tie

**Zinc impregnated** bandages, ie: Icthopaste can be worn with an elasticated bandage over the top and changed every 24 – 48 hours and this is useful for chronic excoriated limb eczema.

### Education in preparation for discharge

The management of the child at discharge should be along the following lines. Some of these preparations are non-formulary at ADHB. Check first for availability. Always check that discharge prescriptions are for funded items only.

- **Avoid irritants/allergens** – this includes soap or foam in the bath, perfumes or grass. Nails should be cut short and cotton clothes should be worn. Avoidance of house dust mite exposure can be achieved by encasing mattress, base and pillows and by hot water (>55°C) washing of top bedding each fortnight.
- **Emollients** – these need to be used generously. The thicker and greasier they are, the more effective they are. The thicker moisturisers bind water into the skin and include Emulsifying Ointment, Oily Cream BP, Lemnis Fatty Cream and 10% Glycerine in Cetomacrogol. Lighter moisturisers which are transpiration blockers are less effective but more cosmetically acceptable and include Alpha-Keri lotion and QV lotion. The key is to use in sufficient volume and in frequency to do the job.
- **Steroids** – In general the strength required is that which is needed to be effective although:
  - Lowest strength required to control should be used
  - Steroids should be used only on affected areas
  - Should be applied once a day
  - If applied under occlusion, it has maximum benefit.

The amount to be used is the fingertip unit (FTU) which is approximately 0.5g. This is the amount of preparation that can be applied like toothpaste, along the distal phalanx of the index finger of an adult's hand. One FTU for a 4year old child should be sufficient for the face and neck or one arm. Two FTU's are needed for for one leg or hands and feet. Four FTU's are needed for the trunk (front and back). Double amount for >8years and halve for <2 years.

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Steroids should be used in burst fashion for flare up and stopped when a basal state has been resumed.

Weaker steroid should be used for areas of thin skin where there is increased absorption.

### Amount absorbed %

Sole	0.05
Palm	0.1
Forearm	1
Antecubital fossa	4
Face	7
Eyelid/Genitalia	30

- Infection** - If the eczema becomes weepy with pus, it is probably infected with staphylococcus aureus and systemic antibiotics (as above) should be used. Flucloxacillin should be used first line and Cephalexin for children unable to swallow Flucloxacillin solid dose forms. Erythromycin should be used for resistant organisms. It is prudent to add Janola to the bath water at a concentration of 1/1000 (half a teacup- approx 50ml-in a full bath of 50 litres) to reduce staphylococcal skin colonisation on a regular basis. Varicella vaccination should be considered.
- Antihistamines** - Oral Promethazine 0.5 to 1.5mg/kg nocte (maximum 50mg) will provide night time sedation. Loratidine, 0.2mg/kg daily (max 10mg/dose) is useful for children over two years of age. This is less sedating than Promethazine.
- Diet** - 60% children with eczema will have > 1 positive skin test. 40% will have a food allergy on double blind placebo controlled trial. Cows milk, egg, soy, peanut, wheat, codfish, cashew account for 90% of food allergy. Negative skin tests for these 7 allergens has a 99% negative predictive value for food allergy contributing to atopic dermatitis.

For children with suspected food allergy either RAST testing or Skin Prick Testing can be used. The merits of each are as follows:

	SKIN	RAST
Risk of allergic reaction	Yes	No
Sensitive	Very	Less so
Affected by antihistamine	Yes	No
Affected by corticosteroid	Usually not	No
Affected by extensive eczema	Yes	No
Broad selection of antigens	Yes	No
Immediate results	Yes	No
Expensive	No	Yes
Semi quantitative	No	Yes
Lability of allergens	Yes	No

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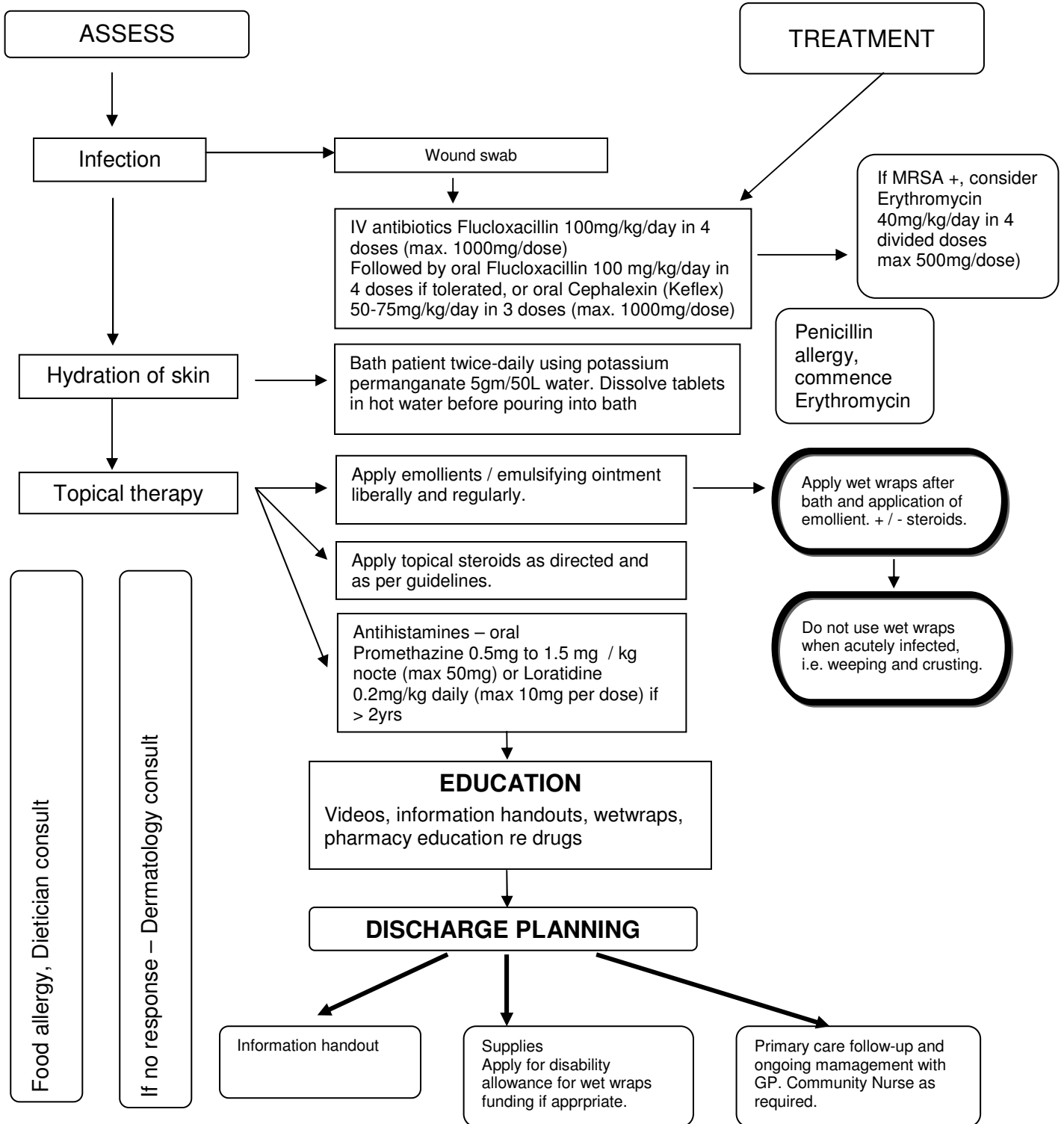
### Other Treatments

- Oral Steroids are associated with rebound and although can be useful in some circumstances, should be used with caution
  - UV therapy should be discussed with a dermatologist
  - Cyclosporin and Azathioprine should be discussed with a dermatologist
  - Pimecrolimus - Not funded in NZ but is effective in moderate to severe facial eczema and is available as Elidel
  - Long term antibiotics
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# ECZEMA

## Flow Chart Eczema Management

**Aims:** To control eczema, to intensify topical therapy, to control itch/scratching



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### References

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