Atopic Dermatitis 101

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Atopic Dermatitis

- 15-20% children
  - Disease persistence 30%
  - Impact on QOL worse than IDDM, Cancer

- Complex Disease Trait
  - Environmental
  - Immunological
  - Genetic
Common loss-of-function variants of the epidermal barrier protein filaggrin are a major predisposing factor for atopic dermatitis

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Atopic Dermatitis

**Filaggrin**

- *Filament aggregating protein (FLG)*
- Degraded in SC

- Urocanic acid (UCA), alanine and pyrrolidone carboxylic acid (PCA).

= *Natural Moisturising Factor (NMF)*

- Hydration
- Maintenance of pH
  - Antimicrobial
  - Role in determining lipid profile
  - Regulation of cytokines / proteases
Atopic Dermatitis

- Filaggrin mutations

  - 10% population worldwide heterozygous FLG mutations
  - 50-60% patients with moderate -severe AD homozygous or heterozygous for FLG mutations
  - Semi-dominant inheritance
Atopic Dermatitis

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Atopic Dermatitis

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How do you treat this?
Treatment of Atopic Dermatitis

- A. Topical Hydrocortisone cream, twice daily baths, Aqueous Ointment
- B. Topical Emulsifying ointment, avoid bathing, Hydrocortisone cream
- C. Topical Fucibet lipid, Emulsifying ointment, once daily emollient bath
- D. Topical Betnovate cream, ceterizine, topical paraffin gel
Treatment of Atopic Dermatitis

A. Topical Hydrocortisone cream, twice daily baths, Aqueous Ointment

B. Topical Emulsifying ointment, avoid bathing, Hydrocortisone cream

C. Topical Fucibet lipid, Emulsifying ointment, once daily emollient bath

D. Topical Betnovate cream, ceterizine, topical paraffin gel
Eczema
If you prescribe Hydrocortisone Cream, I will beat you with my cane
10 Commandments: Atopic Dermatitis

Atopic Dermatitis Checklist

Are you:

1. Applying sufficient emollient? (500g minimum / week)
2. Applying it in the right way? (ie avoid blocking hair follicles-apply downwards)
4. Adding Milton to the bath twice a week? (If infection is driving flares: 1/2 a capful to ½ a baby bath, or 4 capfuls to ½ adult bath)
5. Are there any signs of infection? Weeping, crusting, clothes sticking to skin? Fucibet lipid-body or Fucidin H for the face may be indicated.

Tip: Remember to change your tub of emollient every 6 weeks as it can quickly become contaminated with bacteria, or use pump-action dispensers.

6. Applying sufficient topical steroid? The skin should be glistening (please keep a diary of how much steroid you are using).
7. Have you stepped back up into full steroid treatment? If flaring, go back to daily treatment with steroid for 2 weeks, then back to twice a week.
8. Tried medicated bandages? eg viscopaste to wrists/ elbows/ ankles.
9. Tried wet-wraps? Essentially applying two layers of clothing after applying topical steroids and emollients; the contact layer should be soaked in lukewarm water and wrung dry, a second dry layer of clothing locks the moisture in and increases hydration of the skin.

10. Considered allergies?

Food allergies occur relatively commonly but should be associated with a sudden onset of lip or tongue swelling, hives, vomiting, wheezing or a dramatic flare of eczema within 15 minutes of ingestion of a particular food, without that history a food allergy is very unlikely. Airborne allergies to the house dust mite and pollen are common and usually present with symptoms of hay fever and eyelid or neck eczema but can be hard to avoid. Removing carpets and damp dusting can reduce airborne allergens.
Treatment of Atopic Dermatitis

1. Are you applying sufficient Emollients?
   - 500g/week minimum
     - No ideal preparation
       - Emulsifying Ointment, Silcocks Base
       - Epaderm, Hydromol, Lipikar, Eucerin 10%, Aveeno
       - Avoid Aqueous cream, paraffin gel.
Treatment of Atopic Dermatitis

2. Are you applying it correctly?

- Apply in downward direction along hair growth
  - Folliculitis: Problematic lower legs
  - Contamination with bacteria common if dispensed directly from tub
Treatment of Atopic Dermatitis

3. Are you Bathing correctly

- Once Daily Emollient Bath
  - Oilatum, Melted Emulsifying ointment
  - 5-7 minutes only
  - “tea bag”

- pH driven: Infections frequent drivers of flare
  - Bleach baths invaluable – Twice a week
  - Emollient Baths - 5 nights per week

  Milton®
  120mls (4 capfuls) in 100L water ½ adult
Treatment of Atopic Dermatitis

4. Are you adding Milton to the Bath?

- pH driven: Infections frequent drivers of flare
  - Bleach baths invaluable – Twice a week
  - Emollient Baths - 5 nights per week

- Milton®

- 120mls (4 capfuls) in 100L water ½ adult bath
  - ½ capful in ½ baby bath
5. Are there signs of infection?

- Can be subtle
- Weeping, crusting, clothes sticking to skin?

- Fucibet Lipid- BD x 7-14 days body
- Fucidin H BD x 7-14 days face
  - Remember to throw out old tubs of emollients every 6 weeks as can quickly become contaminated with bacteria
Treatment of Atopic Dermatitis

6. Are you applying sufficient topical corticosteroids?

- The skin should be *glistening* ie not sparingly
- Prescribe *ointments* in preference to creams
Treatment of Atopic Dermatitis

- **Topical Corticosteroids**
  - Educate patients ‘Step up’ and ‘Step down’ steroid strengths

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<thead>
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<th>Medication</th>
<th>Strength</th>
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<tbody>
<tr>
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<td>1</td>
</tr>
<tr>
<td>Eumovate</td>
<td>5</td>
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<tr>
<td>Betnovate Ready Diluted</td>
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## Treatment of Atopic Dermatitis

### Topical Corticosteroids
- Educate patients ‘Step up’ and ‘Step down’ steroid strengths

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# Treatment of Atopic Dermatitis

- **Topical Corticosteroids**
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Treatment of Atopic Dermatitis

- Topical Corticosteroids
  - Moderate- Severe AD

- Infected Flare
  - **Step Up**: Fucibet BD x 10-14 days body, Fucidin H BD to face
  - **Step Down**: Eumovate ointment BD as maintenance, HC1% ointment to face
    - Twice weekly Milton Bleach Baths, Emollient baths other nights
Treatment of Atopic Dermatitis

- Topical Corticosteroids
  - Moderate- Severe AD

- Step Up: Betnovate RD ointment BD/ OD x 2 weeks
- Step Down: Eumovate ointment BD maintenance
  - Face: Hydrocortisone ointment 1% BD
Treatment of Atopic Dermatitis

- **Adjunctive Rx**
  - Antihistamines
  - Calcineurin inhibitors (Protopic ointment® 0.03, 0.1%)
    - Eyelid erythema, Type III+ skin types
  - Viscopaste Bandages
    - Wrists, Ankles, Knees
  - Wet Wraps
    - Double Layer of bandages
Atopic Dermatitis – Wet Wraps

**STEP 1:**
Apply the steroid ointment or cream to your child’s skin.

**STEP 2:**
Take one pair of your child’s sleepers and soak it in warm water.
Atopic Dermatitis – Wet Wraps

**STEP 3:**
WRING OUT the sleepers until they are only very slightly damp.

**STEP 4:**
Put the damp sleepers on your child and cover with a pair of dry sleepers. **DO NOT** cover with plastic. The dampness **MUST** evaporate.
Atopic Dermatitis – Wet Wraps

STEP 5:
Make certain the room is warm enough

STEP 6:
Your child may complain at first, but be firm.
Food Allergies in Atopic Dermatitis

- 30% Moderate- Severe Eczema
- But! : lip swelling, tongue swelling, wheeze, urticaria, vomiting or dramatic flare in eczema within 15 mins
- Cows milk, hens egg, soya, nuts, wheat, fish: 90%
- FsIgE: 90-95%ppv tables
- Skin Prick Tests: 50% sensitivity, 95% specificity
Infections