



# Common Skin Problems

**Jo Peterson**

Nurse Practitioner Child and Youth Health  
Service Clinical Director Starship Community  
Health  
with thanks to Alison Vogel



**Tracy McKee**

Nurse Practitioner  
Toi Tu Kids Service  
Te Hononga



# Topics

General principles

Impetigo

Cellulitis

Eczema

Scabies



# Approach to Assessment and Treatment

- History of systemic illness/ warning signs
- History of skin symptoms
- Examination
- Formulate likely diagnosis
- Treatment
- **Review**



# General Danger Signs

- Lethargy
- Inability to drink
- Persistent vomiting
- High fever



# History

- Is skin itchy?
  - Is there pain from the skin?
  - Any allergies
- 
- How long has the problem been present?
  - Have they had any treatment?
  - Has anyone else in the family got the same problem?

# Examination

- Wash hands.
- Examination- Look for:
  - Extensive warm redness and swelling.
  - Localised warm tender swelling or redness.
  - Swelling or redness around the eyes.
  - Discrete lesions with pus or crusts.
  - Papules on the hands, knees, elbows, feet, trunk.
  - Round to oval scaly patches.

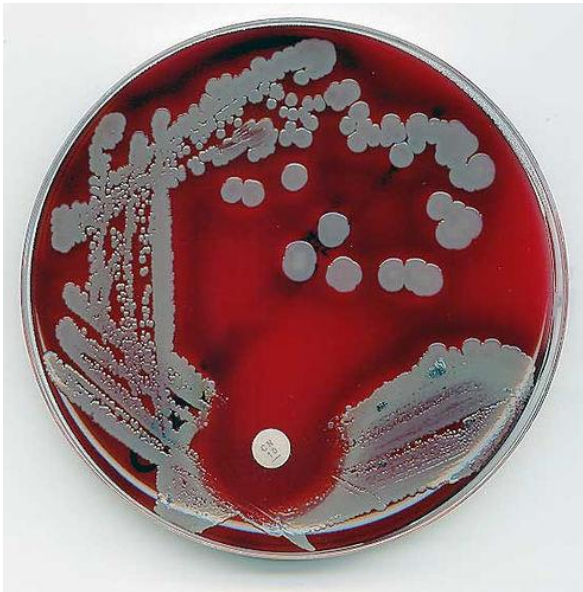
# Discrete sores/lesions with pus or Crusts



## Impetigo

# Impetigo

- Common highly contagious bacterial infection
- Usually a clinical diagnosis
- Caused by *Staphylococcus aureus* or *Streptococcus pyogenes* alone or together





Bullous impetigo

# Non Bullous

Begins as vesicles that rupture and contents dry to form a gold coloured crust



# Treatment of Impetigo

## Antibiotic vs antiseptic



# Extensive Impetigo

- Involving > 5% of body surface area
- Or systemic symptoms

Treat with **oral antibiotics**



# Allergy



There is a 3-10% cross-reaction rate between penicillins and cephalosporins.

- mild penicillin allergy or adverse reaction (e.g., mild rash, diarrhea) then you may prescribe a cephalosporin
- severe penicillin allergy (e.g., severe rash, urticaria, angioedema, anaphylaxis, hypotension or bronchospasm) then do not prescribe a cephalosporin

# Follow-up

- Follow up in five days to assess for resolution
- May need to continue for a further 2-5 days treatment



# Warm tender swelling and redness



Likely cellulitis or abscess

# Cellulitis

- Cellulitis is a diffuse inflammation of the soft tissue or connective tissue due to infection
- Most common causative organism is *Streptococcus pyogenes*



# Differential Diagnosis

- Allergic reactions
- Contact dermatitis
- Staphylococcal scalded skin syndrome
- Septic arthritis (cellulitis over a joint)
- Osteomyelitis
  
- BE CAUTIOUS



# Periorbital or orbital cellulitis

Swelling or redness around eyes

Needs medical review

# Risk factors in cellulitis

If Swelling or redness is:

- Peri orbital or orbital

OR

- Circumferential around a limb

OR

- Over a joint

OR

- On the hand or foot

OR

- The child is < 1 year of age

Then the child should be referred immediately to hospital for further assessment.

# Risk factors cellulitis

- It is more urgent if:
  - The affected skin is on the face
  - The child has a chronic illness (like diabetes) or a problem with the immune system
  - The child has had an **animal (or human) bite-refer GP**
  - The area of redness is spreading very quickly or is very painful

# Treatment of cellulitis

- Oral antibiotics
  - Flucloxacillin
  - Cephalexin
  - Erythromycin



- If not resolving with oral antibiotics after 48 hours may need admission and treatment with IV antibiotics

# Supportive treatment

- Rest and if possible, raise the affected area. For example, place an arm in a sling or prop a leg on pillows. This may ease the pain and reduce swelling.
- Pain relievers such as paracetamol, or ibuprofen can help reduce discomfort

# Key messages

- Cellulitis can worsen rapidly resulting in need for hospital admission
- **Follow-up** Useful to mark edge for comparison at followup
- **Review** at 5 days. If swelling or redness persist continue antibiotic for a further 5 days.

# What is ok

- Redness and swelling for a few days after starting antibiotic treatment.
- To have a hard lump surrounding the area for some time following treatment.
- To have contact with friends and family, however it is important to wash hands well and keep any oozing wounds covered.

# Use of swabs in Skin Infections

- Not needed routinely
- May be useful if recurrent infection
- Failure with oral antibiotics
- Community outbreaks
- Nasal swabs can identify carriage needing nasal treatment





Eczema

# Diagnosis

An itchy skin condition (or parental report of scratching) in the last 12 months, plus **three** or more of the following:

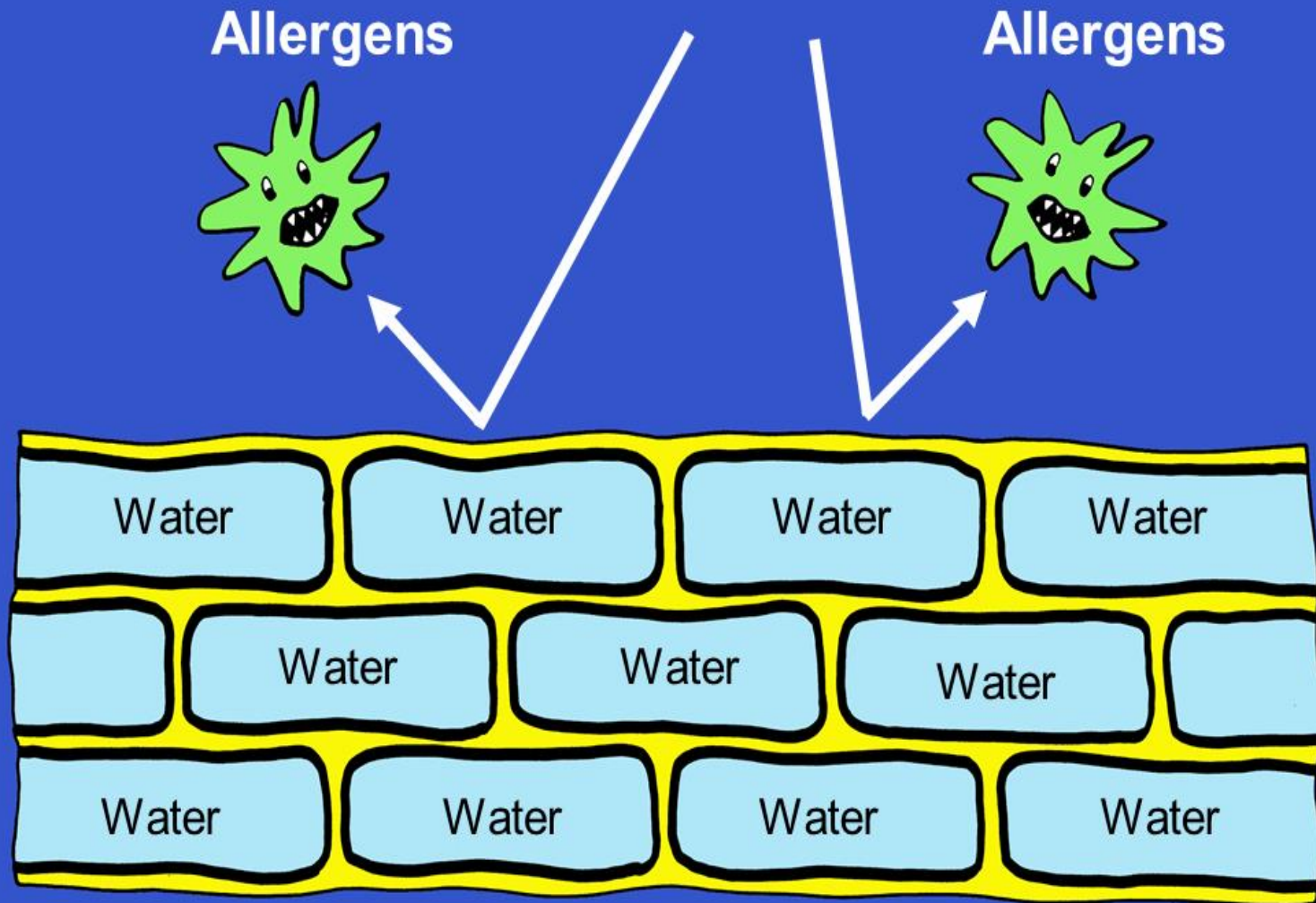
- A history of involvement of the skin creases (fronts of elbows, behind knees, fronts of ankles, around neck, or around eyes).
- A personal history of asthma or hay fever (or history of atopic disease in a first degree relative if a child is less than 4 years of age).
- A history of generally dry skin in the last year.
- Onset under the age of 2 years (not used if a child is less than 4 years of age).
- Visible flexural eczema (including eczema affecting cheeks or forehead and outer aspects of limbs in children less than 4 years of age).

(NICE Guidelines)

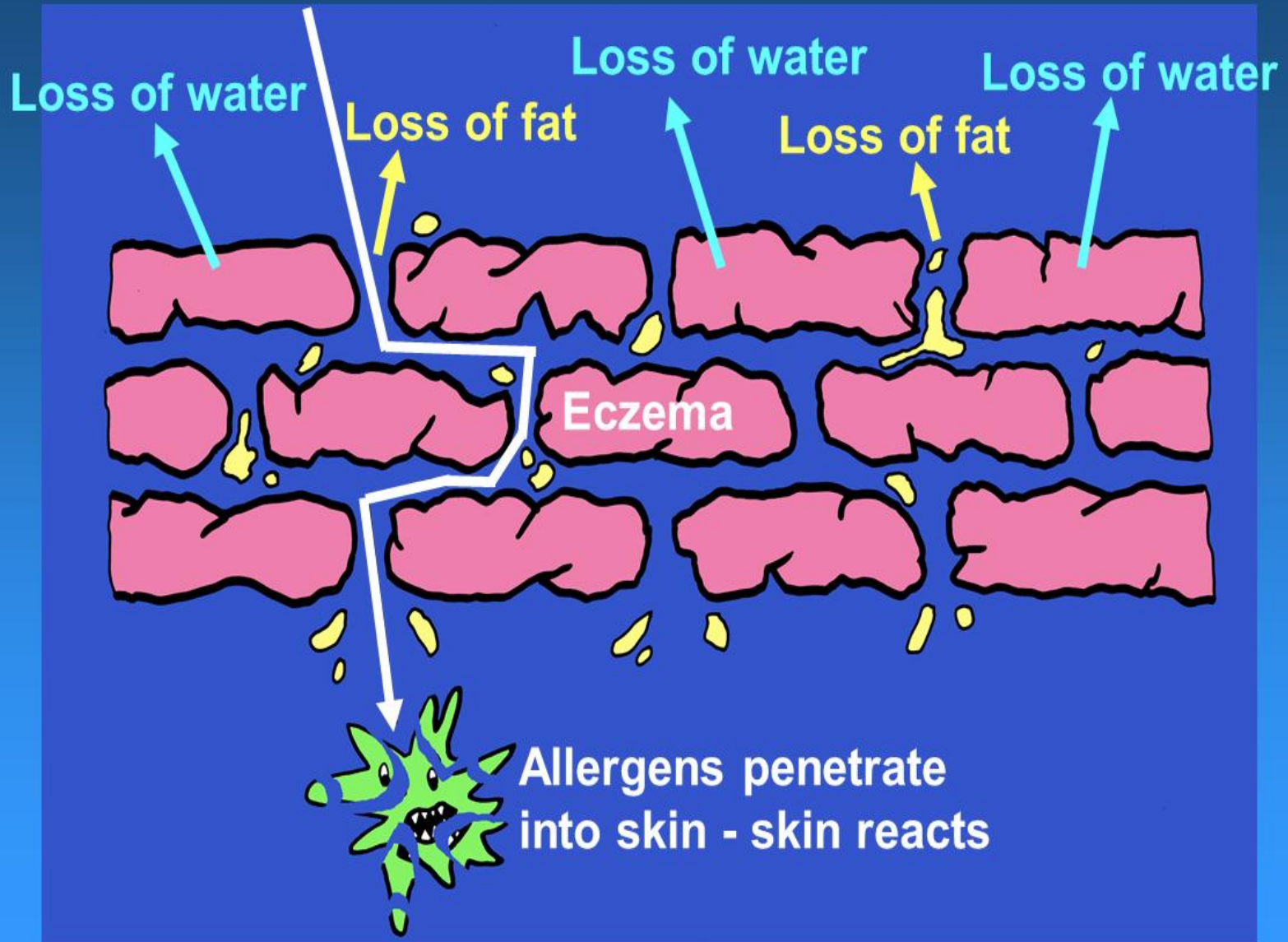
# Skin Wars

Breaking the  
itch-scratch cycle

# Healthy skin



# Eczema skin



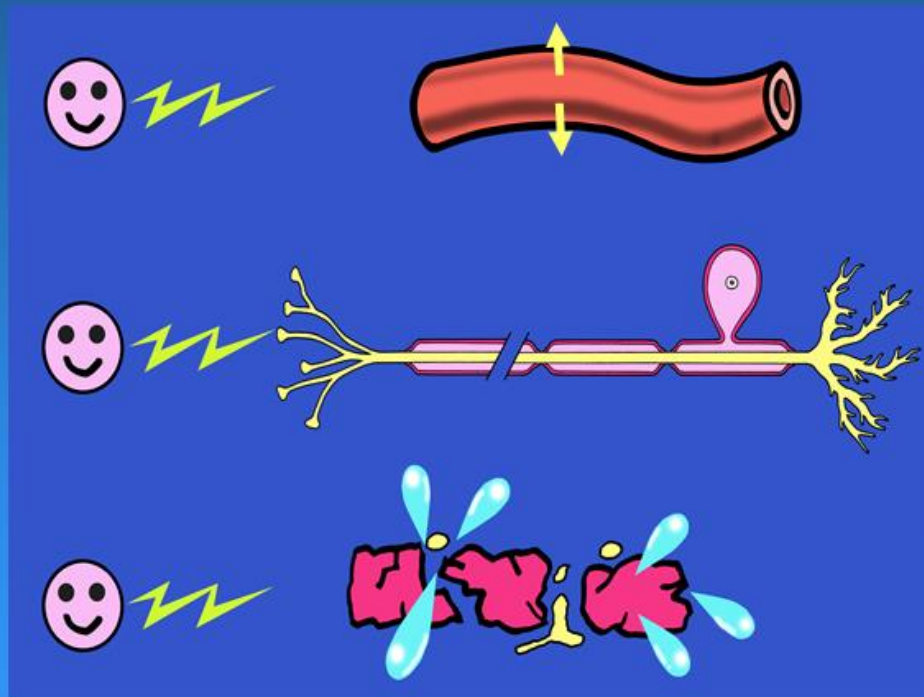
# What is skin flare-up

## What you see / feel

- Red Skin
- Itchy skin
- Dry skin

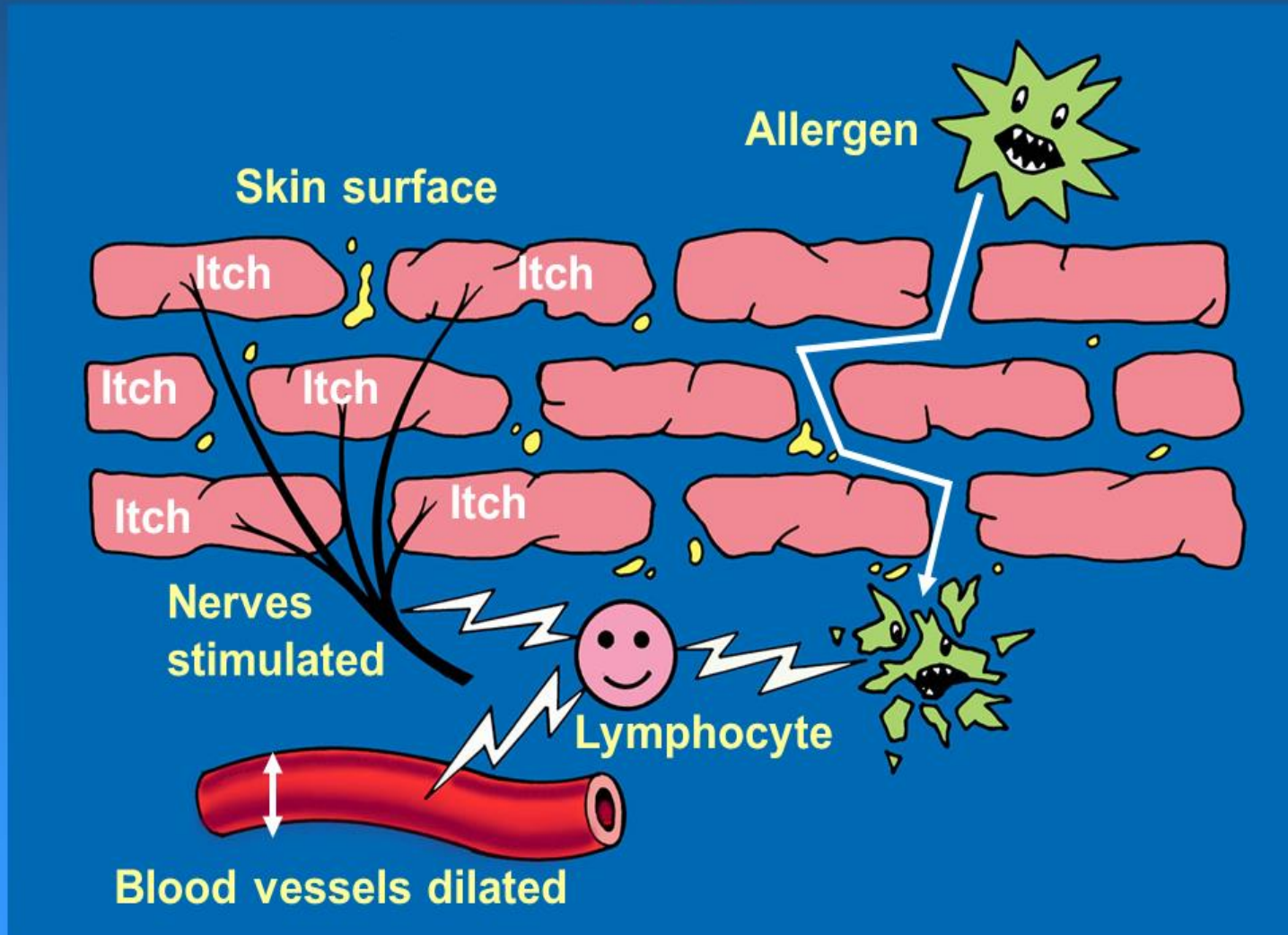
## What causes it

- Blood vessels dilate
- Nerves stimulated
- Skin cells leaking



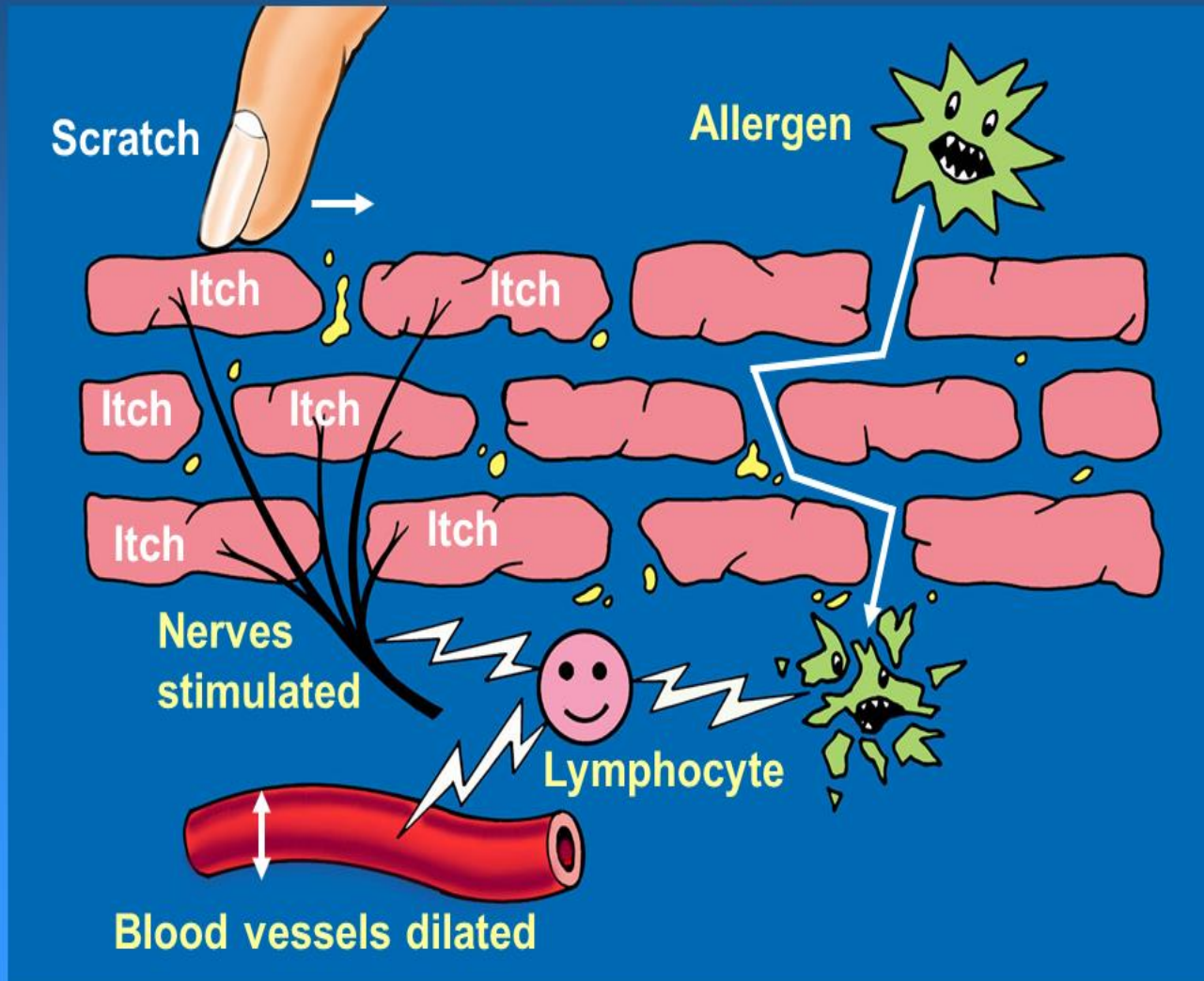
# Skin flare-up

## 1. Itch



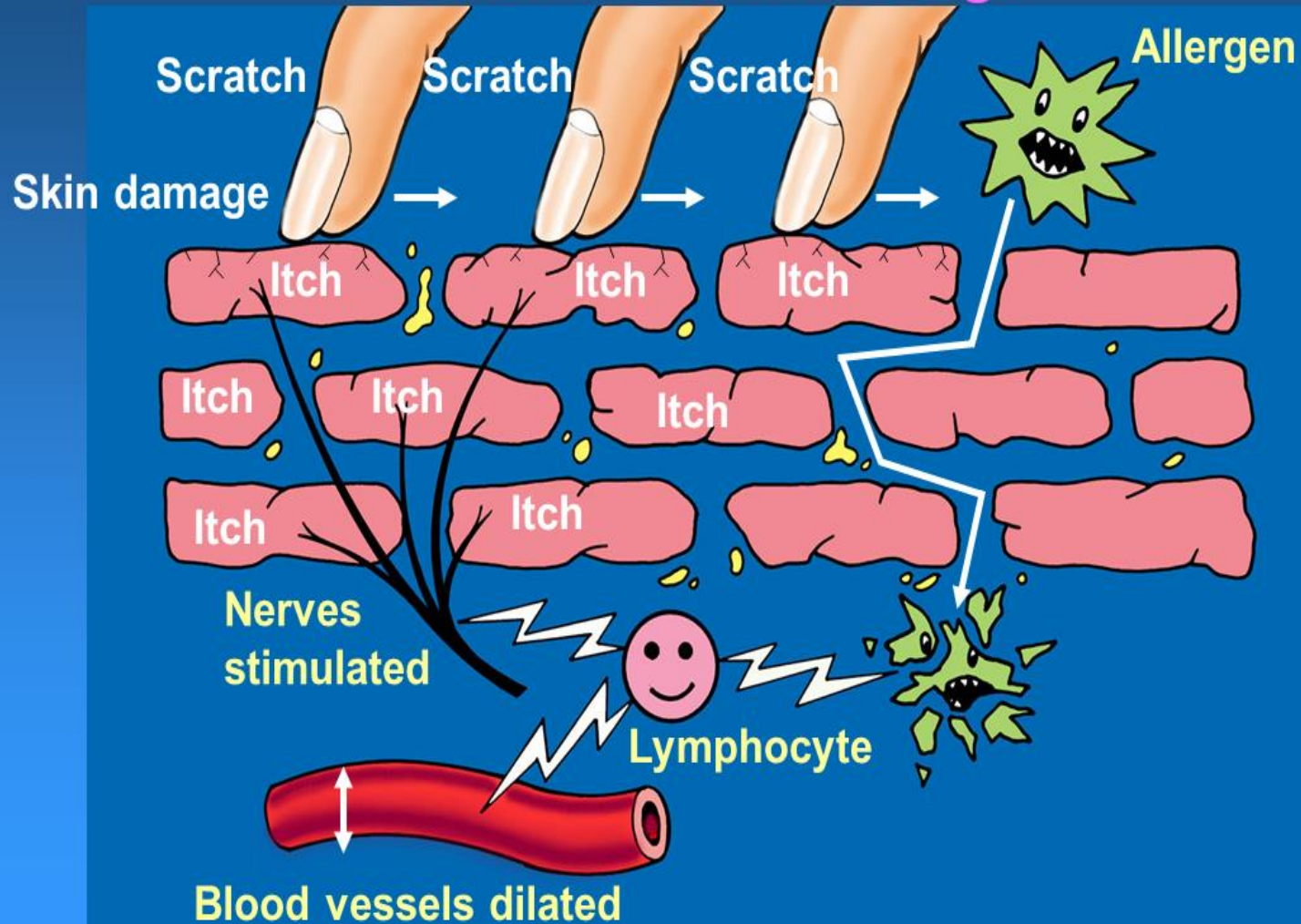
# Skin flare-up

## 2. Itch-scratch



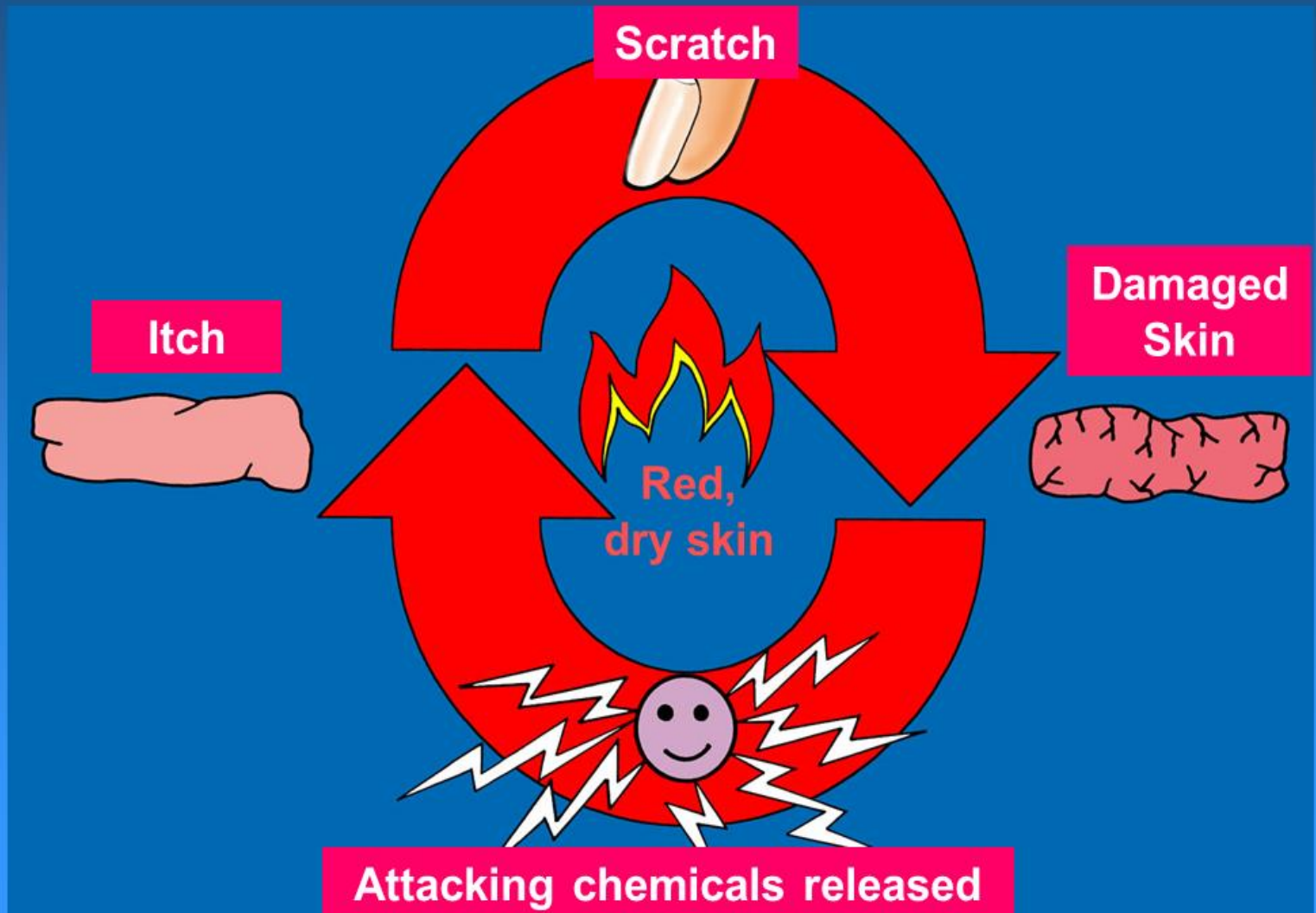
# Skin flare-up

## 3. Itch-scratch-damage

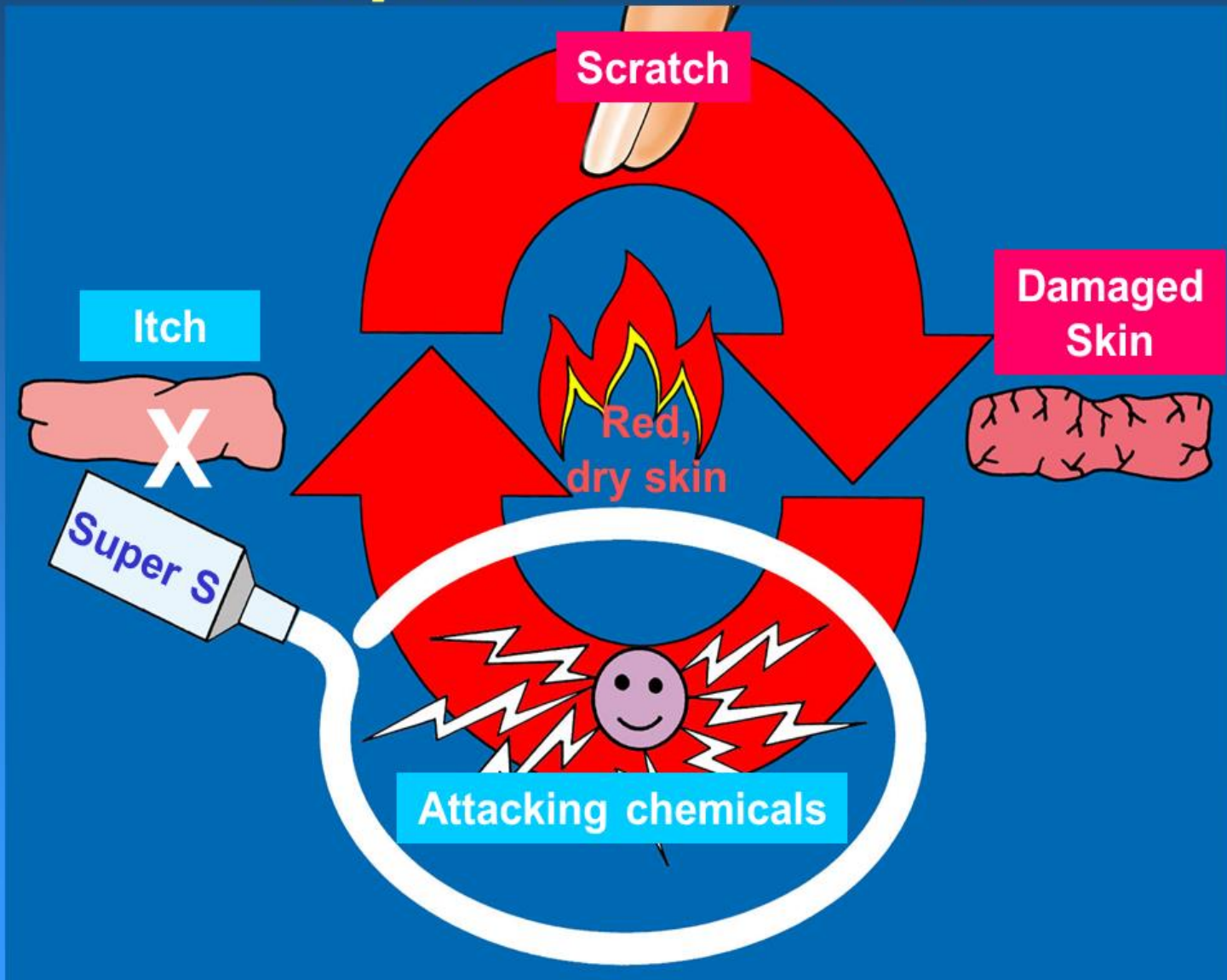


# Skin flare-up

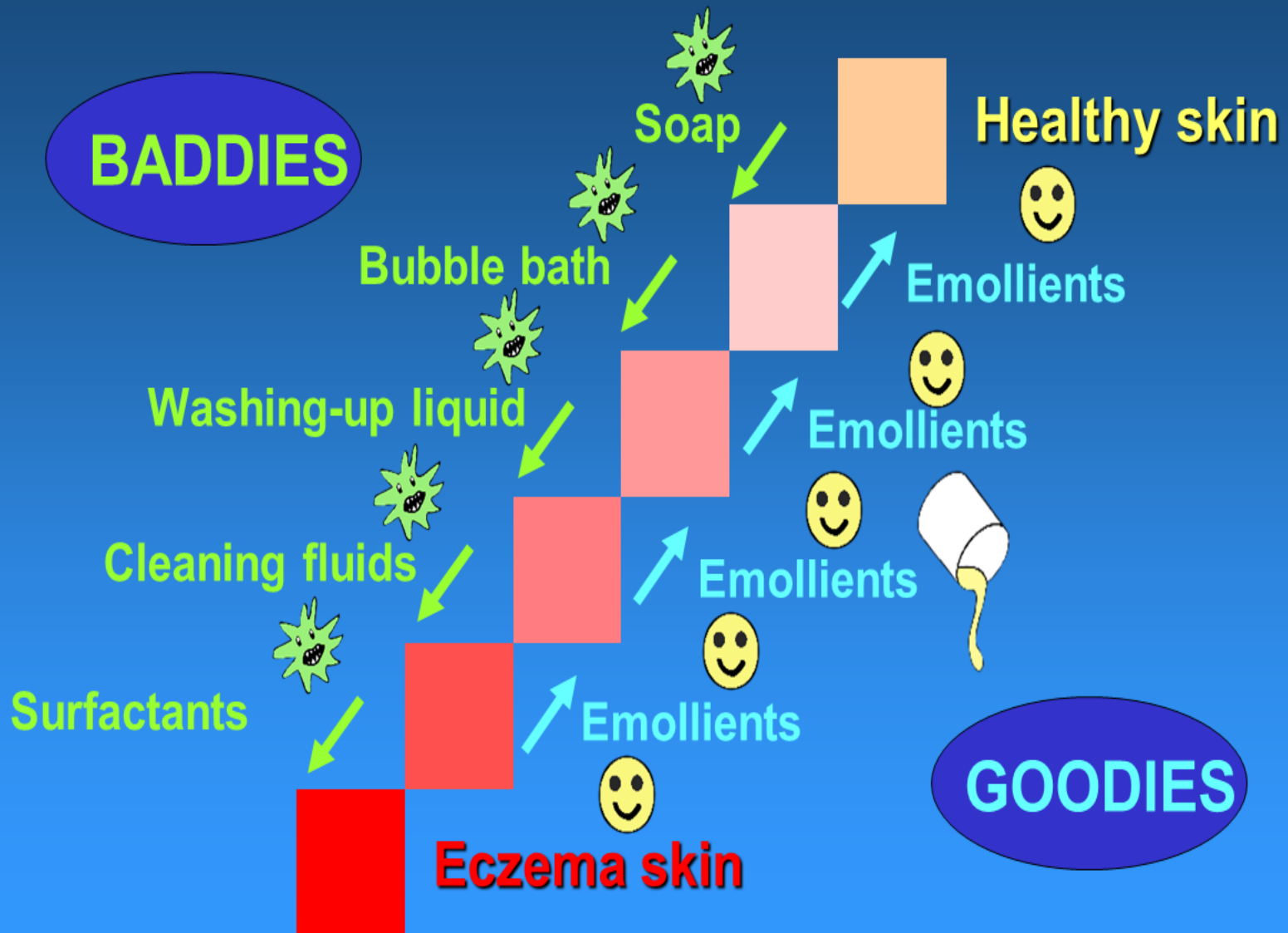
## 7. Itch-scratch-cycle



# Super S stops the itch



# Skin wars - episode 1



# Role of Filaggrin

An inherited abnormality in filaggrin expression is now considered a primary cause of disordered barrier function.

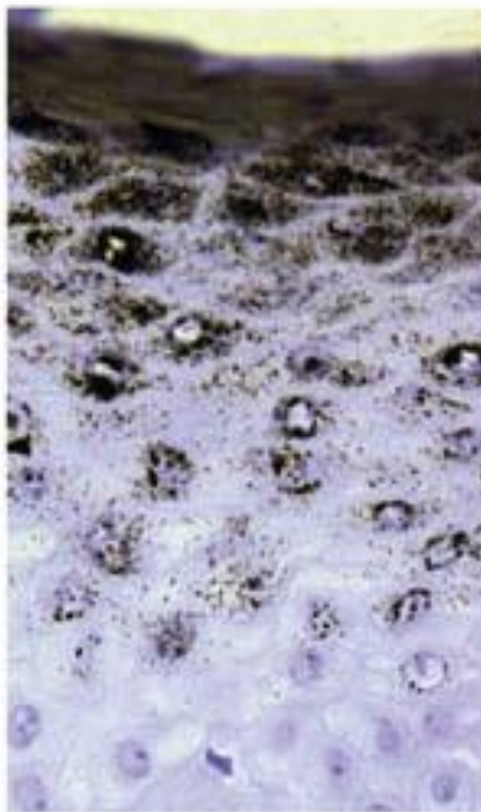
It is postulated that the loss of filaggrin results in:

- Corneocyte deformation (flattening of surface skin cells), which disrupts the organisation of the extracellular lipid (fat) – the lamellar bilayers.
- A reduction in natural moisturising factors, which include metabolites of pro-filaggrin.
- An increase in skin pH which encourages serine protease activity –increases inflammation

Filaggrin staining  
in normal skin

Normal skin barrier

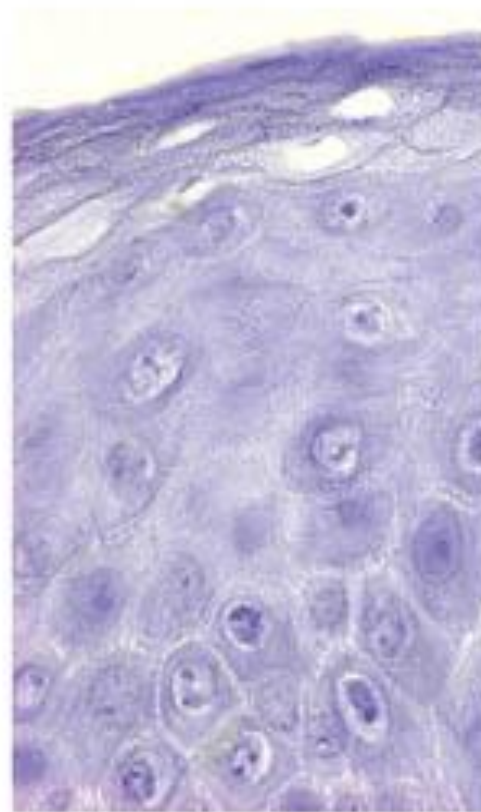
Filaggrin  
granules



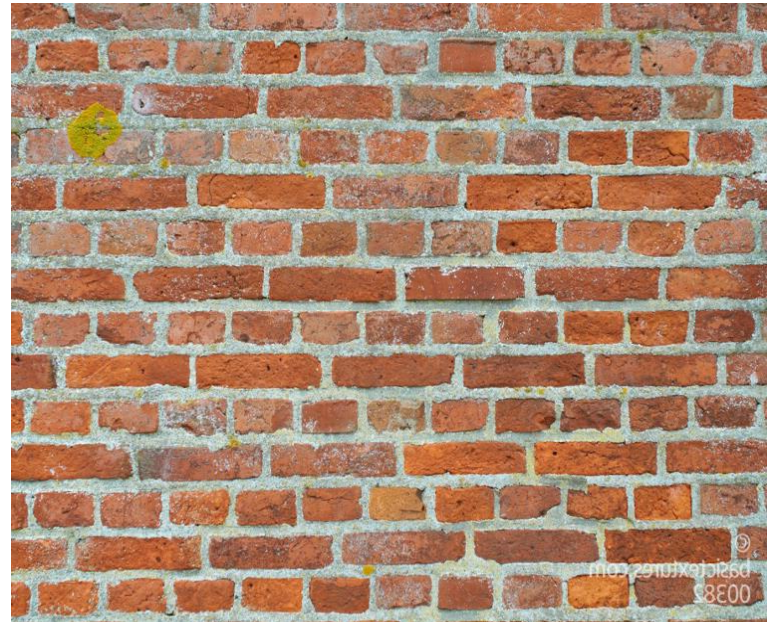
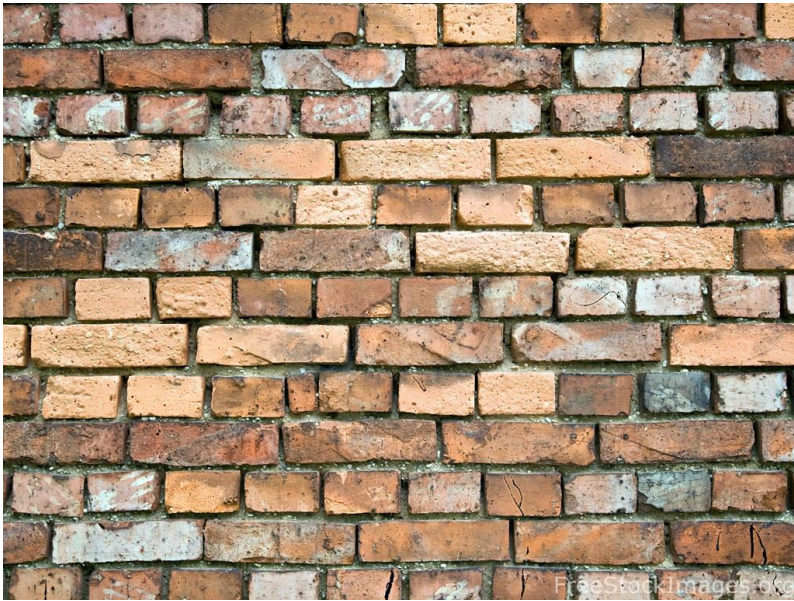
Ichthyosis vulgaris and  
atopic dermatitis

Defective skin barrier

No filaggrin  
granules



# Brick wall analogy



# Treatment Options



# Emollients

Up to 5 times a day  
Not long lasting



# Steroids

Use in stepwise manner

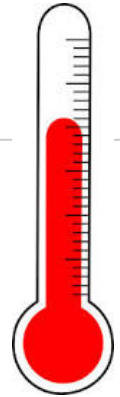
Lowest to highest

Use for short period

Use enough!!

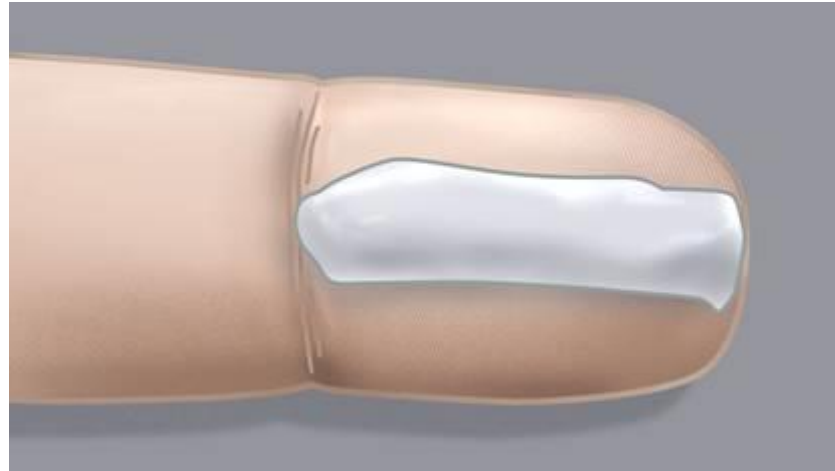


# Steroid Potency



Class 1	<b>Very potent or super potent (up to 600 times as potent as hydrocortisone)</b> Dermol™ cream/ointment/scalp lotion Diprosone™ OV cream/ointment
Class 2	<b>Potent (100-150 times as potent as hydrocortisone)</b> Beta™ cream/ointment/scalp solution, Locoid m-mometasone™ cream/ointment Elocon™ cream/lotion/ointment) (Advantan™ cream/ointment)
Class 3	<b>Moderate (2-25 times as potent as hydrocortisone)</b> Eumovate™ cream Aristocort™ cream/ointment
Class 4	<b>Mild</b> <ul style="list-style-type: none"> <li>•Hydrocortisone (DermAid™ cream/soft cream, DP™ lotion-HC 1%, Skincalm™, Lemnis™ Fatty Cream HC, Pimafulcort™ cream/ointment</li> <li>•Micreme™ H cream, Resolve Plus™ 0.5%, 1% cream</li> </ul>

# How Much??



**Table 3:** Approximate number of adult finger tip units (FTU) of corticosteroid needed per application for children with eczema<sup>15</sup> \*

	3–6 months old	1–2 years old	3–5 years old	6–10 years old
<b>One entire arm and hand</b>	1	1.5	2	2.5
<b>One entire leg and foot</b>	1.5	2	3	4.5
<b>Torso (front)</b>	1	2	3	3.5
<b>Back and buttocks</b>	1.5	3	3.5	5
<b>Face and neck</b>	1	1.5	1.5	2

\* Note that these values are a guide and will be influenced by the size of the child

# Other Treatments

- Wet wraps- decreasing in favour as time consuming- use as trial if no response to treatment
- Treat infections quickly
- Pinetarsol no longer recommended
- Aqueous cream not advised
- Bleach baths

# Bleach bath instructions



Dilute bleach (sodium hypochlorite) baths can improve eczema and prevent skin infection.

Use **dilute** bleach baths twice a week for everyone when there is skin infection in a household.

## 1 Choose the right bleach

The bleach should be plain, without added fragrance or detergent.

**Budget Household Bleach Regular (2.2%)** is recommended.

Bleach gets weaker with time so you may need to get a fresh bottle.

**Make sure you store the bleach where children cannot reach it.**

## 2 Fill your bath or tub with warm water

A full-sized bath filled 10cm deep holds about 80 litres of water.

A baby's bath holds around 15 litres of water.

You can work out how much water is in your bath by filling it to a mark using a bucket or large bottle.

## 3 Add bleach and mix well

Add 2 ml of **2.2 % Budget Bleach** for every 1 litre of water (this will make a 0.005% solution). Other brands of bleach may be a different strength – check the bottle.

A 10cm deep full-sized bath will need half a cup (150ml) of **2.2% Budget Bleach**.

## 4 Soak in the bath for 10–15 minutes

## 5 Rinse off with tap water

Pat skin dry with a towel. Do not share towels.

Apply steroid and moisturiser creams.

## 6 Use **dilute** bleach baths 2 times a week

See your doctor or nurse if skin is irritated by the bath, or if infection occurs.

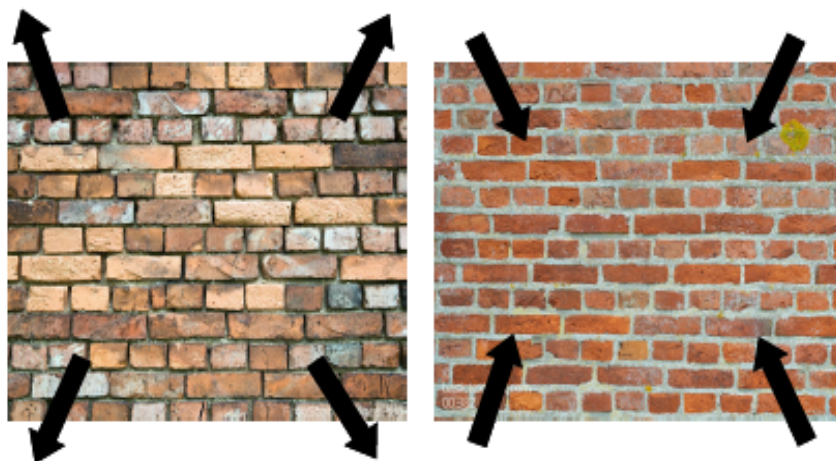
The information was correct at time of writing, but commercial bleach products may change. See your doctor if you have any concerns.

Produced by Diana Purvis, Paediatric Dermatologist

# Its all in the plan...



## ECZEMA SKIN versus NORMAL SKIN



### Tips on how to keep skin healthy and stop ITCHINESS

- Bath your child EVERYDAY
- Try bleach in the bath (Budget brand preferred)
  - 1 cap in a small baby bath
  - 1/4 cup in a large adult bath*At least twice a week*
- NO SOAP or use cream such as emulsifying or as advised.
- Keep their nails SHORT.
- Pat dry (no rubbing)
- Wash hands before and after applying creams
- Put creams on your skin immediately after bath or shower



*Keeping on top of your  
child's "ECZEMA"*

Child's name: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Date: \_\_\_\_\_

Te Hononga o Tamaki me Hoturoa  
PO Box 8139, Symonds Street, Auckland  
Ph: (09) 973 0787 Fax: (09) 973 0789  
Nurse Practitioner: Jo Peterson 027 555 1626  
Whanau/Family Support Worker: Priscilla Williams 021 989 703

*If the skin looks like this.....*

### MILD

**Dry skin with  
ITCHING**



1) Use \_\_\_\_\_

\_\_\_\_\_ times a day everyday

2) Use \_\_\_\_\_

\_\_\_\_\_ times a day for \_\_\_\_\_ days

*If it's worse then try the next creams*

### MODERATE

**Dry skin with  
Redness & Itching**



1) Use \_\_\_\_\_

\_\_\_\_\_ times a day everyday

2) Use \_\_\_\_\_

\_\_\_\_\_ times a day for \_\_\_\_\_ days

Apply steroid cream first followed by  
moisturiser cream after

*If it gets better go back to the mild*

### SEVERE

**Dry, red and very  
itchy skin may be  
oozing blood**



1) Use \_\_\_\_\_

\_\_\_\_\_ times a day everyday

2) Use \_\_\_\_\_

\_\_\_\_\_ times a day for \_\_\_\_\_ days

Apply steroid cream first followed by  
moisturiser cream after

### CLEARING

**DRY SKIN**



1) Use \_\_\_\_\_

\_\_\_\_\_ times a day everyday

*Continue to use your moisturis-  
ing cream AFTER your skin is  
clearing...*

### TYPES OF CREAMS....

**Moisturiser**



**Steroid**



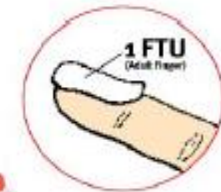
**How much steroid to use...**

### The fingertip unit method\*

FTU = Fingertip unit(adult)

1 FTU = 1/2 g of cream or ointment.

Measurement based on 5mm nozzle.



FACE & NECK	ARM & HAND	LEG & FOOT	TRUNK (front)	TRUNK (back and buttocks)			
1	1	1½	1	1½	3-6 months		
1½	1½	2	2	3	1-2 years		
1½	2	3	3	3½	3-5 years		
2	2½	4½	3½	5	6-10 years		
FACE & NECK	ONE ARM	ONE HAND	ONE LEG	ONE FOOT	TRUNK (front)	TRUNK (back)	Adult
2½	3	1	6	2	7	7	

# Common Misconceptions

Its all about the food?



# Common Misconceptions

They will always grow out of it

The creams don't work

There is a cure





Infected eczema

# Treatment of infected eczema

- If localised- treat with topical antibiotics as per impetigo
- If extensive needs oral antibiotics
- Important to address underlying skin dryness and provide ongoing treatment for the eczema to prevent recurrence



Eczema herpeticum



# Herpes superinfection (rare)

- Areas of rapidly worsening, painful eczema
- Possible fever, lethargy or distress
- Clustered blisters like early cold sores
- Punched out erosions (usually 1-3 mm) uniform in appearance
- Consider *Herpes simplex* if infected eczema fails to respond to antibiotic treatment and topical steroid
- **Suspected eczema herpeticum needs same day specialist review**





Likely scabies

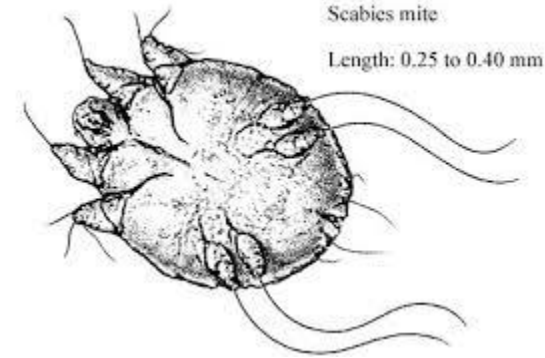
Consider distribution

Possibly fleas or insect bites

# Scabies



# Scabies



An infestation of the skin caused by the scabies mite *Sarcoptes scabiei*.

# Scabies Recognition



- **If it itches its probably scabies**
- **Itchiness and papules**
- On hands especially the **interdigital** spaces, **flexure surface of the wrist**, elbows, genitalia, axillae, umbilicus, belt line, nipples and buttocks, knees, feet.
- Can also involve the **head and neck especially in infants** and children.

# Scabies treatment



- Permethrin most effective in Cochrane
- **Treat the whole family with the lotion, irrespective of symptoms**
- Often advised to repeat in one week- no clear evidence as to whether this is needed

# Choices

**Permethrin 5%**



**Malathion**



**Gamma Benzene Hexachloride  
(Lindane)**



# Contraindications:

- Check allergy status first. Do not give if known hypersensitivity to permethrin, synthetic pyrethroids or pyrethrin.
- Not to be used on infants less than 2 months old.
- Pregnancy or Breastfeeding



# Scabies Treatment

- Under 2-apply a thin film applied to the scalp, face and ears, avoiding eyes and mouth.
- Over 2- Apply Permethrin to skin from neck down
- Leave for 8-14 hours overnight
- Wash off in the morning

**TREAT THE WHOLE FAMILY OR DON'T TREAT AT ALL**

# Supportive advice- scabies



- Wash sheets and pillow cases and any clothes worn against the skin over the last week.
- Vacuum carpet and furnishings.
- Most people's itch improves within a few days of treatment but it may take 4-6 weeks for the itch and rash of scabies to clear completely because of dead mites at the skin surface. These will be slowly cast off.



# Mosquitoes



- Mosquitoes need water to breed so a simple way to stop them breeding is:
  - Get rid of objects outside that hold water, including jars, bottles or old tyres. Fill pot plant saucers with sand (inside home also)
  - Regularly empty and refill drinking bowls for pets
  - Check that gutters and drains are not blocked
  - Fill or drain hollows that can hold water

# Fleas



- There is no cheap and easy solution. Flea bombs may kill the fleas but not their eggs. Flea eggs hatch every few days so the cycle needs to be broken.
- A pyrethrum residual insecticidal powder sprinkled evenly over the floor (including carpet) and left there for at least 7 days is helpful against both adult and newly emerged fleas.
- Other suggestions:
  - Vacuum regularly and change the vacuum bag
  - Put all bedding and clothes through a hot wash, and dry thoroughly
  - Treat pets – see the local pet shop or vet for advice

# Accident Compensation Corporation (ACC)

ACC will cover injuries including

- insect, animal or human bites,
- cuts, grazes,
- sports injuries.
- The cover includes all hospital and GP visits, consultation fees and treatment prescribed.



# Resistance MRSA etc



## Everyone's role to reduce resistance

11 March 2013 Last updated at 13:36 GMT



## Antibiotics resistance 'as big a risk as terrorism' - medical chief

COMMENTS (1034)



By Fergus Walsh  
Medical correspondent



Search keywords...



National

World

Business

Sport

Technology

Entertainment

Life & Style

## Antibiotic crisis 'bigger than Aids epidemic'

By Rebecca Smith

7:00 PM Thursday May 1, 2014

Health

Health & Wellbeing

Your Health



f 184

t 4

in 0

g+ 0



“

A simple cut to your finger could leave you fighting for your life. Luck will play a bigger role in your future than any doctor could.”

# Speaking So Others Understand

- Health literacy so important
- More than just understanding
- Clear, concise information and reasons for treatment
- Face to face where possible
- Demonstrate
- Uses resources
- Tell people when to worry and where to go

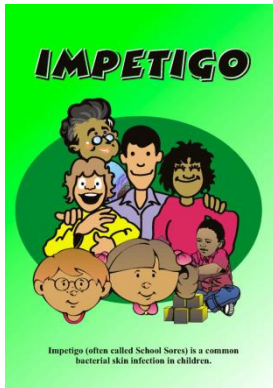


# Take Home Messages

- Get consent!
- Watch out for the sick child- refer or review if worried
- Check allergy
- Bugs spread- cover
- Hand washing!



# Patient resources



**Brochure** (Auckland Regional Public Health Service),  
in [English](#), [Tongan](#) and [Samoan](#).

[http://www1.huttvalleyd  
hb.org.nz/RPH/Resourc  
e.aspx?ID=26230](http://www1.huttvalleydhb.org.nz/RPH/Resource.aspx?ID=26230)



Available from  
**HealthEd**  
[https://www.healthed.  
govt.nz/resource/sca  
bies](https://www.healthed.govt.nz/resource/scabies)

Kidshealth:

<http://www.kidshealth.org.nz/>

Information sheets on

- Impetigo- school sores
- Serious skin infection
- Boils
- Eczema
- Headlice
- Warts
  
- Videos!!

# Clinical Pathways

powered by *healthpoint*

Northern Region

Filter by keyword...

## ▼ A-Z

- Atrial Fibrillation (AF)
- ▶ Cellulitis
- Cognitive Impairment
- Community Acquired Pneumonia
- COPD
- Deep Vein Thrombosis (DVT)
- ▶ Depression
- ▶ Diabetes - Type 2
- Dyspepsia
- ▶ Eczema
- Febrile Illness Management - Paediatric
- Gastroenteritis - Paediatric
- ▶ Gout
- Iron Deficiency
- Minor Skin Surgery
- ▼ Paediatric Skin Infections
  - [Paediatric Skin Infections - Diagnostic Algorithm](#)
  - Paediatric Abscess
  - Paediatric Cellulitis

## NORTHERN REGION CLINICAL PATHWAY FOR THE ASSESSMENT AND MANAGEMENT OF SKIN INFECTIONS IN CHILDREN > 3 MONTHS – 14 YEARS

[Feedback](#)[Useful Clinician Links i!](#)

- This pathway is a guide for clinical decision making and should not replace clinical judgement in individual cases.
- Treatment of neonates with skin infections is outside the scope of this guideline.
- Clinical judgement regarding early referral to secondary care is advised.
- Not for immunosuppressed patients.
- For patients ≥ 15 years old, refer to the [Adult Cellulitis Clinical Pathway](#).
- Children between 12-14 years of age and requiring IV antibiotics may be suitable for POAC. Discussion with an on-call paediatrician is advised prior to referral to POAC.

Child presents with signs/symptoms of skin infection

### Red Flags/Intermediate or High Risk

- Systemically unwell
- < 3 months of age
- Immunocompromised
- Swelling and redness around a joint
- Swelling or redness around eyes
- Large red area
- Fever <sup>i2</sup>

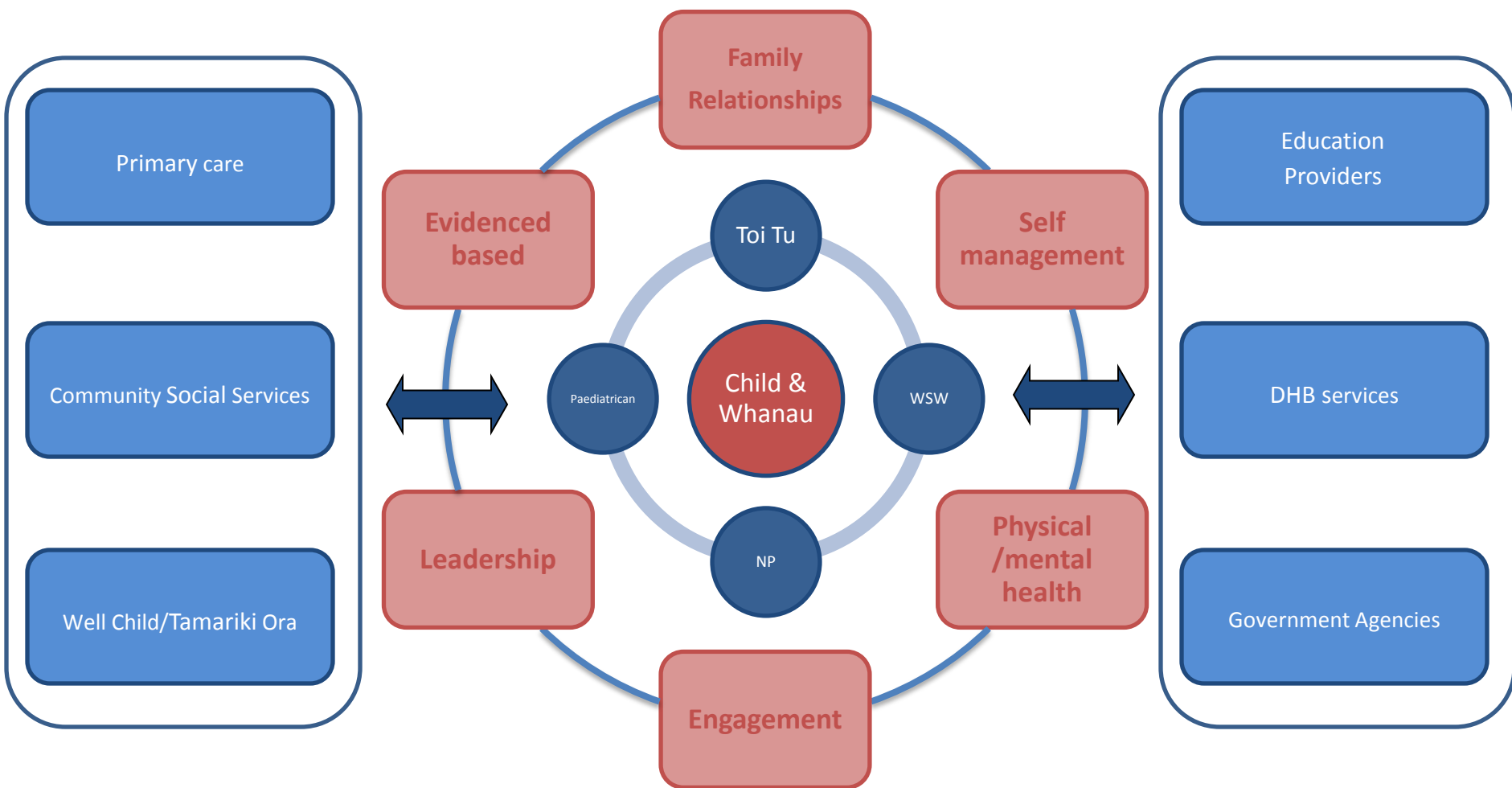
# Online Resources for Reference

- [www.dermnet.org.nz](http://www.dermnet.org.nz)
- <http://www.healthpointpathways.co.nz/northern/>
- <http://www.kidshealth.org.nz/eczema-care-3-easy-steps>

# Toi Tu Kids Service

"Our vision is all children reaching their potential and participating fully in life by removing barriers and building healthy whanau/families and communities"

# Toi Tu Model



# Nurse Led Eczema Clinics for Children in General Practice

(Jess Tiplady, Karen Hoare)



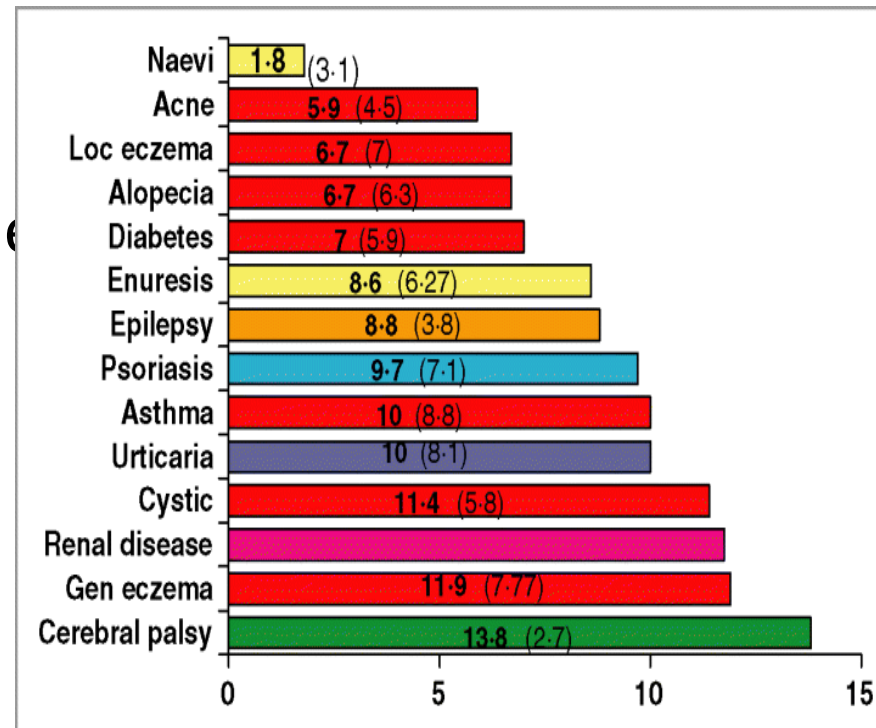
# Why does Eczema matter?

## Quality of life

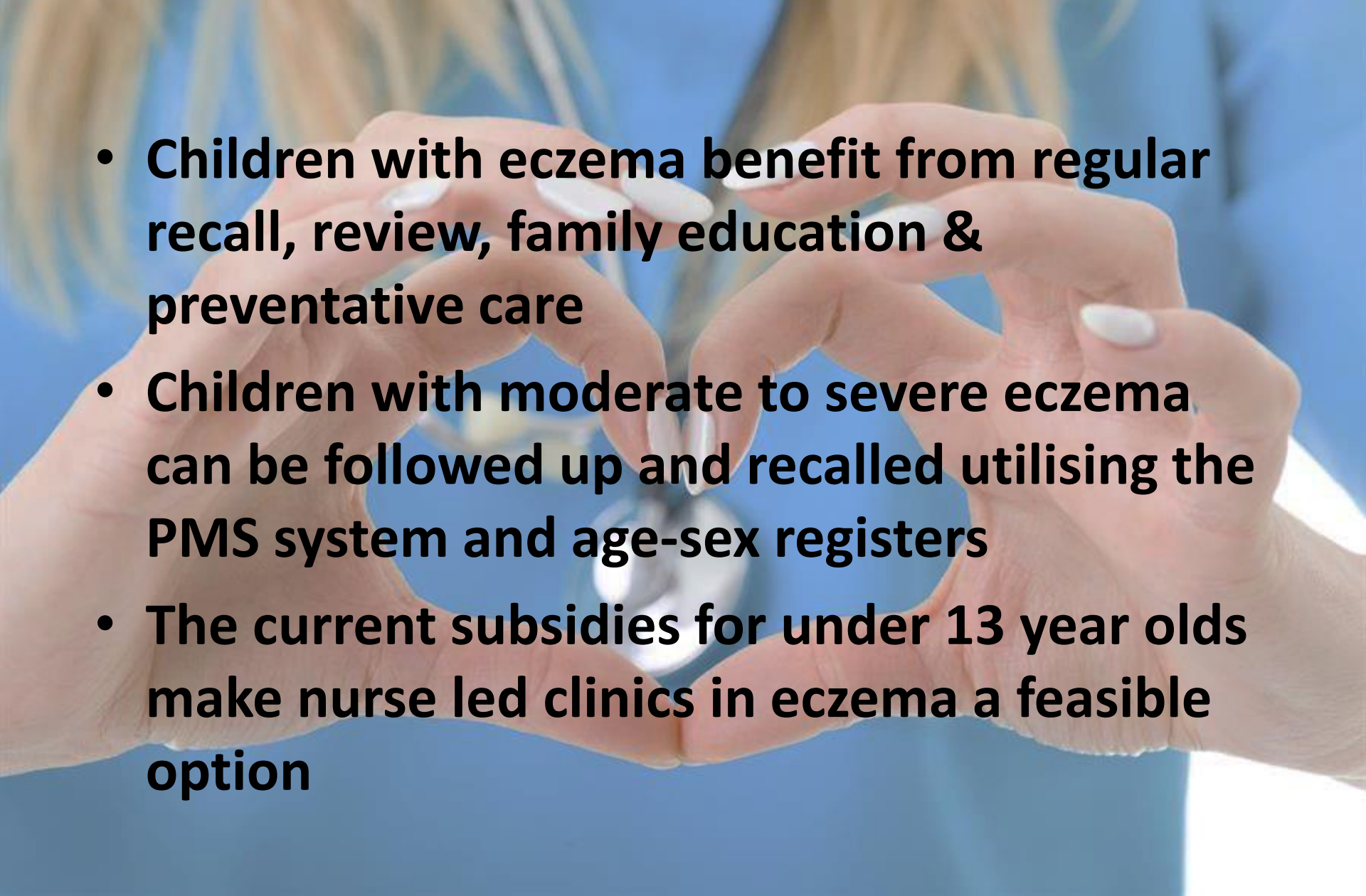
Eczema can affect children's quality of life in many ways

- Itch
- Disturbed sleep and fatigue
- Behaviour problems, ADHD
- Time spent and dislike of treatment
- Restriction of diet, activities and
- School absenteeism
- Bullying
- Self-esteem
- Peer relationships

Children with eczema have twice the rate of psychological problems as their peers



Children's Life Quality Index scores for 540 children; 379 with chronic skin disease and 161 with other chronic diseases. Beattie et al 2006

- 
- **Children with eczema benefit from regular recall, review, family education & preventative care**
  - **Children with moderate to severe eczema can be followed up and recalled utilising the PMS system and age-sex registers**
  - **The current subsidies for under 13 year olds make nurse led clinics in eczema a feasible option**

# Setting up an eczema clinic

1. Compile an age sex register of all children enrolled in the practice with eczema
2. Inform general practice team
3. Identify a practice nurse who will organise and run the clinics who is up to date in eczema management
4. Do not charge a consultation fee
5. Develop a practice protocol (consistency of advice)
6. Utilise PMS systems for recalls so everyone is aware when children are due for a review
7. Always use a written eczema management plan that's been discussed with parents

# Resources & Online Seminars

<https://www.pharmac.govt.nz/seminars/seminar-resources/eczema/>

<https://www.kidshealth.org.nz/eczema>

Jess and Karen are willing to discuss this article with primary care practitioners. Telephone 09 267 8702 to contact them.



Questions?