Whittington Health NHS

Rashes in Children -

Paediatric Dermatology Guideline

Subject:	Rashes in children
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Policy Executive Owner:	Dr N Patel, Clinical Director CYP ICSU
Designation of Author:	Consultant Paediatrician
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Version Control Sheet

Version	Date	Author	Status	Comment
1.0	August 2016 – January 2017	Dr Elinor Sefi, Consultant Paediatrician Dr Rina Chotai Paediatric Registrar	New	Approved at Sept 2016 CGC. Amendments completed 18 January 2017.

➢ Criteria for use

This guideline covers the assessment and management of common rashes seen in children, designed for use in inpatients and in ED. It is a guide; if ever in doubt or the child looks unwell – you must escalate to seniors and use an ABC approach.

➢ Excluded conditions

The following conditions have their own guidelines and should be consulted separately:

- Meningococcal sepsis
- Henoch Schonlein Purpura (HSP)
- Idiopathic Thrombocyopenia (ITP)
- Kawasaki disease

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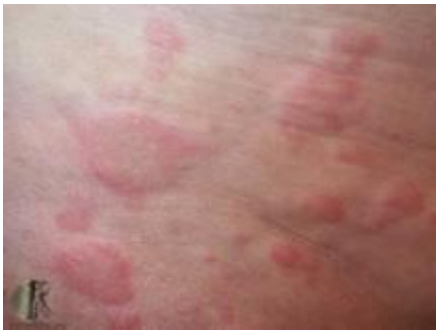
➢ Acute Urticaria/ Chronic Urticaria

Presentation:

- Weals:
  - circumscribed, raised erythematous plaques with central pallor
  - Map-like pattern that changes shape or size
  - Usually resolves within hours
- Angioedema
  - subcutaneous swelling to face, hands, feet, genitalia
- Often goes within hours or days
- More common in atopic children



Investigations:

- Identify trigger:
  - Virus
  - Bacteria
  - food/drug allergy
  - bee/wasp stings
  - idiopathic
- Consider referral to the Paediatric Allergy Service for skin prick or RAST testing if a drug or food allergy is suspected
- Viral urticaria does not always respond to antihistamines

Management (see BNF for doses):

- Under 1 year: oral Chlorphenamine
- Over 1 year: oral Cetirizine
- Angioedema in the absence of urticaria, often with abdo pain consider C1 esterase level, and C3/C4

Chronic Urticaria

Urticaria present for > 6 weeks
Consider increasing the dose of antihistamines (discuss with consultant)

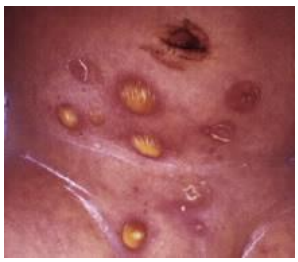
➢ Common Impetigo & Bullous Impetigo

Presentation:
Common Impetigo

- Commonly affects exposed sites eg face (mouth, nose), minor grazes or bites and excoriated eczema
- Single or multiple irregular crops of golden crusted plaques
- Systemic illness rare but mild fever and malaise may occur
- Caused by Staph Aureus or Streptococcal infection
- Eczema herpeticum may coexist with impetigo causing clinical confusion but these children are likely to be unwell

Bullous Impetigo

- Large flaccid yellow fluid filled bullae
- Blisters burst to leave a thin brown crust, with central clearing
- Can involve buccal mucosa
- Caused by Staph Aureus



Investigations:
Clinical diagnosis but the following may be helpful if unclear:

- Blue bacterial swab of fluid/deroofed blister
- Bloods if systemically unwell FBC (neutrophil leucocytosis), U+Es, CRP
- If recurrent take nasal swab for staph aureus carriage

Management:

- If systemically well:
    - Oral Co-amoxiclav for 7-14 days
        - < 1 year: 0.25ml/kg TDS (125/31 susp) max 5ml
        - 1 – 5 year: 5ml TDS (125/31 susp)
        - >5 year: 5ml TDS (250/62.5 susp)
        - >12 years 1 tablet (250/125) TDS
    - If penicillin allergic: Azithromycin for 3 days
        - >6 months: 10mg/kg OD

- Any systemic symptoms:
    - Ceftriaxone for 7-14 days (50mg/kg once daily) (max 2g daily)
    - If penicillin allergic: Clarithromycin for 7-14 days
        - 1 month to 12 years:7.5mg/Kg BD
        - >12 years: 500mg BD

- MRSA positive
    - Discuss with microbiology may require IV vancomycin

General Measures:

- Leave open- do not cover
- Avoid close contact with others
- Carer should employ good hand hygiene
- Launder clothes and linen daily and avoid towel sharing
- School exclusion rules apply: avoid school until lesions crusted over or 48 hours after antibiotics commenced

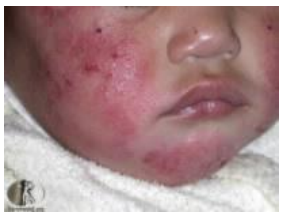
Persistent/Recurrent Impetigo

- Nasal mupirocin 3 times/day up both nostrils for 5 days to clear MRSA or intranasal bactroban bd for 10/7 for persistent/ recurrent staph.
- Wash daily with an antibacterial emollient: Dermol 500 (in children with eczema) or Chlorhexidine (in children with normal underlying skin).
- Consider prolonged course of antibiotics (up to 6 weeks)
- Identify and treat family members or close contacts for staph aureus carriage.
- Consider dermatology referral for consideration of autoimmune blistering conditions if blisters persist in swab negative patients.

➢ Eczema

Presentation:

- Itchy, chronic, inflammatory skin disease that has remitting and relapsing course
- Caused by skin barrier dysfunction which has a genetic association
- Maybe part of the "allergic march": rhinitis, asthma and allergies
- Identify triggers in order to manage them appropriately:
    - Infections
    - Food allergies
    - Irritants e.g soaps and detergents
    - Inhalant allergens e.g pollens and house dust mites
    - Contact allergens
- Important to consider cow's milk protein intolerance in young infants with moderate to severe eczema that does not improve with optimal treatment, especially if associated with failure to thrive or gut symptoms (colic, reflux, constipation/diarrhoea)



Assessment of severity (taken from NICE guidelines)

Grading	Skin appearance
Clear	Normal skin, no evidence of active atopic eczema
Mild	Areas of dry skin, infrequent itching (with or without small areas of redness)
Moderate	Areas of dry skin, frequent itching, redness (with or without excoriation and localised skin thickening)
Severe	Widespread areas of dry skin, incessant itching, redness (with or without excoriation, extensive skin thickening, bleeding, oozing, cracking and alteration of pigmentation)

Management:

Consider the cause of the flare:

1. Often precipitated by infection- Always swab
2. Adherence to skin regime
3. Appropriate treatment i.e. sufficient steroid/ emollient

Emollients

- To be used for moisturising, washing and bathing – stop all other products
- Must continue to use on clear skin to prevent flare ups

- Can use multiple products in combination
- Products in pumps are preferable to tubs to reduce risk of infection-if not available inform carer to use a sterile spoon/spatula each time
- In bath: consider bath oil e.g. cetraben/oilatum. Avoid soap and wash with emollient. Apply emollient after drying.
- Apply emollient in the direction of hair growth in a thick layer and allow to soak into skin – rubbing is not effective! Use as often as possible.
- Always give the family an eczema care plan which can be found on shared Paediatric drive I:\Paediatrics\Clinical Information\allergy\ezcema information

Guide to commonly used emollients

Aqueous Cream – Has a high water content and is highly irritant to broken skin so not effective as a moisturiser or soap substitute. Avoid
Cetraben Cream – effective first-line moisturiser. Some children can be sensitive to ingredients so advise to discontinue if makes erythema worse
Dermol 500 Lotion – good moisturiser and soap substitute. Has antimicrobial action due to chlorhexidine
Dermol Cream – same as above but thicker
Diprobase Cream – good first-line moisturising cream. Usually well tolerated as not too greasy
Diprobase Ointment – greasier than Diprobase cream. Better tolerated than other greasier emollients
Doublebase – moderately greasy moisturiser and soap substitute that is well tolerated. Can be used with wraps too. (Useful in teenagers).
Epaderm Ointment – One of the greasiest all-in-one products but very effective for severe eczema. Good for night time use if too greasy for the day. Can be used in combination with wraps and does not cause folliculitis like other greasy preparations
Hydromol Ointment – equally greasy product that is usually well tolerated
50-50 White soft paraffin – Also very greasy but extremely messy and can cause folliculitis under wraps

It is in the name: Lotions are lightest, creams are thicker and ointments are greasy

Steroids

- For use during flare ups- itchy, inflamed, erythematous skin
- Prescribe strength according to eczema severity

Eczema Severity	Steroid Strength	Steroid OINTMENT	Steroid with antimicrobial
Mild	Mild	Hydrocortisone 1–2.5%	Canesten HC Daktacort Fucidin H
Moderate	Moderate	Eumovate Betnovate-RD	Trimovate
Severe	Potent	Elocon Betnovate	Fucibet

- Duration: max 7-14 days BD, unless using moderate strength on face/neck then use for shorter periods (3-5 days). Can be used for 1-3 months with specialist advice.
- Amount should be prescribed in Finger Tip Units (FTU)- see eczema care plan on paediatric shared drive I:\Paediatrics\Clinical Information\allergy\ezcema information
- Very potent steroids and topical calcineurin inhibitors (tacrolimus) should only be used with specialist advice

Management of Infections

- Always take blue bacterial swabs before treatment
- Most commonly caused by Staph Aureus
- If suspecting herpeticum take red viral swabs in addition and see additional guideline

- For minor infection:
    - Oral Co-amoxiclav for 7-14 days
        - < 1 year: 0.25ml/kg TDS (125/31 susp) max 5ml
        - 1 – 5 year: 5ml TDS (125/31 susp)
        - >5 year: 5ml TDS (250/62.5 susp)
        - >12 years 1 tablet (250/125) TDS
    - If penicillin allergic: Azithromycin for 3 days
        - >6 months: 10mg/kg OD

- For widespread infection:
    - Ceftriaxone for 7-14 days (50mg/kg once daily) (max 2g daily)
    - If penicillin allergic: Clarithromycin for 7-14 days
        - 1 month to 12 years:7.5mg/Kg BD
        - >12 years: 500mg BD

Useful links:

Advice re infected eczema from Ben Esidale, Consulant Dermatology

Eczema care plan

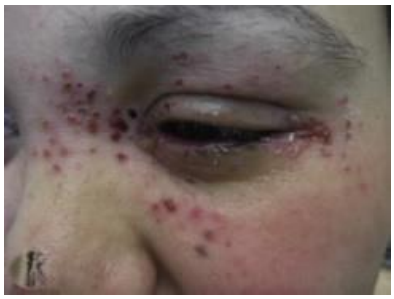
Essential Parents guide to eczema

➢ Eczema Herpeticum

Dermatological Emergency

Presentation:

- Clusters of blisters consistent with early cold sores
- **Punched out** lesions (circular, depressed and ulcerated)
- Can cause severe systemic illness with fever, lethargy and distress
- Affects any area of skin but commonly areas of atopic eczema
- Differential includes coxsackie virus – see Hand, foot and mouth disease guideline



Investigations:

- Bloods: Culture, FBC, U+Es and CRP
- Red viral swabs (found in the cupboards on the right as you enter Paeds ED and in labelled shelves in drug room in Ifor)
    - try to swab floor of burst vesicle or swab fluid
    - specifically request HSV
- Blue bacterial swabs - looking for impetigo/secondary bacterial infection

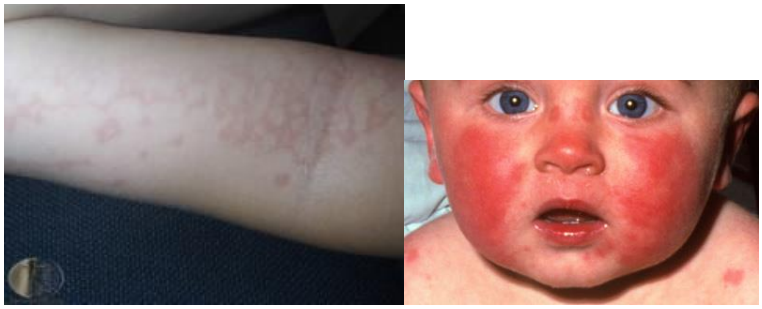
Management:

- Prompt treatment with Aciclovir (see BNF for doses- Back of BNF has a page to calculate body surface area from weight)
- If a child with atopic eczema has a lesion on the skin suspected to be herpes simplex virus, treatment with oral aciclovir should be started even if the infection is localised
- If systemically unwell or unable to tolerate oral medication give IV aciclovir
- Consider IV antibiotics to treat any secondary bacterial infection
    - Ceftriaxone for 7-14 days (50mg/kg once daily) (max 2g daily)
    - If penicillin allergic: Clarithromycin for 7-14 days
        - 1 month to 12 years:7.5mg/Kg BD
        - >12 years: 500mg BD
- Refer to Ophthalmology if any lesions near the eye to exclude ophthalmic herpeticum

➢ Erythema Infectiosum (Slapped Cheek Syndrome/Fifth Disease)

Presentation:

- Non-specific viral symptoms
- Rash appears few days later, firm red cheeks, burning hot, perioral sparing
- Lace like pink rash follows on limbs and occasionally trunk



Investigations:

- Clinical diagnosis
- Can be confirmed with blood tests:
    - Parvovirus serology; IgG, IgM (Lithium heparin bottle)
    - Parvovirus PCR (EDTA)

Management:

- No specific treatment- reassurance and emollients
- No school exclusion required (infectious before rash evident)
- Ice cold flannel can relieve discomfort/burning of cheeks

Note:

- Infection in pregnant woman can cause spontaneous abortion, intrauterine death and hydrops fetalis therefore must avoid contact and seek advice from midwife.
- Can cause a transient aplastic crisis in children with chronic haemolytic disorders e.g. sickle cell and spherocytosis- observe haemoglobin.

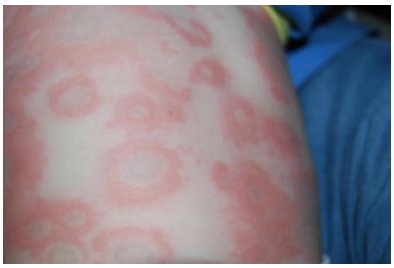
➢ Erythema Multiforme

Presentation:
Typical EM

- Often starts as a red macule and 24 hours later develops in to a target lesion.
- Target lesions (1-3cm diameter) that arise abruptly in successive crops over 3 – 5 days
- Centre becomes dark and dusky, next ring pale pink and oedematous, and outermost halo bright red
- Affect extremities spreading along limbs towards trunk: upper limbs>lower limbs
- Burning and pruritus sometimes reported
- Kobner phenomenon: develops at sites of preceding skin trauma

EM Major

- More serious: extensive target lesions with systemic upset
- Severe erosions/ulceration of at least 2 mucosal surfaces
- Characteristic haemorrhagic crusting of lips



Stevens- Johnson Syndrome

- distinct from EM
- rare, potentially life-threatening skin reaction (most often to medication)
- sheet-like loss of mucosa and skin
- Look for underlying cause like possible drug reaction

Investigations:

- Diagnosis usually clinical
- In severe, recurrent or uncertain cases refer to dermatology

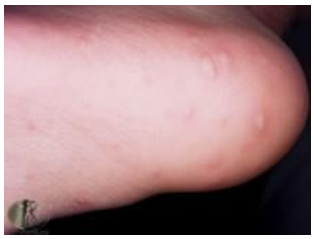
Management:

- Most episodes are mild and need no treatment
- Treat the underlying cause if identified
    - anti-virals or antibiotics for infection as appropriate
    - withdrawal of drug if suspected cause (barbituates, NSAIDs, penicillins, sulphonamides, phenothiazides & anti-convulsants)
- Supportive
    - Emollients and topical steroid for itching
- If severe consider admission for IV hydration and skin care
- Prompt ophthalmology referral if any eye involvement

➢ Hand, Foot and Mouth Disease

Presentation:

- Highly infectious, several family members/class children may be affected
- Fever, sore throat, loss of appetite, malaise, mild diarrhoea
- Flat pink patches on sides of fingers, dorsal and palmar aspects on the hands and feet
- Small elongated greyish blisters follow and then peel off within a week
- Erythematous macules (2-8mm) vesicles/yellow grey ulcers with erythematous halos occur on hard palate, tongue & buccal mucosa
- Red rash may develop on buttocks
- Caused by Enteroviruses and occurs in outbreaks



Investigations:

- Not usually required
- Should consider eczema herpticum in differential diagnosis

Management:

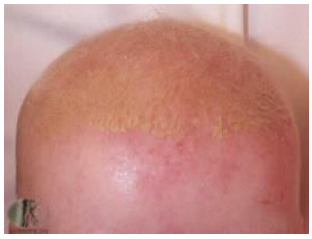
- Mild, self-resolving within 7 days
- Supportive treatment with analgesia or difflam spray
- No school exclusion required
- Advise good hand hygiene (virus continues to shed for upto 4w after acute illness)
- Blisters infective until dried up

Note:
If any travel to South East Asia, Canada or America consider throat swab and EDTA serology for typing as causes more severe illness

➢ Infantile Seborrhoeic Dermatitis & Cradle Cap

Presentation:

- Occurs in first 6 weeks of life
- Greasy yellow scales or erythematous lesions behind the ears, head, neck, axillae and groin



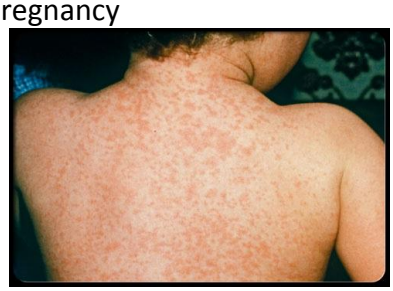
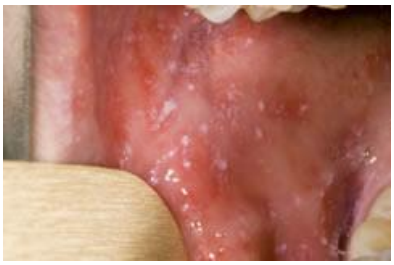
Management:

- Self-limiting condition
- Simple skin care is usually sufficient:
    - Regular shampooing
    - Use of emollients or vegetable oil can help remove scales
- Dentinox (from chemist)
- Consider Imidazole cream for severe cases
- If persistent or recurrent, associated with skin rash or ear discharge/ systemically unwell , consider Langerhans cell histiocytosis (rare).

➢ Measles

Presentation:

- Prodromal cold-like symptoms: miserable, fever, conjunctivitis, cough and corzya
- Koplik spots – small blue-white spots on inside of mouth, appear 24-48 hours before exanthem
- Day 4-5: blotchy, non-itchy, red rash behind ears and spreads from face down towards body. Appearance coincides with high fever
- Begins to fade after 3-4 days
- High risk:
    - Under 2 months (infants who have lost passive immunity pre 1st set of immunisations)
    - Immunocompromised individuals regardless of immunisation status
    - Late teenage years- may not have been immunised
- High risk of increased severity:
    - Malnourishment
    - Immunodeficiency
    - Pregnancy

Investigations:

- Suspected cases require confirmation:
    - Viral nasopharyngeal swab & throat swab for PCR within 7d of onset of rash
    - Bloods: IgM and IgG antibodies

Management:
Supportive

- Analgesia and IV hydration if clinically indicated
- Admit severe or high risk individuals for careful observation to prevent complications
- Notification to infection control and Public Health England

Common Complications:

- Pneumonia- primary viral or secondary bacterial (most common cause of death = 1:5000 cases in UK)
- Diarrhoea – can be fatal
- Otitis media – may lead to deafness
- Convulsions

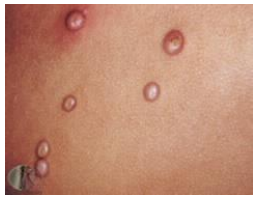
Rarer Complications:

- Encephalitis
- Sub-acute sclerosing pan-encephalitis
- Bronchitis

➢ Molluscum Contagiosum

Presentation:

- Firm, dome-shaped papules 2-5mm with central umbilication and a shiny surface
- Occurs in crops
- Caused by pox virus
- Lesions may appear anywhere on the body
- Pruritus may be present
- Lesions can become erythematous and visibly inflamed signaling impending improvement



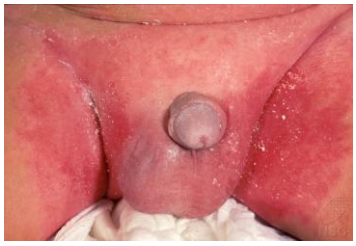
Management:

- Self limiting condition: individual lesions tend to heal within a few months, longer in immunocompromised and those with eczema
- Usually no treatment indicated
- Refer to Derm if: lesions facial/ in sensitive obvious areas/ if there is bullying
- Consider testing for HIV status if widespread

➢ Napkin Dermatitis & Candidiasis

Presentation:

- Occurs due to a combination of a moist environment, chemical irritants and friction
- Skin folds are classically spared with dermatitis as no contact with the nappy
- In candida infections skin folds are affected and satellite papules are present:



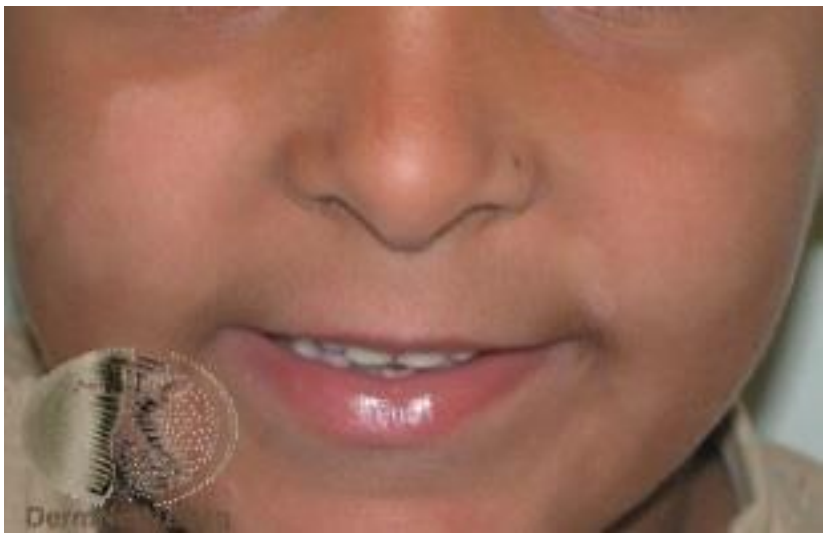
Management:

- Napkin dermatitis can be treated with simple skin care:
    - Frequent nappy changes
    - Use barrier creams such as metanium or zinc and castor oil to prevent further irritation
    - Consider cleaning with olive oil and water and avoiding babywipes
    - Leave nappy off at home
- Candidiasis: clotrimazole cream TDS until rash clears and for a further 7-10 days after to ensure organism is cleared and also treat mouth with oral nystatin.

➢ Pityriasis Alba

Presentation:

- Round or oval patches of redness that fade to leave areas of hypopigmentation
- Commonly occur on the cheeks but can occur elsewhere
- It is a type of dermatitis - not vitiligo!
- More obvious in children with pigmented skin



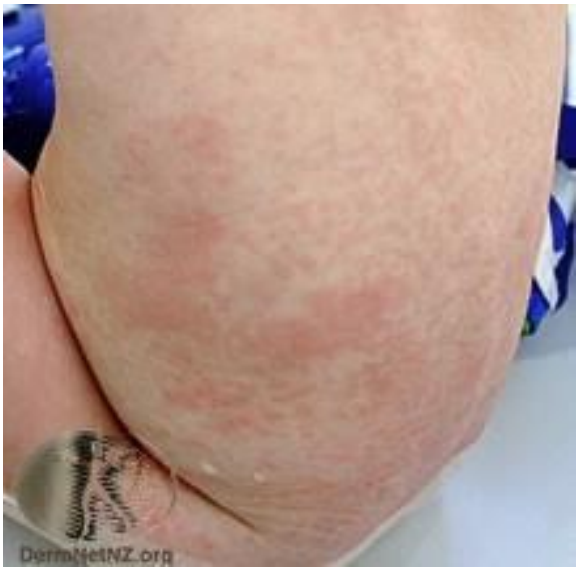
Investigations:
None

Management:
Resolves with emollients (see eczema guideline)
Can consider short course of topical 1% hydrocortisone

➢ Rubella

Presentation:

- Macular papular pruritic rash – begins on neck and spreads to face and extremities
- Once fades, skin may desquamate in flakes
- Tender lymphadenopathy – usually post auricular, suboccipital and cervical
- Fever, sore throat, coryza, malaise, arthralgia and arthritis



Investigations:

- Clinical diagnosis

Management:

- No specific treatment – usually mild and self limiting
- School exclusion rules apply whilst patient is infectious 7 days before and 7 days after rash
- Notification to infection control and Public Health England
- Contact tracing – ask about contact with pregnant women
- Must be confirmed serology not clinically

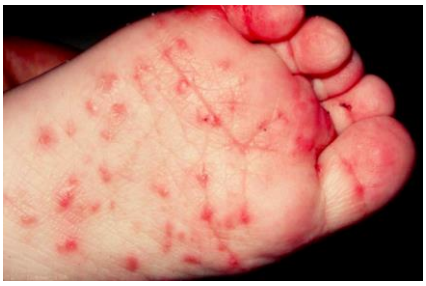
Complications:

- Conjunctivitis
- Thyroiditis
- Arthritis
- Post-infectious encephalitis
- In pregnancy can cause stillbirth, miscarriage or congenital rubella syndrome

➢ Scabies

Presentation:

- Caused by a mite called Sarcoptes scabiei
- Consider source of infection- incubation 4 weeks
- Itchy papular rash with visible burrows
- Symptoms are caused by the immune reaction to the mite faeces
- Classically affects interdigital spaces in the hands, feet and wrists but also the trunk, thighs and buttocks



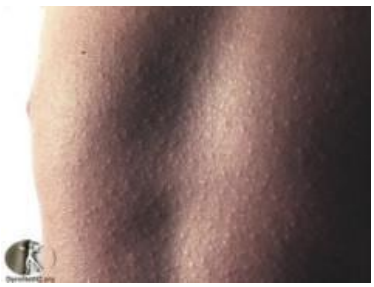
Management:

- Permethrin cream or Malathion liquid
- Treat entire household in order to eradicate it successfully
- Apply cream/lotion according to instructions (either entire body or neck down)
- Leave permethrin on for 8-12 hours and malathion for 24 hours before washing off
- After each treatment wash all linen and clothing at a minimum of 50°C or tumble dry/iron on hot settings to kill mites
- Repeat treatment after 7 days as if there are eggs, they will hatch after 7 days
- School exclusion: children should stay off school until after the first treatment
- Itching can last for up to 6 weeks – Eurax or hydrocortisone cream may help
- Highly infectious in immunosuppressed children and they will require systemic treatment with Ivermectin

➢ Scarlet Fever

Presentation:

- recent sore throat or impetigo (streptococcal infection)
- Sudden fever associated with sore throat, cervical lymphadenopathy, headache, nausea, vomiting, swollen red 'strawberry' tongue, abdominal pain and malaise
- Rash appears 12-48 hours after onset of fever below ears, neck, chest, armpit and groin, then spreads across body over 24hrs
- Looks like sunburn, with pimples, feels like sandpaper



Investigations:

- Diagnosis based on clinical suspicion
- Supported by:
    - Throat swab or rapid streptococcal antigen test
    - Anti-streptolysin O titres (ASOT)

Management:

- Oral Penicillin V for 10 days
    - <1 month – d/w paeds consultant
    - 1 month -1year 62.5 mg QDS
    - 1 year - 6 years 125 mg QDS
    - 6-12 years 250 mg QDS
    - >12 years 500 mg QDS Supportive management
- If penicillin allergic: Azithromycin for 5 days
    - >6 months: 10mg/kg OD
- School exclusion rules apply: avoid school until 24 hours after antibiotics commenced

Post streptococcal complications:

- Rheumatic fever
- Glomerulonephritis
- PANDA

Infectious complications:

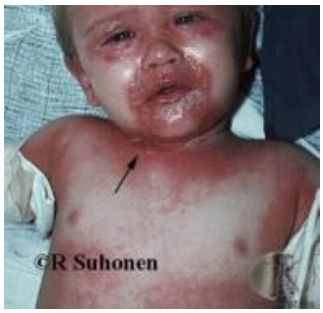
- Otitis media
- Pneumonia
- Toxic Shock and Septicaemia
- Osteomyelitis
- Group A streptoccal infection

➢ Staphylococcal Scalded Skin Syndrome

Dermatological Emergency

Presentation & Course:

- Common in infants and children under 6 years
- Caused by an exfoliative toxin produced by roughly 5% of strains of *Staphylococcus aureus*.
- Two types: a localized form with patchy involvement of the epidermis, and a generalized form, in which significant areas are involved, remote from the initial site of infection.
- Prodromal fever and irritability
- Tissue paper like wrinkling of skin
- Large fluid filled blisters form within 24-48hrs in the axillae, groin and body orifices
- Blisters rupture easily and skin peels off in sheets leaving blistering scald-like skin
- Positive Nikolsky sign: gentle stroking causes skin to separate at the epidermis
- Identify source, usually follows minor impetigo infection
- Mortality low (1-5%) unless associated sepsis



Management:

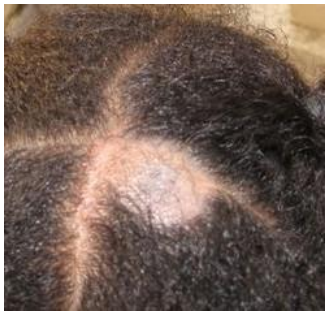
- Take blood cultures and swabs from affected site (nb swabs may be negative in 2nd type as infection spread haematogenously.
- Admit and treat based on clinical suspicion
- Consider asking dermatology to perform a skin biopsy if diagnosis uncertain
- IV Ceftriaxone 7-14 days 50mg/kg once daily (max 2g daily)
- Penicillin allergic: IV Clarithromycin
    - 1 month to 12 years:7.5mg/Kg BD
    - >12 years: 500mg BD
- Supportive Treatment:
    - Analgesia
    - IV fluids must be considered in young babies or in widespread involvement- calculate fluid loss as for burns.
    - Skin care- apply 50:50 white soft paraffin/liquid paraffin to affected areas

➢ Tinea Capitis/ Kerion

Fungal scalp infection

Presentation:

- May present as dry scaling with hair loss or a pus filled boggy swelling (kerion)
- Kerion more commonly found in children of African or Afro-Caribbean origin.
- Kerion often associated with a large amount of pus and cervical lymphadenopathy but unless systemic upset there is rarely secondary bacterial infection requiring treatment.
- Topical treatment of Kerion ineffective. Systemic treatment always required.



Investigation:
Samples of plucked hair from the edge of the lesion with the root intact +/- skin scrapings should be sent for fungal culture prior to starting treatment.

Treatment:

- First Line: Oral Griseofulvin until resolved – initially 6weeks and then review
    - 1month – 12 years – 10-20mg/Kg OD
    - >12 years – Use Terbinafine (as below)
- Second Line: Terbinafine for 4 weeks
    - Not recommended < 1 year (d/w micro if 2nd line required < 1 year)
    - Body weight 10-20 Kg – 62.5 mg OD
    - 20-40 Kg – 125 mg OD
    - >40 kg – 250 mg OD
- Can also use topical ketoconazole shampoo or selenium sulfide for the first two weeks of treatment to reduce transmission

Note:

Griseofulvin is not always available so check with Pharmacy

➢ References

- NICE guidance for Atopic eczema in children: Management of atopic eczema in children from birth up to the age of 12 years: NICE guidelines [CG57] Published date: December 2007 (accessed August 2016)

- Goodheart's, Photoguide to Common Pediatric and Adult skin disorders Herbert P. Goodheart; ISBN; 978-14511-2062-2, 688pp & approx. 948 illustrations; Publishers: Wisepress Ltd

Further recommended websites:

- http://www.dermnetnz.org
- http://www.pcds.org.uk
- http://www.patient.co.uk

Photos taken from Dermnetnz.