

## Papular Urticaria

Summarised by Ellerslie Medical Centre

Papular urticaria is defined by chronic or recurrent skin papules, vesicles and wheals resulting from and allergic reaction to biting or stinging insects.

The elapsed time between bites and papule formation lengthens as the child gains exposure to the allergens. Continued and repeat exposure results in both immediate and delayed skin reactions.

There is also frequent reactivation of old lesions following new bites due to sensitisation.

### Diagnosis by SCRATCH

- S – **Symmetric** eruption, on the exposed areas (diaper area, axillae, palms and soles spared). Commonly the trunk is spared too, but may see lesions along sock and waist line from pressure sites. Contrasted with scabies which is normally found on the palms, soles and interdigital spaces. Scalp lesions also argue for papular urticaria rather than scabies.
- C – “meal **cluster**” or “breakfast, lunch and dinner.” Linear or triangular groupings, characteristic of bed bug and flea bites. Scratching leads to central crusting, erosions, and occasionally infection. After 4-6 weeks, a macule remains (hyperpigmented with central hypopigmentation in dark skin children, and a violaceous discolouration in light skinned children)
- R – **Rover**. Cat flea bites are the most common cause but a remote history of pet exposure (e.g. relatives house visited only occasionally – the “rover”) is sufficient to cause papular urticaria. Also, mosquitoes (outdoor play, camping) and bedbugs (shelters, apartments, hotel visits) can cause the rash. Primarily associated with fleas.
- A – **Age**. Few develop before age 1, prevalence peaks at age 2. Fully blossomed papular urticaria requires a long period of sensitisation with repeated exposures to blood sucking insects. Tolerance usually develops by age 10. Can occur in older children and adults.
- T – **Target Lesions and Time**. Target lesions (look like targets) are characteristic particularly in darker skinned children. Time refers to the chronic nature and the need for patience and watchful waiting.



- C – **Confused doctor and parent**. Caregivers will typically bring their children in multiple times.

H – “**He’s the only one, I don’t understand**” Very often affects a single family member, unlike scabies. Because it is caused by hypersensitivity, by definition some will react while others will not or will only react after multiple exposures.

## Management by the three Ps

### Prevention

- Protective clothing
- Judicious use of insect repellents
- Appropriate use of nail and hand hygiene and moisturiser use
- Fleas - aggressive flea control for pets of the family and any relatives. Consider professional extermination.
  - Before insecticide treatment:
    - Remove all toys, clothing and stored items from floors/under beds/in closets.
    - VACUUM thoroughly and discard the vacuum bag.
    - Wash, dry clean or destroy all pet bedding.
    - Remove pet food, water dishes, cover fish tanks, disconnect aerators.
  - Insecticide treatment of house
    - Insecticides should contain both an adulticide (e.g. permethrin) and an insect growth regulator (e.g. methoprene or pyriproxyfen). Apply THOROUGHLY. Flea bombs do not reach all the important areas. Carpets, floor rugs, under and behind beds and furniture, beneath cushions. Pay extra attention to where the pet sleeps.
    - Stay off treated surfaces for several hours until the spray has dried.
    - It takes two weeks for the insecticide to fully work, continue to vacuum.
  - Treatment of pet
    - Treat on the same day as the premises. Talk to the pet’s veterinarian.
  - Consider treating the yard with a spray containing permethrin
- Bed bugs
  - Launder the sheets every 2-4 weeks
  - apply double-sided tape to the legs of the bed (they don’t fly or jump), or place each bed leg into a plastic container containing dish soap.
  - Consider professional extermination.

**Pruritus Control** - antihistamines and steroid creams (pruritus means itch)

**Patience** – There is normally eventual development of tolerance

### Reference

Hernandez R & Cohen B. Insect Bite-Induced Hypersensitivity and the SCRATCH principles: A New Approach to Papular Urticaria. July 2006. Paediatrics. Volume 118, Number 1.