



## PAEDIATRIC ACUTE CARE GUIDELINE

### Stings - Bee, Wasp and Ant

<b>Scope (Staff):</b>	All Emergency Department Clinicians
<b>Scope (Area):</b>	Emergency Department

This document should be read in conjunction with this DISCLAIMER  
<http://kidshealthwa.com/about/disclaimer/>

## Stings - Bee, Wasp and Ant

### Background

- Bees, wasps and ants belong to the insect order Hymenoptera
- Stings are common in children, particularly during spring and summer
- Native Australian bees rarely sting; the introduced honeybee and to a lesser extent, the European wasp is responsible for the majority of problematic insect stings
- Allergic reactions to bull ants, especially Jack Jumper ants (*Myrmecia* genus), are an increasing concern in Eastern Australia. March flies and Ticks may cause similar reactions.

There is little immunologic cross-reactivity between the venom of bees and wasps, and a history of allergy or anaphylaxis to one doesn't imply a risk of reaction to the other. Bees sting only once, leaving the sting and poison sac in the victim, after which the bee dies. Wasps can sting multiple times, don't leave their sting in the victim, and don't die after stinging.

### Assessment

#### Reactions to Stings

**Local reaction** - due to irritative/toxic effects of the venom

- Pain, erythema, swelling and itching around the sting site are common
- In severe cases of local reaction the swelling and erythema may extend to the entire limb and persist for several days

**Allergic reactions** - these are generally IgE-mediated, and reflect previous sensitisation

- Usually mild and non-life threatening. Generalised urticaria, pruritus and angio-oedema are typical
- **Anaphylaxis:** Airway oedema, bronchospasm and vasogenic shock require emergency treatment

**Toxic reaction** - direct toxicity from the large amount of venom injected following multiple stings from bees, wasps or ants (usually (> 25). This is rare in Australia.

- Airway and circulatory symptoms are unlikely. Gastrointestinal symptoms (vomiting, diarrhoea) predominate. Renal failure due to release of tissue breakdown products may complicate multiple stings (bee or wasp) several days after the event.
- Treatment is supportive.

**Delayed serum sickness** - this may occur 10-14 days after the sting, with morbilliform rash, urticaria, myalgia, arthralgia and low grade fever

- Oral steroids (prednisolone 1mg/kg/day for 5 days) may be of benefit

## Management

- The majority of children who are stung will not need any medical treatment

### Who Should Seek Medical Attention Following A Sting

- Any person with a known allergy or history of anaphylaxis to the particular sting
- Stings inside the mouth, even if the person isn't allergic to the sting
- Multiple stings: > 5 in a child, or > 10 in an adult

#### First Aid For Stings

- Remove sting (if present) as quickly as possible, by scraping with the edge of a flat object (long fingernail, knife blade)
- Analgesia - Simple analgesics and a cold compress applied to the sting site may relieve pain

**Anaphylaxis** - this is a medical emergency. Refer to [Anaphylaxis](#)

#### Local symptoms

- Symptoms often resolve in a few hours and an oral analgesic and cold compress may be helpful
- Oral antihistamines may alleviate itch and may prevent progression to systemic reactions in children with a previous history of systemic reactions to insect stings. "Less sedating" antihistamines:
  - **Loratadine**
    - 1-2 years, oral 2.5 mg once daily
    - > 2 years and <30 kg, oral 5 mg once daily
    - >30 kg, oral 10 mg once daily
  - **Cetirizine**
    - 1-2 years, oral 2.5mg twice daily
    - 2-6 years, oral 5mg once daily or 2.5mg twice daily
    - 6-12 years, oral 10mg once daily or 5mg twice daily
    - 12-18 years, oral 10mg once daily
- Neck and facial stings may cause swelling which may compromise the airway - consider observation in hospital
- Although data for the efficacy of corticosteroids is lacking, oral prednisolone (1 mg/kg/day) for a few days may be considered if severe swelling occurs of the face or impacts on the function of a limb.
- Large local reactions commonly peak at 24-48 hours and may persist for several days. Elevate the affected limb and apply a cold compress. The appearance may resemble cellulitis but antibiotics should be avoided unless swelling increases more than 48 hours after the sting or systemic signs suggest secondary infection.

**Minor Allergic Symptoms** - general urticaria, pruritus or angio-oedema

- An oral antihistamine is recommended (doses as above)
- The child should be closely watched over the next 1-2 hours for signs of anaphylaxis. The majority of children who die from insect stings have no prior history of anaphylaxis.
- Children with a history of previous allergy or anaphylaxis to stings should also be given oral prednisone 1mg/kg and taken to the nearest medical facility.
- If the child has an EpiPen, this should accompany the child en-route to the hospital. It should be administered if the child develops any signs of anaphylaxis.

**Prevention of Future Episodes**

- Avoid obvious risk spots such as beehives in hollow stumps and take care around flowers.
- High risk activities to be avoided include walking barefoot in warm weather and wearing strong perfumes.
- Picnic foods should be covered.
- The patient should carry their Emergency Kit (EpiPen/antihistamine/action plan) with them at all times.

**Referral**




- Venom immunotherapy desensitisation is very effective in preventing future systemic reactions, and all patients who have experienced a severe allergic reaction following bee, wasp and ant sting should be referred to a Clinical Immunologist/Allergist.
- Children who have had only urticaria and angio-edema do not require desensitisation.

**References**

- AMH Children's Dosing Companion. 2015. Australian Medicines Handbook Pty Ltd

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