The Royal Children's Hospital Melbourne

Allergy & Immunology

INSECT STING IMMUNOTHERAPY

Parent information handout

Before starting insect sting immunotherapy

What is insect sting immunotherapy?
Your Allergist has recommended that your child starts insect sting immunotherapy. Insect sting/venom immunotherapy or desensitisation is a treatment option for people who have previously had a severe allergic reaction (anaphylaxis) to a stinging insect. Insect immunotherapy is available for honey bees, paper wasps, and yellow jacket wasps through the Royal Children's Hospital. Immunotherapy to jack jumper ant is available at Monash Medical Centre.

Insect immunotherapy involves your child having subcutaneous injections, which means that they are given just underneath the skin, usually in the back of the arm. We start with an initial build-up of regular subcutaneous injections (called 'up-dosing') to the insect venom, until we reach a fixed monthly dose (called the 'maintenance phase'). All up-dosing injections are done at RCH, whilst the maintenance phase injections can be given at your local GP practice. Once your child reaches the maintenance phase, injections are given once a month, for five years.

By giving regular doses of the insect allergen over a prolonged period of time, the risk of having anaphylaxis again is significantly reduced. We know that in children receiving bee venom immunotherapy, the risk of another episode of anaphylaxis is reduced from 40%[1] to less than 5%[2] with future stings.

Why has my child been referred for insect sting immunotherapy?
Your child has previously had a severe allergic reaction (anaphylaxis) to a stinging insect, with symptoms of either having trouble with their breathing, vomiting/nausea or a lowered blood pressure. Insect sting immunotherapy is used to reduce the risk of future potentially life-threatening anaphylactic reactions.

What are the risks of insect sting immunotherapy?
Most children tolerate immunotherapy well, but up to 25% of patients can have an allergic reaction to the injections, because we are giving your child an insect venom that they are known to be allergic to.

Some potential risks include:

- **Mild allergic reaction**, such as localised swelling at the injection site (a common side effect that subsides over time, which can be managed with paracetamol or ice-packs
- **Severe allergic reaction (anaphylaxis).** If this occurs during the immunotherapy program, the up-dosing is slowed down, and your child may require weekly injections at the RCH for some time

We take all precautions to make sure that these risks are low by checking that your child is well on the day and that their asthma is well controlled. In some cases where your child had a very severe reaction to the stinging insect, an intravenous cannula (a small plastic tube in the vein to give medications) may be inserted before we start.

[1] Reisman RE. Natural history of insect sting allergy: relationship of severity of symptoms of initial sting anaphylaxis to re-sting reactions. J Allergy Clin Immunol. 1992 Sep;90(3 Pt 1):335-9. doi: 10.1016/s0091-6749(05)80012-0. PMID: 1345753.
[2] Graft DF, Schuberth KC, Kagey-Sobotka A, Kwiterovich KA, Niv Y, Lichtenstein LM, Valentine MD. Assessment of prolonged venom immunotherapy in children. J Allergy Clin Immunol. 1987 Aug;80(2):162-9. doi: 10.1016/0091-6749(87)90125-4. PMID: 3611537.

How many injections will my child receive?

	Day	Location	Schedule
Up-dosing	**Day 1** It will take around 4-5 hours to complete these 6 injections	Hospital	**Medications:** Take an antihistamine medicine 1-2 hours before the injection (see below) **Total injections**: 6 injections ▪ 0.1 micrograms ▪ 1 microgram ▪ 10 micrograms ▪ 20 micrograms ▪ 30 micrograms ▪ 40 micrograms *Each injection is separated by 30 minutes* **Total dose**: 101.1 micrograms **Observation time in hospital:** 2 hours after the last dose
	Day 15 *Two weeks later*	Hospital	**Medications:** Take an antihistamine medicine 1-2 hours before the injection (see below) **Total injections:** 2 injections ▪ 50 micrograms ▪ 50 micrograms *Each injection is separated by 30 minutes* **Total dose:** 100 micrograms **Observation time in hospital:** 2 hours after last dose
	Day 45 *Four weeks later*	Hospital	**Medications:** Take an antihistamine medicine 1-2 hours before the injection (see below) **Total injections:** 1 injection ▪ 100 micrograms **Total dose:** 100 micrograms **Observation time in hospital:** 2 hours after last dose
Maintenance	**Maintenance phase** Four weeks later, then every four weeks	GP clinic	**Medications:** Take an antihistamine medicine 1-2 hours before the injection (see below) **Injections:** 100 micrograms, every 4 weeks, to continue **for a total of 5 years**

Medications to take before your child's injections

- Your child should be given an antihistamine medicine (eg. Zyrtec, Telfast, Claratyne) 1-2 hours before their injection

Things to be aware of in the days after the injection

- Avoid physical exercise (including going to sport training sessions) on the evening of your child's injection days
- Your child may have a **local reaction** at the site of the injection, up to 10cm in size. Simple things such as paracetamol (eg. Panadol) or an ice pack can be helpful for the pain

How much will this cost?

All the injections during the 'up-dosing' phase are given at the RCH, a public hospital, therefore, those with Medicare are not charged for the service.

The vials we use for the injections are covered by the Pharmaceutical Benefits Scheme (PBS). You will be buying the extracts at a cost of around $90 per year, unless if you have a healthcare card, where the price is reduced.

Getting the <u>first</u> vial of insect venom

- Your child's prescription for the insect venom will be sent to the Wood Pharmacy (on the ground floor of the RCH)
- When you get the confirmation letter from the hospital with a date to start the injections, please call Wood Pharmacy on (03) 9349 2315, to check that they have received this, and to arrange payment

Getting <u>further</u> vials of insect venom

- A new prescription will be given by the RCH team at the end of the up-dosing phase
- Please organise further prescriptions for ongoing insect venom through your GP
- This can be ordered on the PBS like the majority of medications, and does not require a specialist to prescribe it
- A vial will last for approximately 5 months

What follow up is required?

Your child will have follow-up at the following intervals in the Allergy Clinic:

- 3 months (Phone review with the Allergy Clinical Nurse Consultant)
- 12 months, then every 12 months until the completion of immunotherapy

These can be done by TeleHealth if your child has no other allergic problems that require a face to face visit. Appointments may occur more frequently if there have been any problems with treatment in the community.

Frequently asked questions

What happens if my child is sick before an injection <u>being given at RCH</u>?

- Notify the Allergy and Immunology Department as soon as possible, in case an injection needs to be delayed

Do I continue to carry my adrenaline autoinjector device whilst on insect sting immunotherapy?

- Yes, your child should continue to carry their adrenaline autoinjector device (eg. EpiPen or Anapen) with them everywhere they go whilst on insect sting immunotherapy, in case they are stung

What happens if my child has a reaction to insect sting immunotherapy <u>being conducted at RCH?</u>

If a severe reaction occurs <u>whilst</u> in hospital

- A doctor or nurse will assess your child and provide treatment
- Your child's program may be modified and you may be asked to return for more frequent injections
- In some cases, additional medications may be added to reduce the likelihood of further reactions to allow your child to progress through the program

If the reaction occurs <u>after you have left</u> the hospital

- For **non-emergency issues:** Get in contact with the Allergy and Immunology Department via email at allergy.clinic@rch.org.au for further advice
- For **urgent**, **non-emergency after hours matters**: Call the RCH Switchboard on 03 9345 5522 and ask to speak to the on call Immunologist
- For **emergency issues:** Follow your child's anaphylaxis action plan, and call 000 if required

What happens if my child has a reaction to insect sting immunotherapy <u>being conducted with my GP</u>?

- Follow your child's anaphylaxis action plan
- For **non-emergency issues:** Get in contact with the Allergy and Immunology Department via email at allergy.clinic@rch.org.au
- Depending on the severity of your child's reaction, modifications to future doses may be required, and your child may potentially be asked to return to RCH for their following dose

What happens if my child is stung by an insect whilst on insect sting immunotherapy?

- If nothing happens, then no action is required
- If your child has a reaction, then follow your child's anaphylaxis action plan and when able, notify the Allergy and Immunology Department via email, at allergy.clinic@rch.org.au

What happens if an injection is delayed?

- If an injection is delayed by **less than 10 days,** it can be given as usual
- If an injection is delayed by **more than 10 days**, please contact the Allergy and Immunology Department for further advice

How long does my child continue insect sting immunotherapy for?

- Therapy is usually completed after 5 years of monthly injections

What happens when my child completes the insect sting immunotherapy program?

- Your treating Allergist will discuss whether your child should continue to carry your adrenaline autoinjector (eg. EpiPen) following completion of the immunotherapy program.

How do I contact the Allergy and Immunology Department?

- The following can be used for non-emergency issues:
  - **Telephone:** 03 9345 4331
  - **Email:** allergy.clinic@rch.org.au