

Jack Jumper Ant Allergy

Stinging ants can cause severe allergic reactions (anaphylaxis). Allergic reactions to Jack Jumper Ants (also known as Jumper, Hopper or Skipper Ants) are a uniquely Australian problem. Other species such as the green ant of Queensland, and the introduced South American fire ant can also cause allergic reactions.

What is a Jack Jumper Ant?



Most Australian native stinging ants are from the genus *Myrmecia*. This group is broadly subdivided into Jack Jumper Ants and bull dog ants. Bull dog ants are large, around 15-25 mm long, whereas Jack Jumper Ants are generally 10 to 15mm long and often display jerky, jumping movements.

The ant most frequently associated with allergic reactions is commonly known as the Jack Jumper Ant. These ants have a black body and orange/brown jaws/pincers and limbs.

Jack Jumper Ants sting rather than bite

Like bees and wasps, Jack Jumper Ants do not bite. Rather, they grasp the victim in their jaws, then bend and sting them. Their sting is in the tail. They are aggressive, typically walk with a hopping motion, and can sometimes jump from surrounding vegetation. The stings of Jack Jumper Ants can be very painful and local swellings are common. Large local swellings can also occur, which may last a few days at a time.

Jack Jumper Ants are widespread

Jack Jumper Ants are found in Tasmania, Victoria, Australian Capital Territory, New South Wales (Snowy Mountains, Blue Mountains and coastal regions), South Australia (Adelaide Hills), and in some parts of Western Australia and Queensland. It is likely that there are other habitats which are yet to be identified.

Nests are often difficult to find

Jack Jumper Ants live in underground nests. Although established nests can form massive mounds, they are often difficult to find, and may be present under rocks, with the entrance surrounded by a pile of fine gravel. Typically, a couple of sentry ants are present at the entrance. The ants are aggressive, and often hunt alone.

They will stray away from the nest, and at times find their way into people's houses and kitchens. It is very difficult to avoid being stung by Jack Jumper Ants when nests are located close to where people live or work.

Anaphylaxis is the most severe type of allergic reaction

Anaphylaxis occurs after exposure to an allergen (such as foods, insects or medicines), to which a person is already extremely sensitive to, and can be potentially life-threatening. Signs and symptoms of a severe allergic reaction to insect stings or bites include:

- Difficulty/noisy breathing.
- Swelling of the tongue.
- Swelling/tightness in the throat.
- Difficulty talking and/or hoarse voice.
- Wheeze or persistent cough.
- Abdominal pain and vomiting.
- Loss of consciousness and/or collapse.
- Pale and floppy (in young children).

In some cases, anaphylaxis is preceded by mild or moderate allergic reactions, with signs and symptoms that include swelling of the face, lips and eyes, hives or welts on the skin.

Anaphylaxis to Jack Jumper Ant stings is not rare

In areas where Jack Jumper Ants are common, population surveys have shown that 2-3% of people have had generalised allergic reactions, and in around half of these people the reactions can be life-threatening. Deaths from Jack Jumper Ant stings and anaphylaxis have occurred in Australia, with several recorded cases in recent years. It is possible that deaths due to sting allergy are under reported.

Jack Jumper Ant allergy does not disappear quickly

Follow up studies have shown that around 70% of people with Jack Jumper Ant allergy will have another allergic reaction if they are stung again. This sensitivity to repeat stings appears to persist for many years.

Diagnosing Jack Jumper Ant allergy

There is currently no skin allergy test commercially available outside of ant allergy research programs.

A blood allergy test is available from SA Pathology in South Australia. Tests can be arranged with your doctor and local pathology laboratory. There may be a small out of pocket cost for this test, which detects around three quarters of cases of Jack Jumper Ant allergy.

Management options

Patients with allergic reactions to Jack Jumper Ants should:

- Avoid Jack Jumper Ants.
- Have an ASCIA Action Plan for Anaphylaxis, and medication.
- Know when and how to use an adrenaline (epinephrine) autoinjector (e.g. EpiPen) if prescribed.
- Consider Jack Jumper Ant Venom Immunotherapy which is currently only available in Royal Adelaide Hospital, Adelaide; Monash Hospital, Melbourne and in Royal Hobart Hospital, Hobart. This is highly effective therapy and offers protection in up to 90% of patients as demonstrated in a Tasmanian study.

Avoiding Jack Jumper Ants

Jack Jumper Ants are difficult to avoid, as they often stray long distances from the nests. Destroying nearby nests has been proposed to reduce the risk of accidental stings, but may not prevent stings from nests located further away. Wearing heavy clothing such as boots and gloves when in the bush, or when gardening seems sensible, but the ants can still sting through heavy clothing. Whether moving from endemic areas to another area may help is uncertain.

ASCIA Action Plan for Anaphylaxis

Patients at risk of anaphylaxis should be referred to a clinical immunology/allergy specialist for assessment and advice. They should have an ASCIA Action Plan for Anaphylaxis, and know when and how to:

- Seek urgent medical assistance if stung.
- Use an adrenaline autoinjector. Adrenaline acts to counteract the dangerous symptoms of anaphylaxis. Medications taken orally, such as antihistamines or steroids, have no effect on the immediate and dangerous symptoms of anaphylaxis. Adrenaline should be considered as First Aid for the treatment of anaphylaxis.
- Access ant venom immunotherapy at one of the specialised centres offering it.

It is important to note that in some cases, more than one dose of adrenaline may be necessary. Even if the adrenaline autoinjector has been highly effective at relieving symptoms, continue to seek emergency medical care without delay. Subjects who have had anaphylaxis should be medically observed for at least four hours after the last dose of adrenaline.

Using an adrenaline autoinjector

Your doctor will prescribe the dose of adrenaline autoinjector most suitable for your needs. Adrenaline autoinjectors are designed to be used as a first aid device by people without formal medical or nursing training. Instructions for adrenaline autoinjectors are shown on the ASCIA Action Plans for Anaphylaxis.

Other measures for people allergic to Jack Jumper Ants

- Carry a mobile or satellite phone/beacon to call for assistance if stung.
- Do not travel alone in remote areas, and consider carrying additional emergency medication if travelling in areas without easy access to medical assistance.
- Take non-drowsy antihistamines when walking in remote areas where Jack Jumper Ants are common. It is important to note that, although antihistamines may help relieve very mild symptoms, there is no evidence that they will prevent a severe allergic reaction.
- Discuss the effects of taking blood pressure or heart medication and anaphylaxis treatment with a clinical immunology/allergy specialist.
- Consider wearing medical identification that may assist by providing additional information to attending doctors or ambulance officers.

Venom immunotherapy

Commercial venom immunotherapy (VIT) extracts are available in Australia for the diagnosis and treatment of patients allergic to Honey Bees, Paper Wasps and European Wasps.

There is currently no commercial venom extract available for skin testing to confirm Jack Jumper Ant allergy, or to use for immunotherapy (desensitisation) to switch off the allergy.

Australian doctors in Tasmania have shown that Jack Jumper Ant venom extracts are effective at switching off Jack Jumper Ant allergy, and preventing allergic reactions when patients were re-stung. This treatment is currently available in Tasmania, Victoria and South Australia.

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