

## Venom Immunotherapy

This factsheet provides information about Venom Immunotherapy. In the UK, you may be offered this treatment if you have a serious allergy to the venom from bees or wasps stings.

### What is Venom Immunotherapy (VIT)?

If you have a serious allergy to insect venom and you get stung, your immune system overreacts. Your immune response can be so strong that it causes symptoms that affect your whole body, such as breathing difficulties or losing consciousness. This type of allergic reaction can be life-threatening and is called anaphylaxis.

The goal of VIT is to desensitise your immune system to the venom so that it no longer overreacts. This is done by giving you doses of the venom that gradually increase over a period of several weeks. This can reduce how serious any allergic reactions would be if you are stung again in the future.

The exact way that VIT works is not fully understood. It is thought to involve several different processes. These include:

- changes in the type of immune system cells and proteins your body makes
- changes in the way your immune system responds to the venom.

You will have been given adrenaline autoinjectors to treat the symptoms of an allergic reaction associated with a bee or wasp sting, but immunotherapy is the only treatment available to try and prevent the reaction from occurring.

### Does VIT work?

Research has shown that VIT is very effective for people who are allergic to bees and wasps. VIT is effective in about 80% of people who have the treatment for bee venom allergy. For wasp stings, it works in up to 95% of people having treatment. This means that most people who complete a course of VIT will be much less likely to have a serious allergic reaction if they are stung again.

To get the best outcome from your treatment, it's important not to miss doses and to complete the full course. Missing doses or stopping treatment early can interfere with the desensitisation process. This reduces the effectiveness of VIT. If you stop treatment early or miss doses, you may still be at risk of a serious reaction if you are stung in the future.

Protection from VIT lasts for a long time after you complete the treatment. Some studies have found that people were still protected 7 years after treatment finished. Not many studies have looked at how long protection lasts beyond 7 years. It is possible that protection could wear off over time. You should still take steps to avoid being stung. This may include wearing protective clothing and avoiding areas where insects are common.

### What does the treatment involve?

#### Up-dosing

VIT involves having injections of small amounts of the venom allergen into the layer of tissue just underneath the skin. This is called a subcutaneous injection. The first phase of treatment involves frequent injections. The injections are gradually increased in strength. Exact schedules vary between clinics, but this often happens over 7-15 weeks.

Doses can be spread over a shorter or longer period; this will be decided by the allergy team and is dependent on your medical history and blood test results. You may need to be given more than one injection on your first few visits, depending on the schedule your allergy specialist recommends. This is called the 'Up-dosing' phase.

#### Maintenance

The second phase of treatment is the 'maintenance' phase. The injections will be at the full maintenance dose, which will be the highest dose reached during the up-dosing phase. They will gradually get further apart until you only need one injection, usually every 6-8 weeks. You will normally need to continue with the injections for 3 years.

Occasionally, treatment may need to continue for longer.

### Who can have VIT?

Your GP can refer you to an allergy specialist if they think that VIT would be a suitable treatment for you. VIT is available at specialist centres in the UK.

You may be a good candidate if:

- you have had a serious allergic reaction to an insect sting
- your allergy has been confirmed by a skin prick or blood test
- you are at increased risk of exposure to bees or wasps in the future, e.g. beekeepers, gardeners or refuse collectors.

VIT would not usually be started if you are pregnant. It may be possible to continue treatment during pregnancy if you are already in the maintenance phase, as long as you stay well.

### Medical conditions and medicines

Some medical conditions and medicines may put you at risk of harm or interfere with how well the VIT works. Sometimes VIT may not be recommended.

Speak to your doctor or allergy specialist if you have:

- uncontrolled asthma – VIT can cause allergic reactions. It is very important that your asthma is well-controlled before starting treatment
- chronic heart disease – any allergic reaction, whether to a sting or to VIT, may be more serious
- autoimmune diseases – very little is known about how this may affect treatment.

Always tell your allergy specialist about any medicines (including over-the-counter, herbal or supplements) you are taking before starting VIT.

### Will I need to take any special precautions during treatment?

You will usually be advised to take some precautions to reduce the chances of an allergic reaction to the VIT. These include:

- avoiding alcohol on the day of your injection and for at least 4 hours afterwards
- avoiding large meals immediately before the injection
- avoiding any exercise that's more strenuous than walking for 12 hours afterwards
- avoiding hot baths or sauna/steam rooms for 12 hours afterwards.

You must also let your clinic know if you have been unwell in the 24 hours before your appointment.

Other injections, such as the annual flu vaccination and other vaccines, must be avoided for 1 week before and after your venom immunotherapy.

### What are the side effects?

You may have reactions to the treatment. It is quite common to have some redness, swelling or itching at the site of the injection. Antihistamines are usually given to help reduce this type of reaction.

People often say they feel tired or have headaches after their injections. This is normal and usually passes quickly. It's fine to take over-the-counter pain medications such as paracetamol or ibuprofen if you need to.

It's very unusual to have a more serious reaction, but it can happen. Every injection is given in a hospital setting. You will normally be asked to stay for 30-60 minutes after each injection.

If you have any side effects after you leave the hospital, you should always report these to your doctor. If you think you may be having anaphylaxis, you will need to get immediate medical help.

### Frequently asked questions

#### Can I stop carrying adrenaline during or after VIT?

During the up-dosing phase of VIT, you will need to continue carrying your emergency medical kit, including two adrenaline devices at all times.

Once you reach the maintenance phase of VIT, your allergy specialist will advise you about whether you can stop carrying your emergency medical kit.

People who may need to keep carrying their kit include:

- If you are at continued risk of multiple stings, for example, a gardener, beekeeper, or refuse collector
- If you continued to experience allergic reactions during VIT
- If you have an elevated baseline tryptase (a type of blood test) or mastocytosis.

#### What happens if I miss a dose?

This will depend on how much time has passed and the stage that you are at in your VIT. The dose of your next injection may need to be reduced. If a very long time has Passed, you may need to start treatment from the beginning.

## Information for Patients

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### Can I get immunotherapy for other allergies at the same time?

It may be possible to have more than one type of immunotherapy at the same time. For example, if you are allergic to both wasp and bee venom. Speak to your allergy specialist about whether this would be suitable for you.

### Can I get immunotherapy for an allergy to the venom of other insects?

VIT in the UK is only available for allergies to the venom of bees and wasps. VIT can be done for insects that are found in other countries, such as fire ants and paper wasps, but this is not offered in the UK.

### Key Points

- VIT is a very effective treatment for insect venom allergy.
- Treatment takes at least 3 years, so you need to be committed to completing the full course.
- It is possible that protection could wear off over time, so you should still take steps to avoid being stung.
- You will need to continue to carry an emergency kit during the up-dosing phase of VIT and sometimes for longer.

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