



Antibiotic Allergy Challenges

Frequently Asked Questions

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Q 1: Why are antibiotic challenges performed?

When antibiotic allergy is uncertain, skin testing and/or allergy challenge under medical supervision can be conducted to confirm or exclude antibiotic allergy.

Most people who are labelled as allergic to antibiotics may not actually be allergic to the antibiotic. This can have a negative impact on these people, and it may lead to treatment with less effective antibiotics that may have more side effects.

Antibiotic allergy challenges are an important way to confirm if a person with suspected antibiotic allergy is truly allergic. If a person is confirmed to have an antibiotic allergy, the challenge may also verify the type of reaction.

Q 2: What is an antibiotic allergy challenge?

An antibiotic allergy challenge is a procedure where doses of the suspected antibiotic are given, either as a single dose or as graded doses, starting from a small dose and increasing the amount of drug in 2-3 steps. The patient will be observed for reactions to the doses and the procedure can take up to 3 hours, or longer if a reaction occurs. The challenge is conducted under medical supervision by a doctor (usually a clinical immunology/allergy specialist or other medical specialist) or a specialist nurse or pharmacist in a medical setting.

Q 3: What are the different types of reactions to antibiotics?

- An allergic reaction to an antibiotic is called '**immediate**' when it occurs within one to six hours after taking a medication, or '**non-immediate**' when the reaction occurs after 24 hours from starting a medication.
- **Mild or moderate allergic reactions** to an antibiotic can result in symptoms such as itchy rashes (hives) and swelling (angioedema). Rashes due to infection can be mistaken for an allergic reaction and sometimes the combination of a viral illness and antibiotic administration can cause a rash. If the antibiotic is used for a bacterial infection there should be no rash.
- **Severe non-immediate rashes** are associated with fever, flu-like, or other systemic symptoms, and can be life-threatening. These are called severe cutaneous adverse reactions (also known as SCAR) and require urgent specialist care.
- **Anaphylaxis** is the most severe type of allergic reaction and should always be treated as a medical emergency. Anaphylaxis requires immediate treatment with adrenaline (epinephrine), which is injected into the outer mid-thigh muscle. If treatment with adrenaline is delayed, this can result in fatal anaphylaxis. Anaphylaxis due to antibiotic allergy is more likely when medication is given by an injection, than if it is taken orally (by mouth).

Q 4: What is needed to prepare for an antibiotic allergy challenge?

It is important that the person being challenged:

- Is in good health for the antibiotic challenge to go ahead. If they feel unwell prior to their appointment, contact the clinic to reschedule.
- Has not been wheezing in the week prior to the challenge if they have asthma. If in doubt, contact the clinic the day before the appointment to discuss this.
- Understands the antibiotic challenge process:
 - Most people will have the oral challenge, which means the antibiotic is given into the mouth to observe for reactions. This is usually done in 2-3 steps.
 - Skin testing may be performed in people with a history of an immediate reaction before they are challenged.
 - An intravenous (IV) challenge (through the vein) may also be performed in cases where the person has had a prior reaction to an IV antibiotic.

Q 5: Who requires skin testing before an antibiotic allergy challenge?

People with a history of an immediate reaction to an antibiotic will usually have skin testing performed prior to the oral challenge:

- Skin testing is where a small amount of antibiotics is 'pricked' and then injected into the top layer of the skin on the forearm to observe for reactions.
- The oral challenge will only proceed if there is no reaction to the skin testing.

These tests occur under the supervision of medical staff who are trained in handling the unlikely event of an immediate severe allergic reaction (anaphylaxis).

Q 6: How are reactions managed during an antibiotic allergy challenge?

If a reaction occurs during the challenge, the doctor will be consulted and a decision on continuing or stopping the challenge will be discussed. One of the following outcomes will be determined:

- If reactions are transient and/or very mild, the challenge may continue.
- If reactions are mild, the challenge may stop or continue.
- If anaphylaxis occurs, adrenaline should be given without delay, and the person will stay in hospital to be monitored for a minimum of four hours.

After the antibiotic challenge, the supervising doctor, nurse, or pharmacist will give you information on what to do at home.

If an antibiotic allergy challenge is performed in a medical clinic or hospital with staff experienced in treating anaphylaxis, the way an allergic reaction is treated may vary from the instructions on the ASCIA Action Plan for Anaphylaxis. This is because staff have ready access to blood pressure and oxygen checks, oxygen masks and other equipment.

It is important to follow instructions on the ASCIA Action Plan when not in a hospital setting.

Q 7: What happens if no reaction occurs in the antibiotic allergy challenge?

If a person does not have a reaction in the antibiotic allergy challenge, they may be advised to go home to complete a 3-5 day course of the suspected antibiotic, as sometimes delayed reactions can occur.

Q 8: What happens if a true antibiotic allergy is diagnosed?

If a true antibiotic allergy is diagnosed after a skin test or challenge:

- The antibiotic must be avoided.
- The antibiotic allergy needs to be recorded in hospital, GP, pharmacy and specialist records and where possible, uploaded to the person's My Health Record.
- A green ASCIA Action Plan for Drug (Medication) Allergy* and Drug Allergy Record should be completed by your doctor.
- Carrying or wearing medical identification should be considered.
- It is not usual to prescribe an adrenaline device (such as EpiPen® or Anapen®) for a drug allergy.

* If a person already has a red ASCIA Action Plan for Anaphylaxis for other allergies, their antibiotic allergy can be added to that plan.

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