

BSACI

Improving Allergy Care through education, training and research

Drug Allergy

Adverse reactions to drugs are common but not all reactions are due to allergy. Investigation of a suspected drug allergy allows an accurate diagnosis in case the particular drug is needed in future. The most common drugs causing adverse reaction are antibiotics e.g., penicillin's, pain killers e.g., aspirin, ibuprofen, drugs used in surgical procedures e.g., cleaning agent (chlorhexidine), muscle relaxants, patent blue dye – a diagnostic dye used in breast surgery, latex – much less common, as there are a few latex products used in hospitals.

NICE guidance provides criteria for when drug testing is advised. In addition, there are many drugs where there are no validated tests and/or no appropriate solutions for skin testing. This means that only some suspected drug allergies will be suitable for investigation.

What kinds of testing is there for drug allergy?

There are three steps in drug allergy testing; the first test done is usually a skin prick test, which may be followed by an intra-dermal test.

Depending on the drug allergy suspected and test results, a drug challenge may be necessary.

Skin testing is a safe procedure. In rare cases skin tests, especially intradermal tests, can trigger a systemic reaction. Therefore, skin tests should be performed by allergy specialists who can ensure that it is safely done, with appropriate facilities and treatment available. Intradermal tests are usually only done after negative skin prick testing.

Skin prick testing: This is ideally done on the forearm. After marking your skin with a pen, small droplets of the drug are placed on the skin and lightly pricked through with a lancet. Most people do not find this uncomfortable. The results are then read after 10 mins. If there is a positive test to any of the suspected drugs, a small itchy bump will appear at the site of the prick, which usually disappears within an hour or so. Certain drugs and skin conditions can cause local irritation and result in a positive test in someone who is not allergic. If further confirmation is needed, an intradermal test may be required.

Intra-dermal skin testing: A small amount of the suspect drug in a diluted form is injected into the surface layer of the skin raising small bumps in the skin. The results are read in 20 mins to look for any immediate response. If any of the test sites are positive, the bump (wheal) increases in size, with itching and redness at the site of the culprit drug. If negative, the bumps do not enlarge and disappear within an hour or so. In some types of allergies, the site may need to be monitored for a delayed response that develops within a 72-hour timescale.

Photographs are taken and markings of the test site and drug initials must be preserved. The skin cannot be washed for 3 days.

Preparation for testing: Certain medications such as antihistamines must be stopped for 3 days before the appointment.

Management of reactions during a test:

Immediate reactions can be treated with antihistamines, and steroids. More severe reactions such as anaphylaxis may require treatment with adrenaline. Delayed reactions are typically not life-threatening. The most common reaction, a rash can be treated with antihistamines. Rarely steroids may be needed if the rash is severe and extensive.

Challenge test for drug allergy:

In some cases, it may be necessary to give the drug under supervision. The drug tested is normally the one that provoked the reaction. In certain circumstances, an alternative which, if negative, can be used instead. This is done as a day case and takes several hours to complete. Some people may also be given a short course of the drug to take at home to exclude a delayed reaction, which typically manifests as a rash. A challenge test may require stopping certain medications, including antihistamines, to make sure nothing interferes with the challenge test. A challenge test has the potential for severe reactions, including anaphylaxis. Therefore, overall risks and benefits should be discussed beforehand as several factors need to be considered when evaluating the risk of reacting. Written consent is required for this procedure. Immediate reactions can be treated with antihistamines, and steroids. More severe reactions such as anaphylaxis may require treatment with adrenaline. Delayed reactions are typically not life-threatening. The most common reaction, a rash can be treated with antihistamines. Rarely steroids may be needed if the rash is severe and extensive.

Test outcome:

The outcome of the test should be communicated to all the relevant healthcare providers and the patient by the allergy team. This is done on a drug allergy notification, outlining the drug allergy(ies); tests used to confirm or exclude allergy; drugs to avoid and drugs safe for future use. Drug allergies should be added to GP and hospital records. This is important to ensure that the drug allergy label is either confirmed or removed so that any clinical team can utilise the best and most suitable medication for a specific medical problem.

If there are future drug reactions: Detailed information is required for drug allergy investigation. Patients should record the number of doses or days of treatment before onset; the symptoms; treatment required; and take photos of rashes or swelling.

Useful links:

1. NHS.uk – Allergy diagnosis.
<https://www.nhs.uk/conditions/allergies/diagnosis/>
2. Patient.info – Testing for an allergy: skin prick test
<https://patient.info/allergies-blood-immune/allergies/skin-prick-allergy-test>
3. Uptodate: Patient education Allergy skin testing (The Basics)
4. [Drug Allergy - BSACI](#)