

Sulfonamide Antibiotic Allergy

Sulfonamide antibiotics can cause allergic reactions that range from a mild rash to a severe blistering rash, through to anaphylaxis, which is the most severe type of allergic reaction.

This document uses spelling according to the Australian Therapeutic Goods Administration (TGA) approved terminology for medicines (1999) in which the terms sulfur, sulfite, sulfate, and sulfonamide replace sulphur, sulphite, sulphate and sulphonamide.

Sulfonamide antibiotic allergy

A person that is allergic to one sulfonamide antibiotic is at risk of reacting to other sulfonamide antibiotics. Sulfonamide antibiotics that are available on prescription in Australia include:

- **Sulfamethoxazole** that is used in combination with trimethoprim.
- Less commonly used sulfonamide antibiotics such as **sulfadiazine** (tablets, injections or creams), **sulfadoxine** (for malaria), and **sulfacetamide** antibiotic eye drops.
- **Sulfasalazine** (Salazopyrin, Pyralin), that is used in inflammatory bowel disease or arthritis, and is a combination **sulfapyridine** (a sulfonamide antibiotic) and a salicylate.

If a person has had an allergic reaction to Bactrim, Resprim or Septrin, there is no way of knowing whether the allergy was to sulfamethoxazole or to trimethoprim. Therefore trimethoprim (Alprim, Triprim) and sulfonamide antibiotics should both be avoided.

Sometimes people who have had an allergic reaction to a sulfonamide antibiotic are labelled as sulfur allergic or allergic to sulfur, sulphur or sulfa. This wording should not be used since it is unclear and can cause confusion. Some people wrongly assume that they will be allergic to non-antibiotic sulfonamides or to other sulfur containing medicines or sulfite preservatives.

Sulfur is an element which occurs throughout the human body as a building block of life, and it is not possible to be allergic to sulfur itself. Allergic reactions to sulfonamide antibiotics do not increase the likelihood of allergy to sulfur powder, sulfite preservatives, sulfates (in medicines, or soaps and shampoos), or non-antibiotic sulfonamide medicines like some pain killers or fluid tablets.

Other types of sulfur containing substances

Elemental sulfur powder is commonly used in gardening, and while irritation may occur from skin contact or inhalation, allergy has not been described.

Sulfates are in some injectable drugs as sulfate compounds, such as heparin sulfate, dextran sulfate, morphine sulfate. The sulfates in soaps (such as sodium lauryl sulfate) are strong detergents and can irritate the skin or eyes. However, sulfate itself does not cause allergic reactions. It is usually safe to use a sulfate when a person has a sulfonamide allergy or a sulfite intolerance.

Sulfite preservatives are commonly known as sulfur dioxide and metabisulfites, with preservative numbers 220-228. Sulfites can be used to preserve flavour and colour within food, inhibit bacterial growth, stop fresh food from spoiling, and help preserve medication. Sulfites are most often found in wine, dried fruit, and dried vegetables. Sometimes they are used in sausages and salads. They can also occur naturally in low concentrations. Sulfites can cause adverse reactions which are like allergy, but do not involve the immune system and are therefore called intolerances. The most common reactions are asthma symptoms (in people with underlying asthma), and rhinitis (hay fever-like) reactions. Occasionally urticaria (hives) may occur, and very rarely anaphylaxis (severe allergic reaction).

There is no relationship between sulfite sensitivity and sulfonamide antibiotic allergy.

Non-antibiotic sulfonamide medicines such as some fluid medicines, diabetes medicines and arthritis medicines contain sulfonamide components, but these are not sufficiently similar to sulfonamide antibiotics to pose an allergy risk. These medicines do not need to be avoided by people who are allergic to sulfonamide antibiotics because the allergy rarely cross-reacts.

Confirming the diagnosis

There is no blood test available for allergy to sulfonamide antibiotics, and skin testing has not been validated. Skin testing has been used to check for trimethoprim allergy (to distinguish from sulfamethoxazole allergy in people who have reacted to Bactrim), but results need to be interpreted with caution. Challenge testing may be carried out under supervision of a clinical immunology and allergy specialist.

Management

People who have had an allergic reaction to one sulfonamide antibiotic are usually advised to avoid all sulfonamide antibiotics. As these antibiotics are not normally used in an emergency, wearing medical identification is not routinely recommended, although it may be advisable in people who have had anaphylaxis.

Sulfonamide antibiotic allergy is not always lifelong, and cross-reaction does not always occur. Desensitisation to switch off allergy temporarily is available, if a sulfonamide antibiotic is the only suitable drug to use.

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