

Sulfonamide antibiotic allergy

Note: 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

Sulfonamide antibiotics can cause allergic reactions, ranging from mild rash to severe blistering rash through to anaphylaxis, the most dangerous type of allergic reaction. If you are allergic to one sulfonamide antibiotic, there is a risk that you might also react to other sulfonamide antibiotics. Sulfonamide antibiotics available on prescription in Australia include:

- **Sulfamethoxazole** used in combination with trimethoprim, available as Bactrim, Resprim or Septrin.
- Less commonly used sulfonamide antibiotics include **sulfadiazine** (tablets, injection or cream), **sulfadoxine** (for malaria), and **sulfacetamide** antibiotic eye drops.
- **Sulfasalazine** (Salazopyrin, Pyralin), used in inflammatory bowel disease or arthritis, is a combination **sulfapyridine** (a sulfonamide antibiotic) and a salicylate.

If you have 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 you should avoid trimethoprim (Alprim, Triprim) as well as sulfonamide antibiotics.

Sometimes those 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 ambiguous 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.

It is important to know that sulfur is an element which occurs throughout our 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 or other things that are yellow ☺.

Other types of sulfur containing substances

- **Elemental sulfur powder** This is commonly used in gardening, and while irritation may occur from skin contact or inhalation, allergy has not been described.
- **Sulfates** Some injectable drugs are sulfate compounds, for example 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** Commonly known as sulfur dioxide and metabisulfites, preservative numbers 220-228, sulfites are a group of compounds used to preserve flavour and colour within food, inhibit bacterial growth, reduce spoilage, stop fresh food from spotting and turning brown and help preserve medication and increase shelf life. Sulfites are found most often found in wine, dried fruit, dried vegetables and sometimes sausages and salads. They can also occur naturally in low concentrations. Sulfites can cause adverse reactions which are similar to allergy but do not involve the

immune system and are therefore called **intolerance**. The most common reactions are asthma symptoms (in those with underlying asthma) and rhinitis (hay fever-like) reactions. Occasionally urticaria (hives) may occur, and very rarely, anaphylaxis (allergic shock). Additional information on sulfite sensitivity is provided in another article on the ASCIA website:

www.allergy.org.au/patients/product-allergy/sulfite-allergy

- There is no relationship between sulfite sensitivity and sulfonamide antibiotic allergy.
- **Non-antibiotic sulfonamide medicines.** Other medications 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 if ever 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 may be offered by some specialists but results need to be interpreted with caution. Skin testing has been used to check for trimethoprim allergy (to distinguish from sulfamethoxazole allergy in those who have reacted to Bactrim) but results need to be interpreted with caution. Challenge testing with a sulfonamide antibiotic or with trimethoprim may be carried out in some people, under expert supervision, where the allergy is uncertain. Such tests are normally conducted by specialists in clinical immunology and allergy.

Management

Those who have had an allergic reaction to one sulfonamide antibiotic are usually advised to avoid all sulfonamide antibiotics. Since these antibiotics are not normally used in an emergency, wearing a MedicAlert bracelet is not routinely recommended although it may be advisable in those who have had life-threatening allergic reactions.

Allergy is not always lifelong and cross-reaction does not always occur, therefore challenge with the same or a different sulfonamide antibiotic may be attempted (with caution, under specialist supervision) in those who have a strong indication for a sulfonamide antibiotic, if the allergic reaction was mild/moderate and in the distant past. Desensitisation, to switch off antibiotic allergy temporarily, is available should a sulfonamide antibiotic be the only suitable drug to use, but this is not always possible.

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