

## Sulfa Drug Allergies

A sulfa allergy is a term that describes adverse drug reactions to sulfonamides, a group of drugs with the sulfonamide chemical moiety. The overall incidence of adverse drug reactions is approximately 3% and common symptoms include skin reactions ranging from mild rashes to life-threatening Stevens Johnson syndrome, liver and kidney injury, lung reactions and blood reactions. Common sulfa drugs include sulfasalazine, sulfonyleureas, thiazide diuretics, acetazolamide, furosemide, celecoxib, and probenecid.



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### Sulfasalazine

#### Sulfur-salad

Sulfasalazine is a sulfa drug used in the treatment of inflammatory bowel disease like ulcerative colitis and Crohn's disease and is also indicated for use in rheumatoid arthritis. This drug yields the metabolite sulfapyridine, which can cause side effects such as agranulocytosis and hypospermia.

### Sulfonyleureas

#### Sulfur-funnel-U-rainbow

Sulfonyleureas are a class of diabetic medication that act by closing potassium channels in Beta cell membranes to trigger insulin release via an influx of calcium. This drug stimulates endogenous insulin release and therefore requires some islet cell function. This means this class of drugs is not useful for type I DM. Adverse side effects include disulfiram like effects and can cause hypoglycemia.

### Thiazide Diuretics

#### Tarzan Die-rocket

Thiazides are a class of diuretics that are the recommended first line treatment for hypertension in the United States. These drugs inhibit the reabsorption of sodium and chloride in the distal convoluted tubules in the kidney by blocking the Na/Cl cotransport. These diuretics also increase calcium reabsorption at the distal tubule due to increased activity of the Na/Ca ATPase. This drug contains a sulfonamide moiety.

### Acetazolamide

#### A Cheetah-Zorro

Acetazolamide is a diuretic that inhibits carbonic anhydrase, causing a self limited  $\text{NaHCO}_3$  diuresis and reduction in total body bicarbonate stores. Clinical uses include treatment for glaucoma, urinary alkalization, metabolic alkalosis, and altitude sickness. This drug contains a sulfonamide moiety.

### Furosemide Diuretic

#### Furry-rose from Die-rocket

Furosemide, commonly called Lasix, is a loop diuretic used in the treatment of congestive heart failure and edema. This diuretic inhibits the  $\text{NaK}_2\text{Cl}$  symporter in the thick ascending limb of the loop of Henle, abolishing the hypertonicity of the medulla and preventing the concentration of urine. This electrical potential also normally drives divalent cation reabsorption and reduction of the potential increased calcium excretion. Toxicities include ototoxicity, hypokalemia, dehydration, nephritis, and gout. This drug contains a sulfonamide moiety.

### Celecoxib

#### Celery-costume

Celecoxib, known under the brand name Celebrex) is a sulfa NSAID and selective COX2 inhibitor commonly used in the treatment of arthritis and acute pain. This drug was originally intended to provide pain relief while minimizing the adverse side effects commonly associated with conventional NSAIDs.

### Probenecid

#### Probe

Probenecid is a sulfa drug that increases uric acid excretion in urine. Therefore, it is primarily used in the treatment of gout and hyperuricemia.