

## Think before you eat that shrimp!

*Tom has significant allergic asthma for many years. He takes three different asthma medications daily. He and his wife invited several of their friends to a local restaurant to celebrate Tom's 50<sup>th</sup> birthday. Shrimp, salad with lettuce and wine were served. Soon after the dinner Tom experienced an acute exacerbation of asthma. He used his rescue inhaler (albuterol) with no relief. He was rushed to a local hospital, received appropriate treatment and made a complete recovery. The ER physician who treated Tom advised him to avoid eating foods rich in sulfites in future.*

Dried fruit, lemon and lime juice, wine, molasses, sauerkraut juice, grape juice, pickled cocktail onions, cornstarch, hominy, frozen potatoes, maple syrup, imported jams and jellies, fresh mushrooms, dried potatoes, wine vinegar, gravies and sauces, fruit topping, Maraschino cherries, pectin, shrimp, corn syrup, pickled peppers and pickles and relishes- besides being tasty do they have anything in common? They all may share a food preservative known as sulfite.

### **What are sulfites?**

Sulfites are preservatives commonly used in some foods and medications. They include sulfites, metabisulfites, sulfuric acid and bisulfites. They are used in foods to prevent bacterial growth (wine), browning and oxidation of foods (shrimp and cut potatoes) and for dough conditioning (bakeries) and for bleaching of foods (cherries). They are also used in some medications to prevent oxidation and browning. Some asthma medications that may contain sulfites include epinephrine, isoetharine, isoproterenol, hydrocortisone, dexamethasone and prednisolone. Sulfites are to be differentiated from sulfates (albuterol sulfate). While sulfites could be harmful to some individuals, sulfates are harmless.

### **How common is allergy to sulfites and what kind of problems do they cause?**

It is estimated that between 4 and 10% of all asthmatics may be sensitive to sulfites. The more severe the asthma, the more is the likelihood of sulfite sensitivity. Sulfites can cause a variety of symptoms in sensitive individuals. They include cough, significant exacerbation of asthma, hives, angioedema (swelling of lips, tongue and throat) and anaphylaxis (severe systemic allergic reaction). In general respiratory symptoms are more common than skin symptoms.

The amount of sulfites in foods is expressed as parts per million (ppm). Based on this, foods containing natural or added sulfites could be classified into 3 groups: those with < 10 ppm, between 10 and 100 ppm and > 100 ppm. In general foods containing > 10 ppm of sulfites are the ones to be avoided by sulfite sensitive individuals. The higher the sulfite content, the higher the likelihood of a reaction. The lesser concentrations also could pose a risk in highly sensitive individuals. In 1986, the FDA banned addition of sulfites to lettuce. BATF requires that beverages containing > 10 ppm of sulfites should declare it on the label.

## **How is sulfite sensitivity diagnosed & treated?**

History, skin testing and oral challenge using a sulfite containing solution or capsule in a controlled setting under medical supervision are the tools used to diagnose sulfite sensitivity in research studies. In general, such tools are not readily available and are not well validated. In someone with significant allergy induced asthma, your physician may diagnose sulfite allergy solely based on a good and compatible history. Challenges at home without medical supervision are dangerous, could be potentially life threatening and should not be undertaken.

People who have sulfite allergy should strictly avoid foods and medications containing sulfites. Reading of food and medication labels is important in this regard. Talk to your pharmacist before taking new medications if you suspect sulfite allergy. Sulfite allergy should be suspected if you react to a wide variety of seemingly unrelated medications. Ask your doctor to prescribe EpiPen or Twinject to carry with you to treat emergencies and seek emergent help (911) after using them. Medications such as doxepin, atropine and cromolyn have been tried with variable results.

### ***About the author:***

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