

# USANA Technical Bulletin

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## Asthma

### Description

- Asthma is a chronic disorder characterized by recurring attacks of airway obstruction. The breathing difficulty that results can range from mild wheezing to respiratory failure. The airway obstruction results from bronchospasms, increased secretion of mucous, and swelling of bronchial mucosa.<sup>1</sup>

### Causes

- Asthma may result from sensitivity to specific external allergens or from other, nonallergenic factors. Asthma that is related to allergies is considered extrinsic, while asthma that does not seem to be related to allergies is called intrinsic asthma. Allergens that cause extrinsic asthma include pollen, animal dander, house dust or mold, kapok or feather pillows, food additives containing sulfites, and any other sensitizing substance.<sup>1</sup>

### Types

- There are various types of asthma which are differentiated by cause (such as allergy or exercise) and the degree of severity.

### At Risk

- About half of all patients with asthma are under age 10.<sup>1</sup>
- About one-third of all patients with asthma share the disease with at least one immediate family member.<sup>1</sup>

### Prevention and Management

- The best prevention of asthma attacks is to identify and avoid the precipitating factors. People who have extrinsic (allergy-induced) asthma are advised to minimize their exposure to specific allergens.
- There are a number of studies that indicate that determination of food sensitivities (even if none had been suspected), and avoiding the foods which test positive either reduced or eliminated symptoms in some people.<sup>2,3,4,5</sup> Of course, not all asthma is related to food sensitivities.
- Diets rich in antioxidants may have a modulatory effect on bronchial reactivity.<sup>6</sup>
- Inclusion of oily fish in the diet may protect against asthma in childhood.<sup>7</sup>

- Vitamin B<sub>6</sub> levels in the blood have been found to be lower in asthmatics than the non-asthmatics. Positive results have been reported when B<sub>6</sub> supplements have been taken.<sup>8</sup>
- Vitamin B<sub>12</sub> therapy has been used to successfully treat asthmatics, especially those who suffer attacks after eating foods containing sulfites.<sup>9</sup>
- Vitamin C levels in asthmatics are often lower than in non-asthmatics.<sup>10</sup> Vitamin C may also be beneficial to those who experience asthma during exercise.<sup>11</sup>
- Magnesium levels are lower in one out of two asthmatics during an attack.<sup>12</sup> People with asthma also have lower magnesium concentrations in their white blood cells between attacks.<sup>13</sup> Treatments by inhalation<sup>14</sup> or injection<sup>15</sup> have proven beneficial in stopping asthmatic attacks and improving lung function. At this time, however, the effect of oral supplementation remains unexplored.<sup>16</sup>
- Selenium supplementation might be beneficial to patients with intrinsic asthma, which may be at risk of selenium deficiency.<sup>17</sup>

### Sources of Additional Information

- <http://207.201.168.245/>

### Abstracts

**Soutar A, Seaton A, Brown K. *Bronchial reactivity and dietary antioxidants. Thorax 1997 Feb;52(2):166-70.*** It has been postulated that dietary antioxidants may influence the expression of allergic diseases and asthma. To test this hypothesis a case-control study was performed, nested in a cross sectional study of a random sample of adults, to investigate the relationship between allergic disease and dietary antioxidants. **METHODS:** The study was performed in rural general practices in Grampian, Scotland. A validated dietary questionnaire was used to measure food intake of cases, defined, firstly, as people with seasonal allergic-type symptoms and, secondly, those with bronchial hyperreactivity confirmed by methacholine challenge, and of controls without allergic symptoms or bronchial reactivity. **RESULTS:** Cases with seasonal symptoms did not differ from controls except with respect to the presence of atopy and an increased risk of symptoms associated with the lowest intake of zinc. The lowest intakes of vitamin C and manganese were associated with more than fivefold increased risks of bronchial reactivity. Decreasing intakes of magnesium were also significantly associated with an increased risk of hyperreactivity. **CONCLUSIONS:** This study provides evidence that diet may have a modulatory effect on bronchial reactivity, and is consistent with the hypothesis that the observed reduction in antioxidant intake in the British diet over the last 25 years has been a factor in the increase in the prevalence of asthma over this period.

### References

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