



## **ORAL ALLERGY SYNDROME (OAS)**

### What is Oral Allergy Syndrome?

Oral allergy syndrome (OAS) is caused by cross reactivity between proteins in fresh fruits, vegetables and nuts with pollens. This syndrome occurs in a large number (up to 70 percent) of people with pollen allergy. The proteins in the fruit and vegetables causing OAS are easily broken down with cooking or processing. Therefore, the OAS typically does not occur with cooked or baked fruits and vegetables, or processed fruits such as in applesauce. The main exceptions to this are celery and nuts, which may cause reactions even after being cooked.

### What symptoms occur with OAS?

Most people with OAS have symptoms such as itching, burning, tingling and occasionally swelling of the lips, mouth, tongue and throat where the fresh fruit or vegetable touched. A sensation of tightness in the throat may be observed. Symptoms usually only last a matter of seconds to a few minutes, and rarely progress to anything more serious. However, some studies have shown that up to 9 percent of people with OAS may experience more severe symptoms of food allergy, and up to 2 percent may experience anaphylaxis (i.e. a severe allergic reaction which can involve breathing problems and low blood pressure). Symptoms are more likely to occur and be more severe during the season in which the responsible pollen is found.

### What are the associations between foods and pollens?

Allergies to certain pollens are associated with OAS reactions to certain foods. For instance, an allergy to ragweed is associated with OAS reactions to banana, watermelon, cantaloupe, honeydew, zucchini, and cucumber. This does not mean that all sufferers of an allergy to ragweed will experience adverse side effects from all or even any of these foods. Reactions may begin with one type of food and with reactions to others developing later. However, it should be noted that reaction to one or more foods in any given category does not necessarily mean a person is allergic to all foods in that group.

- **Alder Pollen:** almonds, apples, celery, cherries, hazelnuts, peaches, pears, parsley.
- **Birch Alder:** almonds, apples, apricots, avocados, bananas, carrots, celery, cherries, chicory, coriander, fennel, fig, hazelnuts, kiwifruit, nectarines, parsley, parsnips, peaches, pears, peppers, plums, potatoes, prunes, soy, strawberries, wheat, potential peanuts.
- **Grass pollen:** fig, melons, tomatoes, oranges
- **Mugwort Pollen (celery-mugwort-spice-syndrome):** carrots, celery, coriander, peppers, fennel, parsley, sunflower
- **Ragweed Pollen:** banana, cantaloupe, honeydew, watermelon, cucumber, zucchini, Echinacea, artichoke, dandelions, hibiscus or chamomile tea
- **Possible cross reactions (to any of the above):** berries (strawberries, blueberries, raspberries, etc.), citrus (oranges, lemons, etc.), grapes, mango, fig, peanut, pineapple, pomegranates, watermelon.
- Some individuals may only show allergy to only one particular food, and others may show an allergic response to many foods.



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Often well-cooked, canned, pasteurized or frozen food offenders cause little to no reaction due to the cross-reacting proteins being broken down, causing delay and confusion in diagnosis as the symptoms are elicited only to the raw or fully ripened fresh food. Correct diagnosis of the allergen type/s involved is critical. OAS sufferers may be allergic to more than just pollen. Oral reactions to food are often mistakenly self-diagnosed by patients as caused by pesticides or other contaminants.

### How is OAS Diagnosed?

The cornerstone of diagnosis remains an accurate history of symptoms and an elimination diet followed by a food challenge. Skin prick testing and allergy blood testing are used as adjuncts to the clinical history-they cannot be used for diagnosis alone. Prick to prick testing with fresh foods is more reliable than commercial extract skin testing because the process of making the extract can destroy the responsible protein.

### How is OAS Treated?

Because of the small chance of a more severe reaction, avoidance of the fresh fruits or vegetables is advised. Many people already avoid the suspect foods since the symptoms are uncomfortable. Usually, the fruits and vegetables are tolerated in cooked, baked and processed forms. A few studies have shown that allergy shots to the cross-reacting pollens can reduce or eliminate the OAS symptoms. Antihistamines such as Zyrtec, Benadryl, or Allegra can relieve the itching or mouth tingling. More severe reactions, although rare can be treated with epinephrine.