

Asthma

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The niceties of fall like the cool crisp air, football, and oyster roasts make spending time outdoors this time of year a pleasure. But for many with asthma, exposure to cooler temperatures, fall allergens, and respiratory infections can cause bothersome breathing problems. Asthma is a chronic inflammatory condition of lung air passages that affects over 20 million Americans. Asthmatics can have worsening asthma control due to various triggers. Some common triggers include allergies, infections, exercise, temperature changes, strong-smelling airborne irritants, and even gastroesophageal reflux.

To understand the source of asthma symptoms, it helps to visualize the human airway as a series of tubes through which air travels when we breathe. The airways branch and taper to become narrower with deeper progression into the lungs. Under normal conditions, there is very little resistance to airflow through the lungs which makes breathing easy. In fact, at rest, the effort involved in normal breathing is little enough that we are not conscious of it. In uncontrolled asthma, there is increased resistance to airflow or airflow obstruction. It is caused by abnormal airway narrowing. This can result from any combination of:

- 1) constriction of the muscle layer which wraps around airways
- 2) accumulation of secretions like mucus inside the airways
- 3) gradual thickening and hardening of the airway walls

We perceive airflow obstruction in various ways including

wheezing (high-pitched whistling sounds in the chest while breathing), coughing, chest tightness, or breathlessness. Airflow obstruction in asthma can advance to the point of being life-threatening in some instances.

The reasons why people develop asthma are the focus of active research. It appears that genetic susceptibility plays a role because asthma shows some degree of heritability. It is also clear that environmental exposures can influence the development of asthma. Many asthma cases, therefore, are felt to occur in genetically predisposed people exposed to conducive factors like allergens, pollution, or childhood respiratory infections, for example.

Indications that asthma may be present include frequent coughing (especially with exercise or at night), recurrent wheezing, shortness of breath, or chest tightness. Confirming asthma requires additional testing to measure airflow characteristics while inhaling and exhaling with maximal effort and/or measuring airway reactivity in response to an inhaled respiratory irritant. Anyone with asthma symptoms should be evaluated for the presence of allergies because a significant number of asthma cases involve allergy to at least one environmental allergen.



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Albuterol delivered by inhaler is a common rescue medication used to quickly relieve asthma symptoms.

KEY COMPONENTS OF SUCCESSFUL ASTHMA MANAGEMENT INCLUDE:

- Avoiding external triggers like allergens and airborne irritants
- Controlling associated exacerbating conditions like gastroesophageal reflux and allergies
- Monitoring asthma control to assess efficacy of asthma therapies and to help make decisions about therapy adjustment
- Appropriately using medications to prevent and treat asthma symptoms

Asthma medications fall into two broad categories based on whether they help with acute symptoms (rescue medications) or whether they are symptom preventatives (controller medications). Rescue medicines, like albuterol, work primarily by relaxing the muscle layer which wraps around airways, thereby causing airway dilation. Additional examples of asthma rescue medications include levalbuterol, pirbuterol, and ipratropium. Rescue medicines work quickly to relieve symptoms. Controller medicines work mostly by decreasing airway inflammation. Inflammation causes increased accumulation of secretions in airways and also promotes airway muscle contraction. Asthmatics who experience symptoms infrequently may do well just with trigger avoidance and as-needed use of a rescue medicine, but those who have more frequent symptoms will benefit from regularly scheduled use of a controller medication. Physicians use measurements of airflow as well as assessment

of symptom frequency and severity to decide what level of therapy is indicated for individuals with asthma.

Allergists can offer an additional asthma management option for asthmatics with underlying allergies. This is called allergen-specific immunotherapy, or “allergy shots”. When done correctly by a board certified allergist, this treatment is safe and effective in reducing the allergic response to allergens, and thereby improving control of allergen-induced asthma.

In summary, asthma is a common respiratory condition characterized by variable airflow obstruction that causes cough, chest tightness, shortness of breath, and wheezing. Successful asthma management involves avoiding triggers, appropriate use of medications, and controlling other conditions which can cause loss of asthma control. A significant number of asthma cases are associated with allergies. Allergists can offer allergy treatment options that actually modify allergies, something that medications alone cannot accomplish. With attention to important elements of asthma management, asthma can be well controlled, allowing people with asthma to live normal, full lives.

For more information on asthma or allergy related issues, Dr. Khan may be reached at Southern Allergy and Asthma, P.C. located at 5223 Paulsen Street, Savannah, GA 31405 or you may call him at (912) 303-9355.