

# Winning Strategies for Athletes with Asthma and Allergies

BY LAURIE ROSS

Competitive sports are as American as apple pie, and the late summer and early fall months see athletes of all ages gathering on fields. In much of the country, that means intense exercise in high heat and humidity – conditions that stress even the healthiest bodies.

Athletes with asthma or allergies face extra challenges. For many, exercise itself sets off asthma symptoms – although the warm, humid air of summertime may actually be easier on the lungs than cold, dry air. In addition, players practicing on outdoor fields in late summer and fall may have to deal with high levels of ragweed pollen and mold – two potent respiratory allergens – and air pollution.

Even so, there's no reason people with asthma can't play competitive sports, says Jack Becker, MD, an allergist at St. Christopher's Hospital for Children, Philadelphia, and author of several studies on asthma and sports. "The way to avoid problems is to aggressively manage your asthma and take steps to reduce allergic reactions."

## Create a Good Offense

Athletes with asthma should work with medical care providers to develop a management plan that minimizes symptoms.

Begin by understanding your individual asthma thumbprint. What sets off your asthma symptoms? Do you only experience breathing problems during exercise? Or is your asthma affected by other factors, such as allergies to dust mites, pets, mold or pollen?

Asthma is a disease that involves inflammation in the airways. Exposure to an allergen, irritant or activity that irritates those inflamed airways causes muscles around the airways to tighten up and twitch (bronchospasm), making you cough, wheeze and have trouble breathing. The way to reduce symptoms and

help your lungs deal with the stress of exercise, then, is to control inflammation and minimize exposure to allergens and irritants.

The most effective medications available to reduce airway inflammation are inhaled corticosteroids. These medications take time to reach full effect, so it's important to begin taking them before your athletic season begins. Many people with asthma take them year-round. Other medications that may be part of an aggressive asthma management plan include leukotriene modifiers and long-acting bronchodilators.

The best treatment for allergies is avoidance – but that is often impossible for athletes sensitive to airborne allergens such as pollen or mold. Since allergy medications also take time to build up effect, people with seasonal allergies should begin taking medications such as antihistamines or nasal corticosteroids 2-3 weeks before allergy season begins. Athletes with year-round allergies (such as mold) should talk with a physician about extra protection prior to the sports season. If you're allergic to airborne allergens such as pollen or mold you may want to consider allergy shots (immunotherapy).

Athletes with pollen or mold allergies who must exercise outdoors during pollen/mold seasons should also shower after outdoor exercise to wash allergens off their skin, hair and eyes (particularly before bedtime) and consider using a nasal wash to help reduce allergy symptoms.

Air pollution is difficult to avoid when you practice outdoors, but many teams restrict practice on days with the worst air quality. Talk with your medical care team about what else you can do to control asthma symptoms on poor air quality days. (Visit <http://airnow.gov> for current conditions around the country and air quality forecasts.)

## The Exercise Opponent

Experts think one reason exercise sets off asthma symptoms is that breathing through the mouth bypasses the built-in filtering and heating system of the nose and exposes lungs to allergens, pollutants, dry air or cold air, any of which could cause airways to constrict, increase inflammation or produce mucus. However, allergist Timothy Craig, DO, chair of the Sports Medicine Committee for both the American Academy of Allergy, Asthma & Immunology and the American College of Allergy, Asthma & Immunology says, "In the majority of cases, if your asthma is well controlled and you pretreat, you should be able to exercise with no problems."

To "pretreat," a recent report in *The Journal of Allergy & Clinical Immunology* (June 2007) recommends using a short-acting bronchodilator inhaler within 15 minutes before exercise. This medication usually prevents asthma symptoms for about four hours. If you find your symptom relief doesn't last that long, make an appointment to talk with your medical care team about other ways to reduce exercise-induced symptoms.

You can also condition your airways with warm-up and cool-down exercises. Ten to 15 minutes of stretching and calisthenics both before and after exercise will help your lungs handle the increased demand for oxygen during exertion and decreased demand afterward. Gradual temperature shifts lessen your chances of airway constriction and asthma symptoms.

## Beat the Heat

Keeping your body well hydrated is also critical for safe sports – especially in heat and humidity. This is especially important to prevent dry airways for athletes with asthma.

Jon Almquist, a certified athletic

trainer for the school system in Fairfax County, Virginia – an area well known for sticky summer days – says keeping the body hydrated should be a round-the-clock program for athletes, drinking plenty of fluids throughout the day, not just during exercise.

Beyond that, Almqvist says building up slowly is the best way to prepare your body for the stress of heavy exercise in the summer heat. He recommends athletes not wait for the team try-outs – or even the team’s preseason conditioning – to begin working out. Spend time before the season begins running or doing other high-intensity exercise in the heat of the day to get your body acclimated. That way, if you have to push your body to perform at its highest during a tryout, you’ll be ready.

Dr. Craig points out that heavy sweating can deplete the body’s levels of free water, potassium, magnesium, calcium and sodium, which can worsen asthma symptoms, so he advises athletes with asthma be extra vigilant about replacing fluids after exercise with sports drinks that replace these essential salts. Check labels carefully, since not all sports drinks contain a full array of electrolytes.

### On the Field

The single most important thing an athlete with asthma should remember is to always keep a bronchodilator inhaler handy.

Fairfax County school guidelines require athletes with asthma to have up-to-date management plans on file with the team that show specific steps the student should take to prevent or treat asthma symptoms. If players are prescribed a bronchodilator inhaler, they must have the medication with them at the field before they can practice or play.

The National Athletic Trainers Association (NATA) recommends using peak flow meters to help monitor players’ lung function. These handheld devices

can help coaches determine when a player is ready to get back into the practice or game.

Treatment guidelines based on peak flow meter readings will be different for each athlete. For instance, elite athletes may possess large lung capacities far beyond that of most people – and even beyond the range of some peak flow meters! What matters is not how a player’s peak flow meter reading compares to the national average, but how it compares to his individual Target: the number he should be able to reach when his lungs are working efficiently.

Dr. Craig explains that an athlete who needs to come off the field to use his inhaler

might have unstable asthma, which should be monitored. “If the peak flow meter reading returns to the athlete’s normal [Target] within 15-20 minutes after using his inhaler, he should be able to continue playing,” says Dr. Craig. However, if the peak flow reading does not improve, the athlete should not return to the field.

Dr. Becker uses a 1-2-3 rule. “It’s okay for an athlete to use his or her inhaler once before practice or before a game to prevent exercise-induced asthma symptoms. And it’s okay if an athlete needs to use the inhaler a second time during the session. But if a player needs the inhaler a third time, they should not go back on the field that day. It may be a sign that the athlete’s asthma is not well controlled and a visit to the physician may be necessary to help the athlete perform at his best on the field.”

### Coaches’ Corner

Both athletes and coaches have a role to play in balancing performance with safety.

The National Athletic Trainers Association (NATA) warns, “Asthma can be difficult to diagnose and classify. Some individuals, especially elite athletes, do not display consistent signs or

symptoms of asthma. Asthma symptoms may be present only during certain times (or seasons) of the year or only after exercise and may be highly variable.”

With that in mind, NATA developed guidelines for trainers and coaches that include the following recommendations:

- Be aware of the major signs and symptoms of asthma, such as coughing, wheezing, tightness in the chest, shortness of breath, and breathing difficulty at night, upon awakening in the morning or when exposed to certain allergens or irritants.
- Devise an asthma action plan for managing and referring athletes who may experience significant or life-threatening attacks or breathing difficulties.
- Have pulmonary function measuring devices, such as peak flow meters, at all athletic venues and be familiar with how to use them.
- Refer athletes with atypical symptoms, symptoms that occur despite proper therapy, or other complications that can exacerbate asthma (such as sinusitis, nasal polyps, severe rhinitis, gastroesophageal reflux disease or vocal cord dysfunction) to a physician with expertise in sports medicine.
- Consider providing alternative practice sites for athletes with asthma. Indoor practice facilities that offer good ventilation and air conditioning should be taken into account for at least part of the practice.

- Schedule practices during times at which pollen counts are lowest.
- Encourage players with asthma to have follow-up examinations with their primary physician or specialist every 6-12 months.

- Identify athletes with past allergic reactions or intolerance to aspirin or NSAIDs and provide them with alternative medicines, such as acetaminophen.

For a full copy of the National Athletic Trainers’ Association “Position Statement: Management of Asthma in Athletes,” consult the July-September 2005 *Journal of Athletic Training* (Vol. 40, No. 3) online at [www.nata.org/jat](http://www.nata.org/jat).

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