Strategies to Help Prevent Exercise-Induced Asthma

by PATRICIA BRATIANU

Understanding Exercise-Induced Asthma

With contributions from Krystina O.

You feel like you're a bit "extra" winded during your daily run these days. You've always thought you're in good shape – yet you're huffing and puffing when you walk up a flight or two of stairs. Even a power walk has you wheezing these days.

Could it be asthma?

What Is Exercise-Induced Asthma?

According to the Asthma and Allergy Foundation of America (AAFA), "Airflow obstruction that occurs because of exercise is exercise-induced bronchoconstriction." Exercise-induced bronchoconstriction (EIB) is better known is exercise-induced asthma, which is actually an older term for this phenomenon.

EIB is a more accurate term for exercise-induced asthma as it more accurately depicts what is happening in the body – this phenomenon is not causing asthma to occur.

The AAFA states that upwards of 90 percent of all people with asthma have symptoms of exercise-induced asthma.

What Causes Exercise-Induced Asthma?

There is current research that is being performed to explore the exact cause of exercise-induced asthma. According to Mayo Clinic, "strenuous exercise sets in motion molecular events that result in inflammation and the production of mucus in the airways." However, researchers also believe that there may be more than one biological process at play.

Exercise-induced asthma can also be caused by other means, aside from asthma! Other factors that may trigger this type of bronchoconstriction include:

- Respiratory infections.
- Cold air.
- Dry air.
- Chlorine that is used in swimming pools.
- Air pollution.
- High pollen counts.
- Certain chemicals, such as the chemicals used to resurface ice rinks.

Exercise-Induced Asthma Symptoms

Symptoms of exercise-induced asthma are similar to that of asthma – except they typically occur just during exertion.

The most common symptom of exercise-induced asthma is coughing. For that reason, it can go undiagnosed. Other exercise-induced asthma symptoms may include:

- Wheezing.
- Shortness of breath.
- Chest tightness.

According to AAFA, symptoms do not typically present itself right away.

For example, if you've begun your daily run and you are feeling pretty good, your symptoms likely will present themselves during your run and will worsen five to ten minutes after you're done exercising.

You may even experience a "late-phase" of symptoms – symptoms that are experienced anywhere from four to 12 hours after exercise is ceased. Late-phase symptoms are typically less severe.

Do I Have Exercise-Induced Asthma?

In relatively good shape but you've been huffing and puffing? How do you know that you've got exercise-induced asthma?

Well, first it takes an appointment with your physician.

Your physician will likely perform a physical exam and ask you questions about your symptoms. He or she will probably order several medical tests to rule out other medical conditions.

One test that will likely be ordered? **Spirometry.** Spirometry measures how well your lungs function during exercise. Specifically, it measures how much air you inhale, exhale, and how quickly you can exhale. After, a bronchodilator is administered, and the test is repeated, and the results are compared. This test is important because it can diagnose asthma versus exercise-induced asthma.

An **exercise challenge test** can also be performed. This test utilizes a treadmill to illicit symptoms by allowing the participant to exercise until breathing is increased. Spirometry is performed before and after.

As an alternative to an exercise test, occasionally the following tests may be utilized. If symptoms are produced, it is thought that the "test should produce virtually the same lung function you have when exercising." For these tests, spirometry is utilized before and after to detect changes in lung function.

- **Methacholine challenge:** an inhaled agent causes bronchoconstriction of the lungs.
- **Eucapnic voluntary hyperventilation (EHV) challenge:** inhaling a combination of several gases (dry air that is composed of nitrogen, carbon dioxide, and oxygen) that "simulates the exchange of air when breathing is difficult."
- **Mannitol challenge:** inhaling a dry powder that involves losing water on the surface of the lungs. This causes bronchoconstriction in people who have sensitive airways.

Next page: the importance of exercise for asthmatics, self-care for preventing exercise-induced asthma, and more.

The Importance of Exercise for Asthmatics

It is important that you engage in physical activity even if you have asthma. Check with your health care provider for specific recommendations.

Exercise tones your whole body. It helps you to maintain a healthy weight. Exercise relieves stress. It improves circulation throughout your body, including your lungs. By exercising, you may be able to reduce the likelihood of contracting respiratory infections.

Self-Care Strategies for Preventing Exercise-Induced Asthma

- Keep your asthma symptoms under good control at all times.
- See your health care provider and follow a holistic wellness plan.
- Notify your health care provider of your symptoms if you experience exercise-induced asthma.
- Eat a simple, healthy diet which contains a wide array of fresh fruits and vegetables.
- Drink plenty of fluids each day.
- Limit your consumption of mucus promoting foods, such as uncultured, full fat, dairy products.
- Consider an elimination or rotation diet if your symptoms are not well controlled.
- Eat foods which contain healthy oils. Salmon, herring, mackerel, flaxseed, and hemp seed, are excellent choices.

Dietary Supplements Which May Help to Control Asthma Symptoms and Prevent Exercise-Induced Asthma

A good quality, hypoallergenic multivitamin/multimineral supplement is essential. Specific vitamins may help to reduce inflammation, support immune health, and benefit the respiratory tract.

- The B vitamins are important as they are used up quickly when a chronic health condition is present. Studies indicate that people who receive supplemental B12 have less shortness of breath when they exert themselves.
- Vitamin C is useful for reducing histamine levels. It must be taken consistently to be effective.
- Vitamin E reduces inflammation and symptoms.
- Magnesium is needed for every process within your body. The mineral offers many benefits. It is used in an emergency setting to stop asthma attacks.

Flavonoids are natural antioxidants. They help to maintain Vitamin C at healthy levels, limit the release of histamines, and relax the muscle tissues which surround the airways. Flavonoids may be obtained from quercetin, grape seed extract, green tea, gingko biloba, or pine bark extract.

I recommend the use of pine bark or grapeseed extracts as they seem to be most effective for individuals who have asthma and other lung conditions.

Carotenes are potent antioxidants which support the health of the lining s of your air passages. They prevent inflammation.

Exercises With a Low Risk of Precipitating Asthma Symptoms

You probably already know what types of exercises cause you to have asthmatic episodes. Fortunately, there are several kinds of exercises which you may enjoy that are less likely to trigger symptoms.

Symptoms are less likely to occur if the exercise is completed in short bursts of activity. Prolonged, strenuous activities may be challenging for you. Limit or avoid sports which are played outdoors in cold weather if low temperatures trigger asthmatic episodes.

Swimming is the best exercise for people who have asthma. The warm environment and moisture help to prevent tightening of the air passages. Swimming is one of the healthiest activities that anyone can enjoy. It provides a

good workout for your entire body. Swimming promotes strength, tones the cardiovascular system, is relaxing, and promotes flexibility.

Depending upon the intensity of your swimming work out, you may lose weight by engaging in a swimming program. Keeping a healthy weight is important if you have asthma because being overweight makes breathing more difficult.

Yoga is another good choice for anyone. It may be done regardless of your current level of wellness. Yoga promotes relaxation. It builds strength and aids flexibility. Specific yoga exercises can help to strengthen your lungs and improve the health of your immune system.

Next page: reducing symptoms and preventing exercise-induced asthma, can exercise-induced asthma go away, and more.

Reducing Episodes and Symptoms of Exercise-Induced Asthma

- Perform warm up and cool down exercises.
- Avoid exercising in polluted environments.
- Limit or avoid exercising when you are acutely ill.
- If you have environmental allergies, pay attention to pollen counts. Avoid exercising outside when pollen counts are high
- Avoid outdoor exercise when it is frigid outside. If you still choose to exercise, keep your mouth and nose covered with a scarf.
- Exercise at an intensity which is comfortable for you.
- As much as possible, breathe through your nose when exercising

Preventing and Controlling Exercise-Induced Asthma with Medication

Once you've been diagnosed with exercise-induced asthma, it is time for your physician to find the best way to treat it! After all, if you're coughing and wheezing, it is likely that you're not exercising efficiently, right?

Your physician may choose to prescribe medication before exercising or a daily medication for control (especially if you exercise regularly.

Let's look a bit more closely at the options.

Medications that you can take before exercise to prevent bronchoconstriction from occurring may include:

- **Short-acting beta agonists (SABAs)** are the most commonly used pre-exercise medication. They should not be used daily, because your body can build a tolerance to these medications. They work by opening the airways. Examples include albuterol (ProAir HFA, Proventil HFA, Ventolin HFA), levalbuterol (Xopenex HFA), and pirbuterol (Maxair).
- **Ipratropium (Atrovent HFA)** relaxes the airways. A generic option is available that can be used in a nebulizer.

Long-term medications (used with the short-acting medications) help to treat underlying asthma as well as symptoms that are resistant to pre-exercise treatment. These medications include:

- **Inhaled corticosteroids** reduce inflammation in the airways. Unlike the short-acting medications, these types of inhalers can take several weeks to become effective. Examples include fluticasone (Flovent Diskus, Flovent HFA), budesonide (Pulmicort Flexhaler), mometasone (Asmanex Twisthaler), and beclomethasone (Qvar).
- **Combination inhalers** contain a corticosteroid and a long-acting beta-agonist (LABA), which also relaxes the airways. They can be used as a long-term inhaler, but also before exercise. Examples include

mometasone and formoterol (Dulera), budenoside and formoterol (Symbicort), and fluticasone and salmeterol (Advair Diskus).

- **Leukotriene modifiers** are an oral medication that can "block" inflammatory activity in the body that can cause asthma symptoms. They should be taken at least two hours before exercise. Examples include montelukast (Singulair), zafirlukast (Accolate), and zileuton (Ziflo).

Can Exercise-Induced Asthma Go Away?

Not really. Typically, as with asthma in general, if you have asthma, it is something that must be managed. There may be times in your life when your symptoms wax and wane, but it is likely a lifelong disease.

As we've already discussed, exercise-induced asthma can be prevented using the proper treatment. You can prevent it with the medications that we've already discussed; a physician must prescribe these medications.

It is also good practice to warm-up before exercise, as well as "cool down" after exercising. This can help your lungs "get ready" for exercise, as well as get them ready to slow down – both of why can help them relax. It is also a good idea to limit exercise on days when the pollen count is high, when the air temperature is low, and when the air pollution is high. All of these conditions can worsen exercise-induced asthma.

You may wonder – should you exercise when you are sick? Probably not. It is best to check with your physician, but if you have exercise-induced asthma, exercising may increase your symptoms.

Is It Asthma or Am I Just Out of Shape?

This is a question only your physician can answer for you! Regardless of your physical shape, you could still have asthma. People of all shapes and sizes have exercise-induced asthma – everyone from Olympic athletes to people who are obese.

Don't let your physical condition stop you from exercising. Proper management of your symptoms can get you active again.

Certain activities may be better than others for people with exercise-induced asthma. Exercises that involve short bursts of activity are generally better tolerated – examples include volleyball, gymnastics, walking, wrestling, and baseball.

Exercises that involve endurance may not be as well tolerated. Examples include running, basketball, hockey, and soccer. Cold-weather sports can also worsen symptoms, such as skiing and ice skating.

What about swimming? Although it is an endurance sport, it is better tolerated than the others on the list because it is practiced in a warm, humid climate.

If your chosen sport is on the "not tolerated" list, don't let that deter you! Get to your physician's office and come up with an asthma action plan. You can also try a new sport!

The Bottom Line…

If you've been diagnosed with exercise-induced asthma, don't let it deter you from staying active and pursuing your activity goals. Make an appointment with your physician so that you can receive treatment… and above all, stay moving!