

A View of Asthma in Oregon

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"I was diagnosed with asthma and allergies between the 2001 World Cross-Country Championships, and the 2001 US National Championship. I was relieved once I was finally diagnosed. Knowing that asthma was causing my inability to achieve my competitive peak, and having a manageable solution to control it allowed me to regain control of my athletic potential."

Lisa Nye
Bend, Oregon
World Class long distance runner

Physical Activity and Asthma: Competing Concepts?

Regular physical activity is essential for Oregonians to prevent serious health complications and to maintain our way of life. That way of life often revolves around Oregon's year-round beauty and the renewal of different activities that comes with each season. Recent data indicate that Oregon's "way of life" is sadly becoming one of little activity and poor nutrition. Most Oregonians do not even get the recommended 30 minutes of physical activity most days of the week. Physical activity is a key factor in reducing heart disease, stroke, cancer and diabetes - the leading causes of death for Oregonians.

The American Lung Association's motto perfectly states the connection between physical activity and asthma: "When you can't breathe, nothing else matters." ® When you have uncontrolled asthma, walking up the

stairs is a challenge, vacuuming the house is difficult, and attempting to maintain physical activity most days of the week seems impossible. Having uncontrolled asthma makes it hard to "get moving," yet we know that moving is critical in the prevention of many chronic diseases. While asthma is not a leading cause of death in Oregon, it is one of the barriers to maintaining physical activity. The good news is that asthma is a controllable chronic disease. When asthma is controlled, people with asthma of all ages and levels of physical fitness can and should participate in physical activity. Throughout this issue of *A View of Asthma in Oregon* we will discuss the various strategies that help control asthma and how those strategies can help Oregonians with asthma increase their physical activity.

You May Not (Just) Be Out of Shape

Asthma is a chronic inflammatory disease of the airways. Airway inflammation causes the lining of the airways to be hyperresponsive to triggers, and limits airflow. An additional feature of asthma is an exaggerated bron-

choconstrictor response, which happens when the muscles around the airways contract in response to triggers such as allergens, environmental irritants, viral infections, cold air and physical activity. Experts agree that physical

activity causes the environment in the lower airways to be cooler and drier than normal. These conditions make the muscles surrounding the airways contract, and thus the airways further narrow. The combined effects of the change in temperature upon exertion, and the pre-existing bronchoconstriction, lead to approximately 80-90% of people with asthma having physical activity as an asthma trigger. Another segment of the general population with no history or medical indication of "asthma" experiences bronchoconstriction 8-10 minutes after participating in moderate to strenuous physical activity. This phenomenon is known as exercise-induced bronchoconstriction (EIB), and is estimated to affect 6-11% of the population.

For the person with asthma, breathing problems can occur at any level of physical exertion and will often be additionally influenced by other triggers such as pollen, tobacco smoke and other airborne irritants. Generally speaking, the person with EIB will have no other obvious triggers, and will only be affected by quick inhalation of cold, dry air. Physical activity in these two different populations, people with asthma and people with EIB, requires slightly different sets of management skills and medications. Once controlled and properly managed, though, both groups should experience few disruptions of physical activity due to asthma or EIB.

The Role of Health Care Providers

When it comes to people with asthma and EIB, health care providers need to ensure that their patients are prepared to be physically active. This can be accomplished with these simple steps: 1) knowing which patients have asthma or EIB; and 2) ensuring that their patients' asthma or EIB is under control. The first task, however, is differentiating between asthma and EIB. Dr. E.R. McFadden Jr. is well known for his research on asthma and the relation to exercise in inducing bronchoconstriction. He suggests four factors to consider when distinguishing EIB from asthma: 1) The types and levels of exercise that produce the problem; 2) the conditions where the problem was induced; 3) the timing of the onset of obstruction; 4) and the exact symptoms that develop.

For example, does the patient experience an asthma episode while walking early in the morning on a spring day, then have a repeat episode within a cou-

ple of hours? Or, do they have a "breathing" attack 5-10 minutes after a 3000-meter race in 55-degree weather, and then feel fine within 30 minutes of the event, capable of continuing with no episodes in a 3-hour period? The first example typifies asthma, and the latter example, EIB.

The medical management of asthma and EIB differ substantially. People with asthma must treat the underlying inflammation by using an inhaled anti-inflammatory (controller) medication daily. This is important even when they feel healthy. Controller medications prevent further decreases in lung function and help lessen the effect of other triggers that may be present during physical activity.

Preventive treatment for bronchoconstriction is also critical before physical activity for both people with asthma and EIB. This consists of the use of short-acting beta₂-agonist 15 minutes prior to physical activity, or for people who are physically active throughout the day, the use of a long-acting beta₂-agonist. It is important to note, however, that many studies indicate the use of a long-acting beta₂-agonist for extended periods of time will reduce its daily effectiveness. Newer medications combining anti-inflammatories and long-acting beta₂-agonists do exist and may be helpful for some patients with physical activity as a trigger for asthma.

Other methods of control include warming up, and taking precautions against environmental factors; for example, when possible ensure that your physical activity takes place in a warm and humid environment. When in cold, dry weather people need to stay as warm as possible and use face masks, scarves, or neck warmers over the mouth. Once a patient has their asthma or EIB under proper medical control, physical activity should be encouraged on a regular basis.

The Role of Self-Management

Community members, including people with asthma and EIB, can provide an environment supportive of physical activity simply by being aware of non-medical preventive measures for attacks, and by providing easy access to necessary medication. The following table provides information on key interventions for preventing an asthma or EIB episode:

Asthma	Exercise-Induced Bronchoconstriction (EIB)
<ol style="list-style-type: none"> 1. If you have been prescribed daily-inhaled anti-inflammatories, use them every day, even when you feel well. 2. Use your prescribed beta₂-agonist (albuterol) 15 minutes prior to warming up. 3. Warm up for 10-15 minutes whenever possible. 4. Breathe through your nose whenever possible. 5. Know and avoid your other asthma triggers. 6. Avoid exercising outside in the early morning hours between 5 and 10 am when pollen is at its highest if pollen is one of your triggers. 7. Avoid exercising outside on medium or high ozone days. 	<ol style="list-style-type: none"> 1. Use your prescribed beta₂-agonist (albuterol) 15 minutes prior to warming-up. 2. Warming up is essential for people with EIB. Warming up induces a refractory period that can additionally prevent episodes from occurring during the course of physical activity. This does not necessarily exist for people who have asthma. 3. Breathe through your nose whenever possible. 4. Avoid exercising outside on medium or high ozone days.
<p>For detailed information on air quality in your community visit the Department of Environmental Quality's website at www.deq.or.us.</p>	

Being prepared for a worst case scenario, an asthma or EIB attack, can be as simple as knowing the following interventions.

Signs of trouble	Action
Difficulty breathing or speaking, excessive coughing and/or wheezing 8-10 minutes after activity has been completed.	Use the short-acting beta ₂ -agonist (albuterol). If no difference in 5-10 minutes, call 911. <u>Remain calm.</u>
Breathing problems that occur <u>during</u> physical activity.	Stop activity. Use short-acting beta ₂ -agonist. If medication is not available, help person relax. Call 911 if not better in 5-10 minutes. Person should visit their regular health care provider to develop a plan for getting their asthma under control.
Breathing problems that occur within the first 5 minutes of physical activity.	Stop activity. Use short-acting beta ₂ -agonist. Person should see health care provider as soon as possible to adjust their workout and health (asthma) management plan accordingly.

While physical activity should be strongly encouraged among people with asthma and EIB, it is important that breathing problems are acknowledged, and the activity is modified when necessary. Providers and physically active people need to be aware that trouble breathing during or after physical activity could be an indicator of either EIB or asthma, and that both of these are controllable. Moreover, it is important to manage these disorders appropriately so that physical activity is not limited. If you have asthma and want to be physically active, the following activities may be a

helpful guide to get you started. Remember, breathing problems related to physical activity may indicate a more severe problem, and should always be evaluated by a qualified health care provider.

- Yoga
- Swimming
- Water aerobics
- Walking
- Golf
- Softball
- Walk up a couple flights of stairs instead of using the elevator
- Walk around your office, or neighborhood a few times a day

Oregon Asthma Program

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Victory Can Be Yours

Regular physical activity is a worthy goal for all Oregonians. The aim for both health care providers and our community is to ensure that all people with asthma and EIB can participate in physical activity on a regular basis, and have access to necessary management tools and medications that support their physical activity interests. After all, we Oregonians should enjoy our beautiful state and its recreational activities to the fullest.

Survey request:

Please take one minute to tell us how you feel about this publication!

Go to

<http://www.zoomerang.com/survey.zgi?p=WEB2E8SSBT2M> and answer seven simple questions. Your invaluable feedback will help us plan our future issues.

Thank you!

The Oregon Asthma Program

Lisa Nye's Victory

The day of the US Championships Lisa used her inhaled medication prior to warming up, and then spent 30 minutes warming up her body for her 3000-meter steeplechase race. During the race Lisa noticed how great she felt. Her extensive training, and her willingness to acknowledge her disease, helped lift the barriers — her true physical ability broke through with a championship win and a US record.