



the Wheeze and Sneeze Review

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Sue Pankoski, Editor

As the presenting sponsor for the Clean Air Challenge, Colorado Allergy and Asthma Center, P.C. (CAAC) and the Breathe Better Foundation provide over 60 volunteers and many participants to help make the event a success. This year we are recruiting patient teams to walk with their doctor or physician assistant. You can sign up for your team by stopping by any of the CAAC offices and completing the registration form. On race day, meet at the CAAC tent for donuts and beverages with your Doc or P.A. prior to the race.

The Clean Air Challenge is an event everyone can enjoy. Lung disease patients, their families and caregivers are encouraged to participate. In addition to the **5K run/walk**, there will be a **1K race for lung disease patients** and a **1/4 mile Fun Run for children**. Come spend your morning with us and enjoy food,

fun, exercise, educational exhibits, prizes and more!

Established to increase public awareness about air pollution and its health effects on individuals with lung disease, the American Lung Association of Colorado Clean Air Challenge is an event CAAC is proud to support. The Clean Air Challenge will take place at the Denver office of CAAC at Lowry as part of the Lowry Glory Days celebration, Saturday, September 22, 2001. Plan to meet your team at 8:00 a.m. at the CAAC tent. The Denver CAAC office address is 125 Rampart Way, Denver.

Walk With Your Doc or P.A.

10th Annual Clean Air Challenge

Saturday, September 22, 2001

Presented by

Colorado Allergy and Asthma Centers, P. C.

Meet your team at 8:00 a.m.

at the CAAC tent

For more information on the Clean Air Challenge visit the American Lung Association of Colorado website at www.alacolo.org or CAAC website at www.coloradoallergy.com

See You at the Clean Air Challenge!

Last Year's "Clean Air Challenge" Runners



Breathe Better Bus *ready to roll!!*

The Breathe Better Bus is a 40 foot, used RTD bus, powered by natural fuel which contains six interactive learning stations. The learning stations are geared towards children third through eighth grade and focus on asthma education and awareness for high-risk children, their families, school personnel and community members. Once on the street, approximately 10,000 Colorado children and adults per year will visit the bus!

LEARNING STATIONS TO IMPROVE LUNG HEALTH

This project was created following a needs assessment which identified a lack of education and public awareness in the community about asthma. Over 67,000 children in Colorado suffer from asthma. Colorado Allergy and Asthma Centers, P.C., not-for-profit entity the Breathe Better Foundation, is providing education and awareness. One of the main messages is, asthma is a disease that can be controlled and managed and that children with asthma can lead active, healthy lives.

Colorado Allergy and Asthma Centers, P.C. supports the Breathe Better Bus program in several ways. Providing staff to travel with the bus to each site is one of the most significant contributions. Staff will provide medical expertise fielding questions about asthma and lung disease aboard the bus at each site.

We are very proud to be the leader of this project along with key community partners including the American Lung Association of Colorado and University of Colorado at Boulder. "This project has been a real grassroots effort . . ." explains Sanford Avner, M.D., Breathe Better Foundation President . . . "there are so many individuals, businesses and health care professionals that have

cont. page 3

Exercise-induced asthma (EIA) is a common disorder that has been poorly recognized in prevalence and severity. The topic of exercise-induced asthma has been receiving more attention in the past few years. One reason is prominent elite athletes, such as Olympic gold medalist Amy VanDyken, who has EIA, have caught the media's attention. Another is that more and more individuals are being diagnosed with EIA and many additional individuals are experiencing symptoms of EIA. Physical activity and asthma *are* compatible when asthma is under good control and appropriate pretreatment medications are taken prior to exercise. Pacing one's activity level, self-monitoring skills, and asthma education are also critical in successful participation in physical activities.

OVERVIEW OF EXERCISE-INDUCED ASTHMA

EIA is a temporary narrowing of the bronchial tubes triggered by vigorous exercise or physical activity. Some individuals have an underlying asthma problem in which exercise is one of many triggers for their asthma, and some individuals *only* have problems during or after exercise. Early diagnosis and treatment are crucial for preventing not only the physical but also the psychological issues that can accompany EIA. Very often, symptoms are overlooked or ignored. Many attribute EIA symptoms to being out of shape. Similarly, adults with EIA attribute their symptoms to a normal decrease in exercise tolerance due to their age. While others deny the symptoms. The most common symptoms of EIA include cough, wheeze, shortness of breath, or chest tightness during or after physical activity.

Conditions that aggravate EIA include:

- cold, dry air vs. warm, moist air
- recent viral upper respiratory infection
- high air pollution
- mouth breathing vs. intranasal breathing
- chronic sinus disease
- allergies

The diagnosis of EIA can be accomplished by obtaining a careful history, physical examination, identifying symptoms, and performing an exercise challenge. Free running, treadmill, and cycloergometer are the most commonly used means to test for EIA.¹ Spirometry equipment to obtain an objective measurement of air-flow obstruction and reversibility before and after this activity will confirm the diagnosis. Generally, a decrease in pulmonary functions of 13% or higher is sufficient to make a diagnosis of EIA.²

Failure to diagnose and treat EIA may result in avoidance of physical activity which results in poor physical conditioning and can then lead to poor self-esteem. Children may experience ridicule from peers and teachers. All of the above will eventually affect an individual's quality of life.

GUIDELINES for PREVENTION of EIA

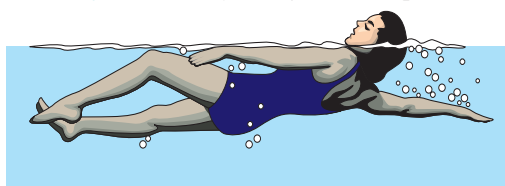
Pharmacological and nonpharmacological interventions have been reported^{2,3,4} to be efficient in the treatment of EIA. The medication of choice for the prevention of EIA is an inhaled Beta 2-agonist, such as albuterol¹. Two puffs of a metered dose inhaler (MDI) taken 5-60 minutes before exercise is usually sufficient to prevent or reduce EIA. Cromolyn sodium is an alternative to a Beta 2-agonist, although it is effective in only 60-70% of patients¹. It also can be given by MDI. Some authors^{1,2,3,4} recommend the combination of a Beta 2-agonist and cromolyn sodium as the treatment of choice for EIA. If an individual's EIA persists despite the use of a Beta 2-agonist and cromolyn sodium before exercise, then the overall status of their asthma should be re-evaluated. This may indicate a need for an anti-inflammatory medication on a regular basis. Another possibility may be a disorder known as vocal cord dysfunction (VCD).^{5,6}

In addition to prescribing pharmacologic treatment, physicians and healthcare providers sometimes advise patients on several practical measures that can help reduce the frequency of EIA symptoms^{2,3}. Nonpharmacological treatment may include discussion/education about a proper warm-up, climactic conditions, pacing and self-monitoring skills, use of a peak flow meter, improving cardiopulmonary fitness, and choice of activity.

Warming up before exercise prepares the body for more vigorous activity and may reduce the risk of injury. This process is even more important for individuals with EIA. In approximately 40% to 50% of individuals with asthma, mild bronchospasm makes that individual less responsive (refractory) to an identical exercise task performed within 1 hour.⁷ A brief warm-up period of 15 to 30 minutes before vigorous exercise may trigger mild EIA and thereby result in a state of at least partial refractoriness during the desired activity.¹ An appropriate warm-up may involve stretching, toning, a slow jog, or performing the desired activity at a slower pace in either land or water-based activities.

Climactic conditions refer to the temperature and humidity of the inspired air during exercise. Breathing warm humid air is thought to be less asthmogenic than breathing cold dry air. Therefore activities in an indoor pool are highly recommended for people with asthma. Wearing a mask or scarf over the nose and mouth in cold weather can also increase the humidity of inhaled air. The environment also plays a role in EIA. Allergic individuals often notice more symptoms if they exercise during a time when there is a high pollen count from trees, grasses, or plants to which they are sensitive to.

Pacing is the ability to regulate the speed of an individual's exertion level, to prevent EIA symptoms and to increase periods of physical activity without getting into a distressed situation. **Self-monitoring** is the ability to listen to what your body is telling you. The development of pacing and self-monitoring skills can be aided through the use of a peak flow meter.



A **peak flow meter** is a device that demonstrates how well the airways are working during physical activity. It measures the degree of openness of the bronchial tubes. To obtain an objective measure, use of a peak flow meter or other device for measuring airflow, is necessary. It is helpful because sometimes it is difficult to distinguish between shortness of breath from

exercise versus shortness of breath from EIA. The peak flow meter can be obtained at your doctor's office or pharmacy.

HOW AQUATICS IS GOOD FOR ASTHMA

Swimming has been a common physical activity and competitive sport for people with asthma for a long time. One reason for its' popularity may be the low asthmogenicity of swimming compared with land-based activities. There are currently no articles that specifically discuss other types of aquatic activities. However, the articles published about *swimming* and asthma can easily be applied to any type of aquatic activity, especially aquatic exercise or aquatic aerobic classes.

Oded Bar-Or and Omri Inbar reviewed literature on the topic of swimming *and asthma*, and discuss some possible mechanisms for the low asthmogenicity of swimming.⁸ These mechanisms include: **High humidity of inspired air**-there is controversy regarding the exact causes of EIA, but most experts agree that the most significant variables are the loss of heat and water from the airways. Therefore, it is believed that the protective

STAY ABOVE WATER WITH EIA

By Darlene A. Herfurt, MSHA, MBA,

Reprinted from Aquatic Therap

EXERCISE-INDUCED ASTHMA

Director of Asthma and Exercise Clinic, CAAC

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heat loss. **Immersion in water** - might decrease the respiratory heat loss and bronchoconstriction.

The high humidity of inspired air is the only mechanism that has been experimentally documented. The other possible mechanisms have been tested, but not confirmed⁸. The protective nature of aquatics may reflect additional mechanisms not yet investigated. The area of aquatics and asthma, especially aquatic exercise or aquatic aerobics, needs further investigation.

WHY AQUATICS IS GOOD FOR ASTHMA

There are numerous reasons why aquatics is good for individuals with asthma. Some are specific to asthma, while other reasons can benefit anyone who participates in aquatic activities. These include: low asthmogenicity; well-tolerated; induces less severe bronchoconstriction; enhances ventilatory muscle endurance and mucus clearance; improves lung capacity, circulation, cough reflex, and breath control; increases aerobic capacity, overall fitness, balance and coordination; provides a variety of physical, psychological and social benefits; decreases stress on joints, muscles & tendons; easier for obese individuals; can work at own pace; provides a successful experience; increases quality of life; EVERYONE can participate.

SUMMARY

EIA can be easily diagnosed and treated. It is a common disorder and may occur in individuals who do not otherwise have asthma. Aerobic training, especially in the pool, should be a component of the person with asthma overall asthma management plan. When properly treated, individuals with asthma should be able to participate or compete in the majority of physical activities and sports. Swimming, aquatic aerobics, or aquatic exercise is highly recommended due to its low asthmogenicity as well as providing a successful experience with exercise.

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Breathe Better Bus *cont. from pg. 1*

contributed to this important community program." This past school year, University of Colorado at Boulder provided over 50 staff and students from the Department of Mechanical Engineering to design and manufacture the learning stations. The American Lung Association of Colorado provides financial support with professional staff and volunteers to assist with the learning stations, media plans and program implementation.

Along with *Colorado Allergy and Asthma Centers, P.C.* major sponsors for the bus include: *American Lung Association of Colorado, Aetna Foundation, Aventis Pharmaceutical, GlaxoSmithKline, Schering/Key Pharmaceuticals, University of Colorado at Boulder.* Other contributors include: *Tom and Cydney Marsico, Novartis, EarthWatch, Ball Aerospace, Davis Creative Technology and the Regional Transportation Department (RTD).*

Volunteer Opportunities: The program needs community volunteers including designers for program materials, bus drivers, data entry specialists and assistance in scheduling schools. The program also needs volunteers to assist on the bus at each school. If you are interested contact Breathe Better Foundation Executive Director, Robin Wilson at 720-858-7600, ext. 7412.

The Breathe Better Foundation was established in 1993. Its mission is to improve the quality of life of children and adults with asthma and allergies through patient-care, education and community resources. Donations for the Breathe Better Bus are welcome and can go directly to support the project.

Facts about Asthma and Smoking

- Average age of a first-time smoker: 10
- 40% of Colorado's middle and high school smokers have tried to quit smoking at least twice.
- The prevalence of asthma in children increased 72% over the past 10 years
- Asthma is the leading serious chronic illness of children in the U.S. and the number one cause of school absences due to illness
- 20,000 Colorado youth under 18 become new smokers each year
- Approximately 14.8 million Americans suffer from asthma, 4.8 million under the age of 18
- An estimated 73,000 children and 165,000 adults in Colorado have asthma
- Each year asthma takes the lives of more than 100 children, yet it is a disease that can be controlled



Artist and Designer
Todd Heinze



The Breathe Better Foundation's Bus

CAAC Supports the Colorado Asthma Coalition

Colorado Allergy and Asthma Center, P.C. (CAAC) is pleased to support the efforts of the Colorado Asthma Coalition. The Coalition began its activities in August 2000 with a statewide Asthma Summit held in October 2000. This statewide all day retreat, attended by 100 asthma community leaders included a speaker from the Chicago Asthma Consortium and a facilitated session wherein the priorities for the Colorado community were developed. Since the Asthma Summit, three full coalition meetings and numerous sub committee meetings have been held. Active Coalition members from CAAC include Sanford E. Avner, M.D., David S. Pearlman, M.D., Leon S. Greos, M.D., Mary Thal, R.N., and Robin Wilson, Executive Director of the Breathe Better Foundation.

The Colorado Asthma Coalition is a consortium of healthcare professionals and community members committed to working together as a major force in solving the public health crisis caused by asthma. With support from the Environmental Protection Agency (EPA) Region 8 and in cooperation with the Colorado Department of Public Health and Environment (CDPHE), the American Lung Association of Colorado is the administrative body that spearheads Coalition activities.

Through collaboration and partnership, the Colorado Asthma Coalition envisions serving as a catalyst to develop public education strategies, policies, and an advocacy agenda for asthma. To facilitate the formulation of action plans and implementation, the Coalition has elected a governing board of directors and established working committees which include Public Education and Awareness, Data, Provider Education and Best Practices, School Health and Child Care and Environment and Research.

The Coalition continues to expand and currently includes 55 agencies with a membership of 140. Coalition partners include physicians representing health maintenance organizations, emergency care, inpatient care, primary care and the specialties of allergy and pulmonology. In addition, due to the nature of asthma epidemiology among the socio-economically deprived and multicultural populations, the Coalition includes the state and county health departments, federally qualified health care centers, subsidized insurance programs, and school nurses. Rounding out the membership are family members and those with asthma along with concerned community members. Please contact us at CAAC if you would like to be a part of the Colorado Asthma Coalition - 720-858-7600, ext. 7412.

Colorado Allergy and Asthma Centers, P.C.

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Visit Us on the World-Wide Web at: www.coloradoallergy.com
There you can follow the progress of the Breathe Better Bus, check our calendar to see when your allergies are likely to peak, update yourself on clinical trials currently being conducted at our four research centers, fill out an application for employment, or find a variety of resources and links available to you. *We hope to hear from you soon!*

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