

Pulmonary Issues in the Athlete/Exercise-Induced Asthma

Condition: Exercise-induced asthma (EIA) or exercise-induced bronchoconstriction (EIB) is a lung condition. Airway narrowing, or bronchoconstriction, occurs during or after exercise, leading to asthma-like symptoms, even if a person does not have asthma. Specifically, EIA is used to refer to individuals with a history of asthma for whom exercise is a trigger for asthma symptoms. Similarly, EIB refers to individuals without asthma history who experience airway narrowing during or after exercise.

Background: Experts believe EIA is caused by a state of chronic airway inflammation promoted by an abundance of inflammatory agents like histamines and leukotrienes that directly narrow the airways during or after exercise. Similarly, EIB is linked to environmental and individual risk factors (e.g. personal or family history of allergic rhinitis) that result in airway narrowing with exercise. The rate of EIA varies, depending upon the sport involved and the intensity of the exertion.

Risk Factors: Risk factors include exercising during colder seasons and in dry weather. Other risk factors include exposure to allergens, having a personal or family history of asthma, hay-fever or nasal inflammation, and living in an urban area. A significant number of individuals with asthma [40-90%] of will experience EIA. Individuals exercising near chemicals like chlorine from swimming pools or insecticides and fertilizers used to maintain fields are at greater risk for EIA/EIB. EIA and EIB may be seen at any age and do not appear to be more common in either gender.

History and Symptoms: Individuals experiencing EIA/EIB will report coughing, wheezing, shortness of breath, excessive mucous production, and/or chest tightness associated with exercise. These symptoms typically improve once the activity is stopped, however, symptoms occurring 4-8 hours after exercise (late response) have been reported. Some individuals also experience fatigue, headache, dizziness or abdominal pain.

Physical Exam: The exam is comprehensive, and the physician typically checks a patient's head, eyes, ears, nose, throat, chest, heart, lungs, limbs and skin.

Diagnostic Process: Although often treated based on symptoms and response to medications alone, a physical medicine and rehabilitation (PM&R) physician, also known as a physiatrist, who specializes in cardiopulmonary rehabilitation and/or sports medicine is best trained to perform precise functional assessments of an individual at the time of diagnosis and to monitor progress. The PM&R physician may arrange to assess the patient during sport specific activities or can have the individual run on a treadmill or use other exercise equipment to cause the person's breathing rate to rise. This allows the physician to better assess the condition. Furthermore, athletes participating in competitions with strict substance policies would benefit from the expertise of a sports trained PM&R physician knowledgeable of WADA (World Anti-Doping Agency) policies for EIA/EIB testing.

Rehab Management: EIA is best managed as a broader treatment plan to lower chronic inflammation in the airways. EIB management can focus on avoiding or modifying environmental triggers to prevent future attacks. When indicated, some individuals can take medications prior to exercising that help open up the airways to prevent airway narrowing associated with exercise.

Other Resources for Patients and Families: Persons with asthma can learn more at the [Asthma and Allergy Foundation of America](#).

Frequently Asked Questions

What is PM&R?

Physical medicine and rehabilitation (PM&R), also known as physiatry, is a primary medical specialty that aims to enhance and restore functional ability and improve quality of life to those with injuries, physical impairments or disabilities affecting the brain, spinal cord, nerves, bones, joints, ligaments, muscles and tendons. PM&R physicians, known as physiatrists, evaluate and treat the whole body, maximize patients' independence in their daily life and are experts in designing comprehensive, patient-centered treatment plans to empower patients to achieve their goals. By taking the whole body into account, they can accurately pin-point problems, decrease pain, assist in recovery from devastating injuries and maximize overall outcomes and performance with non-surgical and peri-surgical options. To learn more, visit www.aapmr.org/aboutpmr.

What makes PM&R physicians unique?

PM&R physicians' training focuses not just on treating medical conditions, but on enhancing the patient's performance and quality of life in the context of those medical conditions. They focus not only on one part of the body, but instead on the development of a comprehensive program for putting the pieces of a person's life back together – medically, socially, emotionally and vocationally – after injury or disease. PM&R physicians make and manage medical diagnoses, design a treatment plan and prescribe the therapies that physical therapists or other allied therapists perform or that are carried out by the patients themselves. By providing an appropriate treatment plan, PM&R physicians help patients stay as active as possible at any age. Their broad medical expertise allows them to treat disabling conditions throughout a person's lifetime.

Why see a PM&R physician?

A PM&R physician will thoroughly assess your condition, needs, and expectations and rule out any serious medical illnesses to develop a treatment plan. By understanding your condition and goals, you and your PM&R physician can develop a treatment plan suited to your unique needs.

How do I find a PM&R physician near me?

Visit www.aapmr.org/findapmrphysician or contact your primary care physician for a referral.