Background
Exercise-induced anaphylaxis (EIA) is a rare condition in which an allergic reaction is triggered by physical activity. Anaphylaxis is a severe allergic reaction that can start immediately and may be life-threatening. It can start at any age usually between the ages of 4 to 74 years old. In 30-50 percent of people, EIA is food dependent. In these patients, exercise or food alone does not cause anaphylaxis, but the combination of a specific food with exercise causes the reaction.

Symptoms
Symptoms may start at any stage of exercise or even hours later, but in most people warning signs begin within 30 minutes after beginning exercise. It often improves when activity is stopped and worsens severely if exercise continues. Signs and symptoms typically include:
- Diffuse redness and warmth of the skin
- Widespread itchiness
- Hives
- Sudden fatigue
- Headache
- Gastrointestinal symptoms: nausea, vomiting, diarrhea and abdominal cramping
- Difficulty in breathing with the feeling of choking
- Wheezing
- Chest tightness
- Swelling of the face, throat, hands and/or feet
- Low blood pressure
- Altered consciousness

Sports Medicine Evaluation and Treatment
The diagnosis of EIA is very complex. Therefore, it is extremely important to tell your doctor all the details of the events that occurred around the episodes. In some instances, your doctor may want to order an exercise-challenge test, allergy skin test, food-challenge test or methacholine-challenge test to make the diagnosis more clear and identify the factors that trigger the reaction. It is important to know that a positive test confirms the diagnosis, but a negative test does not prove that EIA did not occur.

The treatment of an acute attack of EIA begins with an understanding of how to treat anaphylactic shock. This includes the ability to quickly recognize the symptoms, immediately stop exercise, check the ABCs (airway, breathing, and circulation) and then rapidly inject epinephrine (with an EpiPen) to the outer thigh at the first signs and symptoms of EIA. If you need to inject epinephrine, call 911 and seek immediate medical care for further monitoring and treatment, as the anaphylactic reaction might have ongoing life-threatening effects.

Once in the hospital, your doctor may give you oxygen and medications like antihistamines, inhaled bronchodilators, antacids and steroids to help with your symptoms.
AMSSM SPORTS MEDICINE TOPICS

EXERCISE-INDUCED ANAPHYLAXIS

Injury Prevention
Modification of activities and behavior is very important to the prevention of EIA. Patients should be educated to:
(1) Not exercise four to six hours after eating
(2) Before exercising, avoid triggers such as aspirin, NSAIDs and food allergens
(3) Not exercising around menstrual cycles and extreme temperature changes
(4) Use prophylactic medications such as antihistamines
(5) Stop exercise at the first sign of itchiness, skin redness and warmth, hives or fatigue to prevent progression of EIA
(6) Exercise with a partner who knows how to inject epinephrine (i.e., EpiPen) to the outer thigh and perform basic life support (CPR)

Return to Play
Athletes with a known history of EIA should not participate in activity until a comprehensive anaphylaxis action plan is put in place. At that time, the athlete should progress to higher amounts of exercise intensity and duration, while keeping it below the threshold that causes symptoms of anaphylaxis. Patients should be advised to always carry an epinephrine kit and exercise with a partner.

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References