

## **Asthma (Recognition, Prevention, & Treatment)**

### **What is exercise-induced asthma?**

Many people who never experience asthma symptoms at other times have exercise-induced asthma, experts say.

"Exercise-induced asthma occurs in almost everyone who has chronic asthma, but there is a separate group of people who have what we call exercise-induced bronchospasm", says Dr. Timothy Craig of the American Academy of Allergy, Asthma and Immunology (AAAAI).

These people, he explains, don't have what is considered "true" asthma. They don't have inflammation in their lungs. Nor do they experience symptoms when exposed to common triggers, like animals, pollen or mold.

"So unlike most people who have asthma and get exercise-induced symptoms, these individuals don't have true asthma, but when they exercise, they experience the symptoms of asthma", Dr Craig, chair of the AAAAI's Sports Medicine Committee, says.

Exercise-induced asthma occurs when the airways narrow, making breathing difficult. Why some sports people have exercise-induced asthma and others don't isn't entirely clear.

"The causes vary, but are usually associated with loss of heat or water, or both, from the lungs during exercise, because of the increased ventilation of dry and cool air", says Michael G. Miller, of the US National Athletic Trainers Association.

People with exercise-induced asthma have airways that are overly sensitive to sudden changes in temperature and humidity, especially when breathing colder, drier air, according to Asthma UK.

During strenuous activity, people tend to breathe through their mouths. Mouth breathing allows cold, dry air directly into the lungs, without the benefit of the warmth and moisture that nose breathing supplies. As a result, air is moistened to only 60-70% relative humidity. Nose-breathing, meanwhile, warms and saturates air to about 80 to 90% humidity.

The symptoms of exercise-induced asthma are similar to those of chronic asthma, explains Michael Miller. They include:

- Shortness of breath.
- Tightness in the chest.
- Coughing or wheezing.
- Decreased performance.

These symptoms usually begin after several minutes of exercise and peak about 10 minutes into a workout, or sooner.

## Preventing and Treating exercise-induced asthma

How can these symptoms be prevented and treated, so asthma doesn't become an excuse to avoid exercise?

Here are some tips for reducing the symptoms of exercise-induced asthma:

- Warm up before working out. "A proper warm-up for at least 10 minutes with a gradual increase in intensity can help prevent symptoms" says Michael Miller.
- Take precautions when it's chilly outside. "If it's cold, cover your mouth and nose to warm the air", says Michael Miller. Or "move to indoor areas that are well-ventilated and have humidified, warm air".
- Use an inhaler. Inhalers containing salbutamol or terbutaline, a beta-agonist bronchodilator, are required. This class of drugs is effective in 80% to 90% of people with exercise-induced asthma. As a preventive therapy, it should be taken about 15 minutes before exercise. The effects can last for up to four to six hours. Your inhaler can also be used to relieve asthma symptoms after they flare.

If warming up and using a beta-agonist does not prevent symptoms, there may be more to your exercise-induced asthma than you think.

### Is it exercise-induced asthma?

Are you really experiencing exercise-induced asthma, or is it chronic asthma in disguise?

"It depends, and that's one of the difficulties", says Dr. Craig. "Does a person truly have exercise-induced asthma, or is their asthma unstable and just manifesting with exercise?"

It might be chronic asthma if your asthma symptoms continue to flare after taking a beta-agonist or if they are triggered by things like cigarette smoke and pet dander.

"If the effects of a beta-agonist only last for a short while, you may have underlying significant inflammation and not realize it", says Dr Craig. "That means you have poorly controlled asthma, and you need to be seen by a doctor and possibly be on an anti-inflammatory agent on a regular basis".

### Sports for avoiding exercise-induced asthma

When it comes to exercise-induced asthma, warmer is better. "It seems to be associated mainly with people who are, for instance, skaters in cold, dry areas, or skiers doing really excessive exercise in a cold and dry environment", says Dr Craig. "The cold and dry air is one of the greatest stimuli for inducing bronchospasm".

Along with cold-weather activity, sports with sustained periods of running or exertion are more likely to trigger exercise-induced asthma.

Asthma UK says long-distance and cross-country running are particularly strong triggers because they take place outside in cold air without any breaks. Team sports like football and hockey are less likely to cause asthma symptoms as there are some short breaks during play between bursts of activity.

Additionally, Asthma UK says swimming is excellent exercise for people with asthma because the warm humid air in the pool is less likely to trigger symptoms. However, it warns that cold water or pools with lots of chlorine can be a trigger.

Yoga is recommended to relax the body this may help with your breathing too.

Whatever your sport of choice, exercise-induced asthma, or even chronic asthma, is no excuse to become a couch potato.

At the Olympic level, 20% of elite athletes have asthma. In fact, at the 1998 Winter Olympics in Nagano, Japan, 23% of the Olympians were shown to have exercise-induced asthma after testing.

Exercise-induced asthma doesn't have to slow you down. At the 1996 Olympics in Atlanta in the US, nearly 30% of U.S. Olympians who had asthma or took asthma medications won team or individual medals in competition, performing just as well as non-asthmatic athletes.

The polluted air in Beijing was seen as a risk to peak performance in the 2008 Olympics as it could have triggered asthma symptoms among athletes. The world record holder for the marathon, Haile Gebrselassie, pulled out of the race for this reason.

Asthma UK statistics suggest more than a third of people with asthma avoid exercising outside because of traffic fumes, and two thirds say it is a trigger for their asthma.

## **Exercise-induced asthma: tips for children**

Diagnosing exercise-induced asthma in children can be difficult because the symptoms can be subtle.

For instance, children with exercise-induced asthma might:

- Complain of not being able to run as fast as their friends.
- Express a dislike for sport because they can't compete as well as the other children.
- Avoid physical activities altogether.

If your child is reluctant to engage in sports or other physical activities, speak to your doctor.

Treatment of exercise-induced asthma can help keep your child active.

Communicate with your child's school. Send a letter to the school with your child's medicine, or make a time to talk to the school nurse, your child's teacher, and PE teacher, to discuss important aspects of exercise-induced asthma. These include:

- The nature of your child's exercise-induced asthma.
- Medications used to prevent symptoms and how to use them properly.
- Other techniques to prevent attacks, like warming up before exercise.
- Warning signs of an asthma episode.
- Contact information in case of an emergency, including a phone number for your child's doctor.

## **More exercise, less asthma**

Last but not least, when it comes to exercise-induced asthma, your overall health can play an important role. "Asthma severity does correlate with obesity, and the better shape you are in, the better your asthma can be controlled", says Dr Craig.

He says exercise can improve both physical health and emotional well-being, even in people with exercise-induced asthma. So whether you are something like "a part time exerciser" or an Olympian, you can compete and participate in sports and activities to your fullest ability, just remember to bring your inhaler.

Ref. Web MD