

Performance Point

Asthma: Special Concerns for Athletes

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Asthma is a common disorder where inflammation, spasm or hyperreactivity of the bronchi causes the narrowing of the airway. Symptoms include wheezing, shortness of breath, a tight feeling in the chest, and coughing. Exercise-induced asthma is simply described as asthma induced or triggered by vigorous exercise. In this case, asthma symptoms may not be present at rest, only becoming problematic with exercise. As mentioned in our previous Performance Point on pollution, athletes should be screened for asthma prior to competition and/or travel if there is concern.

Asthma and Performance

Asthma and/or an exercise-induced bronchoconstriction has been reported in up to 50% of elite athletes (depending on the sport). This reduced airway caliber and greater resistance to breathing can have two detrimental effects on exercise:

1. Oxygen Distribution

An increase in the work of breathing shifts the oxygen delivery away from the exercising musculature. The lungs require a larger portion of total oxygen, leaving less available for distribution to the working muscle.

2. Oxygen Content and Availability

During exercise, bronchoconstriction can eventually lead to a lowered arterial oxygen content. Therefore, there is less oxygen available for distribution to the whole body (both the working muscles and respiratory muscles) during exercise.

Athletes with asthma that is well controlled are less sensitive to exercise as a trigger. Environmental triggers can have a great influence, even if athletes have a mild case of asthma. Multiple triggers exasperate the symptoms with a cumulative effect.

Common triggers for asthma symptoms

a. Environmental:

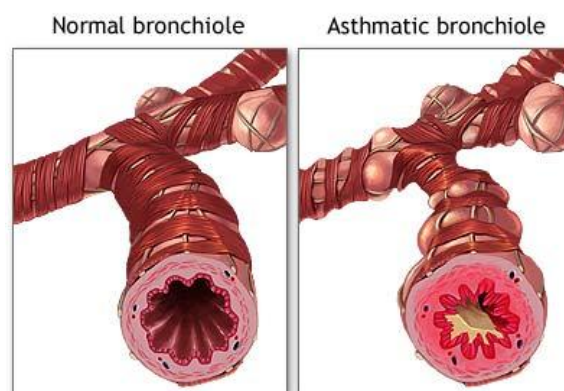
- Very dry, cold air
- Very hot, humid air
- Irritants or fumes (eg. perfumes, air fresheners)
- Pollution, indoor or outdoor (eg. dust, smog, exhaust, smoke)
- Inhaled Allergens (eg. grass, pollen, mould, animal dander)

b. Associated with travel and other life factors:

- Fatigue
- Emotional Stress
- Respiratory infections (eg. a cold, flu)

How can athletes minimize effects of asthma triggers?

- ✓ Ensure athletes have inhalers or other medications with them (bring extra)
- ✓ Be diligent with a proper warm-up and cool-down
- ✓ Protect athletes from environmental asthma triggers
 - eg. In hot, humid, or smoggy conditions, exercise indoors or away from traffic
 - eg. In very cold and dry conditions, use a scarf or mask over the mouth to warm up the air
- ✓ If athletes have asthma and will be competing in a location with poor air quality, consider staging in a close-by location, and move into the polluted area just prior to the event to minimize exposure
- ✓ Wash hands regularly to avoid respiratory infections
- ✓ Take steps to decrease potential life stressors (consult sport psychologist)
- ✓ Schedule enough time for rest, naps, and nighttime sleep. Use earplugs/eye masks as needed.



For more information in this area, please contact Canadian Sport Centre Pacific Medical Services.

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