

The Medical Minute: Asthma patients should consider pollution's effect

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Scientific studies have clearly demonstrated the impact of air pollution in humans with chronic respiratory illnesses such as asthma.

Furthermore, it has been shown that exercise can enhance the adverse effects specific air pollutants can have on health. Even markers of inflammation (exhaled nitric oxide) in the lungs have been found to be elevated in those who are exposed to ozone and competing in sports in polluted areas is expected to further increase inflammation in the lungs.

A study conducted during the Atlanta Olympics demonstrated that by reducing traffic around the perimeter of the games, there was a significant reduction in emergency room visits and hospitalizations related to asthma and other respiratory conditions. Similar studies from South Korea during the 2002 Summer Asian Games demonstrated reduced hospitalizations in the area as air pollution decreased as a result of restricted traffic in the city. This suggests that air pollution is an important factor for triggering asthma.

Not only can air pollution worsen asthma, but may even increase the risk of developing it. Studies have shown that asthma incidence can be increased in athletes who exercise in polluted areas. Researchers have shown a direct association between heavy exercise in communities with high concentrations of ozone secondary to pollution.

When traveling to China for the upcoming summer Olympics where air pollution is very high, susceptible individuals are advised to take certain precautions. If you have asthma, make sure you take all of your

controller (inhaled corticosteroid, leukotriene modifying agents) and rescue medications (albuterol) with you and use them as directed by your physician. Bring a mask that has carbon, which can absorb pollutants. Avoid being outdoors for prolonged periods of time during days when the air quality index is considered poor. Also, do not forget your eye and nose medications since ozone and other pollutants can irritate more than the lungs.

If you are an athlete with asthma who plans to exercise when the air quality index is poor, make sure you take your controller therapy (inhaled corticosteroid with a long acting beta agonist or LTMA) and use a short acting beta agonist 15 minutes prior to exercise. If you are participating in the games as an athlete, always remember that "anti-doping regulations" restrict certain medications, so make sure you have approval before self-medicating your allergies and asthma.

Source: By Timothy Craig, Penn State

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