

What is Thunderstorm Asthma?

Many people are perplexed by asthmatic patients whose symptoms flare with foul weather and, in some cases, result in emergency room visits and hospitalizations. There is a rise in acute asthma attacks with thunderstorms, hence the name "thunderstorm asthma".

It is the airflow patterns in thunderstorms and not the electrical activity, thunder itself or rain that trigger asthma epidemics. Thunderstorm outflows are created by downdrafts of cold air. These drafts concentrate particles of pollens and mold spores and then sweep them into the high humidity of the clouds. They are broken down into small, respirable fragments, which are released by rain. Because these allergens are high concentrated, they can cause severe asthma attacks in patients who are sensitized to the various allergens.

Weather changes, like rain showers and wind, provide suitable conditions for hydration of pollen capsules, release of pollens into the air (aeration) and transportation of airborne pollens to regions far and near, creating a nurturing environment for thunderstorm asthma attacks.

Epidemics of acute asthma due to thunderstorms occur in spring and summer. Studies have shown that they are particularly common in late July when fungal spores are rising and grass pollen counts are beginning to wane. This does not give asthmatic patients who are allergic to both grass and molds, enough time to recover from their grass pollen-induced bronchial hyperresponsiveness. Thus, even though grass allergy is not a prerequisite for thunderstorm asthma, it acts as a factor in patients with hay fever and mold allergy, particularly *Alternaria* mold. Other studies have shown that the amount of grass pollen grains trapped in thunderstorm outflow were between four and 12 times higher than elsewhere making it readily available for breathing.

If you have acute asthma attacks preceded by a thunderstorm, seek help from a specialist in allergy and immunology. Knowing what you are allergic to (grass pollens and molds) and proper preventive therapy with an inhaled corticosteroid (asthma maintenance medication) as well as allergen immunotherapy can

potentially save your life. Try to avoid outdoor activities within 24 hours after a thunderstorm or rain shower as pollens and mold spores are in the air.

Remember that allergy and exposure to *Alternaria* mold could result in severe episodes of asthma exacerbation and, in some cases, could be fatal. Comprehensive evaluation and an individualized management regimen by a board-certified asthma specialist will help you breathe right, enjoy the outdoors and sleep well at night.

As usual, for all your concerns about allergies, asthma and immune system problems, ask Dr. Annie at info@aaiimichigan.com



Ask Dr. Annie
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Dr. Annie Arrey-Mensah, MD
Board Certified in Asthma, Allergy
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Free

Yourselves from allergy, asthma and immune system problems!
Do you or your loved one suffer from...

- Headaches
- Sinus Infections
- Frequent Diarrhea
- Wheezing
- Mouth Breathing
- Rashes
- Watery Eyes
- Throat Clearing
- Swelling
- Sneezing
- Frequent Cough
- Chronic Congestion
- Asthma
- Pneumonia
- Recurrent Abdominal Pain
- Runny Nose
- Bronchitis

If you answered YES to any of these symptoms you or your loved one may have allergies, asthma or immune system problems.

ASTHMA ALLERGY & IMMUNOLOGY INSTITUTE

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