



*People with allergic rhinitis who have never experienced asthma before can experience bronchospasm during certain thunderstorms.*

Recent thunderstorm asthma epidemics in Melbourne and Wagga claimed 8 lives. The event in Melbourne in November 2016 triggered 1900 calls to ambulance Victoria.

### **Facts about thunderstorm asthma**

- Thunderstorm asthma can affect anyone; even those who don't have a history of asthma or have never experienced asthma symptoms previously.
- Thunderstorm asthma can also be referred to as allergic asthma.
- Pollen, burst into smaller particles during thunderstorm asthma conditions, can trigger asthma, as well as hay fever symptoms.
- 1 in 4 people with hay fever also have asthma.
- Those at increased risk of thunderstorm asthma are thought to be those with:
  - A history of asthma
  - Undiagnosed asthma
  - Seasonal allergic rhinitis
  - Rye grass/pollen allergy.

- It is thought to be caused by large amounts of whole pollen grains being pulled up into the clouds of an evolving thunderstorm. The moisture in the clouds is absorbed by the pollen grains which burst apart into hundreds of small pollen allergen particles. These are released into the air in the cold dry outflows from the storm and arrive at ground level where they are breathed into people's lungs. See <https://www2.health.vic.gov.au/emergencies/thunderstorm-asthma-event> for a diagram of this process.
- These small pollen particles are capable of penetrating deep into the small airways of the lung and can cause asthma attacks.
- Not all thunderstorms, even on days with high pollen counts trigger thunderstorm asthma.
- People who don't have a pollen allergy can be affected by thunderstorm asthma.
- Allergens such as fungal spores, large humidity and temperature changes over a short period of time can also affect some people with asthma and other respiratory diseases during a thunderstorm.

## Considerations for GPs/Practice Staff

- Display notices in your practice with facts and information about thunderstorm asthma emphasizing that it can affect people with no prior history of asthma.
- Consider developing an asthma action plan with patients who have allergic rhinitis or ryegrass/pollen allergy despite no known asthma.
- Discuss and raise awareness of risks with patients who have asthma, allergic rhinitis, and rye grass/pollen and check that they have access to preventers and relievers as part of their asthma plan.
- Brief reception and other practice staff when the risk of thunderstorm asthma increases, including recognition of patients who might be affected at reception and being aware that there might be an increase in patients presenting with symptoms.
- Form relationships with other health care organisations (hospital emergency departments and community health centres) both prior to and during a thunderstorm. Ensure roles and responsibilities are clarified in the event of a thunderstorm.

## Resources

Vic Health – *Epidemic thunderstorm asthma*, <https://www2.health.vic.gov.au/emergencies/thunderstorm-asthma-event>

AusPollen <http://www.pollenforecast.com.au/>

Australian Journal of Pharmacy – *Keeping one step ahead of pollen triggers for thunderstorm asthma*

<https://ajp.com.au/features/keeping-one-step-ahead-pollen-triggers-thunderstorm-asthma/>

The Australasian Society of Clinical Immunology and Allergy (ASCIA) – *Thunderstorm asthma*

<https://www.allergy.org.au/patients/asthma-and-allergy/thunderstorm-asthma>

Better Health Channel – *Thunderstorm asthma*

<https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/asthma-thunderstorm>