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| Epidemic Thunderstorm Asthma (ETSA) |
| Emergency Department and Urgent Care Centre preparedness guidanceUpdated October 2022 |
| OFFICIAL |

## Who should read this?

This document should be read by clinicians/managers who work in emergency departments (EDs) and urgent care centres (UCCs), and health service leaders in preparation for a potential epidemic thunderstorm asthma (ETSA) event during grass pollen season (1 October – 31 December).

## What is this document about?

ETSA is the phenomenon where a large number of people develop asthma symptoms over a short period of time. It is thought to be triggered by an uncommon combination of high pollen levels and a certain type of thunderstorm.

Although ETSA events are uncommon, they place significant demand on health care services due to the near-simultaneous onset of asthma exacerbations. In November 2016, Victoria experienced the world’s largest ETSA event. In the 30 hours from onset the storm, greater Melbourne saw almost 3,500 excess ED presentations, almost 500 excess admissions, 30 ICU admissions and 10 deaths.

EDs, UCCs and health services should be prepared for an unlikely but possible ETSA event during the grass pollen season. This guidance aims to support self-assessment and gap analysis of preparedness for an event or if a high-risk ETSA day is forecasted. Checklists are available (Appendix 1) to assist with this process.

## The ETSA forecasting system

The ETSA risk forecasting system operates during the grass pollen season (1 October – 31 December) and combines the forecast of grass pollen levels with the forecast of a certain uncommon type of thunderstorm. The ETSA risk forecast covers three days (today, tomorrow and the day after) and is updated twice daily (12:30pm, when Day 0 is updated, and 3pm when Day 1 and 2 are updated). It uses a colour-coded risk scale specific for each district (Figure 1):

* A high-risk (red) ETSA forecast is generated when both high grass pollen levels and a severe thunderstorm with strong winds are predicted in a particular weather district.
* A moderate-risk (orange) ETSA forecast is generated when either moderate grass pollen levels and a severe thunderstorm with strong winds, or high grass pollen levels and a moderate thunderstorm are predicted, in a particular weather district.
* A low-risk (green) forecast indicates that the elements necessary for an ETSA event are not expected to occur and an event is unlikely.

The ETSA risk forecast is available on the Department of Health website and the Vic Emergency website. The ETSA forecast is also available in an abridged version on the Melbourne Pollen website.

On a high-risk forecast day and during an ETSA event the Department of Health will issue advice and warnings on the Vic Emergency warning platform.

## Notification of a potential ETSA event to the Department of Health

EDs, UCCs or health services that identify an ETSA event, a trend in presentations that could reflect the early stages of an ETSA event, or if there is a code brown emergency, should:

* Immediately notify the Department of Health on 1300 790 733 (24 hrs, seven days a week).
* Ask the call operator to speak to the **Health - State Duty Officer**; leave your name and phone number. The State Duty Officer will immediately return your call.
* Email semc@health.vic.gov.au (this should not delay the immediate phone notification).

## Appendix 1. Self-assessment checklists

### Health service preparedness checklist

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| Emergency and disaster response plan inclusions | **Y/N** | **Notes** |
| Arrangements to deal with an ETSA event and other non-trauma, high presentation events such as mass ‘gastro’ and mass toxicology events |  |  |
| Arrangements to deal with an ETSA event and the current COVID-19 pandemic |  |  |
| Coverage of all key clinical areas including the urgent care centre, emergency department, pharmacy and intensive care unit (as applicable) |  |  |
| Clear systems for activation of a Code Brown response and notification of the Department of Health (DH) |  |  |
| Dedicated Hospital Single Contact Point (mobile phone number, email address and land line) provided to DH to facilitate urgent notifications of actual and emerging events |  |  |
| Arrangements for increasing inpatient bed capacity quickly during such events |  |  |
| A pharmacy ETSA sub-plan to ensure adequate supplies (including spacers) are available |  |  |
| An emergency department or urgent care centre ETSA sub-plan |  |  |

### Emergency department ETSA preparedness checklist

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| **Emergency department ETSA sub-plan inclusions**  | **Y/N** | **Notes**  |
| **Facilities**  |
| Arrangements to reconfigure ED areas to manage a large surge of patients presenting with acute respiratory symptoms |  |  |
| Arrangements to increase capacity to treat emergency patients (e.g. by using other areas such as outpatient clinics, day procedure units, respiratory assessment clinics) |  |  |
| Arrangements for rapid off-loading and clearing of ambulances, including active traffic management as needed |  |  |
| Arrangements for orderly exit of discharged patients awaiting private transport home |  |  |
| Arrangements to restrict visitors where it is appropriate (e.g. exceptions for parents/carers of patients < 18 years old) to minimise overcrowding. |  |  |
| Means to dispose of increased waste from consumables |  |  |
| **Workforce**  |
| Staff education about the grass pollen season and potential for an ETSA event, including what staff should do to protect themselves from asthma  |  |  |
| Staff training for extreme surges in attendances |  |  |
| Arrangements to quickly increase staff numbers (e.g. additional staff on-call during high-risk forecast days) |  |  |
| Consideration of staff health and safety during an event |  |  |
| **Clinical protocols and clinical supplies** |
| Clear escalation processes to notify executive team members of the situation, including actions which facilitate timely transfer of patients to the ward or discharge as clinically appropriate, and criteria to request activation of a Code Brown response |  |  |
| Rapid access to and adequate stock of additional oxygen and pharmacy supplies such as spacers, relievers and oral corticosteroids |  |  |
| Triage and assessment processes to manage a high number of patients presenting with respiratory symptoms |  |  |
| Capacity to record contact details of anyone present in the emergency department during the event, including patients, visitors and staff, in a manner that can be easily retrieved |  |  |
| Standardised management of patients presenting with acute asthma (e.g. use of national and state-wide guidance for adults and children) and discussion with ICU (if applicable) in regards to a standardised approach to managing severe asthma |  |  |
| Means to rapidly document medical treatment and outcomes during high presentation numbers |  |  |
| A process to fast-track patient discharge advice and summaries for general practitioner follow up  |  |  |
| Methods to efficiently educate patients on use of inhalers and spacers (e.g. use of videos demonstrating appropriate technique for adults and children) |  |  |
| A standardised approach to patient discharge (e.g. a discharge pack containing essentials including an asthma action plan, required medication or script (reliever and oral corticosteroids), spacer, a list of nearby after-hours pharmacies, a list of educational resources and videos, when and how to have their asthma reviewed, and asthma first aid instructions) |  |  |
| **ETSA forecast monitoring** |
| Arrangements to monitor the ETSA risk forecast during the season (October 1 – December 31). Be familiar with the Vic Emergency Incidents and Warnings webpage (https://emergency.vic.gov.au/respond/) |  |  |
| A prepared and agreed response to a high/moderate ETSA risk forecast |  |  |

### Urgent care centre preparedness checklist

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| **Urgent care centre ETSA sub-plan inclusions** | **Y/N** | **Notes**  |
| **Facilities**  |
| Arrangements to reconfigure UCC areas to manage a large surge of patients presenting with acute respiratory symptoms |  |  |
| Arrangements to increase capacity to treat patients (e.g. by using other areas such as outpatient clinics, day procedure units, respiratory assessment clinics, local general practice services) |  |  |
| Arrangements for orderly exit of discharged patients awaiting private transport home |  |  |
| Arrangements to restrict visitors where it is appropriate (e.g. exceptions for parents/carers of patients < 18 years old) to minimise |  |  |
| Means to dispose of increased waste from consumables |  |  |
| **Workforce**  |
| Staff education about the upcoming grass pollen season and potential for an ETSA event, including what staff should do to protect themselves from asthma  |  |  |
| Staff training for extreme surges in attendances |  |  |
| Arrangements to quickly increase staff numbers (e.g. additional staff on-call during high-risk forecast days)  |  |  |
| Consideration of staff health and safety during an event |  |  |
| **Clinical protocols and clinical supplies** |
| Clear escalation processes to notify executive team members of the situation, including actions which facilitate timely transfer of patients to the ward or discharge as clinically appropriate, and criteria to request activation of a Code Brown response |  |  |
| Rapid access to and adequate stock of additional oxygen and pharmacy supplies such as spacers, relievers and oral corticosteroids |  |  |
| Triage and assessment processes to manage a high number of patients presenting with respiratory symptoms |  |  |
| Arrangements to identify the need for and quickly escalate the care of patients at risk of deterioration (e.g. early contact with AVR or PIPER) |  |  |
| Capacity to record contact details of anyone present in the UCC during the event, including patients, visitors and staff, in a manner that can be easily retrieved |  |  |
| Standardised management of patients presenting with acute asthma (e.g. use of national and state-wide guidance for adults and children) |  |  |
| Means to rapidly document medical treatment and outcomes during high presentation numbers |  |  |
| Methods to efficiently educate patients on use of inhalers and spacers (e.g. use of videos demonstrating appropriate technique for adults and children) |  |  |
| A process to fast-track patient discharge advice and summaries for general practitioner follow up |  |  |
| A standardised approach to patient discharge (e.g. a discharge pack containing essentials including an asthma action plan, required medication or script (reliever and oral corticosteroids), spacer, a list of nearby after-hours pharmacies, a list of educational resources and videos, when and how to have their asthma reviewed, and asthma first aid instructions) |  |  |
| **ETSA forecast monitoring** |
| Arrangements to monitor the risk of ETSA during the season (October 1 – December 31)  |  |  |
| A prepared and agreed response to a high/moderate ETSA risk forecast |  |  |

## Appendix 2. Online resources

### Asthma resources for clinicians

Managing acute asthma in adults <www.asthmahandbook.org.au/acute-asthma/clinical>

Managing acute asthma in children <www.rch.org.au/clinicalguide/guideline\_index/Asthma\_acute/>

Inhaler technique video (adults) <www.nationalasthma.org.au/how-to-videos>

Inhaler technique video (children) <https://www.rch.org.au/kidsinfo/fact\_sheets/asthma-videos/>

### Epidemic thunderstorm asthma

Vic emergency – ETSA risk forecast <https://emergency.vic.gov.au/prepare/#thunderstorm-asthma-forecast>

Department of Health – ETSA information <https://www.health.vic.gov.au/environmental-health/epidemic-thunderstorm-asthma>

Better Health Channel – ETSA factsheet <https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/thunderstorm-asthma>

### Resources for patients and their carers

Asthma Patient Factsheet <https://www.safercare.vic.gov.au/clinical-guidance/emergency/asthma-patient>

Asthma Australia <https://asthma.org.au/>

Better Health Channel – Thunderstorm asthma  <https://www.betterhealth.vic.gov.au/health/conditionsandtreatments/thunderstorm-asthma>

Better Health Channe – Asthma <https://www.betterhealth.vic.gov.au/conditionsandtreatments/asthma>

Asthma Australia phone support line (1800 278 462)

Inhaler technique video (adults) <www.nationalasthma.org.au/how-to-videos>

Inhaler technique video (children) <https://www.rch.org.au/kidsinfo/fact\_sheets/asthma-videos/>

### Code brown planning

A Code Brown planning guidance note for health services and facilities has been produced by Department of Health  <https://www.health.vic.gov.au/publications/code-brown-planning-guidance-note-for-health-services-and-facilities> which details key steps to be taken before, during and after an external health service emergency.

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| To receive this document in another format, phone 1300 651 160, using the National Relay Service 13 36 77 if required, or email the Thunderstorm Asthma Team on <ETSA@health.vic.gov.au>Authorised and published by the Victorian Government, 1 Treasury Place, Melbourne.© State of Victoria, Australia, Department of Health, October 2022.Available at Epidemic thunderstorm asthma - resources for health professionals, Health.vic <www.health.vic.gov.au/environmental-health/resources-for-health-professionals> |