Epidemic thunderstorm asthma

Emergency department and urgent care centre checklist
Coronavirus (COVID-19) updated 8 October 2020

Who should read this?

All clinicians who work in emergency departments (EDs) and urgent care centres (UCCs), health service staff responsible for implementing and maintaining infection control measures, health service leaders and pharmacy managers.

Information about protecting yourself against coronavirus (COVID-19)

During the coronavirus (COVID-19) pandemic, the Victorian Department of Health and Human Services (the Department) will regularly update its guidance as new evidence becomes available. To find out general information about coronavirus (COVID-19), visit For health services and professionals - coronavirus (COVID-19) <https://www.dhhs.vic.gov.au/health-services-and-professionals-coronavirus-covid-19>.

What is this document about?

EDs, UCCs and health services should be prepared for epidemic thunderstorm asthma (ETSA) events during the grass pollen season (1 October – 31 December). This checklist aims to facilitate self-assessment and gap analysis of preparedness for such an event. As necessary, EDs, UCCs and health services should address any gaps in their preparedness.

Managing epidemic thunderstorm asthma during the COVID-19 pandemic

During ETSA events, ED Directors and UCC Directors of Medical Services should exercise discretion around cohorting suspected COVID-19 and confirmed COVID-19 patients as well as those with asthma in order to save lives. EDs and UCCs should continue to test appropriate patients for COVID-19 where possible. For more information refer to Assessment and streaming in emergency departments and urgent care centres.

If any UCCs or EDs notice an early trend which they suspect could be indicative of an ETSA event, the numbers to call to alert the Department are the same contact details provided in the code brown planning guidance:

For rural and regional health services - call your division's emergency contact number:

- North division 1300 080 829
- East division 1300 576 518
- West division 1800 780 354
- South division 1300 528 951

For metropolitan health services - call the Department's central emergency contact number: 1300 790 733.

Epidemic thunderstorm asthma

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.

Current understanding is that the internal contents of the grass pollen grain are released into the environment and dispersed across a large geographical area by the storm, and specifically by the wind gusts that precede these. It appears that the allergens are concentrated in these gusts, and that those people who are exposed to these winds receive a potentially large dose of the allergen. This may result in a severe response.

Unlike whole grass pollen grains, these allergens are small enough to get past the nose and throat and be breathed deeply into the lungs, where they can trigger asthma. The unique aspect of epidemic thunderstorm asthma events is the unexpectedly large and rapid surge in patient numbers resulting in significant demand on ambulance and health services, particularly emergency departments.

Those at increased risk of ETSA include people with asthma, people with a past history of asthma, those with undiagnosed asthma and importantly, people with seasonal hay fever who may or may not have ever had asthma.

There is no formal or generally recognised quantitative definition of an epidemic thunderstorm asthma event and it is recognised that improved patient preparedness (for example, those with hay fever being aware of their increased risk and having knowledge of asthma first aid), improved asthma diagnosis, clinical management and self-care, and exposure avoidance are likely to diminish the health impacts from the dispersion of allergen resulting from the uncommon type of storm on a high pollen day.

The allergen in Victoria is thought to arise from rye grass pollen and therefore the outer boundaries of the risk period for this phenomenon are limited to grass pollen season.

The grass pollen season in Victoria is typically between 1 October and 31 December. In Victoria, historically epidemic thunderstorm asthma events have occurred in November and a week either side, however climate change may have an influence on this timing.

Epidemic thunderstorm asthma risk forecasts are available from 1 October to 31 December from the VicEmergency website and app. On a high risk day ad during an ETSA event the Department of Health and Human Services will also issue advice and warnings on the VicEmergency warning platform http://emergency.vic.gov.au/respond/.

Self assessment checklist

Health service planning

Emergency and disaster response plan inclusions	Yes/No	Notes
1. Arrangements to deal with ETSA events and other non-trauma, high presentation events such as mass 'gastro' and mass toxicology events?		
2. Arrangements to deal with ETSA events and the current COVID-19 pandemic?		
3. Coverage of all key clinical areas including the urgent care centre, emergency department, pharmacy and intensive care unit (as applicable)?		
4. Clear systems for activation of a Code Brown response and notification of the Department of Health and Human Services (DHHS)?		
5. Dedicated Hospital Single Contact Point (mobile phone number, email address and land line) provided to DHHS to facilitate urgent notifications of actual and emerging events?		
6. Checking and updating the dedicated Hospital Single Contact Point?		
7. Arrangements for increasing inpatient bed capacity quickly during such events?		
8. A pharmacy sub-plan?		
9. An emergency department or urgent care centre sub-plan?		

Emergency departments

Sub-plan inclusions	Yes/No	Notes
1. Staff training for extreme surges in attendances, in particular an epidemic thunderstorm asthma event?		
2. Arrangements in place for increased alertness to the risk of ETSA during the season (October 1 – December 31) e.g. daily monitoring of the ETSA forecast via Vic Emergency?		
3. 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?		
4. Triage and assessment processes to manage a high number of patients presenting with respiratory illness?		
5. Arrangements to quickly increase capacity to treat emergency patients e.g. by using other areas such as outpatient clinics, day procedure units, respiratory assessment clinics, local general practice services etc?		
6. Have 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.		
7. Arrangements to restrict visitors where it is appropriate (e.g. exceptions for parents/carers of patients < 18 years old and other compassionate reasons) to minimise overcrowding and maintain physical distancing?		
8. Arrangements to quickly increase staff numbers, including processes to recall staff?		
9. Arrangements for rapid off-loading and clearing of ambulances, including active traffic management as needed?		
10. 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?		
11. Processes in place to minimise the use of nebulisers, unless unavoidable, including the consideration of appropriate spaces for suspected or confirmed COVID-19 patients e.g. negative pressure rooms, single room with doors closed and rooms where air does not circulate to other areas?		
12. Rapid access to additional oxygen and pharmacy supplies such as spacers, masks, relievers (salbutamol and ipratropium) and oral corticosteroids?		
13. Health and safety of staff e.g. staff at risk of asthma, breaks (maintaining suitable infection control during breaks) etc?		
14. Health and safety of community partners e.g. Ambulance Victoria paramedics, police etc.?		
15. Arrangements for reconfiguring emergency department areas to manage a large surge of patients with asthma symptoms?		

Sub-plan inclusions	Yes/No	Notes
16. Means to rapidly record medical treatment and outcomes during large epidemic thunderstorm asthma events, i.e. with high presentation numbers?		
17. Methods to efficiently educate patients on use of inhalers and spacers e.g. use of videos demonstrating appropriate technique for adults and children?		
18. Means to fast track patient discharge advice and summaries for general practitioner follow up?		
19. Arrangements for orderly exit of managed patients for collection by relatives etc.		
20. A standardised approach to patient discharge e.g. a discharge pack which contains essentials including an asthma action plan, required medication (reliever* and oral corticosteroids), spacer (+/- mask)?		

*In line with the *Australian Asthma Handbook.*

Urgent care centres

Sub-plan inclusions	Yes/No	Notes
1. Staff training for extreme surges in attendances, in particular an epidemic thunderstorm asthma event?		
2. Arrangements in place for increased alertness to the risk of ETSA during the season (October 1 – December 31) e.g. daily monitoring of the ETSA forecast via Vic Emergency?		
3. 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?		
4. 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?		
5. Triage and assessment processes to manage a high number of patients presenting with respiratory illness?		
6. Have capacity to record contact details of anyone present in the urgent care centre during the event, including patients, visitors and staff, in a manner that can be easily retrieved.		
7. Arrangements to quickly increase capacity to treat emergency patients e.g. by using other areas such as outpatient clinics, day procedure units, respiratory assessment clinics, local general practice services etc?		
8. Arrangements to restrict visitors where it is appropriate (e.g. exceptions for parents/carers of patients < 18 years old and other compassionate reasons) to minimise overcrowding and maintain physical distancing?		
9. Arrangements to quickly increasing staff numbers, including processes to recall staff?		
10. Standardised management of patients presenting with acute asthma E.g. use of national and statewide guidance for adults and children?		

11. Processes in place to minimise the use of nebulisers, unless unavoidable, including the consideration of appropriate spaces for suspected or confirmed COVID-19 patients e.g. negative pressure rooms, single room with doors closed and rooms where air does not circulate to other areas?		
12. Rapid access to additional oxygen and pharmacy supplies such as spacers, masks, relievers (salbutamol and ipratropium) and oral corticosteroids?		
13. Health and safety of staff e.g. staff at risk of asthma, breaks etc?		
14. Arrangements for reconfiguring urgent care centre areas to manage a large surge of patients with asthma symptoms?		
15. Means to rapidly record medical treatment and outcomes during large epidemic thunderstorm asthma events, ie with high presentation numbers?		
16. Methods to efficiently educate patients on use of inhalers and spacers e.g. use of videos demonstrating appropriate technique for adults and children?		
17. Means to fast track patient discharge advice and summaries for general practitioner follow up?		
18. A standardised approach to patient discharge e.g. a discharge pack which contains essentials including an asthma action plan, required medication (reliever* and oral corticosteroids), spacer (+/- mask)?		

*In line with the *Australian Asthma Handbook*.

Where can I find out more information?

Asthma and ETSA

Managing acute asthma in adults: https://www.asthmahandbook.org.au/acute-asthma/clinical

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

Managing acute asthma in children: https://www.rch.org.au/clinicalguide/guideline_index/Asthma_acute/

Inhaler technique video (children): https://www.rch.org.au/kidsinfo/fact_sheets/asthma-videos/

Vic emergency: https://emergency.vic.gov.au/prepare/#thunderstorm-asthma-forecast

DHHS epidemic thunderstorm asthma: https://www2.health.vic.gov.au/public-health/environmental-health/climate-weather-and-public-health/thunderstorm-asthma

Asthma Patient Factsheet: https://www.bettersafercare.vic.gov.au/resources/tools/asthma

Code brown planning - guidance note for health services and facilities https://www2.health.vic.gov.au/about/publications/policiesandguidelines/code-brown-planning-guidance-note-for-health-services-and-facilities

COVID-19

Assessment and streaming in emergency departments and urgent care centres: https://docs.health.vic.gov.au/ewas/temp/covid-daily-matrix.docx

Physical distancing in emergency departments and urgent care centres: https://www.dhhs.vic.gov.au/physical-distancing-in-emergency-departments-and-urgent-care-centres-Coronavirus-COVID-19-24-July-2020-Word

Guide to the conventional use of PPE: https://www.dhhs.vic.gov.au/coronavirus-covid-19-guide-conventional-use-personal-protective-equipment-ppe

Infection control guidelines: https://www.dhhs.vic.gov.au/coronavirus-covid-19-infection-control-guidelines-version-2-21-june-2020

For Victorian updates to the current incident, go to: www.coronavirus.vic.gov.au

For national updates: health.gov.au/news/latest-information-about-novel-coronavirus

For international updates: https://www.who.int/westernpacific/emergencies/covid-19

WHO resources: who.int/health-topics/coronavirus

To find out more information about coronavirus and how to stay safe visit
DHHS.vic – coronavirus disease (COVID-19)
<https://www.dhhs.vic.gov.au/coronavirus>

If you need an interpreter, call TIS National on 131 450

For information in other languages, scan the QR code or visit
DHHS.vic –Translated resources - coronavirus (COVID-19)
<https://www.dhhs.vic.gov.au/translated-resources-coronavirus-disease-covid-19>

For any questions
Coronavirus hotline 1800 675 398 (24 hours)
Please keep Triple Zero (000) for emergencies only

To receive this document in another format phone 1300 651 160 using the National Relay Service 13 36 77 if required, or email Emergency Management Communications <em.comms@dhhs.vic.gov.au>.

Authorised and published by the Victorian Government, 1 Treasury Place, Melbourne.

© State of Victoria, Australia, Department of Health and Human Services, 8 October 2020.
Available at: DHHS.vic – coronavirus disease (COVID-19) **<https://www.dhhs.vic.gov.au/coronavirus>**