AUSTRALIAN COMMISSION
ON SAFETY AND QUALITY IN HEALTH CARE

Clinical Care Standards

Acute Anaphylaxis

Clinical Care Standard

November 2021

Published by the Australian Commission on Safety and Quality in Health Care

Level 5, 255 Elizabeth Street, Sydney NSW 2000
Phone: (02) 9126 3600
Email: **mail@safetyandquality.gov.au**
Website: **www.safetyandquality.gov.au**

ISBN: 978-1-922563-58-3

The Commission's preference is that you attribute this publication (and any material sourced from it) using the following citation:

Australian Commission on Safety and Quality in Health Care. Acute Anaphylaxis Clinical Care Standard. Sydney: ACSQHC; 2021.

Disclaimer

This clinical care standard was produced by the Australian Commission on Safety and Quality in Health Care to support the delivery of appropriate care for a defined condition, based on the best evidence available at the time of development. Healthcare professionals are advised to use clinical discretion and consider the circumstances of the individual patient, in consultation with the patient and/or their carer or guardian, when applying information from the clinical care standard. Consumers should use the clinical care standard as a guide to inform discussions with their healthcare professional about how it applies to their individual condition. The Commission does not accept any legal liability for any injury, loss or damage incurred by the use of, or reliance on, this document.

Please note that there is the potential for minor revisions of this document. Please check **www.safetyandquality.gov.au** for any amendments.

The *Acute Anaphylaxis Clinical Care Standard* has been endorsed by the following organisations:

Allergy & Anaphylaxis Australia®
Your trusted charity for allergy support

Australasian College of Paramedicine

ascia
australasian society of clinical immunology and allergy

Australasian College for Emergency Medicine

Australian College of Nursing

Australian College of Rural & Remote Medicine
WORLD LEADERS IN RURAL PRACTICE

ANZAAG
Australian & New Zealand Anaesthetic Allergy Group

ANZCA
Australian and New Zealand College of Anaesthetists

apna
Supporting nurses in primary health care

CENA
College of Emergency Nursing Australasia Ltd

CRANA plus
improving remote health

national allergy strategy

RURAL DOCTORS ASSOCIATION OF AUSTRALIA

Pharmaceutical Society of Australia

shpa

Contents

Acute Anaphylaxis Clinical Care Standard

Quality statements

1 **Prompt recognition of anaphylaxis**

A patient with acute-onset clinical deterioration with signs or symptoms of an allergic response is rapidly assessed for anaphylaxis, especially in the presence of an allergic trigger or a history of allergy.

2 **Immediate injection of intramuscular adrenaline**

A patient with anaphylaxis, or suspected anaphylaxis, is administered adrenaline intramuscularly without delay, before any other treatment including asthma medicines. Corticosteroids and antihistamines are not first-line treatments for anaphylaxis.

3 **Correct patient positioning**

A patient experiencing anaphylaxis is laid flat, or allowed to sit with legs extended if breathing is difficult. An infant is held or laid horizontally. The patient is not allowed to stand or walk during, or immediately after, the event until they are assessed as safe to do so, even if they appear to have recovered.

4 **Access to a personal adrenaline injector in all healthcare settings**

A patient who has an adrenaline injector has access to it for self-administration during all healthcare encounters. This includes patients keeping their adrenaline injector safely at their bedside during a hospital admission.

5 **Observation time following anaphylaxis**

A patient treated for anaphylaxis remains under clinical observation for at least four hours after their last dose of adrenaline or overnight, as appropriate according to the current Australasian Society of Clinical Immunology and Allergy *Acute Management of Anaphylaxis* guidelines. Observation timeframes are determined based on assessment and risk appraisal after initial treatment.

6 **Discharge management and documentation**

Before a patient leaves a healthcare facility after having anaphylaxis, they are advised about the suspected allergen, allergen avoidance strategies and post-discharge care. The discharge care plan is tailored to the allergen and includes details of the suspected allergen, the appropriate ASCIA Action Plan, and the need for prompt follow-up with a general practitioner and clinical immunology/allergy specialist review. Where there is a risk of re-exposure, the patient is prescribed a personal adrenaline injector and is trained in its use. Details of the allergen, the anaphylactic reaction and discharge care arrangements are documented in the patient's healthcare record.

Indicators for local monitoring

The Commission has developed a set of indicators to support healthcare providers and local health service organisations to monitor how well they implement the care described in this clinical care standard. The indicators are a tool to support local quality improvement activities.

The definitions required to collect and calculate indicator data are specified online at **meteor.aihw.gov.au/content/index.phtml/itemId/745144**. More information about indicators and other quality improvement measures is provided in **Appendix B**.

1 Prompt recognition of anaphylaxis

Indicator 1a: Evidence of a locally approved anaphylaxis pathway. The pathway should include:

- An assessment protocol that outlines the clinical criteria to support prompt diagnosis of anaphylaxis
- Systems to ensure patients experiencing allergic reactions are monitored appropriately for possible progression of symptoms to anaphylaxis
- A process to ensure clinicians are competent in the anaphylaxis pathway
- A process to assess adherence to the pathway.

2 Immediate injection of intramuscular adrenaline

Indicator 2a: Proportion of patients with anaphylaxis treated with intramuscular adrenaline.

4 Access to a personal adrenaline injector in all healthcare settings

Indicator 4a: Evidence of a locally approved policy to ensure patients maintain access to their personal adrenaline injectors. The policy should specify the:

- Organisation's protocol to identify patients admitted to hospital who carry adrenaline injectors
- Organisation's protocol for patients to maintain access to their adrenaline injectors for self-administration throughout their hospital stay
- Process to ensure all staff are informed of the patients who are at risk of anaphylaxis and must have their adrenaline injectors personally available for self-administration at all times while admitted to hospital.

6 Discharge management and documentation

Indicator 6a: Evidence of local arrangements that ensure patients treated for anaphylaxis receive tailored discharge planning prior to separation from hospital. The local arrangements should specify the:

- Patient education resources, referrals and discharge documents to be provided to patients
- Process to provide patients with personal adrenaline injectors, if indicated
- Information that must be documented in the patient's medical record after treatment for anaphylaxis
- Organisation's process to assess adherence to the local arrangements.

Indicator 6b: Proportion of patients treated for anaphylaxis separated from hospital with a completed ASCIA Action Plan for Anaphylaxis or ASCIA Action Plan for Drug (Medication) Allergy.

Indicator 6c: Proportion of patients treated for anaphylaxis who require adrenaline injectors who are supplied or prescribed an adrenaline injector prior to separation from hospital.

Clinical care standards

Clinical care standards support the delivery of evidence-based clinical care and promote shared decision making between patients, carers and clinicians. They aim to ensure people receive best-practice care for a specific clinical condition or procedure, regardless of where they are treated in Australia.

A clinical care standard contains a small number of quality statements that describe the clinical care expected for a specific clinical condition or procedure. Indicators are included for some quality statements to help health service organisations monitor how well they are implementing the care recommended in the clinical care standard.

A clinical care standard differs from a clinical practice guideline. Rather than describing all the components of care for a specific clinical condition or procedure, a clinical care standard focuses on key areas of care where the need for quality improvement is greatest.

Clinical care standards aim to improve healthcare outcomes by describing key components of appropriate care, enabling:

- Patients and the community to understand the care that is recommended and their healthcare choices
- Clinicians to provide best-practice care
- Health service organisations to monitor their performance and make improvements in the care they provide.

Clinical care standards are developed by the Australian Commission on Safety and Quality in Health Care (the Commission), an Australian Government agency that leads and coordinates national improvements in the safety and quality of health care, based on the best available evidence. By working in partnership with the Australian Government, states and territories, the private sector, clinical experts, and patients and carers, the Commission aims to ensure that the health system is better informed, supported and organised to deliver safe and high-quality care.

About the Acute Anaphylaxis Clinical Care Standard

Context

The number of patients with serious allergies and the rates of anaphylaxis presentations to hospital are increasing. While only a small number of anaphylaxis events result in fatality, they are often preventable.[1,2]

Despite there being clinical guidelines, before this clinical care standard there has been no uniform, national standard of care for the recognition and treatment of acute anaphylaxis.

This clinical care standard describes the key components of care that patients can expect when they have anaphylaxis. It supports the provision of high-quality, evidence-based care, which should take into account the context in which care is provided, local variation and the quality improvement priorities of the individual health services.

Goal

To improve the recognition of anaphylaxis, and the provision of appropriate treatment and follow-up care.

Scope

The *Acute Anaphylaxis Clinical Care Standard* relates to the care provided to adults, children and infants when they are experiencing anaphylaxis – from initial presentation to a healthcare setting or first clinical contact in the community, through to discharge and planning for follow-up care. It also applies to many patients who experience anaphylaxis while in a healthcare facility (see 'What is not covered').

Pathway of care

This standard applies to care provided in the following care settings:

- Hospitals, including public and private hospitals, subacute facilities, day procedure services and outpatient clinics
- Emergency services, such as ambulance services
- Radiology and imaging services
- General practices
- Other primary healthcare settings, such as Aboriginal Controlled Health Services and community pharmacies.

In this document, the term 'clinician' refers to all types of healthcare providers who deliver direct clinical care to patients, including:

- Nurses
- Midwives
- Medical practitioners
- Allied health practitioners
- Paramedics
- Community and hospital pharmacists
- Students who provide health care under supervision.

What is not covered

The *Acute Anaphylaxis Clinical Care Standard* does not include:

- The management of anaphylaxis in patients in operating theatres and intensive care units where specialised clinical expertise and haemodynamic monitoring are available
- Detailed assessment of allergies and their management
- Care provided by schoolteachers, bystanders or other non-medically trained people
- Food management in healthcare facilities. Note: **All about Allergens for Hospitals** is a free National Allergy Strategy online training course for food allergen management (and ward staff) in Australian hospitals, available from **foodallergytraining.org.au**

Evidence that underpins this clinical care standard

Key sources that underpin the *Acute Anaphylaxis Clinical Care Standard* are:

- Current clinical guidelines from the Australasian Society of Clinical Immunology and Allergy (ASCIA), including *Acute Management of Anaphylaxis* (2021)[3]
- The Safer Care Victoria standard, *Anaphylaxis Clinical Care Standard* (2019).[4]

A list of the evidence sources for this clinical care standard is available on the Commission's website at **safetyandquality.gov.au/anaphylaxis-ccs**

Supporting documents

The following supporting documents for this clinical care standard are available on the Commission's website at **safetyandquality.gov.au/anaphylaxis-ccs**:

- Consumer guide
- Clinician fact sheet
- Health service organisation information sheet
- Anaphylaxis discharge checklist and discussion guide
- '5 steps to stay safe after anaphylaxis' poster.

How to use this clinical care standard

The quality statements describe the expected standard for key components of patient care. By describing what each statement means, they support:

- **Patients** to know what care may be offered by their healthcare system, and to make informed treatment decisions in partnership with their clinician
- **Clinicians** to make decisions about appropriate care
- **Health service organisations** to understand the policies, procedures and organisational factors that can enable the delivery of high-quality care.

This clinical care standard should be implemented as part of an overall approach to safety and quality, incorporating the following principles and standards.

General principles of care

When applying the information contained in a clinical care standard, clinicians are advised to use their clinical judgement and to consider the individual patient's circumstances, in consultation with the patient or their support people.

This clinical care standard aligns with key principles that are the foundation for achieving safe, high-quality care including:

- Person-centred care and shared decision making
- Informed consent
- Cultural safety for Aboriginal and Torres Strait Islander people.

For more information and additional Commission resources, see **Appendix A**.

Measurement for quality improvement

Measurement is a key component of quality improvement processes. The Commission has developed a set of indicators to support clinicians and health service organisations to monitor how well they are implementing the care recommended in this clinical care standard. The indicators are intended to support local quality improvement activities. No benchmarks are set for these indicators.

The indicators are listed with the relevant quality statements. The definitions required to collect and calculate indicator data are available online at **meteor.aihw.gov.au/content/index.phtml/itemId/745144**. More information about indicators and other quality improvement measures is provided in **Appendix B**.

Information on other quality measures, including patient-reported outcome measures and patient experience measures, is provided in **Appendix C**.

Meeting the requirements of national standards and accreditation

Implementing this clinical care standard as part of a quality improvement activity can help health services meet the requirements of the National Safety and Quality Health Service (NSQHS) Standards (Box 1).

More information about clinical care standards and the NSQHS Standards is in **Appendix D**.

Box 1: Managing patients with food allergy in alignment with the NSQHS Standards

Every patient should receive care that follows the Comprehensive Care Standard.

The list below indicates the relevant actions from the Comprehensive Care Standard and how they apply to a patient admitted to hospital (for any reason) who has a food allergy and is at risk of anaphylaxis.

Application regarding patients with allergy at risk of anaphylaxis	Relevant Action in NSQHS Standards
Collaborating with patients, families and carers regarding individual care to avoid allergens while in hospital	5.3
Sharing information about a patient's allergy and the identified risk with all members of the workforce who have contact with the patient	5.6, 5.11, 5.12, 5.13
Developing processes to ensure that clinicians and other members of the workforce are aware of their obligation to provide care in accordance with the comprehensive care plan, and in collaboration with patients, carers and family members. For example, members of the food service workforce may need training about their role in managing risks	5.2, 5.5, 5.14
Considering the patient's food allergy in the context of minimising patient harm	5.10, 5.28

Background: Anaphylaxis

Anaphylaxis is a severe form of allergic reaction that is potentially life-threatening, especially if not treated immediately. It is characterised by a sudden onset; however, the clinical presentation is variable. The diagnosis of anaphylaxis is based on clinical findings and takes the patient's history and physical examination into consideration.[5]

Allergy occurs when a person's immune system reacts to substances (allergens) that are harmless for most people.[6] More than four million Australians live with allergies.[7] For example, food allergy occurs in around 10% of infants, 4–8% of children and 2% of adults.[8]

Anaphylaxis has no universally accepted definition. ASCIA defines anaphylaxis as:

- Any acute onset illness with typical skin features (urticarial rash or erythema/flushing, and/or angioedema), plus involvement of respiratory and/or cardiovascular and/or persistent severe gastrointestinal symptoms; or
- Any acute onset of hypotension or bronchospasm or upper airway obstruction where anaphylaxis is considered possible, even if typical skin features are not present.[3]

Recent studies show increasing incidence of all-cause anaphylaxis in Australia, the United Kingdom and the United States.[2] In Australia, hospital admissions due to anaphylaxis have increased by 35% over five years, from 9,042 in 2015–16 to 12,179 in 2019–20.[9] Over the same five-year period, anaphylaxis presentations to emergency departments in public hospitals grew by 51%, to more than 11,594 in 2019–20.[1]

Foods are the most common triggers for anaphylaxis presentations to hospitals, followed by medicines, insect stings and idiopathic anaphylaxis (anaphylaxis of unknown cause).[10]

Adrenaline (epinephrine) is the first-line treatment for anaphylaxis as it causes vasoconstriction and bronchodilation, preventing and relieving airway oedema, hypotension and shock. It also decreases mediator release, making it the only medicine that reduces the amplification of an allergic response. Use of adrenaline in anaphylaxis reduces hospitalisation and death.[11]

There are well-recognised Australian guidelines for the management of acute anaphylaxis.[3] Despite this, research shows the recommended care pathway is not always adhered to. A study in eight Australian emergency departments found that 27% of reactions consistent with anaphylaxis were not given adrenaline.[12] Analysis of 324 anaphylaxis fatalities between 1997 and 2013 highlighted delays in treatment with adrenaline, and that fatalities increased in parallel with hospital anaphylaxis admission rates.[2]

Studies continue to show high rates of corticosteroid and antihistamine administration for the initial treatment of anaphylaxis.[13-15] This is of concern as delayed administration of adrenaline is a risk factor for fatal anaphylaxis.[16,17]

People with allergies who are at risk of anaphylaxis should feel safe when they need to go into hospital (or other healthcare facility) for any reason. People with food and medicine allergies are particularly vulnerable and – as described in the NSQHS Comprehensive Care Standard – should receive targeted strategies to prevent harm during their healthcare encounter.[18] In addition to rigorous processes to avoid food allergens, such patients should have access to their adrenaline injector at the bedside, to facilitate timely administration if required. (See Safer Care Victoria's 'Use of a patient's own adrenaline (epinephrine) autoinjector in hospital' change package.)[19]

Internationally, some components of anaphylaxis care have been identified as requiring improvement. These include:

- The prescription of an adrenaline injector with an anaphylaxis action plan, where appropriate
- Referral to an allergy or immunology specialist to confirm the suspected allergen
- Patient education for ongoing management, including avoidance of the trigger (if known), and the ability to recognise anaphylaxis and correctly use the adrenaline injector.[17,20,21]

1

Quality statement 1 – Prompt recognition of anaphylaxis

A patient with acute-onset clinical deterioration with signs or symptoms of an allergic response is rapidly assessed for anaphylaxis, especially in the presence of an allergic trigger or a history of allergy.

Purpose

To improve the time to optimal diagnosis and treatment for people with anaphylaxis.

What the quality statement means

For patients

If you have sudden difficulty in breathing, swelling of your face, tightness in your throat, persistent dizziness, hives, or other symptoms that could indicate an allergic reaction, your clinician will assess if you are experiencing anaphylaxis, the most severe form of allergic reaction. Abdominal pain with or without vomiting can also be a sign of anaphylaxis, usually for people allergic to insect bites or stings.[3]

A reaction can occur within minutes or several hours after exposure to a trigger (also called an 'allergen'). Your clinician will ask about food and drinks in the past few hours, medicines used and any insect bites or stings, as these are the most common triggers of anaphylaxis.

A mild or moderate allergic reaction can rapidly become severe (anaphylaxis). Be aware of the symptoms and signs of anaphylaxis so you can recognise if this is happening.

If you have an allergy or have had anaphylaxis before, it is important to let your clinician know. If you have asthma, are at risk of anaphylaxis, and experience sudden difficulty in breathing, this should be treated as anaphylaxis.

For clinicians

Assess patients immediately for possible anaphylaxis if they present with rapid development of airway, breathing and/or circulation problems, with or without skin or mucosal changes. The presence of an allergic trigger or a history of allergy should heighten suspicion even if the patient is not in severe distress. Symptoms typically occur in two or more body systems, but this can be variable.[3,5] The most common triggers of anaphylaxis are food, insect venom and medicines (Table 1). After exposure to a trigger, the time until onset of signs and symptoms of anaphylaxis (Table 2) may range from minutes to several hours.[3-5]

Table 1: Triggers of anaphylaxis[3,4]

Common triggers of anaphylaxis	
Food	▪ Peanuts ▪ Tree nuts ▪ Egg ▪ Fish ▪ Shellfish ▪ Cow's milk (dairy) products ▪ Soy ▪ Sesame seeds ▪ Wheat
Medicines	▪ Antibiotics ▪ Nonsteroidal anti-inflammatory drugs (NSAIDs) ▪ Local anaesthetics ▪ Neuromuscular blocking agents
Insect stings	▪ Bees ▪ Wasps ▪ Jack jumper ants ▪ Fire ants
Less common triggers of anaphylaxis	
Other foods	▪ Food additives ▪ Any other food, for example fruits/vegetables/grains ▪ Non-dairy milks
Topical medicines	▪ Chlorhexidine – included in skin preparation; hand wash; indwelling catheter lubricants ▪ Povidone iodine
Biological therapies	▪ Transfusions ▪ Antivenoms ▪ Monoclonal therapies ▪ Immunoglobulins
Physical	▪ Exercise (with/without food) ▪ Cold
Other	▪ Latex ▪ Tick bites ▪ Contrast media ▪ Hormonal changes* ▪ Other medicines ▪ Idiopathic

* An allergic reaction where the trigger is an individual's hormones.[24,25]

Table 2: Signs and symptoms of allergic reactions [3,26]

Reaction	Signs and symptoms include one or more of the following
Mild to moderate allergic reaction	▪ Rash, hives (red raised, itchy bumps) or welts ▪ Swelling of the lips, eyes or face ▪ Itchy or tingling mouth ▪ Stomach pain, nausea, or vomiting ▪ In the case of sting or bites, localised swelling at sting site ▪ Skin and mucosal changes These signs and symptoms may or may not be present with anaphylaxis Skin and mucosal changes can be subtle or absent in up to 20% of anaphylaxis cases
Anaphylaxis	**Airway** ▪ Swelling of the tongue ▪ Difficulty swallowing or speaking ▪ Swelling or tightness in throat ▪ Change in voice (hoarse or croaky sounds) ▪ Stridor (high-pitched inspiratory noise caused by upper airway obstruction) **Breathing** ▪ Difficult or noisy breathing ▪ Sudden persistent cough ▪ Wheeze ▪ Shortness of breath (increased respiratory rate) **Circulation** ▪ Low blood pressure (hypotension) with persistent dizziness or feeling faint ▪ Collapse ▪ Sudden onset of pallor and floppiness (in babies and young children) ▪ Decreased conscious level or loss of consciousness ▪ Cardiac arrest **Gastrointestinal** ▪ Severe nausea ▪ Severe diarrhoea ▪ Abdominal pain or vomiting (for insect stings or injected medicine allergy)

Obtain a history from the patient, noting:

- Recent exposure to substances known to cause an allergic reaction
- Any known allergies for the patient, including previous reactions and treatment
- Any history of anaphylaxis.[3]

Document the time of symptom onset in the patient's healthcare record.[25]

Consider patient risk factors that potentially contribute to fatal anaphylaxis (for example, older age and cardiovascular and respiratory diseases) and cofactors that are likely to amplify the severity of an allergic reaction (such as exercise or acute infection).[5,11,12]

Common differential diagnoses include acute asthma, syncope, panic attacks and septic shock.[4] Rule out other sudden-onset multisystem illnesses.[26] However, a patient who experiences sudden difficulty in breathing, has asthma, and is known to be at risk of anaphylaxis, should be treated as having anaphylaxis.[3]

Monitor patients with allergy symptoms who do not meet the criteria for anaphylaxis, to allow prompt recognition of progression of a mild-to-moderate allergic reaction to anaphylaxis.[2] Reactions can progress to severe involvement of more than one body organ system and rapidly become life-threatening.[5,17]

Rehearse the anaphylaxis management protocol regularly to ensure prompt recognition of anaphylaxis for patients presenting with allergic reactions.[4,11]

Consider serial measurements of mast cell tryptase concentrations. Taken during anaphylaxis, results can be useful for identifying the trigger when reviewed after the event, usually by a clinical immunology or allergy specialist.[25]

For health service organisations

Ensure that an anaphylaxis management protocol that outlines clinical criteria (consistent with the ASCIA *Acute Management of Anaphylaxis* guidelines[3]) is available and used consistently by clinicians. Confirm that clinicians have the skills and competency to promptly recognise the signs and symptoms of allergic reactions, including anaphylaxis.[3,4]

Ensure that systems are in place for the continuing assessment of the patient experiencing an allergic reaction, to monitor for the possible progression of symptoms to anaphylaxis. This may include drills to ensure proficiency of relevant staff in the anaphylaxis management protocol.

Reporting of incidents of delayed recognition of anaphylaxis or missed anaphylaxis as an adverse event should be included in the quality management program – for example, through incident reporting and management.

Related resources

- Allergy & Anaphylaxis Australia (A&AA) **signs and symptoms video** available at: **allergyfacts.org.au/allergy-anaphylaxis/signs-symptoms**
- ASCIA e-training courses for health professionals (**etraininghp.ascia.org.au**), developed by ASCIA to provide reliable clinician education, including **Anaphylaxis e-training for health professionals**.

Indicator for local monitoring

Indicator 1a: Evidence of a locally approved anaphylaxis pathway. The pathway should include:

- An assessment protocol that outlines the clinical criteria to support prompt diagnosis of anaphylaxis
- Systems to ensure patients experiencing allergic reactions are monitored appropriately for possible progression of symptoms to anaphylaxis
- A process to ensure clinicians are competent in the anaphylaxis pathway
- A process to assess adherence to the pathway.

Computation descriptions and definitions needed to collect and calculate this indicator can be found online at METeOR: **meteor.aihw.gov.au/content/index.phtml/itemId/745147**

2

Quality statement 2 – Immediate injection of intramuscular adrenaline

A patient with anaphylaxis, or suspected anaphylaxis, is administered adrenaline intramuscularly without delay, before any other treatment including asthma medicines. Corticosteroids and antihistamines are not first-line treatments for anaphylaxis.

Purpose

To ensure immediate treatment with intramuscular adrenaline as soon as anaphylaxis is recognised or suspected and prevent progression to life-threatening symptoms.

What the quality statement means

For patients

If a clinician believes you are experiencing anaphylaxis, they will immediately give you an injection of adrenaline into the outer mid-thigh muscle.

When you recognise the signs of anaphylaxis, use your adrenaline injector without delay (if you have been prescribed one) and call for help immediately.[19] Give the intramuscular injection of adrenaline into your outer mid-thigh. Using your adrenaline injector when you first have symptoms of anaphylaxis can help reverse the allergic reaction and prevent it from becoming life-threatening. If you are not sure, it is safer to use adrenaline than to wait for your symptoms to get worse.[3,5] The adrenaline injection should work within minutes. If you do not start to feel better after five minutes, use a second adrenaline injector, if you have one.

Adrenaline lessens the effects of anaphylaxis by reducing throat swelling, opening the airways, and maintaining heart function and blood pressure.[3,27]

Other medicines (including non-sedating antihistamines and asthma medicines) that relieve symptoms such as itchy or red skin and breathlessness should only be used after adrenaline, and will be prescribed and/or given if considered necessary.[3,5]

For clinicians

Immediately on diagnosis of anaphylaxis, administer adrenaline via intramuscular (IM) injection into the mid-anterolateral thigh using a needle of appropriate length. Subcutaneous or inhaled routes for adrenaline are not recommended as they are less effective.[13,24,27] Pregnant women experiencing anaphylaxis require the same dose of IM adrenaline as other patients.[28] The recommended doses for IM adrenaline are indicated in Table 3.[3]

Table 3: Recommended doses for intramuscular adrenaline[3]

Age (years)	Weight (kg)	Volume (mL) of adrenaline 1:1,000 ampoules	Adrenaline injector (for use instead of ampoules)
~<1	<7.5	0.1 mL	Not available
~1–2	10	0.1 mL	7.5–20 kg (~<5 years) 150 microgram device
~2–3	15	0.15 mL	
~4–6	20	0.2 mL	
~7–10	30	0.3 mL	>20 kg (~>5 years) 300 microgram device
~10–12	40	0.4 mL	
>12 and adults	>50	0.5 mL	>50 kg (~>12 years) 300 microgram or 500 microgram device

Notes:

- Adrenaline 1:1,000 ampoules contain 1 mg of adrenaline per 1 mL
- EpiPen Jr and Anapen Junior 150 adrenaline injectors are examples of 150 microgram devices
- EpiPen and Anapen 300 adrenaline injectors are examples of 300 microgram devices
- Anapen 500 adrenaline injector is an example of a 500 microgram device.

Delayed administration of adrenaline is a risk factor for fatal anaphylaxis.[2,29,30] If anaphylaxis is suspected in the presence of an allergy or anaphylaxis history, or following exposure to a potential allergen, it is safer to administer adrenaline early than to wait for progression, which may be hard to reverse. There are no absolute contraindications to adrenaline administration in anaphylaxis.[3,11,17,24]

In most situations, IM adrenaline is preferred and is safer than the intravenous (IV) route. Adverse events have been reported in adult patients who received overdoses of IV adrenaline, but these are rare with IM adrenaline.[11,31]

An IV adrenaline infusion should only be administered when clinically appropriate, and:

- By clinicians trained in the use of IV adrenaline
- In a critical care setting where there is appropriate haemodynamic monitoring available.[3]

Repeated IM adrenaline injections can be given at five-minute intervals if the patient's symptoms are not improving.[3] Escalate care as per organisational protocols if the patient's condition is not improving after two to three doses of adrenaline.

Do not administer corticosteroids or antihistamines first-line, as they are not effective in treating anaphylaxis. Corticosteroids have a delayed effect of four to six hours and are adjuncts in the management of anaphylaxis – they do not replace adrenaline.

Antihistamines are only helpful for relieving associated urticaria (hives), angioedema and itch. Do not give promethazine or other sedating antihistamines, as the sedating effect can mask deterioration or a biphasic reaction.[3,13,27] Injecting promethazine can worsen hypotension and cause muscle necrosis.[3]

Consider the implications of the treatment provided in the healthcare facility and what this communicates regarding adrenaline use. Avoiding adrenaline use in the case of a severe allergic reaction, or preferentially using corticosteroids, bronchodilators or antihistamines, may inadvertently give a message to patients that they should delay using their adrenaline injector, thus increasing potential risk in a subsequent anaphylaxis.

Include a 'when required' (prn) order for IM adrenaline on an admitted patient's medication chart if they have a known allergy and have been prescribed an adrenaline injector. This can expedite the administration of IM adrenaline if the patient experiences anaphylaxis while in care.

For health service organisations

Ensure that there is a protocol for the management of anaphylaxis in place that supports prompt administration of IM adrenaline by all relevant clinicians, including nurses.[4,27] The use of protocols can significantly improve IM adrenaline injection rates for anaphylaxis.[11]

Ensure that all clinical areas have access to adrenaline for the treatment of anaphylaxis, and specify access arrangements in the protocol for the management of anaphylaxis. This will ensure that adrenaline is readily accessible to any clinician who may administer it, including prn orders for IM adrenaline.

Ensure that clinicians have training in the management of anaphylaxis and are practised using adrenaline injector or pen devices. Ensure adrenaline injector practice devices are available; the closest adrenaline may be the patient's own injector device.[19]

The use of 'anaphylaxis management' cards for an anaphylaxis event can serve as a cognitive aid when rehearsing the protocol for an event.[4,32]

Consider providing access to adrenaline in readily identifiable anaphylaxis kits for emergency use, to reduce the time to administration of intramuscular adrenaline. The anaphylaxis kit may be placed on the resuscitation trolley and should be easily distinguished from the intravenous adrenaline for cardiac emergencies. An anaphylaxis kit also reduces the risk of an inadvertent IV overdose of adrenaline for anaphylaxis.[3,33]

Related resources

Adrenaline injector practise devices are available and commonly sourced from the Allergy & Anaphylaxis Australia website: **allergyfacts.org.au/shop/training-accessories**

EpiPen and Anapen training videos are available on Allergy & Anaphylaxis Australia website: **allergyfacts.org.au/resources/videos-from-a-aa/how-to-give-anapen**

Indicator for local monitoring

Indicator 2a: Proportion of patients with anaphylaxis treated with intramuscular adrenaline.

Computation descriptions and definitions needed to collect and calculate this indicator, and applicable clinical settings, can be found online at METeOR: **meteor.aihw.gov.au/content/index.phtml/itemId/745149**

3

Quality statement 3 – Correct patient positioning

A patient experiencing anaphylaxis is laid flat, or allowed to sit with legs extended if breathing is difficult. An infant is held or laid horizontally. The patient is not allowed to stand or walk during, or immediately after, the event until they are assessed as safe to do so, even if they appear to have recovered.

Purpose

To reduce adverse outcomes during or after anaphylaxis due to low blood pressure. Fatality can occur within minutes if a patient stands or sits up suddenly while they have inadequate perfusion.

What the quality statement means

For patients

When you are experiencing anaphylaxis, you will be advised to lie flat, or sit with your legs outstretched if breathing is difficult. Your legs can be elevated if you feel faint. An infant should be held horizontally (across your body). Do not hold an infant upright or over your shoulder. If you are pregnant you should lie on your left side to ensure continued blood circulation to your baby.

If you stand up too quickly after anaphylaxis, your blood pressure may drop dangerously. You should not stand up after having adrenaline – wait until a clinician assesses it is safe for you to get up. Do not stand or walk anywhere, even to the bathroom, ambulance or into the emergency department. This is usually a minimum of one hour after one dose of adrenaline, or four hours if more than one dose is given.[3]

For clinicians

Ensure the patient is in a supine position; do not allow them to stand or walk. Monitor the patient's blood pressure and elevate their legs if their blood pressure is low. Fatality can occur within minutes if a patient stands or sits up suddenly while they have inadequate perfusion (see Figure 1).[3]

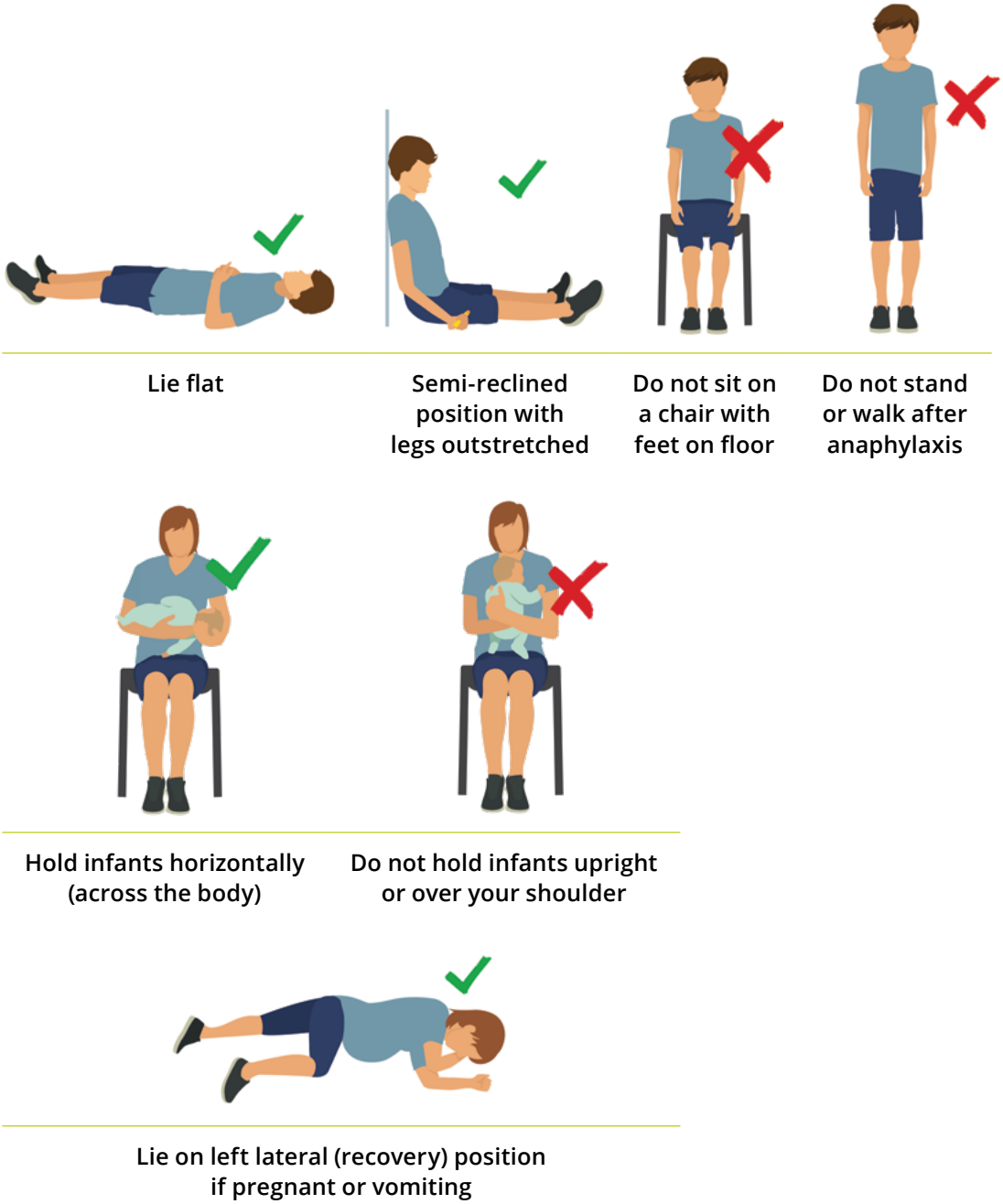
A semi-reclined position sufficient to relieve respiratory distress is allowed while the patient is monitored carefully for any circulatory collapse. Patients who are pregnant or vomiting should be placed on their side in the left lateral (recovery) position.[3]

Infants should be held horizontally (across the body). They must not be held upright or over a shoulder.[3]

Ensure the patient understands that they are not to stand up suddenly or walk until after they have been treated and assessed, and why this is important. Communicate this to other staff caring for the patient.

Assess for circulatory stability after the patient has been adequately treated and before they are allowed to mobilise. This is usually a minimum of one hour after one dose of adrenaline, and four hours if more than one dose of adrenaline is administered.[3]

Figure 1: Correct positioning during and after an anaphylaxis event[3]



For health service organisations

Ensure acute anaphylaxis management protocols are in place to:

- Provide guidance on appropriate positioning for patients with anaphylaxis
- Specify that patients should not stand or walk until assessed as safe to do so after treatment with adrenaline.

Related resources

- National Allergy Strategy positioning of a person having anaphylaxis animation: nationalallergystrategy.org.au/resources/anaphylaxis

4

Quality statement 4 –

Access to a personal adrenaline injector in all healthcare settings

A patient who has an adrenaline injector has access to it for self-administration during all healthcare encounters. This includes patients keeping their adrenaline injector safely at their bedside during a hospital admission.

Purpose

To avoid harm resulting from delayed administration of adrenaline to patients with anaphylaxis who have their own adrenaline injector and could self-medicate safely during a healthcare encounter or admission.

What the quality statement means

For patients

If you have a personal adrenaline injector (such as an EpiPen or Anapen) and know how to use it, you should:

- Keep it close by while you are being treated in a health service, hospital, ambulance or clinic
- Tell your healthcare team that you have an adrenaline injector and arrange with them to keep it near you during your care
- Keep the adrenaline injector with your ASCIA Action Plan for Anaphylaxis in an unlocked location that you can easily reach.
- If your child is admitted to hospital, their adrenaline injector can be kept at their bedside for you or staff to use if necessary.[19]

Your healthcare team may want to confirm that you know how and when to use your adrenaline injector, and that it is safe to use.

If you believe you are having an allergic reaction and experience symptoms such as breathing difficulties, faintness, swelling of your tongue or tightness of your throat while in health care, lie down (or sit with your legs outstretched if breathing is difficult), use your adrenaline injector without delay and alert a staff member immediately.

For clinicians

For adrenaline to be given as soon as possible after the onset of symptoms of anaphylaxis, it is important for the patient (or their carer) to be able to immediately administer their own adrenaline injector, regardless of the setting. A readily accessible adrenaline injector may also be used by a clinician if necessary.[19]

If a patient has an adrenaline injector, as soon as possible following presentation or admission, assess their capacity to safely use it during the healthcare encounter. This includes:

- Checking their capacity, physical capability and willingness to use their personal adrenaline injector and their ability to recognise the symptoms of anaphylaxis
- Considering medicines administered during the healthcare visit that may impair the patient's usual ability to recognise and treat anaphylaxis
- Involving a parent, guardian or carer in the assessment when in the paediatric setting
- Involving a family member or carer in the assessment, if appropriate, when a patient is cognitively impaired or lives with a disability.

As part of the assessment, identify a safe place for the adrenaline injector to be kept that allows ease of access for the patient, is in an unlocked location, and maximises the safety of others. Before making the adrenaline injector available, ensure it is suitable for use: check the expiry date, check the viewing window to make sure the solution is clear and that the device has not been used, and ask the patient how it has been stored.[19] If in doubt, make arrangements for the patient to obtain a new device.

The adrenaline injector should be:

- Kept with the patient's ASCIA **Action Plan for Anaphylaxis**
- Labelled with the patient's name.

Notify all staff that the patient has an allergy and has an adrenaline injector with them. This includes at clinical handover in the ward or when the patient temporarily leaves the ward, such as for scans or other tests. Add an allergy alert to the patient's records, including the electronic medical record (EMR) and electronic patient journey boards.

For health service organisations

Ensure a policy, and the necessary protocols, are in place to allow a patient who has a personal adrenaline injector to maintain easy access to it at all times in a manner that is safe to others. The policy should describe steps for:

- Checking the expiry date of the adrenaline injector
- Checking the device to make sure the solution is clear, does not appear to have been used, and has been stored appropriately
- Obtaining a replacement device if there are doubts about the integrity of the patient's injector
- Assessing the patient's capacity to administer the injector safely during their hospital admission
- Involving the parent, guardian or carer, if appropriate
- Identifying a readily accessible location
- Ensuring that access does not compromise the safety of others.

Ensure clinical communication processes are in place for alerting staff to the patient's allergy and anaphylaxis risk (for example, via EMR and patient records) at clinical handover and during transitions of care, and of the need to ensure the patient has access to the adrenaline injector for self-administration at all times, including while in the hospital. In addition, the policy should ensure that nurses are aware the patient has their own adrenaline injector device and that hospital staff can administer the device in an emergency, if this is the closest available adrenaline.

Related resources

The Safer Care Victoria change package, **Use of a patient's own adrenaline (epinephrine) autoinjector in hospital**, includes an in-hospital checklist for assessing the ability of patients to use their own adrenaline injectors.

See **www.bettersafercare.vic.gov.au/clinical-guidance/emergency/use-of-a-patients-own-adrenaline-epinephrine-autoinjector-in-hospital**

Indicator for local monitoring

Indicator 4a: Evidence of a locally approved policy to ensure patients maintain access to their personal adrenaline injectors. The policy should specify the:

- Organisation's protocol to identify patients admitted to hospital who carry adrenaline injectors
- Organisation's protocol for patients to maintain access to their adrenaline injectors for self-administration throughout their hospital stay
- Process to ensure all staff are informed of the patients who are at risk of anaphylaxis and must have their adrenaline injectors personally available for self-administration at all times while admitted to hospital.

Computation descriptions and definitions needed to collect and calculate this indicator can be found online at METeOR: **meteor.aihw.gov.au/content/index.phtml/itemId/745151**

5

Quality statement 5 – Observation time following anaphylaxis

A patient treated for anaphylaxis remains under clinical observation for at least four hours after their last dose of adrenaline, or overnight as appropriate according to the Australasian Society of Clinical Immunology and Allergy *Acute Management of Anaphylaxis* guidelines. Observation timeframes are determined based on assessment and risk appraisal after initial treatment.

Purpose

Patients who have experienced anaphylaxis are observed in a setting with facilities to manage deterioration or a biphasic reaction.

What the quality statement means

For patients

When you have been treated for anaphylaxis, you will be kept under clinical observation for at least four hours after the last injection of adrenaline. Adrenaline has a short duration of action and wears off quickly.

Occasionally, some people have another episode of anaphylaxis without coming in contact with their allergic trigger and require further treatment with adrenaline. This is called 'biphasic anaphylaxis'. A clinician will review your risk of recurrence of anaphylaxis and re-exposure before you are discharged.

In some cases, you may need to be admitted overnight for observation after having anaphylaxis if:

- You have received more than one dose of adrenaline to treat your anaphylaxis
- You have a history of severe asthma
- You have arrived late in the evening
- You live alone or a long way from healthcare services
- Your adrenaline injector cannot be replaced before you get home and you do not have another one.

For clinicians

Observe patients for at least four hours after the last injection of adrenaline following anaphylaxis. Reassess the patient after four hours. Consider the severity of the reaction, concomitant conditions and history of anaphylaxis when deciding if more time is needed.[3]

When the initial injection of adrenaline for anaphylaxis is administered in general practice or another primary care location where observation for four hours is not possible, arrange ambulance transfer to an appropriate facility for clinical observation.

Prolonged and biphasic reactions may occur. Biphasic reactions are estimated to occur following 3–20% of anaphylactic reactions, and cannot be predicted.[3,27,34]

As per the ASCIA *Acute Management of Anaphylaxis* guidelines[3], a patient should be observed overnight if they:

- Had a severe reaction (hypotension or hypoxia)
- Required repeated doses of adrenaline
- Have a history of severe asthma or protracted anaphylaxis
- Have other concomitant illnesses, such as asthma, chest infection or arrhythmia
- Live alone or are remote from medical care
- Have known systemic mastocytosis
- Presented for health care late in the evening
- Cannot easily replace their adrenaline injector on discharge and have no other adrenaline injector.[3]

For health service organisations

Ensure protocols align with ASCIA guidelines and that systems and processes are in place for patients to undergo clinical observation for the appropriate length of time.

6 Quality statement 6 – Discharge management and documentation

Before a patient leaves a healthcare facility after having anaphylaxis, they are advised about the suspected allergen, allergen avoidance strategies and post-discharge care. The discharge care plan is tailored to the allergen and includes details of the suspected allergen, the appropriate ASCIA Action Plan, and the need for prompt follow-up with a general practitioner and clinical immunology/allergy specialist review. Where there is a risk of re-exposure, the patient is prescribed a personal adrenaline injector and is trained in its use. Details of the allergen, the anaphylactic reaction and discharge care arrangements are documented in the patient's healthcare record.

Purpose

To reduce the risk associated with a subsequent episode of anaphylaxis by ensuring that patients are equipped to recognise an allergic reaction, manage their allergy and respond to a future event, as appropriate to their clinical circumstances. All relevant information is documented to enable safe transitions of care to other clinicians involved in the patient's care.

What the quality statement means

For patients

Before you are discharged from hospital or a healthcare service, your clinician will talk to you about the cause or 'trigger' for the anaphylaxis (if known), and how to manage your allergy. These triggers are also called allergens. It is important that you know the trigger for your anaphylaxis so you can avoid it. You also need to know how to recognise an allergic reaction and what to do in case of another severe allergic reaction. In some cases, your trigger may not be known and further tests may be needed.

Before you are discharged it is important that you receive:

- Information about your allergic trigger and how to avoid it
- An ASCIA Action Plan that includes information about
  - how to recognise an allergic reaction including anaphylaxis. Anaphylaxis may be different each time, so it is important that you can recognise all of the symptoms
  - how to use the adrenaline injector, if prescribed
- Advice to see your general practitioner (GP) promptly, within one week
- Information on how to arrange an appointment with a clinical immunology/allergy specialist. If this is your first anaphylaxis event, the specialist will help to confirm the cause of your anaphylaxis, and advise you about how to manage your allergy. Ask your GP to refer you to an allergy specialist as soon as possible, if arrangements are not made by the hospital. If you already have a regular specialist, arrange to see them for follow-up.
- Advice about wearing special jewellery to identify that you have an allergy.[3,4,27]

- If there is a risk of re-exposure to the trigger, you will also be given a personal adrenaline injector or a prescription for this medicine. If you are given a prescription, it is very important that you go to a pharmacy to get the adrenaline injector as soon as possible, preferably on the way home. Anaphylaxis could occur at any time and you will need to keep an adrenaline injector with you all the time. You, and your family or carer, should be trained on how to use the adrenaline injector.

If your anaphylaxis was caused by a medicine, you will be given an ASCIA Action Plan for Drug (Medication) Allergy and a record of the details of your drug allergy such as an ASCIA Record for Drug (Medication) Allergy. These will be filled out with your details. In the future, you will need to tell healthcare staff who may prescribe or provide you with medicines about your allergy. It is important that you know the medicine's active ingredient name so that so you can avoid it, and that this is accurately recorded in your healthcare record.

You can also enter or update information about your allergies within your My Health Record. A guide for consumers can be found at: **nationalallergystrategy.org.au/projects/australian-digital-health-agency/consumers**

You can use the ASCIA Event record for allergic reactions to make a record of the anaphylaxis event: **allergy.org.au/hp/anaphylaxis/anaphylaxis-event-record**

Information for ongoing support services available in the community, such as the Allergy & Anaphylaxis Australia information and advice line (**1300 728 000**), and Australasian Society of Clinical Immunology and Allergy (ASCIA) information leaflets and website will be given to you.

For clinicians

Discuss the suspected allergen with the patient and their carer and provide advice about allergy avoidance. Tailor the patient's discharge care to the suspected allergen and risk of re-exposure to ensure adequate follow-up and preventive measures.

In most cases this will include:

- An ASCIA Action Plan
- Advice about the allergen or suspected allergen and how to avoid it
- Advice about follow-up visits with their GP and a clinical immunology/allergy specialist
- The Commission's Anaphylaxis Discharge Checklist and Discussion Guide
- Prescribing personal adrenaline injector(s), where there is a risk of re-exposure.

See Figures 2 and 3 for discharge requirements according to the type of allergen.

Document the allergen or suspected allergen in the patient's health record, including food, medicine, and sting or bite exposure in the hours before anaphylaxis.[3,5,27] For medicine allergies, include details of the adverse reaction. Upload the anaphylaxis event and document their allergy status in the patient's My Health Record when local health service arrangements allow.

Provide the discharge documents, including the suspected allergen, discharge care plan and the patient's ASCIA Action Plan to their general practitioner or ongoing clinical provider within 48 hours of discharge. For patients with a medicine allergy, ASCIA provide a template for documenting the reaction – the ASCIA **Record for Drug (Medication) Allergy**. This, or a local or electronic equivalent, should be completed and provided to the patient to assist patient information and clinical communication.

Recognise the degree of anxiety the patient and/or their family may experience after an anaphylaxis event. Provide the patient with information about support available in the community, such as Allergy & Anaphylaxis Australia (**allergyfacts.org.au**), and the Australasian Society of Clinical Immunology and Allergy (ASCIA; **allergy.org.au/patients/information**).

For health service organisations

Ensure systems, policies and protocols are in place for clinicians to tailor discharge requirements to the patient's needs and provide relevant documentation, as described in Figures 2 and 3, as appropriate to the local setting. Consider how to incorporate the tools, templates and resources described in this standard into policies, procedures and guidelines. This should include the ability to:

- Provide information on anaphylaxis and allergy management, including appropriate written patient information such as the Commission's Anaphylaxis Discharge Checklist and Discussion Guide, and patient information from ASCIA and Allergy & Anaphylaxis Australia (**allergyfacts.org.au**)
- Provide tailored action plans including the ASCIA **Action Plan for Anaphylaxis** and/or ASCIA **Action Plan for Drug (Medication) Allergy**
- Document the allergic reaction and provide a record to the patient – for medicines allergies, use the ASCIA **Record for Drug (Medication) Allergy** or local electronic equivalent
- Supply a personal adrenaline injector at discharge – or provide a prescription where this can be dispensed immediately upon leaving the facility – for patients at risk of re-exposure to the allergen (note: where eligible, up to two injectors may be prescribed with a PBS Authority prescription); arranging supply of an adrenaline injector after hours may be required in some local settings
- Provide training to patients and carers on the use of the adrenaline injector when supplied or prescribed, from staff competent to provide this training using an appropriate training device.

Ensure processes are in place for appropriate documentation of the details of the suspected allergen and the allergen exposure in the patient's record. For medicine allergies processes for documenting and reporting details of the adverse reaction should be adhered to, including accurate documentation in the healthcare record and the discharge plan provided to the GP and other clinicians providing ongoing care. Ensure processes are in place for documenting the anaphylaxis event and their allergy status in the patient's My Health Record, when local health service arrangements allow.

Figure 2: Discharge advice and actions following anaphylaxis – food, insect venom or other non-medicine allergy with a risk of re-exposure

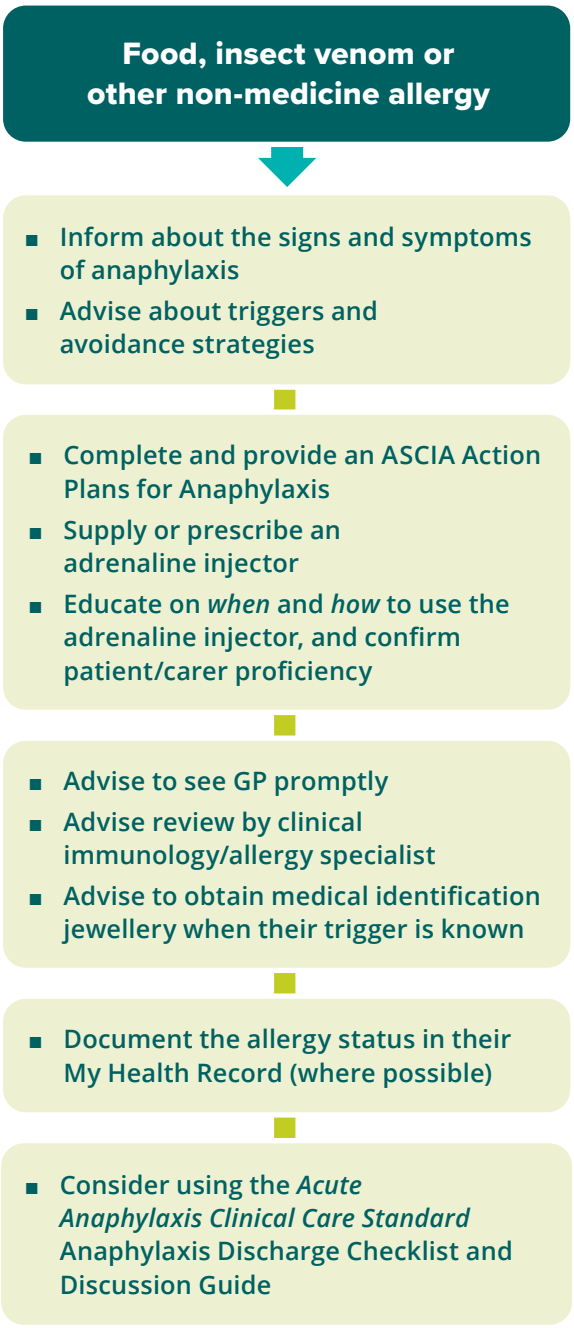
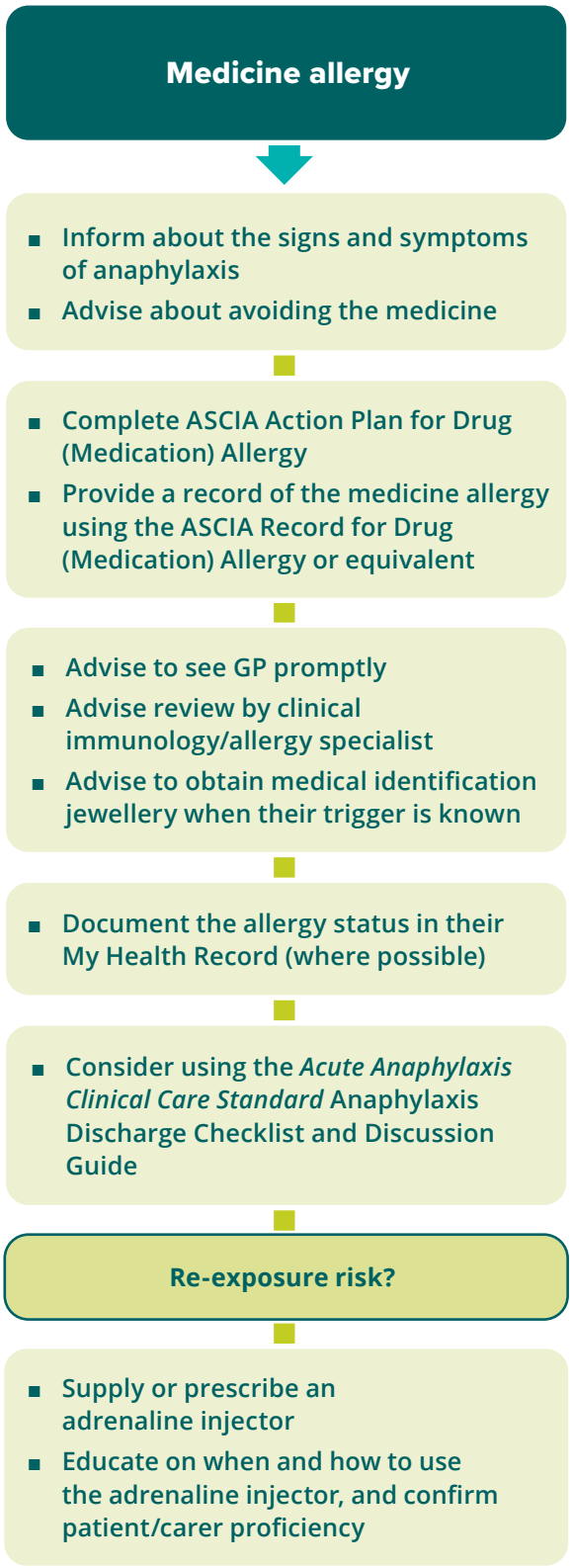


Figure 3: Discharge advice and actions following anaphylaxis caused by a medicine



Related resources

Support services available in the community include:

- ASCIA leaflets and **website**
  - **anaphylaxis for patients, consumer and carers (translated resources)**
  - **anaphylaxis fact sheet for parents** (English and other languages)
- Allergy & Anaphylaxis Australia (A&AA) **leaflets, videos, training**, and information and advice line (**1300 728 000**)
- Report an allergic reaction from food eaten at a restaurant or café at the **Food Allergy Aware website**
- **Getting set up with My Health Record: A guide for consumers**
- ASCIA **Action Plans for Anaphylaxis** and ASCIA **Action Plan for Drug (Medication) Allergy**
- ASCIA **Record for Drug (Medication) Allergy**.

Information about trigger avoidance

- Food allergy – dietary avoidance information – **allergy.org.au/patients/food-allergy/ascia-dietary-avoidance-for-food-allergy**
- Insect allergy – **allergy.org.au/patients/insect-allergy-bites-and-stings**

Indicators for local monitoring

Indicator 6a: Evidence of local arrangements that ensure patients treated for anaphylaxis receive tailored discharge planning prior to separation from hospital. The local arrangements should specify the:

- Patient education resources, referrals and discharge documents to be provided to patients
- Process to provide patients with personal adrenaline injectors, if indicated
- Information that must be documented in the patient's medical record after treatment for anaphylaxis
- Organisation's process to assess adherence to the local arrangements.

Computation descriptions and definitions needed to collect and calculate this indicator can be found online at METeOR: **meteor.aihw.gov.au/content/index.phtml/itemId/745153**

Indicator 6b: Proportion of patients treated for anaphylaxis separated from hospital with a completed ASCIA Action Plan for Anaphylaxis or ASCIA Action Plan for Drug (Medication) Allergy.

Computation descriptions and definitions needed to collect and calculate this indicator can be found online at METeOR: **meteor.aihw.gov.au/content/index.phtml/itemId/745155**

Indicator 6c: Proportion of patients treated for anaphylaxis who require adrenaline injectors who are supplied or prescribed an adrenaline injector prior to separation from hospital.

Computation descriptions and definitions needed to collect and calculate this indicator can be found online at METeOR: **meteor.aihw.gov.au/content/index.phtml/itemId/745157**

Appendix A:
General principles of care

This clinical care standard aligns with key principles that are the foundation for achieving safe, high-quality care. When implementing this clinical care standard, health services should ensure quality improvement activities support these principles.

Person-centred care

Person-centred care is health care that is respectful of, and responsive to, the preferences, needs and values of patients and consumers.[18,35]

Clinical care standards support the key principles of person-centred care, namely:

- Treating patients with dignity and respect
- Encouraging patient participation in decision-making (see 'Shared decision making')
- Communicating with patients about their clinical condition and treatment options
- Providing patients with information in a format that they understand and encouraging them to participate in decision-making.

Shared decision making

Shared decision making involves discussion and collaboration between a consumer and their clinician. It is about bringing together the consumer's values, goals and preferences with the best available evidence about benefits, risks and uncertainties of treatment, to reach the most appropriate healthcare decisions for that person.

Involving support people

The **Australian Charter of Healthcare Rights** (second edition) describes the rights that consumers, or someone they care for, can expect when receiving health care.[36]

Patients have the right to involve the people they want in planning and making decisions about their health care and treatment. This could be a family member, carer, friend, or a consumer advocate such as a social worker. Many health services employ different types of liaison officers, such as Aboriginal and Torres Strait Islander liaison officers, who can provide patients with advocacy, information and support.

This clinical care standard refers to family members and carers. Statements that refer to clinicians' discussions with patients and their family or carer should be understood to include support people if this is what the patient wishes, or a substitute decision-maker if the person is unable to provide their consent.

Informed consent

Informed consent is a person's voluntary and informed decision about a healthcare treatment, procedure or intervention that is made with adequate knowledge and understanding of the benefits and risks to them, and the alternative options available. The Commission **developed an informed consent fact sheet for consumers**.

Action 2.4 in the National Safety and Quality Health Service (NSQHS) Standards requires health service organisations ensure that informed consent processes comply with legislation and best practice.[18]

Cultural safety and patient safety

Cultural safety is about overcoming the cultural power imbalances of places, people and policies to contribute to improvements in Aboriginal and Torres Strait Islander health.[37]

The **Cultural Respect Framework 2016–2026** commits the Australian Government and all states and territories to embed cultural respect principles into their health systems.[38] The Framework should be used to develop, implement and evaluate cultural awareness and cultural competency strategies.

Health consumers are safest when clinicians have considered power relations, cultural differences and patients' rights. Part of this process requires clinicians to review their own beliefs and attitudes.[39]

The NSQHS Standards *User Guide for Aboriginal and Torres Strait Islander Health*[39] describes six specific actions that aim to help health services improve the quality of care and health outcomes for Aboriginal and Torres Strait Islander peoples.[18]

Appendix B:
Indicators to support local monitoring

The Commission has developed a set of indicators to support clinicians and health services in monitoring how well they implement the care described in this clinical care standard. The indicators are a tool to support local quality improvement activities. No benchmarks are set for any indicator.

The process to develop the indicators specified in this document comprised:

- A review of existing Australian and international indicators
- Prioritisation, review and refinement of the indicators with the topic working group.

The data underlying these indicators are collected from local sources, through prospective data collection or retrospective chart audits, and through review of policies and protocols.

In this document, the indicator titles and hyperlinks to the specifications are included with the relevant quality statement under the heading 'Indicator for local monitoring'. Full specifications for the *Acute Anaphylaxis Clinical Care Standard* indicators can be found in the Metadata Online Registry (METeOR) **meteor.aihw.gov.au/content/index.phtml/itemId/745144**

METeOR is Australia's web-based repository for national metadata standards for the health, community services and housing assistance sectors. Hosted by the Australian Institute of Health and Welfare, METeOR provides users with online access to a wide range of nationally endorsed data and indicator definitions.

Appendix C:
Measuring and monitoring patient experiences

Systematic, routine monitoring of patients' experiences of, and outcomes from, health care is an important way to ensure that the patient's perspective drives service improvements and person-centred care. This is the case in all health services.

Patient experience measures

While this clinical care standard does not include indicators specific to measuring patient experiences, the Commission strongly encourages health services to use the Australian Hospital Patient Experience Question Set (AHPEQS). AHPEQS is a 12-question generic patient experience survey that has been validated in both day-only and admitted hospital patients across many clinical settings. The **instrument is available for download** for both private and public sector health services.

Patient-reported outcome measures

In Australia, patient-reported outcome measures (PROMs) are an emerging method of assessing the quality of health care. The Commission is leading a national work program to support the consistent and routine use of PROMs to drive quality improvement.

PROMs are standardised, validated questionnaires that patients complete, without any input from healthcare providers. They are often administered at least twice to an individual patient – at baseline and again after an intervention, or at regular intervals during a chronic illness. The information contributed by patients filling out PROMs questionnaires can be used to support and monitor the movement of health systems towards person-centred, value-based health care.

PROMs are being used to evaluate healthcare effectiveness at different levels of the health system, from the individual level to service and system levels. There is growing interest across Australia and internationally in the routine interrogation of patient-reported outcome information for evaluation and decision-making activities at levels of the health system beyond the clinical consultation.

Appendix D:
Integration with the National Safety and Quality Health Service Standards

Monitoring the implementation of this clinical care standard will help organisations to meet some of the requirements of the National Safety and Quality Health Service (NSQHS) Standards (second edition).[18]

The NSQHS Standards aim to protect the public from harm and improve the quality of health service provision. They provide a quality assurance mechanism that tests whether relevant systems are in place to ensure that expected standards of safety and quality are met.

Within the NSQHS Standards, the Clinical Governance Standard and the Partnering with Consumers Standard combine to form the clinical governance framework for all health service organisations that applies to all other standards:

- The Clinical Governance Standard aims to ensure that systems are in place within health service organisations to maintain and improve the reliability, safety and quality of health care
- The Partnering with Consumers Standard aims to ensure that consumers are partners in the design, delivery and evaluation of healthcare systems and services, and that patients are given the opportunity to be partners in their own care, to the extent that they choose.

Information about the NSQHS Standards is available at the **NSQHS Standards website**.

Action 1.27b and Action 1.28

Under the Clinical Governance Standard, health service organisations are expected to support clinicians to use the best available evidence, including clinical care standards (see Action 1.27b) and to monitor and respond to unwarranted clinical variation (Action 1.28).

Health service organisations are expected to implement the NSQHS Standards in a way that suits the clinical services provided and their associated risks.

Glossary

Term	Definition
Adrenaline (epinephrine)	A hormone and a medicine. Adrenaline is secreted by the adrenal gland in the body in response to stress or a fright. This is known as the fight-or-flight response. An adrenaline injection is used to treat anaphylaxis (a severe allergic reaction) as it reduces throat swelling, opens the airways, and maintains heart function and blood pressure.
adrenaline injector	A device containing one metered dose of adrenaline (epinephrine) that is administered intramuscularly and can be done so by a nonclinical person.[4]
adverse event	An incident that results, or could have resulted, in harm to a patient or consumer. A near miss is a type of adverse event.[18]
allergy	Occurs when a person's immune system reacts to substances in the environment that are harmless to most people. These substances are known as allergens and are found in dust mites, pets, pollen, insects, ticks, moulds, foods and some medicines.[6]
anaphylaxis	A severe form of allergic reaction, potentially life-threatening, characterised by a sudden onset in which the clinical presentation is variable. Skin features are not always present.[3,5]
angioedema	Deeper swelling within the skin or mucous membranes; can be skin-coloured or red.
ASCIA	Australasian Society of Clinical Immunology and Allergy.
assessment	A clinician's evaluation of a disease or condition based on the patient's subjective report of the symptoms and course of the illness or condition, and the clinician's objective findings. These findings include data obtained through laboratory tests, physical examination and medical history; and information reported by family members, carers and other members of the healthcare team.[18]
biphasic anaphylaxis	After complete recovery of anaphylaxis, a return of symptoms (occurring after one to 72 hours) with no further exposure to the allergen. It is managed in the same way as anaphylaxis.[34]
carer	A person who provides personal care, support and assistance to another individual who needs it because they have a disability, medical condition (including a terminal or chronic illness) or mental illness, or they are frail or aged. An individual is not a carer merely because they are a spouse, de facto partner, parent, child, other relative or guardian of an individual, or live with an individual who requires care. A person is not considered a carer if they are paid, a volunteer for an organisation, or caring as part of a training or education program.[40]
clinical practice guidelines	Statements that include recommendations intended to optimise patient care and are informed by a systematic review of evidence and an assessment of the benefits and harms of alternative care options.[41]

Term	Definition
clinician	A trained health professional, including registered and non-registered practitioners, who provides direct clinical care to patients. Clinicians may provide care within a health service organisation as an employee, a contractor or a credentialed healthcare provider, or under other working arrangements. They include nurses, midwives, medical practitioners, allied health professionals, paramedics, community and hospital pharmacists and other professions who provide health care, and students who provide health care under supervision.
consumer	A person who has used, or may potentially use, health services, or is a carer for a patient using health services. A healthcare consumer may also act as a consumer representative to provide a consumer perspective, contribute consumer experiences, advocate for the interests of current and potential consumers, and take part in decision-making processes.[42]
epinephrine	Also known as adrenaline, it is a hormone and a medicine. The World Health Organization classifies epinephrine as an essential medicine for the treatment of anaphylaxis. See **adrenaline**.
healthcare record	Includes a record of the patient's medical history, treatment notes, observations, correspondence, investigations, test results, photographs, prescription records and medication charts for an episode of care.[18]
health service organisation	A separately constituted health service that is responsible for implementing clinical governance, administration and financial management of a service unit or service units providing health care at the direction of the governing body. A service unit involves a group of clinicians and others working in a systematic way to deliver health care to patients. It can be in any location or setting, including pharmacies, clinics, outpatient facilities, hospitals, patients' homes, community settings, practices and clinicians' rooms.[18]
hospital	A licensed facility providing healthcare services to patients for short periods of acute illness, injury or recovery.[35]
IM	Intramuscular; an injection deep into a large muscle to administer a medicine. Adrenaline is injected into the mid-anterolateral thigh muscle for anaphylaxis.
informed consent	A process of communication between a patient and clinician about options for treatment, care processes or potential outcomes. This communication results in the patient's authorisation or agreement to undergo a specific intervention or participate in planned care. The communication should ensure that the patient has an understanding of the care they will receive, all the available options and the expected outcomes, including success rates and side effects for each option.[43]
IV	Intravenous; an injection or infusion into a vein.
mastocytosis	A condition caused by too many mast cells in the body. Mast cells are a kind of blood cell. They can build up under the skin, or in bones, intestines and other organs. This causes a range of symptoms, including itchy bumps on the skin, gastrointestinal issues such as diarrhoea, and bone pain.

Term	Definition
medical practitioner	A medically qualified person whose primary role is the diagnosis and treatment of physical and mental illnesses, disorders and injuries. They include general practitioners, medical specialists, interns and residents.
medical record	See **healthcare record**.
medicine	A chemical substance given with the intention of preventing, diagnosing, curing, controlling or alleviating disease, or otherwise improving the physical or mental wellbeing of people. These include prescription, non-prescription, investigational, clinical trial and complementary medicines, regardless of how they are administered.[44]
patient	A person who is receiving care in a health service organisation.[18]
point of care	The time and location of an interaction between a patient and a clinician to deliver care.[18]
primary care	The first level of care, or the entry point to the healthcare system. This includes general practice clinics, community health practice (for example, clinics and outreach or home visiting services), ambulance services, pharmacists, and services for specific populations (for example, Aboriginal or refugee health services).
prn	Pro re nata, or 'as needed'; medicines taken as needed are known as 'prn' medicines.
procedure	The set of instructions to make policies and protocols operational, which are specific to an organisation.[18]
prolonged or persistent anaphylaxis	Symptoms fail to improve or may worsen as the effect of adrenaline wears off. Persistent anaphylaxis may last from 5–32 hours.[45]
quality improvement	The combined efforts of the workforce and others – including consumers, patients and their families, researchers, planners, and educators – to make changes that will lead to better patient outcomes (health), better system performance (care) and better professional development.[46]
risk factor	A characteristic, condition or behaviour that increases the possibility of disease, injury or loss of wellbeing.[47]
scope of practice	The extent of an individual clinician's approved clinical practice within a particular organisation, based on the clinician's skills, knowledge, performance and professional suitability, and the needs and service capability of the organisation.[48]
shared decision making	A consultation process in which a clinician and a patient jointly participate in making a health decision, having discussed the options and their benefits and harms, and having considered the patient's values, preferences and circumstances.[49]

Term	Definition
system	The resources, policies, processes and procedures that are organised, integrated, regulated and administered to accomplish a stated goal. A system: ▪ Brings together risk management, governance, and operational processes and procedures, including education, training and orientation ▪ Deploys an active implementation plan; feedback mechanisms include agreed protocols and guidelines, decision support tools and other resource materials ▪ Uses several incentives and sanctions to influence behaviour and encourage compliance with policy, protocol, regulation and procedures. The workforce is both a resource in the system and involved in all elements of systems development, implementation, monitoring, improvement and evaluation.[18]
urticaria	A pink or red itchy rash that may appear as blotches or raised red lumps (wheals). Hives is the common term for urticaria.

References

1. Australian Commission on Safety and Quality in Health Care. Analysis of the Non-Admitted Patient Emergency Department National Minimum Data Set (NAPED NMDS), 2015–16 to 2019–20. Sydney: ACSQHC; 2021.
2. Mullins RJ, Wainstein BK, Barnes EH, Liew WK, Campbell DE. Increases in anaphylaxis fatalities in Australia from 1997 to 2013. Clin Exp Allergy 2016 Aug;46(8):1099–110.
3. Australasian Society of Clinical Immunology and Allergy. Acute management of anaphylaxis. Sydney: ASCIA; 2021.
4. Safer Care Victoria. Anaphylaxis clinical care standard. Melbourne: Victorian Government; 2019.
5. Cardona V, Ansotegui IJ, Ebisawa M, El-Gamal Y, Rivas MF, Fineman S, et al. World Allergy Organization anaphylaxis guidance 2020. World Allergy Organ J 2020 Oct;13(10):100472.
6. Allergy & Anaphylaxis Australia. What is allergy? [Internet]. Sydney: Allergy & Anaphylaxis Australia; 2020 [cited 2021 Oct 7] Available from: **allergyfacts.org.au/allergy-anaphylaxis/what-is-allergy**
7. House of Representatives Standing Committee on Health, Aged Care and Sport. Walking the allergy tightrope. Canberra: Commonwealth of Australia; 2020.
8. Australasian Society of Clinical Immunology and Allergy. Food allergy [Internet]. Sydney: ASCIA; 2021 [cited 2021 Aug 3] Available from: **www.allergy.org.au/patients/food-allergy/food-allergy**
9. Australian Commission on Safety and Quality in Health Care. Analysis of Admitted Patient Care National Minimum Data Set (APC NMDS), 2015–16 to 2019–20. Sydney: ACSQHC; 2021.
10. Mullins RJ, Dear KB, Tang ML. Time trends in Australian hospital anaphylaxis admissions in 1998–1999 to 2011–2012. J Allergy Clin Immunol 2015 Aug;136(2):367–75.
11. Simons FER, Ebisawa M, Sanchez-Borges M, Thong BY, Worm M, Tanno LK, et al. 2015 update of the evidence base: World Allergy Organization Anaphylaxis Guidelines. World Allergy Organ J 2015 Oct 28;8(1):1–16.
12. Brown SGA, Stone SF, Fatovich DM, Burrows SA, Holdgate A, Celenza A, et al. Anaphylaxis: clinical patterns, mediator release, and severity. J Allergy Clin Immunol 2013 Nov;132(5):1141–9.
13. Tham EH, Leung ASY, Pacharn P, Lee S, Ebisawa M, Lee BW, et al. Anaphylaxis – Lessons learnt when East meets West. Pediatr Allergy Immunol 2019 Nov;30(7):681–8.
14. Prince BT, Mikhail I, Stukus DR. Underuse of epinephrine for the treatment of anaphylaxis: missed opportunities. J Asthma Allergy 2018 Jun 20;11:143–51.
15. Sclar DA, Lieberman PL. Anaphylaxis: underdiagnosed, underreported, and undertreated. Am J Med 2014 Jan;127(1 Suppl):S1–5.
16. Turner PJ, Jerschow E, Umasunthar T, Lin R, Campbell DE, Boyle RJ. Fatal anaphylaxis: mortality rate and risk factors. J Allergy Clin Immunol Pract 2017 Sep–Oct;5(5):1169–78.
17. Campbell RL, Li JT, Nicklas RA, Sadosty AT, Members of the Joint Task Force, Practice Parameter Workgroup. Emergency department diagnosis and treatment of anaphylaxis: a practice parameter. Ann Allergy Asthma Immunol 2014 Dec;113(6):599–608.
18. Australian Commission on Safety and Quality in Health Care. National Safety and Quality Health Service Standards (2nd ed.). Sydney: ACSQHC; 2017.
19. Safer Care Victoria. Use of a patient's own adrenaline (epinephrine) autoinjector in hospital. Melbourne: Victorian Government; 2019.
20. Burnell FJ, Keijzers G, Smith P. Review article: quality of follow-up care for anaphylaxis in the emergency department. Emerg Med Australas. 2015 Oct;27(5):387–93.
21. National Institute for Health and Care Excellence. Anaphylaxis quality standard [QS119]. London: NICE; 2016.
22. Shah S. Hormonal link to autoimmune allergies. ISRN allergy 2012;2012:1–5.

23. Untersmayr E, Jensen AN, Walch K. Sex hormone allergy: clinical aspects, causes and therapeutic strategies – update and secondary publication. World Allergy Organ J 2017 Dec 27;10(1):1–6.

24. Resuscitation Council (UK). Emergency treatment of anaphylactic reactions: guidelines for healthcare providers. London: Resuscitation Council (UK); 2016.

25. National Institute for Health and Care Excellence. Anaphylaxis: assessment and referral after emergency treatment [CG134]. London: NICE; 2020.

26. Simons FE, Ardusso LR, Dimov V, Ebisawa M, El-Gamal YM, Lockey RF, et al. World Allergy Organization Anaphylaxis Guidelines: 2013 update of the evidence base. Int Arch Allergy Immunol 2013;162(3):193–204.

27. Australian Medicines Handbook. Australian Medicines Handbook 2020. Adelaide: AMH; 2020.

28. Australasian Society of Clinical Immunology and Allergy. Acute management of anaphylaxis in pregnancy. Sydney: ASCIA; 2020.

29. Liew WK, Williamson E, Tang ML. Anaphylaxis fatalities and admissions in Australia. J Allergy Clin Immunol 2009 Feb;123(2):434–42.

30. Murad A, Katelaris CH. Anaphylaxis audit in a busy metropolitan emergency department: a review of real life management compared to best practice. Asia Pac Allergy 2016 Jan;6(1): 29–34.

31. Campbell RL, Bellolio MF, Knutson BD, Bellamkonda VR, Fedko MG, Nestler DM, et al. Epinephrine in anaphylaxis: higher risk of cardiovascular complications and overdose after administration of intravenous bolus epinephrine compared with intramuscular epinephrine. J Allergy Clin Immunol Prac 2015 Jan–Feb;3(1):76–80.

32. Kolawole H, Marshall S, Crilly H, Kerridge R, Roessler P. Australian and New Zealand Anaesthetic Allergy Group/Australian and New Zealand College of Anaesthetists Perioperative Anaphylaxis Management Guidelines. Anaesth Intensive Care 2017 Mar;45(2):151–8.

33. Kanwar M, Irvin CB, Frank JJ, Weber K, Rosman H. Confusion about epinephrine dosing leading to iatrogenic overdose: a life-threatening problem with a potential solution. Ann Emerg Med 2010 Apr;55(4):341–4.

34. Shaker MS, Wallace DV, Golden DB, Oppenheimer J, Bernstein JA, Campbell RL, et al. Anaphylaxis – a 2020 practice parameter update, systematic review, and Grading of Recommendations, Assessment, Development and Evaluation (GRADE) analysis. J Allergy Clin Immunol 2020 Apr;145(4):1082–123.

35. Australian Commission on Safety and Quality in Health Care. Patient-centred care: improving quality and safety through partnerships with patients and consumers. Sydney: ACSQHC; 2011.

36. Australian Commission on Safety and Quality in Health Care. Australian Charter of Healthcare Rights (2nd ed.). Sydney: ACSQHC; 2019.

37. Australian Indigenous Doctors' Association. Cultural safety for Aboriginal And Torres Strait Islander doctors, medical students and patients. Canberra: AIDA; 2017.

38. National Aboriginal and Torres Strait Islander Health Standing Committee of the Australian Health Ministers' Advisory Council. Cultural respect framework 2016–2026 for Aboriginal and Torres Strait Islander health. Canberra: AHMAC; 2016.

39. Australian Commission on Safety and Quality in Health Care. User guide for Aboriginal and Torres Strait Islander health. Sydney: ACSQHC; 2016.

40. Social Services Australia. Carer Recognition Act 2010 (No. 123). Canberra: SSA; 2010.

41. Institute of Medicine (US) Committee on Standards for Developing Trustworthy Clinical Practice Guidelines. Clinical practice guidelines we can trust: standards for developing trustworthy clinical practice guidelines. Washington (DC): National Academies Press; 2011.

42. Consumers Health Forum of Australia. About consumer representation. [Internet] Canberra: CHF; 2020 [cited 2021 Aug 28] Available from: **chf.org.au/representation**

43. Carey-Hazell K. Improving patient information and decision making. Australian Health Consumer 2005 Jan;1(2005–2006):21–2.

44. Australian Pharmaceutical Advisory Council. Guiding principles for medication management in the community. Canberra: APAC; 2006.

45. Shahzad Mustafa S. Anaphylaxis [Internet]. Medscape; 2018 [updated 2018 May 16; cited 2020] Available from: **emedicine.medscape.com/article/135065-overview#a4**

46. Batalden PB, Davidoff F. What is 'quality improvement' and how can it transform healthcare? Qual Saf Health Care 2007;16(1):2–3.

47. Australian Commission on Safety and Quality in Health Care. National Model Clinical Governance Framework. Sydney: ACSQHC; 2017.

48. Australian Commission on Safety and Quality in Health Care. Safety and Quality Improvement Guide Standard 1: Governance for Safety and Quality in Health Service Organisations. Sydney: ACSQHC; 2012.

49. Hoffmann TC, Del Mar CB. Shared decision making: what do clinicians need to know and why should they bother? MJA 2014;201(9):513–4.

Acknowledgements

Many individuals and organisations have freely given their time and expertise in the development of this document. In particular, the Commission wishes to thank Safer Care Victoria, the Acute Anaphylaxis Clinical Care Standard Topic Working Group, and other key experts who have given their time and advice. The involvement and willingness of all concerned to share their experience and expertise is greatly appreciated.

Topic Working Group

- A/Prof Amanda Walker (Co-Chair)
- A/Prof Andrew Wilson (Co-Chair)
- Sue Crocker
- Adj. A/Prof Alan Eade
- Dr Katie Frith
- Dr Alice Grey
- Dr Carolyn Hawkins
- Dr Preeti Joshi
- Dr Helen Kolawole
- Dr Peter Leman
- Dr Nhi Nguyen
- Maria Said
- Dr Joanne Simpson
- Dr Andrew Singer
- Sandra Vale.

A number of Commission staff were also involved in the writing and review of this publication, and the Commission wishes to acknowledge:

- Dr Alice Bhasale
- Helen Dowling
- Suzanna Henderson
- Chris Leahy
- Carolyn Stewart
- Carmel Thorn
- Leslie Trainor.

AUSTRALIAN COMMISSION
ON SAFETY AND QUALITY IN HEALTH CARE

Level 5, 255 Elizabeth Street, Sydney NSW 2000
GPO Box 5480, Sydney NSW 2001

PHONE: (02) 9126 3600

@ACSQHC

safetyandquality.gov.au