



Clinical Practice Guidelines: Medical/Anaphylaxis and severe allergic reaction

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Date	August, 2022
Purpose	To ensure consistent management of patients with anaphylaxis and severe allergic reaction.
Scope	Applies to Queensland Ambulance Service (QAS) clinical staff.
Health care setting	Pre-hospital assessment and treatment.
Population	Applies to all ages unless stated otherwise.
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Anaphylaxis and severe allergic reaction

August, 2022

Anaphylaxis is a life-threatening condition requiring urgent treatment. The incidence of hospitalisation for anaphylaxis is increasing, with mortality remaining stable.^[1]

The Australian Society of Clinical Immunology and Allergy^[1] defines anaphylaxis as:

*“Any acute onset illness with typical skin features (urticaria 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 skin features are not present”.^[1]

Clinicians should have a low threshold for IM adrenaline administration in suspected anaphylaxis cases.

The presentation and severity of anaphylaxis is variable and unpredictable.^[2] There is evidence to suggest that delayed adrenaline (epinephrine) administration in anaphylaxis cases is linked to fatalities.^[3] Therefore, the current recommendation is that IM adrenaline should be administered to any patient who presents with signs and symptoms that are consistent with impending anaphylaxis, regardless of whether diagnostic criteria are met, if suspicion for anaphylaxis is high (e.g. previous severe reaction, known exposure to an allergen).^[3,4]

Isolated hypotension after exposure to a known allergen should be treated as anaphylaxis.^[2] Hypotension in this context is defined as:

Adults = systolic BP less than 90 mmHg **OR** more than 30% decrease from baseline

Infants & children = low systolic BP for age **OR** more than 30% decrease from baseline

Clinical features



Severe allergic reaction or anaphylaxis can have a gradual or rapid onset of any of the following signs and symptoms, which may be localised or generalised:

Cutaneous – urticaria (rash), angioedema (swelling), pruritus (itch), flushed skin

Respiratory – difficulty breathing, wheeze, upper airway swelling, rhinitis (runny nose)

Cardiovascular – hypotension, dizziness, bradycardia or tachycardia, collapse

Abdominal – nausea, vomiting, diarrhoea, abdominal pain

NOTE: Cutaneous signs such as rash are present in the majority of cases of anaphylaxis, however, these may not be present if the patient is profoundly hypotensive due to reduced cutaneous blood flow.^[3-6]



Risk Assessment

- Adrenaline (epinephrine) should be administered via intramuscular injection using a VanishPoint® syringe or an adrenaline (epinephrine) autoinjector.
- Multiple doses of intramuscular adrenaline (epinephrine) may be required.
- Bolus intravenous adrenaline is NOT recommended due to risk of cardiac arrhythmias or ischemia and has been associated with increased rates of serious adverse events.^[1,5-7]
- Intravenous adrenaline should only be administered through intravenous infusion, using an approved infusion device.
- Walking patients to the ambulance should be avoided, even if they appear to have recovered and are now asymptomatic.
- Patients with respiratory compromise may prefer to sit. Beware that this may trigger hypotension and require the patient to be repositioned supine with legs raised.
- The benefit of corticosteroids in anaphylaxis is unproven.^[6]



Additional information

- Patients without respiratory compromise should be positioned supine if possible to improve venous blood return and increase blood pressure.
- Pregnant patients should be positioned left lateral to reduce risk of postural hypotension syndrome.
- Multiple doses of adrenaline may be required. Relapse, protracted and/or biphasic reactions may occur, therefore all patients must be transported to an appropriate medical facility.
- Vomiting and/or abdominal pain are common signs and symptoms of anaphylaxis from insect allergy.
- Patients' vital signs must be monitored continually while in QAS care. ECG, pulse oximetry and NIBP should be taken at frequent intervals.

CPG: Clinician safety
CPG: Standard cares

Suspected anaphylaxis
OR severe allergic reaction?

Symptomatic urticaria?

Note: Officers must only perform procedures for which they have received specific training and authorisation by the QAS.

IM Adrenaline (epinephrine)
Consider:
• Oxygen
• Sodium chloride 0.9% bolus
• Posture supine
• Remove allergen

Consider:
• Loratadine

Improvement in symptoms?

Has the patient responded to 2 x IM adrenaline (epinephrine) injections?

Consider:
• IM adrenaline (epinephrine)
• IV adrenaline (epinephrine) infusion
• If no CCP on scene, contact QAS Clinical Consultation and Advice Line to discuss treatment options

Reassess patient, improvement in symptoms?

The ordering of which symptoms are addressed first should be tailored depending on clinical need.
Note: adrenaline (epinephrine) should be administered as clinically indicated.

Upper airway obstruction present? Consider: • Nebulised adrenaline (epinephrine)	Persistent hypotension/shock present? Consider: • Sodium chloride 0.9% bolus • Glucagon	Persistent wheeze present? Consider: • Salbutamol • Hydrocortisone
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Transport to hospital
Pre-notify as appropriate