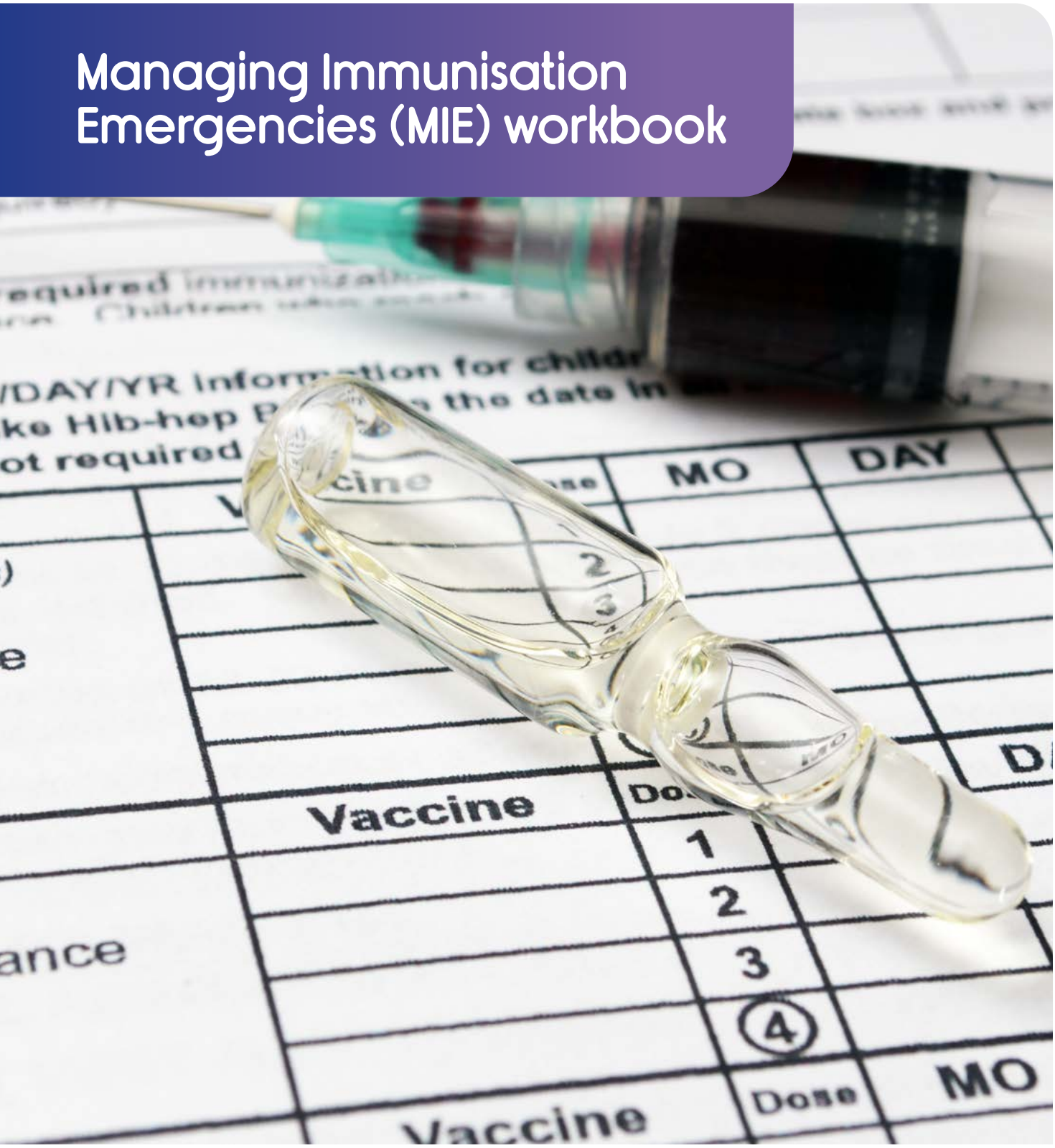
PREMIUMHealth
HEALTH CARE

Australia's premium, health care, first aid and mental health training provider for over 35 years.

Managing Immunisation Emergencies (MIE) workbook



Thank you for undertaking your course with Premium Health, we hope you enjoy your training.

We encourage you to practice your skills often. Research has shown retention of CPR skills is limited, however in the "doing" or the "practicing" we remember, and recall is easier should we need to undertake this lifesaving skill.

In the spirit of reconciliation Premium Health acknowledges the Traditional Custodians of country throughout Australia and their connections to land, sea and community. We pay our respects to their elders past and present and extend that respect to all Aboriginal and Torres Strait Islander peoples today.

OUR PROMISE

Premium Quality, without compromise. It's the Premium Health promise.

Phillipa Wilson
Founder & Managing Director of Premium Health

Our Trainers are Experienced Nurses and Paramedics	Passionate about sharing their experience
Premium Quality Programs	We pride ourselves on the depth of our course content and the quality of our training materials
Innovative Techniques, Empowering Outcomes	Methods remembered for years to come
Specialised Training, Contextualised to Your Workplace	Relevant and customised to workplaces

PUBLISHER: PREMIUM HEALTH
WRITTEN BY: PHILLIPA WILSON

The technical information and techniques used for first aid management includes the latest knowledge from research and other relevant national and international professional bodies.

Special acknowledgement is given to the Australian Resuscitation Council https://resus.org.au/guidelines/for the information relating to their Guidelines and The Australian Immunisation Handbook https://immunisationhandbook.health.gov.au/ for the information relating to immunisation.

Welcome to your course and Premium Health.

The Managing Immunisation Emergencies (MIE) course provides the knowledge and skills required to manage potentially life-threatening adverse events immediately following immunisation (AEFI). This course incorporates the HLTAIDOO9 Provide cardiopulmonary resuscitation unit of competency from the Health Training Package, recognised nationally within the Australian Qualifications Framework.

We select our Premium Health trainers and assessors carefully. All are either nurses or paramedics with appropriate training qualifications, technical expertise and experience in both education and emergency first aid care.

MANAGING IMMUNISATION EMERGENCIES (MIE) WORKBOOK

WHEN YOU SEE THIS ICON:

Scan **QR Code** using your mobile phone camera to access video content.

WHAT YOU NEED TO KNOW ABOUT YOUR COURSE

Helping you to succeed in your course

We believe learning should be an enjoyable and challenging process and we understand that each learner is different. A variety of teaching approaches including lecturing, discussion, skills coaching, and critical incident analyses will be adopted to achieve competency.

As a Registered Training Organisation we can assist you where there are any difficulties with reading, writing, comprehending English or a physical disability, our training approaches can be varied to support learning and assessment.

In teaching CPR competencies, the Premium Health method is used. This unique and innovative training technique uses a familiar song to help you recall the rate and rhythm of CPR, thus assisting in the performance of a complex skill. If you had to give CPR, it is intended the song would be sung silently, under your breath.

Research shows that the Premium Health method enables people to retain and recall their CPR skills over a longer period. For any person, managing a cardiac arrest is stressful, so an easily remembered method to achieve compression rhythm and to count the compression/ breath cycles is invaluable.

Course learning outcomes

On completion of the MIE course, you will be able to:

- Respond to an emergency situation.
- Provide emergency management of vasovagal episode, seizures, hypotonic-hyporesponsive episodes (HHE), and anaphylaxis.
- Provide emergency management of vasovagal episode, seizures and anaphylaxis.
- Manage an unconscious breathing person using the First Aid Priorities action plan.
- Perform CPR procedures (infants, children, and adults).
- Communicate details of the incident.
- Review the incident.

The performance criteria for all competency elements can be found at www.premiumhealth.com.au. This is important information that will assist you to determine what you need to do to meet the assessment requirements for the course.

What you need to know about assessment

Assessment takes place during your course enabling you to demonstrate your competence in a comfortable and familiar environment with your trainer/assessor.

All assessment tasks are discussed beforehand.

Assessment is never a pass or a fail process. At the end of a set period, you are judged to be Competent or Competency Not Achieved.

If you are considered Competency not Achieved, your trainer/assessor will discuss areas of further work and advise training tasks or options to be undertaken in order to meet competency requirements. You may be asked to call Premium Health to make reassessment arrangements.

Statement of attainment

A statement of attainment for HLTAID009 Provide cardiopulmonary resuscitation will be issued upon successful completion of your course. The Australian Resuscitation Council recommends CPR be undertaken at least annually and industry requirements have also set a precedence of refreshing CPR annually.

Statement of completion

A statement of completion for the managing immunisation emergencies components will be issued upon successful completion of your course.

Evaluation of the course

Your feedback is vitally important to us as we use this as part of our continuous improvement cycle. We especially value any personal comments you would like to make. Your trainer will provide you with the way to access our feedback survey.

Premium Health's customer service

We offer you an on-going service in relation to our training information and invite you to call our office on 1300 721 292 or email us on info@premiumhealth.com.au.

For more information about Premium Health products, services and policies, access our website www.premiumhealth.com.au

IMMUNISATION

Worldwide, immunisation programs prevent around 2.5 million deaths each year.

Australia has one of the most comprehensive publicly funded immunisation programs in the world, and as a result of our successful vaccination programs many diseases like tetanus, diptheria, haemophilus influenzae type b and poliomyelitis have either been eradicated or are extremely rare. It can be said immunisation is one of Australia's successful public health interventions.

In Australia people receive vaccinations and immunisations, but they are not the same thing. Vaccination is the action of getting an injection or taking an oral vaccine whereas immunisation refers to getting the vaccine and becoming immune to the disease.

Like any medication some people may experience side effects following immunisation.

MANAGING IMMUNISATION EMERGENCIES

ADVERSE EVENTS FOLLOWING IMMUNISATION (AEFI)

An adverse event following immunisation (AEFI) is any negative reaction that follows vaccination. It does not necessarily have a causal relationship with the vaccine.

The adverse event may be any:

- unfavourable or unintended sign
- unfavourable or unintended symptom
- disease
- abnormal laboratory finding

Events may be due to the vaccine(s) or may occur by chance.

Frequency of AEFIs

The occurrence of adverse events is classified by regulatory agencies and often reported in clinical trials as:

very common	(>10% of people vaccinated)
common	(1–10%)
uncommon	(0.1 to <1%)
rare	(0.01% to <0.1%)
very rare	(<0.01%)

Minimising the risk of AEFIs

Those receiving a vaccine must have a pre-vaccination screening checklist completed. Ensure that the pre-screening checklist includes the correct weight for all people to be vaccinated. This is necessary to determine adrenaline dosage should anaphylaxis develop. The checklist will assist you to determine the risks of AEFI or is a contraindication to vaccination.

Also check:

- the disease-specific chapters in the Australian Immunisation Handbook https://immunisationhandbook.health.gov.au/, including product information
- the state or territory guidelines
- Always use accurate injection procedures to help minimise adverse events.

Post vaccination all people should remain under observation for a short interval to ensure that they do not experience an immediate adverse event. It is recommended that vaccinated persons remain in the vicinity of the place of vaccination for at least 15 minutes. Severe anaphylactic reactions usually have a rapid onset and are most likely to begin within 15 minutes of vaccination.

All persons should wait for 15 minutes post immunisation

Communication of possible adverse events

Advise the person, parent or carer what common adverse events are likely or expected, and what they should do about them. This should be part of the consent procedure.

People should seek medical advice if they have unexpected, serious or prolonged adverse signs or symptoms after vaccination. It is preferable to give people written advice to take away, such as the common side effects following immunisation for vaccines used in the National Immunisation Program schedule.

Signs and symptoms from illnesses that are unrelated to vaccination, can sometimes be attributed to a recent vaccination and as such they should be investigated and managed.

Reporting AEFI

Providers should use clinical judgement to decide which adverse events to report and parents and carers should be encouraged to notify their immunisation provider or health authorities of any AEFI.

Scrutiny of adverse events following immunisation is essential for the detection of changes in rates of known adverse events, the recognition of any adverse events previously undocumented and events resulting from incorrect vaccine delivery.

When to report an AEFI

Immunisers should report adverse events as soon as possible, particularly of serious events. However, there is no time limit for reporting AEFIs.

Who can report an AEFI?

Anyone can report an AEFI, whether they are health professionals or consumers. An immunisation provider who did not administer the vaccine can report an AEFI.

Patients and parents should be encouraged to contact their healthcare provider if they are concerned about an adverse event occurring after vaccination, particularly if the reaction is, unexpected, uncommon, and serious.

As well as reporting AEFIs, immunisation providers may need to advise the person about clinical management and future vaccination. Expert advice may need to be given regarding information on specialist immunisation clinics. In addition, details of paediatricians or medical specialists with experience in managing patients with AEFIs, are usually available from state or territory health authorities.

It is very important that all immunisation service providers report AEFI's, particularly if serious or unexpected, as this will enable possible vaccine safety issues to be identified and managed as soon as possible. For example, reporting of AEFI in 2020 resulted in the link established between the AstraZeneca vaccine for COVID 19 and the very rare but serious side effect Vaccine-induced immune thrombotic thrombocytopenia (VITT). As a result, the AstraZeneca vaccine was advised for people in certain age groups.

Government agencies and AEFI

AEFI are notifiable via different government agencies and immunisation service providers should be aware of the method of reporting for their State. In most jurisdictions (Australian Capital Territory, New South Wales, Northern Territory, Queensland, South Australia, Victoria and Western Australia), AEFI should be reported directly

to the relevant state/territory health authority. AEFI notified into these state and territory health departments are then forwarded to the Therapeutic Goods Administration (TGA), who manage the (Adverse Drug Reactions System (ADRS) database, which includes all adverse reaction reports related to drugs and vaccines. Reporting can also be done directly to the TGA.

The TGA has on its website a searchable database https://www.tga.gov.au/database-adverse-event-notifications-daen, the Database of Adverse Event Notifications (DAEN) that contains reports of all adverse event reports for medicines (including vaccines). These reports came from a wide range of sources, including from members of the public, GPs, other health professionals and from the therapeutic goods industry.

What happens to the reports and data?

State and territory health departments forward AEFI notifications to the TGA. The TGA enters the notification into the Adverse Drug Reactions System database. This database includes all adverse reaction reports related to medicines and vaccines. The TGA forwards copies of AEFI reports it receives from other channels to state and territory health departments.

The TGA aggregates vaccine AEFI reports from all sources. Details on rates and trends in AEFIs are published in the journal Communicable Diseases Intelligence. The TGA also transfers reports of adverse events to all medicines, including vaccines, to a publicly accessible search facility, the Database of Adverse Event Notifications.

In contributing to maintaining an effective surveillance system, the following are important considerations:

- immunisers should use clinical judgement and common sense in deciding which adverse events to report
- immunised persons, parents or caregivers should be encouraged to notify the immuniser of any AEFI
- any of the adverse events listed in the Australian Immunisation Handbook, should be reported. Immunisers should report any adverse events of concern that do not fit into categories listed in Australian Immunisation Handbook, as 'other reactions' with a full description of the event to facilitate identification
- **Immediate adverse events requiring an emergency response**

The MIE program distinguishes between AEFI generally (common and late, rare events) and immediate adverse events following immunisation. Immediate AEFI are the program's focus because of the:

- life-threatening nature of immediate adverse events
- unpredictability of these occurrences
- requirement for an immediate and effective emergency response by immunisers
- fact that late-occurring, life-threatening adverse events are unlikely to be managed by immunisers

NURSE IMMUNISERS' EMERGENCY RESPONSIBILITIES

In relation to immediate adverse event emergencies, nurse immunisers are required to:

- plan, prepare and manage equipment and protocols required to provide an effective emergency response
- recognise life-threatening adverse events occurring immediately following immunisation
- provide appropriate emergency management of people experiencing an immediate AEFI
- report adverse events using the AEFI reporting system mentioned above

IMMEDIATE ADVERSE EVENTS FOLLOWING IMMUNISATION

While the most serious immediate adverse immunisation event is anaphylaxis, the most common adverse event in adults and older children is a vasovagal episode (fainting), occurring either immediately or soon after vaccination. It is incumbent upon an immunisers practice to be able to distinguish between anaphylaxis and all other adverse events.

Most life-threatening adverse events begin within 15 minutes of vaccination. Because of this small window of time the immuniser should be prepared before the vaccination session for all possible scenarios. Syringes, needles, differential diagnosis to anaphylaxis information, adrenaline and dosage charts, charged telephone are simple aspects of this preparation. For this reason, recipients should remain under observation within the vicinity of vaccination for a short period of time to ensure they do not experience an immediate adverse event.

VASOVAGAL EPISODE - FAINTING

Vasovagal episode is a sudden, brief loss of consciousness resulting from a temporary reduction in blood flow to the brain. The episode is associated with immunisation and is usually brought on by a vasovagal reaction. Vasovagal reactions (psychogenic shock) are triggered by sympathetic nervous system stimulation such as fear or emotional distress (fear of injections, or simple venipuncture, viewing of blood or invasive medical procedures).

Vasovagal episodes are common after vaccination of adults and adolescents, but infants and children rarely faint.

Sudden loss of consciousness in young children should be presumed to be anaphylaxis, particularly if a strong central pulse is absent. A strong central pulse persists during a vasovagal episode (faint) or convulsion.

When assessing an adult's pulse, it is recommended that you palpate the carotid artery, however when assessing a child or infants pulse it is appropriate to palpate the carotid, brachial or femoral artery.

Because fainting after vaccination can lead to serious consequences, anyone who complains of giddiness or light-headedness before or after vaccination should be advised to lie down until free of symptoms.

Planning for fainting prevention:

- Prepare the immunisation set-up and plan the immunisation process carefully.
- Use a separate room for immunising.
- Process those to be vaccinated quickly (especially avoid queues of people standing while waiting).
- Immunise in an open space away from bench/table edges, equipment, and other hazards.
- Provide seating in another area for those vaccinated.
- Identify known fainters beforehand, if possible, immunise ahead of others, while lying down, and maintain supine position for several minutes post immunisation.
- Provide seating or floor mats in waiting areas.
- Observe those to be vaccinated for pre-fainting signs (anxiety, sweating, colour changes, cool clammy skin, trembling) and respond immediately if signs are detected by lying affected person down flat with legs raised.

Vasovagal episode - management of a conscious child and adult

Child

Adult

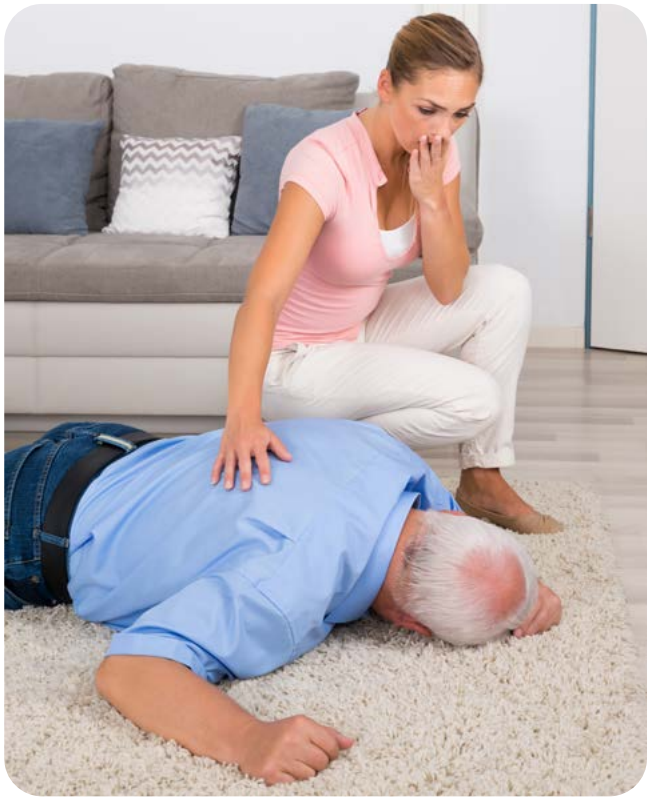
Signs and symptoms

Warning signs preceding loss of consciousness may include:

- light-headedness
- nausea and vomiting
- hypotension – transient and not sustained
- sweating
- feeling of anxiety
- colour changes, cool, clammy skin
- normal respiration; may be shallow but not laboured
- numbness or tingling of fingers and toes
- weak/absent peripheral pulse
- strong central pulse

Followed by:

- loss of consciousness - which is usually brief from seconds to one to two minutes once supine seizures may occur



VASOVAGAL EPISODE (FAINTING)	Recognised by sudden unconsciousness, **a strong, central pulse** with no signs of anaphylaxis
ANAPHYLAXIS	Anaphylaxis is presumed in a young child or infant who suddenly becomes unconscious, particularly if a strong central pulse is absent

MANAGEMENT OF A VASOVAGAL EPISODE (where no anaphylaxis signs and symptoms are present)
DRSABCD ACTION PLAN

Management of a vasovagal episode in a conscious and unconscious casualty in an immunisation setting

D — DANGER
- Assess and manage dangers.

	CONSCIOUS	UNCONSCIOUS
R RESPONSE	› Responds appropriately to commands. › Leave in position until check completed.	› Does not respond to commands. › Position on left side (left lateral position).
S SEND FOR HELP	› No help required from from the ambulance. › Call colleague or bystander to assist you	› Call for help, call triple zero (000), get equip, AED.
A AIRWAY (air passages)	› They are talking, airway is clear.	› Check, clear and open the airway.
B BREATHING (lungs)	› If talking, they are breathing.	› Casualty is breathing normally, check C and D. › Casualty not breathing or not breathing normally, **roll onto back and start CPR.**
C CIRCULATION (heart)	› Remember, a strong central pulse persists during a faint, HHE or seizure, because there is no hypovolaemia › Strong central pulse = faint. › Lie flat, legs raised (45) degrees (as per immunisation handbook).	› Check central pulse – strong = vasovagal episode. › Check central pulse – weak = anaphylaxis. › Update triple zero (000) on signs and symptoms.
D DEADLY BLEEDING	› Check for deadly bleeding if collapse occured whilst conscious.	› If casualty fell to the ground check for external and internal bleeding, other injuries and manage. › Allow return to full conscious state. Gradually place casualty into a semi-recumbent position. › Refer to doctor if concerned about possibility of a more serious condition.

Refer to doctor if concerned about possibility of a more serious condition.

Lie any person flat who feels faint or light-headed either before or after vaccination, and isolate them from others to be immunised to avoid sympathetic anxiety or fear.

› Encourage recipients to sit or lie down during the postimmunisation observation period of 15 minutes.

SEIZURES

Vasovagal episodes can occur before or after an immunisation and may be accompanied by a brief seizure due to cerebral hypoxia.

A seizure results from a disorder in the brain's electrical activity and is generally marked by loss of consciousness and can take many forms. In a major seizure there is a sudden spasm of muscles producing rigidity and the person falls (tonic phase), jerking movements of head, arms and legs may occur (clonic phase) the casualty becomes unconscious which may be accompanied with noisy breathing, salivation, and urinary incontinence.

Seizures can occur for many reasons - vasovagal episode, high temperature (see febrile seizures or convulsions), epilepsy, almost any condition affecting the brain – head injury, stroke, meningitis, brain tumour, some drugs and poisons and withdrawal from alcohol and drugs of dependence.

Seizure signs and symptoms

- muscle rigidity (tonic phase), if standing the person will fall
- uncontrollable, muscular contractions (clonic phase)
- loss of consciousness
- noisy breathing
- salivation
- urinary incontinence
- on examination post immunisation, a strong central pulse is present

Febrile seizures or convulsions

A febrile seizure or convulsion is caused by a sudden change in the child's body temperature. They are rare following immunisation and usually associated with a fever.

Most children with fever suffer only minor discomfort; however, one child in 30 will have a febrile seizure as a result of fever. Febrile seizures most commonly happen between the age of 6 months and 6 years. Children who suffer from a febrile convulsion are not at increased risk of epilepsy as a result of experiencing febrile convulsions.

Seizures do however occur more commonly, but still at a low rate, after some vaccines. For example measles, mumps rubella (MMR) vaccine is associated with an increased risk of febrile convulsion approximately 7 to 10 days post vaccination. The risk for febrile seizures is approximately 1 case per 3000 - 4000 doses.

Importantly there is no evidence that febrile seizures or convulsions post-immunisation, cause any long-term problems.

In children experiencing febrile convulsions, signs and symptoms may include:

Simple febrile seizure

Fever and all the following:

- generalised tonic-clonic seizure
- lasting less than 15 minutes
- complete recovery within 1 hour
- do not recur within the same febrile illness

Complex febrile seizure

Fever and any of the following:

- focal features at onset or during the seizure
- lasting greater than 15 minutes
- don't recover fully within 1 hour
- recurrence within the same febrile illness

Prevention and management of post-immunisation fever in children

Using paracetamol at the time of, or immediately after vaccination to reduce the risk of fever is not recommended.

An exception is the specific recommendation to give prophylactic paracetamol with Men B vaccine in infants <2 years of age (see Meningococcal disease)

Infants, children, or adults can receive paracetamol if they have:

- fever of >38.5°C following vaccination
- pain at the injection site

The dose of paracetamol for an infant or child up to 12 years of age is 15 mg per kg per dose, up to a maximum dose of 60 mg per kg per day in 4 divided doses.

Adults and children aged ≥12 years can receive 500–1000 mg every 4–6 hours. The dose must not exceed 4 g in 24 hours.

IMMEDIATE ADVERSE EVENTS FOLLOWING IMMUNISATION

People should not take paracetamol for more than 48 hours without seeking medical advice.

If a child is miserable, try the following to help them feel more comfortable:

- Frequent small drinks and/or hydrolyte icypoles. Many children don't want to eat when they have a fever. This is not a problem, if they stay hydrated.
- Give extra breastfeeds, formula bottles or cooled boiled water to babies under six months old.
- Sponging the child's forehead, or the use of a face washer soaked in slightly warm water to help cool the child down. Cold baths or showers are not recommended.
- Have enough clothing on so that the child is not too hot or cold.

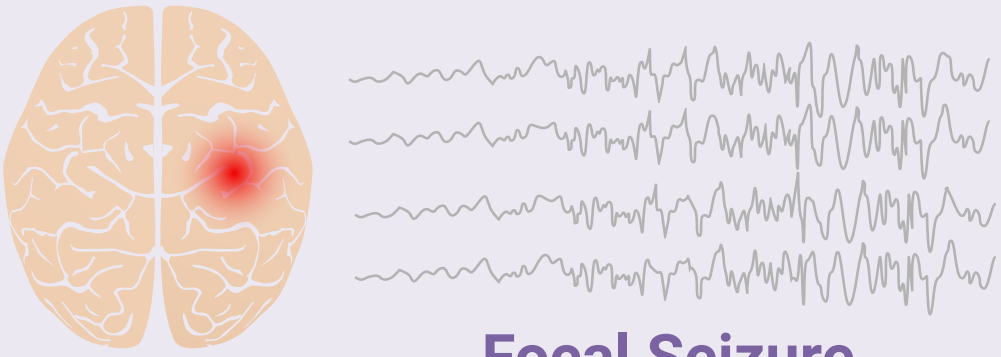
SEIZURES

Recognised by sudden loss of consciousness, which is regained within a few minutes.

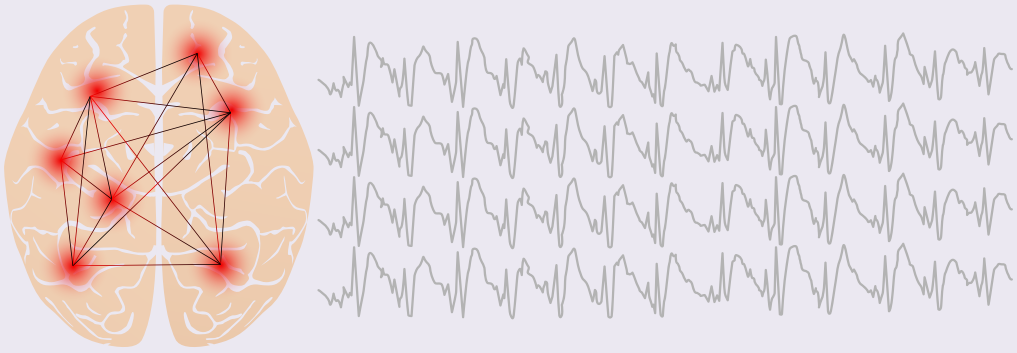
Seizure signs, **strong central pulse**, casualty in good condition and no signs of anaphylaxis.

ANAPHYLAXIS

Anaphylaxis is presumed in a young child or infant who suddenly becomes unconscious, particularly if a strong central pulse is absent.



Focal Seizure



Generalised Seizure

MANAGEMENT OF A SEIZURE (where no anaphylaxis signs and symptoms are present)
DRSABCD ACTION PLAN

Management of a seizure in an unconscious casualty in an immunisation setting

D

DANGER

- Assess and manage dangers.
- Remove the casualty from any dangers or remove dangerous objects which might cause injury.
- Protect the casualty's skull by placing padding such as folded clothing underneath head.
- Do not restrain the casualty during the seizure as this may cause a musculoskeletal injury.
- Do not restrain the casualty or try to open their mouth.
- If possible, time the seizure and note when seizure stops, follow the action plan.

UNCONSCIOUS

R

RESPONSE

- Does not respond to commands.
- Once the seizure activity stops position on left side.

S

SEND FOR HELP

- Send for help, call triple zero (000), get AED and emergency equipment if:
  - the seizure lasts more than 5 minutes or
  - there are repeated seizures or
  - injuries including potential head injury require further medical attention or
  - the casualty is pregnant or has diabetes or
  - fails to regain consciousness and/or
  - the seizure does not match the picture of a post-immunisation seizure.

A

AIRWAY

- Check, clear and open.

CONSCIOUS	UNCONSCIOUS
B **BREATHING**	
Because they are talking, they are breathing.	Casualty is breathing normally, check C and D.
Gradually place casualty into a semi-recumbent position and check circulation.	Casualty not breathing or not breathing normally, **roll onto back and start CPR.**
	Update triple zero (000) on signs and symptoms.

C

CIRCULATION

Remember a strong central pulse persists during a faint, HHE or seizure, because there is no hypovolaemia

- Check central pulse.
- Strong, central pulse = seizure.
- Update triple zero (000) on signs and symptoms.

D

DEADLY BLEEDING

- If casualty fell to the ground check for external and internal bleeding and other injuries and manage.
- Allow return to full conscious state. Gradually place casualty into a semi-recumbent position.
- Refer to doctor if concerned about possibility of a more serious condition.

HYPOTONIC-HYPORESPONSIVE EPISODES (HHE)

A hypotonic-hyporesponsive episode is the sudden onset of colour changes or cyanosis, limpness (muscle hypotonia), and reduced responsiveness occurring after vaccination, where no other cause is evident such as a vasovagal episode or anaphylaxis. The episode usually occurs 1 to 48 hours after vaccination and resolves spontaneously. There are no known long-term side effects from HHE.

Signs and symptoms

- colour changes
- cyanosis
- limpness (hypotonicity)
- reduced responsiveness
- loss of consciousness
- shallow respirations
- strong central pulse

An HHE episode may last from a few minutes up to 36 hours.

Management

Distinguishing between HHE and anaphylaxis is important. Unlike HHE, anaphylaxis in infants and small children usually occurs shortly after immunisation and is defined 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.

The longer the elapsed time from immunisation (for example, 60 minutes and longer) an HHE may be presumed. Adrenaline is not recommended for HHE, as these children do not have respiratory or circulatory problems.

Follow the First Aid Priorities Action Plan (DRSABCD) in your accompanying CPR workbook to manage HHE in the first instance.

ANAPHYLAXIS

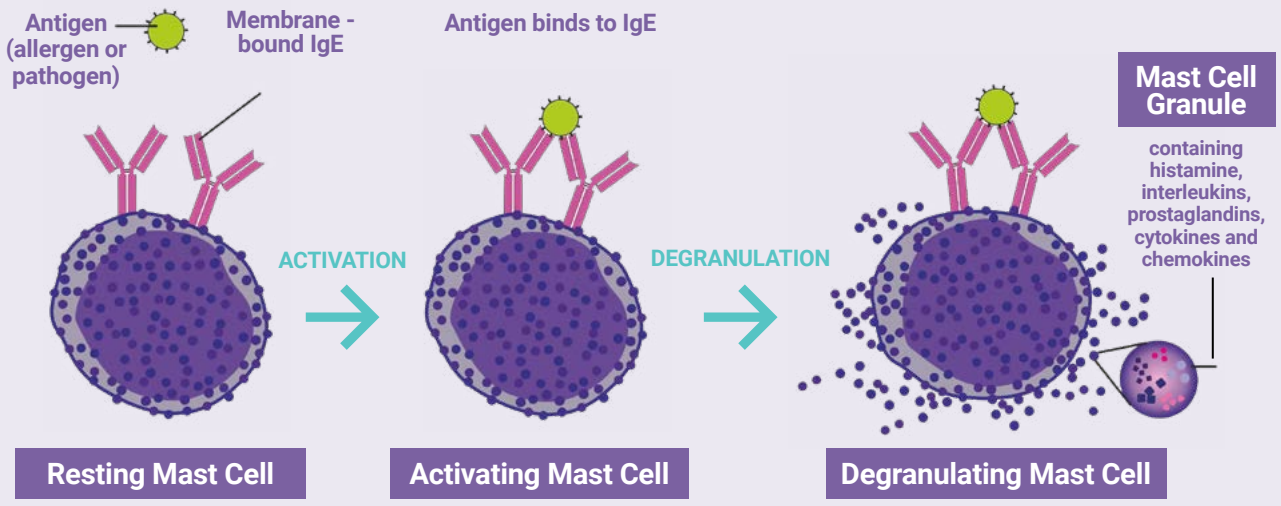
Anaphylaxis following routine immunisation is very rare but can be fatal. All immunisation providers must be able to:

- recognise all signs and symptoms of anaphylaxis
- distinguish between anaphylaxis, seizures, vasovagal episode and hypotonic/hyporesponsive episodes

It is the speed of treatment that affects the outcome of anaphylaxis as such immunisers, as first responders, must be able to distinguish quickly and effectively between anaphylaxis and other AEFI and deliver adrenaline and resuscitation.

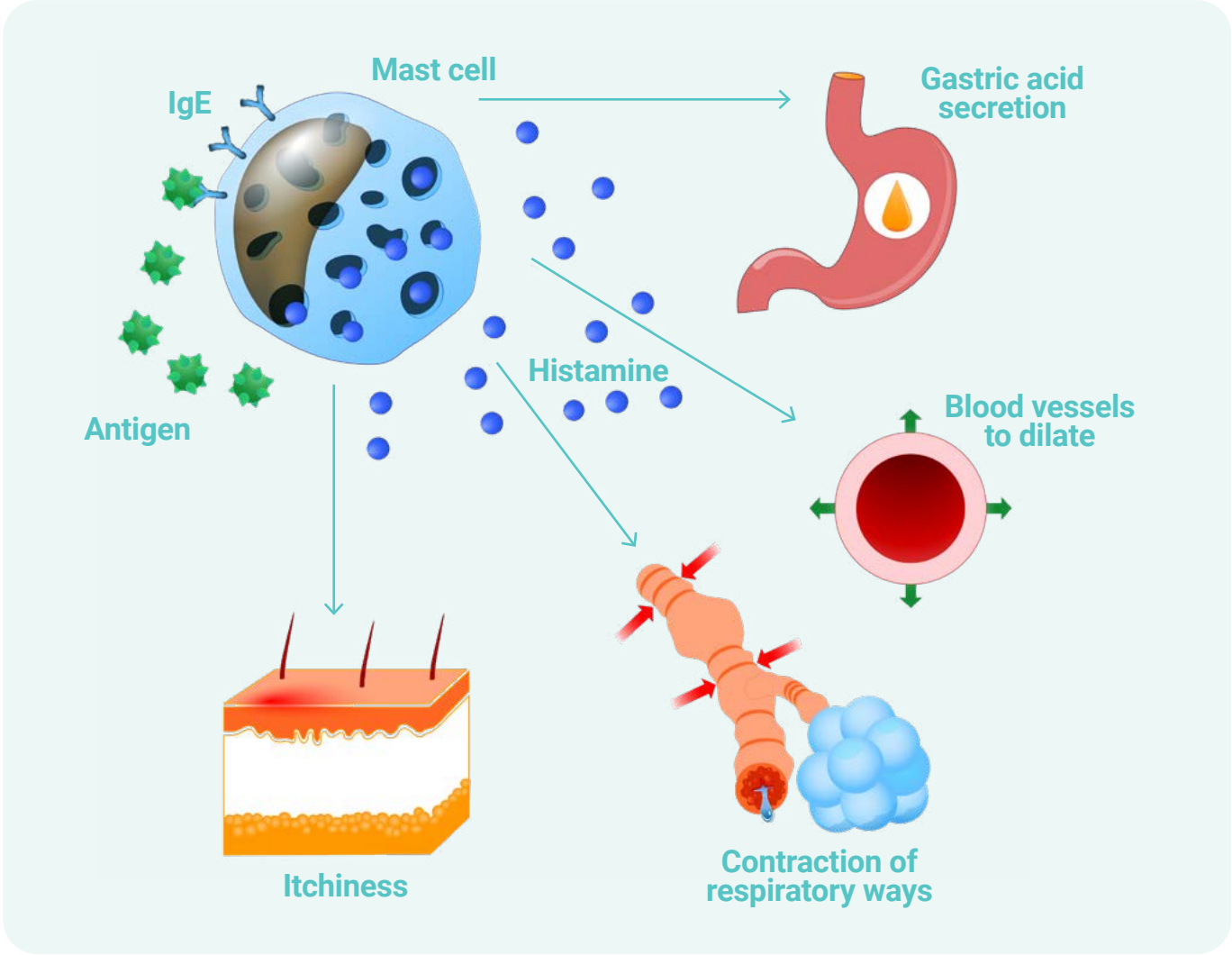
Anaphylaxis is a severe, rapidly evolving generalised multi-system allergic reaction characterised by sudden respiratory compromise and/or circulatory collapse. Early signs include involvement of the skin and/or the gastrointestinal tract. Anaphylaxis results from the interaction of an allergen with specific IgE antibodies, bound to IgE receptors on mast cells and basophils causing the release of histamines and other cell mediators such as leukotrienes.

Mast Cells



The rapid systemic release of large quantities of these mediators produces:

- vasodilation
- inflammation
- increased glandular secretion
- increased capillary permeability
- smooth muscle contraction



The onset of anaphylaxis is usually rapid, occurring within 15 minutes of immunisation. The sooner the reaction appears after immunisation, the more likely it is to be severe. However, symptoms limited to only one system may occur, leading to a delay in diagnosis.

Nurse immunisers should feel confident in giving adrenaline if there is only one symptom relating to respiratory distress or circulatory collapse. If there is uncertainty around the anaphylaxis diagnosis, the giving of adrenaline should never be withheld.

Differentiating from anaphylaxis

- in older children, adolescents and adults, fainting is relatively common after immunisation
- young children and infants rarely faint
- a strong central pulse (carotid, femoral or brachial) persists during a faint, HHE or seizure, because there is no hypovolaemia

DIFFERENTIATING BETWEEN A GENERALISED NON-ANAPHYLACTIC ALLERGIC REACTION AND ANAPHYLAXIS

Non anaphylactic allergic reaction

A generalised **non-anaphylactic allergic reaction** is characterised by one or more signs or symptoms involving the skin and/or gastrointestinal tract **without any respiratory or cardiac involvement.**

Non anaphylactic allergic reaction signs and symptoms include:

Skin

- itchiness
- generalised erythema (redness)
- urticaria (weals - itchy with red raised edges and pale centres)
- angioedema - localised oedema of deeper skin layers or subcutaneous tissue - affecting lips, soft tissues around eyes

Gastrointestinal tract

- abdominal cramps
- diarrhoea
- vomiting

Anaphylaxis

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.

Defining anaphylactic allergic reaction signs and symptoms include:

Respiratory system

- cough
- wheeze
- stridor
- hoarse voice, difficulty speaking or change in character of cry
- swelling of the tongue/pharynx
- severe anxiety
- signs of respiratory distress – rapid breathing, cyanosis, rib recession

Possible

- asphyxia
- respiratory arrest

Cardiovascular system

- colour changes
- limpness in infants and young children – indicative of hypotension
- hypotension- sustained in both adults and children
- weak or absent peripheral or carotid pulse
- tachycardia (or bradycardia)
- loss or consciousness

Possible

- circulatory collapse
- cardiac arrest

Management of anaphylaxis

Rapid intramuscular (IM) administration of adrenaline is the essential treatment of anaphylaxis.

Adrenaline should be given early, for any signs of anaphylaxis with respiratory and/or cardiovascular signs or symptoms. Although adrenaline in not required for generalised non-anaphylactic reactions (such as skin rash with or without other signs or symptoms) administration of intramuscular adrenaline is safe. If in doubt, IM adrenaline **should** be given.

Both a protocol for the management of anaphylaxis and adrenaline must be immediately available and ready to use whenever vaccines are given.

Always give adrenaline first then asthma reliever if someone with known asthma and allergy to food, insects or medication has sudden breathing difficulty (including wheeze, persistent cough or hoarse voice) even if there are no skin symptoms.

Pregnancy

Management of anaphylaxis in pregnant women is the same as for non-pregnant women. Adrenaline should be the first line treatment for anaphylaxis in pregnancy, and prompt administration of adrenaline (1:1000 IM adrenaline 0.01mg per kg up to 0.5mg per dose) should not be withheld due to a fear of causing reduced placental perfusion.

Infants

Infants with anaphylaxis may retain a colour change despite 2-3 doses of adrenaline, and this can resolve without further doses. More than 2-3 doses of adrenaline in infants may cause hypertension and tachycardia, which is often misinterpreted as an ongoing cardiovascular compromise or anaphylaxis. Blood pressure measurement can provide a guide to the effectiveness of treatment, to check if additional doses of adrenaline are required.

MANAGEMENT OF THE CONSCIOUS CASUALTY WITH ANAPHYLAXIS POST IMMUNISATION

Casualty must NOT walk or stand, even if they appear well.

- Laying the casualty flat will improve venous blood return.
- The correct way to hold an infant is horizontally to improve venous return. If infant is held upright over a shoulder venous return will be diminished.
- The left lateral position is recommended for casualties who are pregnant. This position reduces pressure off the inferior vena cava by the pregnant uterus and improves venous return to the heart.
- If vomiting, place the casualty into the recovery position.
- If respiratory symptoms are the major concern the conscious casualty can sit, this may help support breathing and improve ventilation. When sitting make sure their legs are outstretched in front of them (not in a chair).
- Immediately lay the patient flat again if there is any alteration in conscious state or drop in blood pressure.
- Draw up adrenaline in the event it progresses to anaphylaxis.

If there are any signs of anaphylaxis with respiratory and/or cardiovascular signs and symptoms:

- Give adrenaline immediately.
- The recommended dose of 1:1000 adrenaline is 0.01 mL/kg body weight (equivalent to 0.01 mg/kg), up to a maximum of 0.5 mL or 0.5 mg, given by deep intramuscular injection into the anterolateral thigh. Do not administer adrenaline 1:1000 intravenously.
- Use a 1ml syringe to improve measurement accuracy when drawing up small doses.
- If the casualty does not improve in 5 minutes, repeat doses of adrenaline every 5 minutes until improvement occurs.

MANAGEMENT OF ANAPHYLAXIS (where anaphylaxis signs and symptoms are present)
DRSABCD ACTION PLAN

Management of anaphylaxis in an unconscious casualty in an immunisation setting

AT THE FIRST SIGNS AND SYMPTOMS OF ANAPHYLAXIS
GIVE ADRENALINE IMMEDIATELY

D

DANGER
- Assess and manage dangers.

R

RESPONSE
- Does not respond to commands.
- Turn onto left side.

S

SEND FOR HELP
- Call for help, call triple zero (000), get equip, AED.

A

AIRWAY
- Look, clear, and open.
- Check airway quality.

B

BREATHING
- Check - look, listen, feel.
- If unconscious and breathing place in the left lateral position and check central circulation. Continue to manage as above and update the ambulance.
- If **not breathing** or **not breathing normally commence CPR.**

C

CIRCULATION
- Commence 30 compressions and 2 breaths x 5 times in two minutes. Continue until ambulance arrives.
- Update triple zero (000) on signs and symptoms.

D

DEFIBRILLATION
- When AED arrives, turn on, and follow the voice prompts.

OTHER MANAGEMENT ACTIONS

Call for advanced life support (ambulance or emergency team) – this should be done as soon as possible.

- If there is no improvement in the casualty's condition within 5 minutes – repeat the dose of adrenaline and repeat every 5 minutes until improvement occurs.
- Use suction to clear airway.
- Administer oxygen (check O2 requirement with triple zero (000).
- Experienced practitioners may choose to use an oropharyngeal airway for a person who is unconscious with no gag reflex.
- Make notes and fully document the event, including times and doses of adrenaline.

Adrenaline dosage

Adrenaline 1:1000 (one in one thousand)

The use of 1:1000 adrenaline is recommended because it is universally available. Adrenaline 1:1000 contains 1mg of adrenaline per mL of solution in a 1 mL glass vial. Adrenaline 1 in 10 000 is no longer recommended for the treatment of anaphylaxis.

A 1 mL syringe should be used to improve the accuracy of measurement when drawing up small doses of adrenaline.

The recommended dose of 1:1000 adrenaline is 0.01 mL/kg body weight (equivalent to 0.01 mg/kg or 10 µg (micrograms)/kg) up to a maximum of 0.5 mL or 0.5mg, given by deep intramuscular injection preferably in the anterolateral (upper outer) thigh. The anterolateral thigh is the preferred site because there is a more predictable dispersal of adrenaline from this site.

Adrenaline being administered IM to a young child who is unconscious and breathing.

Adrenaline 1:1000 must not be administered intravenously.

The dose of 1:1000 (one in one thousand) adrenaline may be repeated every 5 minutes as necessary until there is clinical improvement.

How does adrenaline work

Adrenaline works by dilating and relaxing the airways and reducing or halting the spasms (bronchospasms) allowing the airways to return to their regular size, thus making breathing easier.

Adrenaline also helps by constricting (vasoconstriction) and tightening the blood vessels, reducing the leakage of fluid from the blood vessels. This helps to return blood pressure to normal levels.

Another action of adrenaline is to make the heart pump faster and stronger, this increases blood pressure which allows the rest of the organs of the body to receive much needed nutrients. In combination these actions of adrenaline assist in reversing anaphylaxis.

Adrenaline reverses the vasodilation and bronchospasm, stimulates the heart, and reduces oedema and urticaria, thus countering the anaphylactic reaction.

Adrenaline if used in inappropriate doses may cause dysrhythmias, severe hypertension, left ventricular failure and other complications.

Doses of 1:1000 (one in one thousand) adrenaline for anaphylaxis.

APPROXIMATE AGE AND WEIGHT	ADRENALINE DOSE
< less than a 1 year (approx. 7.5 kg)	0.1 mL
1–2 years (approx. 10 kg)	0.10 mL
2–3 years (approx. 15 kg)	0.15 mL
4–6 years (approx. 20 kg)	0.20 mL
7–10 years (approx. 30 kg)	0.30 mL
10–12 years (approx. 40 kg)	0.40 mL
>12 years and adults, including pregnant women (over 50 kg)	0.50 mL

Source: Modified from Australasian Society of Clinical Immunology and Allergy (ASCIA). Guidelines: acute management of anaphylaxis. Sydney: ASCIA; 2017.

Administering adrenaline

Only the volume constituting the adrenaline dose to be given is to be drawn up into the syringe and administered intramuscularly. Further, for each subsequent injection, a new syringe and needle should be used and, in each case, only the volume constituting the dose to be given is to be drawn up and injected. It is unsafe practice to draw up a volume more than the required dose and deliver the dose(s) in increments because of the risks of giving an overdose and "needle stick" injury when recapping and needle contamination.

Use of adrenaline autoinjectors

Adrenaline auto-injectors are devices that administer a single, pre-measured dose of adrenaline. If a casualty carries an autoinjector device develops anaphylaxis post vaccination, it is appropriate to use their autoinjector to administer adrenaline.

Autoinjectors are generally not appropriate for inclusion in immunisation kits for general use, due to several limitations:

- they are single use only
- they are dose-specific
- multiple pens would be required to allow for repeat dosing and varying ages/weights or patients, and shelf-life is limited to 1 to 2 years maximum.

"Whilst 10-20kg was the previous weight guide for a 0.15mg adrenaline autoinjector device, a 0.15mg device may now also be prescribed for an infant weighting 7.5-10kg by health professionals who have made a considered assessment."

EMERGENCY AND RESUSCITATION EQUIPMENT AND PROCEDURES

This section offers some suggestions concerning equipment requirements for immunisation emergency kits.

Sole practitioner kit

- emergency protocol chart(s) (vasovagal episode, seizures, anaphylaxis)
- adrenaline administration dosage chart for 1 in 1000 (one in one thousand)
- adrenaline 1 in 1000 (one in one thousand) x 20 ampoules
- 1 mL syringes and needles:
  - infant, child or adult – 23 or 25 gauge and 25 mm in length
  - pre-term babies - 23 or 25 gauge and 16 mm in length
  - very obese adults – 23 gauge and 38 mm in length
- pre-packaged alcohol swabs
- CPR protective face shields x 2 for rescue breathing
- suction device with rigid sucker head (Yankauer), paediatric and adult suction catheters
- water 500 mL, to clear suction tubing
- oropharyngeal airways – young children 000-0, children 1-3, adult 2,3,4
- tongue depressors
- gloves
- scissors to cut through clothing
- dressing pads – 4 non-adherent dressings 5x4 cm
- tape
- 3 triangular bandages
- 2 roller bandages – 2.5 and 7.5 cm
- notebook and pen (to record times and treatment information)
- mechanical timer to time between injections
- instruction card(s) for non-staff to make emergency contact with ambulance.

Emergency kit for team vaccination sessions

(i.e., when more than one person is available for resuscitation)

Includes all of the above PLUS:

- child and adult resuscitators (bag, valve) with infant, child and adult face masks packaged in separate carry case
- oxygen equipment including child and adult Hudson masks

Emergency kit packaging and readiness

The emergency kit (excluding resuscitators) should be packaged separately from other immunisation equipment in a distinctive, hard- wearing pouch or carry box.

It is suggested Adrenaline 1:1000 (one in one thousand) ampoules be kept in original packaging and parcelled separately in distinctively coloured or marked containers for quick, initial identification.

The immunisation emergency kit should be open with adrenaline and syringes laid out ready to use, together with the resuscitator case during every immunisation session.

Additional resuscitation equipment and procedures for consideration

Use of oropharyngeal airways (OPA's)

Oropharyngeal airways are indicated:

- When the casualty is unconscious or has a reduced or blunted response to physical stimuli and they are not maintaining their own airway.
- When the operator has specific training in insertion and use.
- When the jaw thrust manœuvre has failed to correct airway obstruction.

Note: OPAs may not be tolerated by semi-conscious patients

Rationale for use:

An OPA is designed to separate occluding structures and open the airway after the usual measures have failed e.g., head tilt, chin lift manœuvre. This is achieved by establishing an artificial opening between the tongue and the posterior pharyngeal wall and can make a difficult airway much easier to manage. If incorrectly sized or inserted an OPA will not provide a patent airway.

Note: insertion of an oropharyngeal airway does not guarantee a patent airway

COMPLICATIONS OF INSERTION	
Laryngospasm, coughing, vomiting	• due to direct stimulation of pharynx, particularly in people not deeply unconscious
Airway obstruction	• if inserted incorrectly, or • an inappropriate sized airway used, and/or • airway becomes obstructed with foreign material
Trauma of teeth, lips, tongue, and other structures	

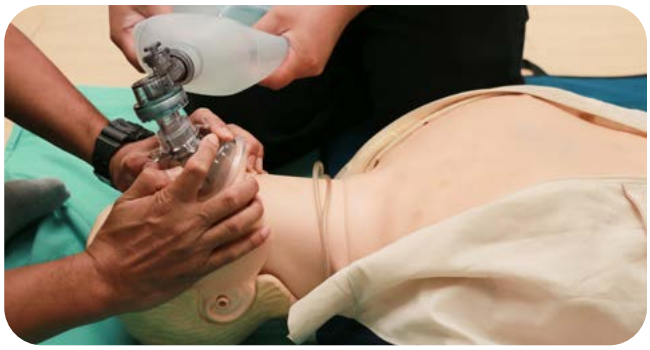
Jaw thrust

Jaw thrust is the preferred method of opening the airway when using an oropharyngeal airway.

In this technique, the rescuer is commonly positioned at the top of the casualty's head. Although jaw thrust may be applied from the side or in front. The jaw is clasped with both hands and the mouth is held open by the thumbs. Pressure is applied with the index (or middle) fingers behind the angles of the jaw. The jaw is gently thrust upwards and away from the chest, which moves the tongue away from the back if the throat.

Gentle head tilt may also be necessary to maintain airway patency with this technique.

Jaw thrust manoeuvre



- Jaw thrust is achieved by placing two or three fingers under the angle of the mandible bilaterally, and lifting the jaw upwards, ensuring the maintenance of in-line immobilisation.
- Jaw thrust acts to lift the tongue off the back of the pharynx thus clearing the airway.

Oropharyngeal Airway Insertion (OPA)

- An OPA is indicated if the jaw thrust manoeuvre has failed to correct airway obstruction.
- An OPA acts by establishing an opening between the tongue and the posterior pharyngeal wall and can make a difficult airway much easier to manage.
- OPAs may not be tolerated by semi-conscious patients.

Guedel airways:

Equipment required:

- lubrication
- tongue depressor
- appropriately sized OPA

SIZING

Oropharyngeal airway sizing and insertion

Infant

Oropharyngeal airways come in different sizes (infants/ young children from 000-0; Children 1-3; adults 2-4) and it is important to use a size appropriate for the body size of the casualty.

Selection of appropriately sized airway is the most important step. If an oropharyngeal airway is too long it will rest against the epiglottis obstructing the airway completely. Similarly, too short an airway pushes the tongue back into the posterior pharynx also resulting in a completely obstructed airway.

To select a proper-sized airway, place the airway near the face of the patient between the ear and mouth. Choose the airway that most closely fits in the space from the angle of the jaw to the crease of the mouth.

Equipment required:

- appropriately sized OPA
- tongue depressor (optional)

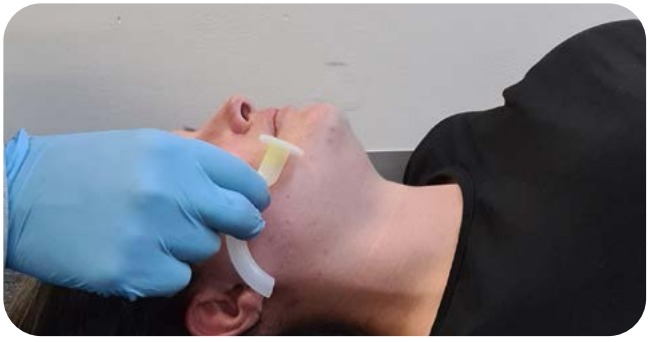
When inserting an OPA, avoid pushing the tongue into the posterior pharynx.

- In patients > 8 years old, this is done by starting with the curve of the OPA inverted (concave side up), passing the OPA to the back of the hard palate and then rotating it 180 degrees as its tip reaches the posterior pharynx. Alternatively, a tongue depressor can be used to move the tongue out of the way as the airway device is passed and care taken not to push the tongue posteriorly with the tip of the OPA
- In patients < 8 years old, the OPA should be inserted under direct vision, concave side down, using a tongue depressor

- Measure from the centre of the incisors to the angle of the mandible, when laid on the face concave side up.

Adult

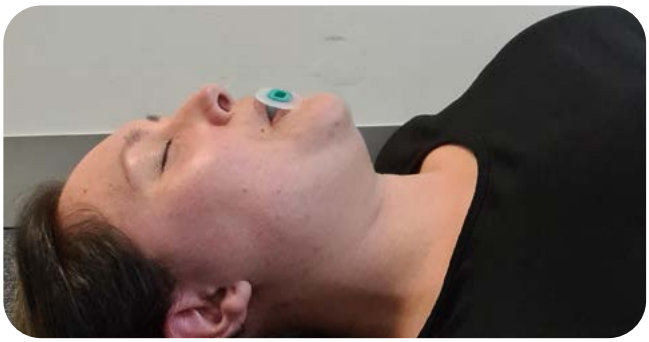
1. Measure oral airway from corner of casualty's mouth to earlobe.



2. Hold oropharyngeal (Guedel) airway by flange with natural curve upside down.

3. Pass the tip first and insert half way, rotate 180° while continuing to insert.

4. Insert until flange rests on the patient's lips. If patient gags remove immediately.



PROCEDURE

- Pre-lubricate with either the casualty's own saliva or a small amount of lubricating jelly.
- Insertion: >8 years: like an adult: concave side up; pass to the back of the hard palate, then rotate 180° to concave side down.
- <8 years: insert under direct vision, concave side down, using a tongue depressor.

OUTCOME

- Correction of obstruction.
- Improved ventilation.
- If ventilation is still insufficient, the casualty may require more advanced airway procedures, such as intubation.

SUBSEQUENT MANAGEMENT

- Check for gag reflex.
- Maintain head tilt and jaw support.
- Maintain position of airway.
- Check airway is patent - look, listen and feel for air movement.

SUCTIONING

Battery powered or wall suctioning equipment

Wall suction maybe in a GP or Hospital run immunisation clinic. Otherwise consider the purchase of a battery powered suction pump.

When suction is available the emergency kit should also include other items such as:

Yankauer suckers, Y suction catheters (infant, child and adult sizes) and spare suction tubing.

Operator powered suction

- Follow the manufacturer's instructions concerning operation of equipment.
- Attach Yankauer sucker or Y suction catheter to sucker base.
- Create suction.
- Open patient's mouth.
- Insert sucker into lower mouth with care.
- Occlude sucker control hole (if one is present).
- Withdraw sucker or catheter.
- Repeat as required – sweep across mouth, if necessary, by twisting sucker head or catheter.
- Flush sucker with water to keep sucker tube patent.

Note: a catheter may be used to clear an oropharyngeal airway. Care should be taken not to pass the catheter beyond the end of the airway as this may induce laryngospasm, coughing, and/or vomiting.

Operator Powered Resuscitator/Bag Valve Masks (non-oxygen dependent type)

Bag valve mask (BVM) - there are a number of different brands of infant, child and adult resuscitators available with infant, child and adult face masks, however the principles of design are all similar.

Successful bag-mask ventilation depends on the resuscitator being experienced and trained in advanced resuscitation three things:

A patent airway

- opening the airway using the head tilt/chin lift manœuvre
- with or without an airway adjunct such as OPA

A good mask seal

- the mask should cover mouth and nose with good seal
- an inadequate seal will result in air leaking from around mask and result in inadequate ventilation
- it is recommended that one first aider should hold the mask to create an adequate seal whilst another first aider controls the bulb and ventilation

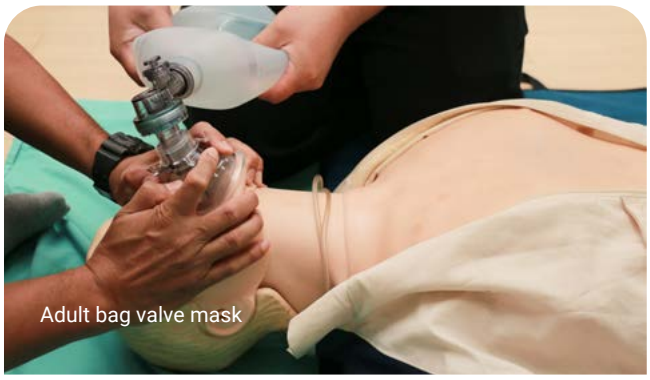
Good ventilation technique

- whilst one rescuer/person maintains an open airway and manages a good mask seal, the second rescuer/person compresses the bulb of the BVM, providing ventilation
- appropriate to the size and age of the casualty
- not forcing air in to quickly
- ensuring complete release of the bulb allowing time for expiration

Note: Most BVM's have an oxygen port where tubing can be attached if oxygen is available.

Operator powered resuscitator (non-oxygen dependent type)

First rescuer tilts head, lifts jaw, and applies jaw thrust and pressure to mask and second rescuer begins ventilation (a third rescuer undertakes chest compressions).



Adult bag valve mask

Infant bag valve mask

Bag valve mask (BVM) - there are a number of different brands of infant, child and adult resuscitators available with infant, child and adult face masks, however the principles of design are all similar.

Successful bag-mask ventilation depends on three things:

A patent airway

- opened the airway using the head tilt/chin lift manoeuvre
- you can also use an airway adjunct such as OPA

A good mask seal

- mask should cover mouth and nose with good seal
- inadequate seal will result in air leaking from around mask and result in inadequate ventilation
- it is recommended that one first aider should hold the mask to create an adequate seal whilst another first aider controls the bulb and ventilation

Good ventilation technique

- whilst the one first aider is holding the mask and maintain an open airway and adequate seal on the mask, the second first aider will compress the bulb of the BVM, providing ventilation
- avoid giving large volume ventilations and over-inflating the lungs
- it is not necessary to compress the entire bulb to ventilate the casualty
- over-ventilation can be avoided by monitoring the rise and fall of the chest whilst delivering ventilations
- do not force air in to quickly
- ensure to completely release the bulb and allow time for expiration
- most BVM's have an oxygen port that oxygen tubing can be attached to if oxygen is available

EMERGENCY PROCEDURAL PLANNING

Developing an immunisation emergency policy, plan and protocols

Nurse immunisers have a clear responsibility to provide competent care for all persons receiving immunisations. In the context of managing any immediate life-threatening adverse event following immunisation, this means preparing for and acting rapidly to initiate appropriate emergency care.

In essence, careful attention must be given to ensuring the development of a policy, plan, and protocols due to the:

- life threatening nature of anaphylaxis and other emergencies and their unpredictability of occurrence
- critical timeframe in which an immediate and effective response is required
- duty of care immunisers have to immunised clients

The following section on emergency procedural planning is offered to assist in preparation for an effective and efficient emergency response in all nurse immuniser practice settings. Although many of you will be familiar with policy and procedural development, the information should prove useful to those who are not and provide a constructive review for those who are.

Immunisation emergency policy, plan and protocols are essential because they:

- provide nurse immunisers and other staff with clear direction and support
- enable responsible handling of an immunisation emergency
- provide direction for staff education
- assist with development of professional competence and confidence

Key elements of an emergency policy, plan, and emergency treatment protocols

The following elements should be present:

- tightly written documents, in which language is used economically, meanings are clear and action elements are immediately identifiable
- plans and protocols are practical and able to work in any anticipated situation and
- plans and protocols are communicated and accepted by all nurse immunisers and staff with emergency responsibilities

Emergency planning process

Development of an effective emergency policy, plan and emergency treatment protocols requires:

- a multi-step process including
  - drafting of policy, plan, and protocols
  - consulting literature and experts to ensure incorporation of evidence-based practice
  - critically analysing all aspects, steps etc including equipment proposed
  - assessing and selecting emergency equipment
  - trialling and testing emergency plan and protocols in simulated emergency situations
  - implementing the policy and plan including issuance of equipment and staff education
- involvement of all nurse immunisers at appropriate stages of the process

Aspects to be included in an Immunisation emergency policy and plan:

- policy rationale
- standards and guidelines
- procedures for implementation which include:
  - Identification of personnel responsible for different tasks - who does what, when
  - Tasks to be undertaken (e.g., dissemination of documents; procurement of equipment, layout, packaging and distribution of emergency kits and equipment; equipment checking and maintenance; policy and planning review timelines)
- emergency management plan (who does what, when – including maintenance of immunisation emergency kit)
- contents and packaging of immunisation emergency kit
- education guidelines for introduction and ensuring a continued nurse immuniser readiness
- guidelines for monitoring and evaluating the emergency policy and plan including timelines

Immunisation emergency kit

Selecting appropriate equipment

A number of considerations guide the selection of equipment for an immunisation emergency kit, these include:

- suitability (sole practitioner vs immunisation team situation)
- usability (standardisation across centres)
- accessibility
- affordability
- portability
- durability
- simplicity

For suggestions concerning the contents of immunisation emergency kits see section headed Emergency and Resuscitation Equipment and Procedures.

REFERENCES AND WEBSITES

https://immunisationhandbook.health.gov.au/vaccination-procedures/after-vaccination

https://immunisationhandbook.health.gov.au/resources/handbook-tables/table-clinical-features-that-may-help-differentiate-between-a-vasovagal

https://immunisationhandbook.health.gov.au/resources/handbook-tables/doses-of-intramuscular-11000-adrenaline-for-anaphylaxis

https://www.allergy.org.au/images/stories/pospapers/ASCIA_Guidelines_Anaphylaxis_Pregnancy_Acute_Management_2020.pdf

https://www.allergy.org.au/images/ASCIA_HP_Guidelines_Acute_Management_Anaphylaxis_2020.pdf

https://immunisationhandbook.health.gov.au/resources/handbook-tables/table-contact-information-for-notifying-adverse-events-following

https://immunisationhandbook.health.gov.au/vaccine-preventable-diseases/mumps#adverse-events

https://www.rch.org.au/clinicalguide/guideline_index/Febrile_seizure/

https://www.rch.org.au/kidsinfo/fact_sheets/Fever_in_children/

https://www.allergy.org.au/images/ASCIA_HP_Guidelines_Acute_Management_Anaphylaxis_2020.pdf

https://www.rch.org.au/kidsinfo/fact_sheets/Fever_in_children/

https://immunisationhandbook.health.gov.au/vaccination-procedures/after-vaccination

https://www.rch.org.au/trauma-service/manual/airway-procedures/#jaw-thrust

https://www.rch.org.au/trauma-service/manual/airway-procedures/#oropharyngeal-airway-insertion-opa

World Health Organization (WHO), UNICEF, World Bank. State of the world's vaccines and immunization. 3rd ed. Geneva: World Health Organization, 2009 (accessed June 2012).

Chiu C, Dey A, Wang H, et al. Vaccine preventable diseases in Australia, 2005 to 2007. Communicable Diseases Intelligence 2010;34 Suppl:ix-S167.

https://www.betterhealth.vic.gov.au/health/healthyliving/immunisation-side-effects

https://immunisationhandbook.health.gov.au/about-the-handbook

https://www.ambulance.vic.gov.au/wp-content/uploads/2019/07/RANEG-2019-export-final-update-WEB-FULL.pdf

Surveillance of Adverse Events Following Vaccination In the Community (SAEFVIC) – Victorian AEFI Reporting Authority. https://www.safevac.org.au

NOTES

NOTES

PREMIUMHealth

Premium Health has a range of first aid, health care, mental health and high intensity support skills training programs conducted by our nurses, paramedics or mental health practitioners.

Call us to discuss our onsite face-to-face and live virtual classroom options, delivered anywhere in Australia.

HEALTH CARE

- Assisting clients with medication
- Assisting clients with medication (part 2)
- Advanced medication - eye and ear drops, topical creams, oral liquids and patches
- Autism spectrum disorder
- Blood pressure – using a digital blood pressure machine
- Complex bowel care training - enema and suppository administration
- Complex bowel care training - ostomy and stoma care
- Complex wound care support training
- Coronavirus and infection control
- Dementia training for support workers
- Diabetes training for support workers
- Dysphagia support training
- End of life care
- Enteral feeding support training (tube feeding via PEG and PEJ)
- Epilepsy training for support workers
- Epilepsy and seizure support training and midazolam administration via intranasal and buccal routes
- Food safety awareness for support workers
- Infection control
- Managing behaviours with positive support
- Manual handling
- Nebuliser training for asthma
- Positive behaviour support
- Pressure injury – prevention and care for support workers
- Providing personal care with dignity and respect
- Shallow suctioning
- Urinary catheter support training (IDC and SPC)

FIRST AID TRAINING

- Cardiopulmonary resuscitation (CPR)
- Provide first aid
- Asthma and anaphylaxis
- Advanced first aid

MENTAL HEALTH

- Mental health first aid
- Leadership and resilience training
- Mental health awareness

And many others...

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ABN 24 692 649 946