Basic Life Support
Learning Guide
Documentation Details

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Version Control

This is Version (3.0) of the ‘Basic Life Support Learning Package and will remain current until (2022) or earlier when modifications required.

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Introduction

This learning package outlines the knowledge and skills required to perform Basic Life Support (BLS) within Community and Oral Health (COH).

As per the recommendations outlined in Standard 8 of the National Safety and Quality Health Service Standards (2nd edn) and mandated by the MNHHS Legislative, Mandatory and Requisite Skills (v16) overarching policies, Clinical Staff (those involved in direct patient care) are required to be trained and proficient in performing BLS (NSQHS, 2017)

This learning package has been developed to support the knowledge and skills required to perform Basic Life Support (BLS) within COH’s various settings. It is a learning resource to support the theory of BLS. The written assessment at the end of the learning package is to be completed prior to attending the BLS practical assessment.

➢ Learning Objectives

➢ Recognise a medical emergency or code blue and call for help within your clinical setting.

➢ Implement DRSABCD

➢ Demonstrate competence in BLS techniques and use of the Automatic External Defibrillation (AED) safely
Overview

➢ Chain of Survival

➢ DRSABCD

➢ Automatic External Defibrillator

➢ Written Assessment – to be completed prior to practical assessment

➢ Practical assessment to be completed once staff member has completed the learning package and theoretical assessment.

➢ Practical assessment can only be facilitated by a BLS Instructor - please contact your line manager or the COH Education team for BLS Instructors within your service.
Basic Life Support (BLS)

BLS is the preservation or restoration of life by the establishment of and/or maintenance of airway, breathing, circulation and related emergency care. It is a temporary measure used to maintain myocardial and cerebral oxygenation until the patient receives advanced care.

Evidence demonstrates that individuals that receive early cardiac compressions and defibrillation have the most successful outcomes. The chain of Survival depicted below demonstrates the close link between the four elements that influence outcomes of a cardiopulmonary arrest. Weakness in any link and loss of connection between the links significantly reduces the chance of survival for the patient.

Clear communication, team work and effective leadership also play a vital role and significantly influence clinical outcomes (10).

Cardiac Arrest

Cardiopulmonary arrest is the cessation of cardiac and respiratory function. Cardiac arrest is often used to describe cardiopulmonary arrest. The heart has either stopped or is not pumping an adequate volume of blood to perfuse the brain and heart. This can either occur suddenly or can be preceded by warning signs (peri-arrest).

The patient in cardiac arrest presents as unresponsive and not breathing normally
Basic Life Support Algorithm

Australian Resuscitation Council (ARC)

Basic Life Support

D
Dangers?

R
Responsive?

S
Send for help

A
Open Airway

B
Normal Breathing?

C
Start CPR
30 compressions : 2 breaths

D
Attach Defibrillator (AED)
as soon as available, follow prompts

Continue CPR until responsiveness or normal breathing return

January 2016
BASIC LIFE SUPPORT

Rescuer 1

The first person to identify clinical deterioration:

D  CHECK FOR DANGER – ensure safety for self, staff and bystanders
  • Assess the area around the patient for hazards or safety risks including body fluid exposure.
  • Don personal protective equipment (PPE) gloves and goggles
  • Minimise clutter

R  CHECK RESPONSE TO VERBAL AND TACTILE STIMULI (talk and touch).
  • Firmly place your hand on patient’s chest and loudly ask the patient to respond to a simple command – “open your eyes”
  • If no response – elicit pressure to the trapezius muscle by grasping and squeezing the shoulders firmly.

S  SEND FOR HELP
  • Press emergency call button / alert fellow staff to “Code Blue” or in community setting call “000” to notify the ambulance service
  • In bedded services and community health centres Call “0” for external line and then dial “000”
  • Use ISBAR communication tool (refer to next page (8))
  • Stay with the patient, continue DRSABCD
Call 0-000 and choose AMBULANCE, providing the following information:

- **Identify** – Identify self, facility and location within facility.

- **Situation** – State situation – ie. level of emergency “Medical Emergency or Code Blue”.
  - Is the patient responsive?
  - Is the patient breathing normally?

- **Background**
  - The patient’s name
  - The patient’s age
  - The patient’s gender
  - If known, cause or mechanism of deterioration eg fall

- **Assessment:**
  - Progressing to CPR

- **Recommendations:**
  - Need immediate assistance

**Rescuer 2**

*Where a 2nd rescuer is available their priority is to:*

1. Send for help
2. Attach and operate defibrillator (achieving early defibrillation)
A ESTABLISH AIRWAY

CLEAR – Assess airway for foreign material / loose dentures

- Remove contents using suction or turn head to side (no need to roll patient).

OPEN – Airway manoeuvre

- Head tilt / Chin lift method

  - Place one hand on the forehead or top of the head
  - Use other hand to support chin
  - Tilt the head backwards (not the neck)
  - Avoid excessive force
  - Dentures can remain in situ only if well fitting
  - Assess for breathing (ARC, Guideline 4, 2016)
  - Only turn patient on side if patient is “gagging” or to drain or remove foreign material (ARC, Guideline 4, 2016)

In the unconscious patient, care of the airway takes precedence over any injury, including the possibility of spinal injury. All unresponsive patients should be handled gently with no twisting or bending of the spinal column. The only exception to this is where the airway is obstructed with fluid or matter. (ARC, Guideline 4, 2016)
**B ASSESS FOR BREATHING**

Ensuring the airway remains open, maintaining the head tilt, chin lift manoeuvre:-

- **Look** for movement of upper abdomen and lower chest.
- **Listen** for air escaping from nose and mouth.
- **Feel** for movement of the chest and upper abdomen

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**If the patient is unresponsive and not breathing normally, the patient is to remain supine and chest compressions to commence immediately, followed by defibrillation. Where there are 3 or more rescuers and a bag valve mask, rescue breathing can also be delivered at a compression to ventilation ratio of 30:2.**

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**C COMMENCE COMPRESSIONS**

*MINIMIZE INTERRUPTION COMPRESSIONS AT ALL TIMES (ARC Guideline 8, 2016)*

**Locate the correct compression position:**

- lower half of the sternum
- place the heel of your hand on the lower half of the sternum.

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European Resuscitation Council, 2010
Compression Method:

Having obtained the compression site, take the following steps:

- The rescuer’s shoulders should be directly (vertically) over the patient’s sternum
- The rescuer’s arms should be kept straight
- Compressions should be rhythmic with equal time for compression
- Avoid leaning on the patient
- Allow for full recoil of the chest between compressions
- Ideally the patient should be on a hard or flat surface

**Depth – 1/3 the depth of the patient’s chest**

**Rate – 100-120 compressions per minute**

**Ratio – 30:2 (compressions to breaths)**

*Pause compressions for breaths; Rotate compression role every 2 minutes to prevent rescuer fatigue and deterioration in chest compression quality (ARC Guideline 6, 2016).*
D Attach Defibrillator

**Early defibrillation is key to survival in cardiopulmonary arrest.**
*Apply the AED to the client ASAP.*

Before applying electrodes: Ensure good contact between the electrode and the skin

- Remove anything from skin that will prevent direct contact with the electrodes e.g. medication patches, jewellery and ECG dots.

- Do not place electrodes over implanted devices (i.e. pacemaker, central venous line).

- Remove excessive chest hair if required to improve contact (use razor)

**Placement of electrodes / pads:**

**Lateral Pad** - The **first** pad with **red heart**, placed mid axilla **6th** intercostal space

**Anterior Pad** - The second pad right mid-clavicular space (**2nd** intercostal space)

Head on diagram of pad to be closest to client’s head
Defibrillator Safety:

Look for danger

- Water, contact with metal, oxygen or other flammable substances

Prior to administering shock

- Call “stand clear”

- Perform visual sweep to ensure:
  - No person has contact with patient or bed
  - The patient has no contact with metal fixtures or fluid
  - O2 source is away from patient

The rescuer operating the AED is responsible for the safety of the patient and all members of the team.

AND REMEMBER

- The AED will identify shockable and non-shockable rhythms and prompt users to respond appropriately (ANZCOR Guideline 11, 2016).

- Once the AED is connected, pads are not removed unless requiring replacement or life extinct has been declared or directed by MO or QAS.

- The AED will direct the CPR management until an advance care team arrives i.e. ambulance/ paramedics.
3 or more rescuers - Cardiopulmonary Resuscitation

With compressions continuing and AED in situ, a 3rd rescuer can commence the airway/breathing role providing 2 breaths to 30 compressions.

**ALERT:** There have been minimum human studies to address the safety, effectiveness or feasibility of using barrier devices to prevent victim contact during rescue breathing (ANZCOR Guideline 5, 2016)

*It is advised that staff members provide rescue breathing only if equipment is available to do so safely (Work Health and Safety Act 2011).*

Positioning Mask:

**Top landmark** – the edge of the plastic seal on the top of the mask should extend to the bridge of the nose.

**Lower landmark** – the edge of the plastic seal on the bottom of the mask should extend to the cleft of the chin.

➢ Each bag has a 1000ml reservoir bag attached and is to be connected to **15L/min** of oxygen if oxygen source available.

➢ The BVM will provide ventilation at room air without oxygen.

➢ Ensure that the force of inflation is adequate to make the chest rise.

➢ Ensure that the white pressure relief valve, located between the mask and orange chamber is open to prevent lung barotrauma.
Roles

RESCUER ONE stops compressions to deliver ventilation.

RESCUER TWO operates the AED.

RESCUER THREE is responsible for ensuring a good face seal to facilitate ventilation using 2 hands and a “C” grip (as demonstrated in image on previous page).

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**CPR must CONTINUE**

*until responsiveness or normal breathing returns.*

ARC Guidelines (ANZCOR 11, 2016) specify that if the patient is **unresponsive and not breathing normally** compressions are to be delivered **UNLESS**

*It is impossible to continue the resuscitation attempt (ie. rescuer exhaustion)*
References


Acknowledgements:


Standards:

1. National Safety and Quality Health Service Standards 2nd Edn (2016)
2. Human Services Quality Standards (August 2014)
4. Age Care Accreditation Standards

Documents:

1. MNNHS Legislative, Mandatory and Requisite Skills Document for Nurses and Midwives (v16 revised Nov 2019)
2. COH Recognition and Response to Acute Deterioration, 003527, April 2019.
Theory Assessment for Basic Life Support

Name: __________________________ Signature: __________________________
Date: __________________________ Designation: __________________________
Unit: __________________________ Payroll No: __________________________

1. If after analysis the AED says 'no shock advised' should CPR be stopped?
   a. Yes
   b. No

2. When available the AED is an essential component of Basic Life Support.
   a. True
   b. False

3. The recommended rate (speed) for compressions is:
   a. 80 compressions per minute
   b. 100-120 compressions per minute
   c. 60 compressions per minute

4. Which of the following actions would you perform to protect yourself and other personnel from shock or burn during emergency defibrillation?
   a. Ensure that all personnel except the rescuer doing chest compressions are clear of the bed during defibrillation
   b. Perform a visual sweep to ensure that all personnel are clear of the bed
   c. Ensure that all personnel except the rescuer delivering the breaths are clear of the bed during defibrillation
   d. Perform a visual sweep to ensure that all personnel are clear of the bed and state 'stand clear' loudly to warn of impending shock delivery

5. What is the emergency telephone number for cardiac arrest in the community?
   a. 333
   b. 666
   c. 000 (with 0 first for an outside line)

6. The correct site for performing cardiac compressions is the:
   a. Upper half of the sternum
   b. Middle of the sternum
   c. Lower half of the sternum
7. When changing the person performing chest compressions, which principle should be applied? (there may be more than one correct answer)
   a. Stop without notice
   b. Minimise interruption to chest compressions as much as possible
   c. Never change chest compressors
   d. Give advanced warning when a swap is required

8. Two breaths should be given prior to commencing the first set of compressions.
   a. True
   b. False

9. BLS should continue if the person is unresponsive and not breathing.
   a. True
   b. False

10. What is the initial underlying principle of performing the head tilt chin lift manoeuvre?
    a. To commence breathing
    b. To clear and open the airway
    c. To maintain patient comfort
    d. To facilitate cardiac compressions

11. In the Basic Life Support acronym DRSABCD, the letter S stands for?
    a. Send for the defibrillator
    b. Send for help
    c. Send for the doctor
    d. Send for the nurse

12. Any attempt at resuscitation is better than no attempt at all.
    a. True
    b. False

13. The sternum should be compressed up to:
    a. One-half the depth of the chest
    b. One-quarter the depth of the chest
    c. One-third the depth of the chest

14. The two requirements to commence basic life support are – unresponsive and abnormal breathing.
    a. True
    b. False

15. The ratio of chest compressions is 30:2
    a. True
    b. False

Marking Grade (Pass = 90% or greater correct):

Assessor’s Name: ___________________________ Signature: ___________________________