Basic Life Support – Learning Package

Education
Safety Quality, Education and Performance (SQEPS)
Community Indigenous and Subacute Services (CISS)

Version No: 01 Effective date: Jan/2018 Review date: Jan/2019
Documentation Details

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Version Control

This is Version (2.0) of the ‘Basic Life Support –Learning Package and will remain current until (2021) or earlier when modifications required.

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Contribution of the original authors, reviewers and editors of the BLS TPCH and RBWH BLS manuals is acknowledged.
Basic Life Support – learning package

Introduction

This learning package outlines the knowledge and skills required to perform Basic Life Support (BLS) within Community Indigenous and Subacute Services (CISS).

As per the recommendations outlined in Standard 9.6.1 of the National Safety and Quality Health Service Standards and mandated by the MNHHS Legislative, Mandatory and Requisite Skills overarching policies, Clinical Staff (those involved in direct patient care) are required to be trained and proficient in performing BLS (NSQHS, 2012)

This learning package has been developed to support the knowledge and skills required to perform Basic Life Support (BLS) within CISS’ 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 written assessment.

♦ Practical assessment can only be facilitated by a BLS Instructor - please contact your Unit's Education team for BLS Instructors within your service.

OR

♦ Practical BLS assessment will be completed in Mandatory Training half day program
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.

BLS and Advanced Life Support (ALS) are best summarised in “The Chain of Survival”;

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 **unconscious** and **unresponsive** with either poor or **no** respiratory effect.

**Basic Life Support – Guidelines**

Australian Resuscitation Council (ARC)

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**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**
**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
- Call “0” for external line and then dial “000”
- Stay with the patient, continue **DRSABCD**
The Second Person on Hearing the call for Help:

Rescuer 2 (if available) Brings emergency equipment, notifies emergency services and provides airway support

Calls 0-000 and for AMBULANCE and provides the following information:

◆ **Identifies** – Identifying self, facility and location within facility

◆ **Situation** - What the problem is  - States level of emergency “Medical Emergency or Code Blue”
  
  o Is the patient responsive
  
  o Is the patient breathing normally

◆ **Background:**
  
  o The patients name
  
  o The patient’s age
  
  o The patient’s gender
  
  o If known, cause or mechanism of deterioration eg fall

◆ **Assessment:**
  
  o Progressing to CPR

◆ **Recommendations:**
  
  o Need immediate assistance
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, 2010)
- Only turn patient on side if patient is “gagging” or to drain or remove foreign material (ARC, Guideline 4, 2010)

In the unconscious patient, care of the airway takes precedence over any injury, including the possibility of spinal injury (ARC, Guideline 4, 2014). All unresponsive patients should be handled gently with no twisting or bending of the spinal column. The only exception to this would be where the airway is obstructed with fluid or particular matter. In this circumstance the victim should be promptly rolled onto the side to clear the airway (ARC, Guideline 4, 2014).
ASSESS FOR BREATHING (1) look (2) listen and (3) feel:
- **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

If patient is **unresponsive** and **not breathing normally**, the patient is to remain supine and commence chest compressions followed by rescue breathing (30:2).

**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, 2016, Guideline 5).

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

**If NOT breathing normally:** and if breathing can safely be provided by second rescuer

**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.

**Disposable bag-valve-mask (BVM)**

Each bag has a 1000ml reservoir bag attached and is to be connected to **15L/min** of oxygen if oxygen source available.
Ensure that the force of inflation is adequate to make the chest rise.

**The First Rescuer** stops compressions to deliver ventilation.

**The Second Rescuer** is responsible for ensuring a good face seal to facilitate ventilation.

**C** COMMENCE COMPRESSIONS - MINIMIZE INTERRUPTION COMPRESSIONS AT ALL TIMES (ARC, Guideline 8)

**Locate the correct compression position:**

European Resuscitation Council, 2010
Place your hands on the lower half of the sternum
Place the heel of your hand in the lower half of the chest with the other hand on top (ARC, 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 compression 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

**Ideally** - compression duties should be alternated every 2 minutes to prevent rescuer fatigue and deterioration in chest compression quality (ARC, 2010, Guideline 6.).

<table>
<thead>
<tr>
<th>Depth</th>
<th>1/3 the depth of the patient’s chest</th>
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</thead>
<tbody>
<tr>
<td>Rate</td>
<td>Approximately 100 – 120 compressions / minute</td>
</tr>
<tr>
<td>Ratio</td>
<td>30:2 (pause for breaths)</td>
</tr>
</tbody>
</table>
Attach Defibrillator

**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 provided in AED case)

**Placement of electrodes / pads:** Anterior/ lateral position (heads on diagram always point to patient’s head!)

- **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)

![Defibrillator Pads](image)

To optimise the electrical current delivery, always remember to:

- Remove clothing
- Ensure skin is clean & dry
- Chest hair is shaved
- Avoid bony prominences
- Use appropriate size pads (only in sites that have paediatric pads)
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 (Guideline, 11.2, 2010).

Once the AED is connected, the pads do not get removed unless to be replaced or life extinct has been declared or directed by MO.

The AED will direct the CPR management until an advance care team arrives i.e. Ambulance/ paramedics.

**CONTINUE**

**CPR UNTIL RESPONSIVENESS OR NORMAL BREATHING RETURNS**

ARC GUIDELINES SPECIFY THAT IF THE PATIENT IS **UNRESPONSIVE**
AND
**NOT BREATHING** COMPRESSIONS ARE TO BE PERFORMED
(Guideline, 11.2, 2010).

OR

Impossible to continue resuscitation attempt i.e. rescuer exhaustion
Reference:


Acknowledgements:


Standards:

1. National Safety and Quality Health Service Standards (September 2012)

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 (v12 revised Dec 2015)

2. CISS Deteriorating Patient Procedure, CISSPROC0046
ADULT BASIC LIFE SUPPORT THEORETICAL ASSESSMENT

Mr. Hart collapses on the floor in the waiting room.

1. Rescuer one is first on the scene. After ensuring there is no risk to her own safety, which of the following actions would she take?
   A. Stand beside the patient and call their name.
   B. Touch their shoulder firmly and ask them to open their eyes. (Tactile & auditory stimulus)
   C. Walk away and get help.
   D. Shake the patient violently and call out the patient's name.

2. What are the criteria for beginning resuscitation according to the Australian Resuscitation Council?
   A. The patient has collapsed.
   B. The patient is unresponsive and not breathing normally.
   C. The patient doesn't have a pulse and is not breathing.
   D. The patient is unresponsive and has no pulse.

3. Rescuer one responds quickly and calls for help. What is the telephone number you would dial in your clinical area to call for assistance?
   A. 0 000, ambulance required and location using ISBAR.
   B. 911, Ambulance required and location.
   C. 333, code blue and location.
   D. 666, code blue and location.

4. Mr. Hart is positioned supine and Rescuer One performs the head tilt chin lift Manoeuvre. What is the initial underlying principle of this action?
   A. To maintain patient comfort.
   B. To commence cardiac compressions.
   C. To commence breathing.
   D. To clear and open the airway.

5. How does Rescuer One assess for breathing?
   A. LOOK and FEEL for chest movement, LISTEN and FEEL for air escaping from nose and mouth.
   B. LOOK for air escaping from the nose and mouth.
   C. LISTEN for chest movements.
   D. Ask the patient.

6. Mr Hart is not breathing. How many breaths would Rescuer One deliver initially?
   A. No breaths.
   B. 2 full breaths within 2 seconds.
   C. 3 full breaths within 5 seconds.
   D. 5 full breaths within 10 seconds
7. What is the next step Rescuer One needs to take?
A. Deliver 2 breaths.
B. Commence compressions.
C. Go to morning tea.
D. Call for help.

8. Rescuer One needs to commence cardiac compressions. What is the correct cardiac compression point?
A. In the midline over the lower half of the sternum.
B. In the midline over the upper half of the sternum.
C. In the middle of the sternum.
D. Where the ribs meet the sternum (Xiphisternum).

9. What is the recommended cardiac compression rate or the speed at which compressions are delivered?
A. 80 compressions a minute.
B. 100 compressions a minute.
C. 100 – 120 compressions a minute.
D. 60 compressions a minute.

10. Rescuer One remains the only Rescuer present and is unable to safely deliver rescue breathing. What action would they take?
A. Observe patient and call for help.
B. Continues compressions only.
C. 15 compressions to 2 inflations.
D. 30 compressions to 2 inflations.

11. Rescuer Two comes to assist. Which piece of equipment does s/he bring?
A. Suction equipment.
B. The air viva.
C. Oxygen Cylinder.
D. The emergency equipment.

12. If an oxygen supply is available what flow rate of oxygen would Rescuer Two need to administer via the Air Viva?
A. 2 litres/minute.
B. 4 litres/minute.
C. 15 litres/minute.
D. 10 litres/minute.

13. What is the compression to inflation ratio?
A. 15 compressions to 2 inflations.
B. 30 compressions to 2 inflations.
C. 15 compressions to 1 inflation.
D. 5 compressions to 1 inflation.
Rescuer Three comes to the scene.

14. When does the automated external defibrillator get attached to the patient?  
A. As soon as possible.  
B. During CPR efforts.  
C. As a priority.  
D. All of the above.

15. During CPR, when is a recovery check performed?  
A. Every 2 minutes or when prompted by the automated external defibrillator.  
B. Every 1 minute.  
C. It does not  
D. After 2 minutes then every 1 minute.

16. Rescuer one is fatiguing. How can effective compressions be maintained.  
A. Rotate between rescuers or excess staff to minimise compression fatigue  
B. Ensure correct delivery of compressions, using hips and correct body alignment.  
C. Support wrist with non-dominant hand.  
D. All of the above

17. When does Rescuer Three push the defibrillator button on the AED?  
A. When the machine indicates it is ready to shock.  
B. After ensuring everyone is clear of the patient.  
C. When the electrode pads have been attached correctly.  
D. All of the above.

Resuscitation efforts have been successful.

18. What other equipment will be needed post cardiac arrest?  
A. Oxygen and suction.  
B. Vital signs machine and ECG machine.  
C. The patient’s medical record.  
D. All of the above.

19. Where is the emergency equipment kept in your clinical area?  

20. Where are the spare defibrillator pads kept on your unit?  

Please return the Basic Life Support Theoretical assessment booklet and completed written exam to BLS Instructor prior to participating in practical BLS assessment.

Thank-you 😊

| Signature – | Date – |