

Bronze Medallion Proficiency Guide for Minnows Parents



The life of the beach.

Version 1.0 October 2004
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Foreword

This guide has been designed to assist Coogee Minnows Water Safety to successfully complete their yearly Bronze Medallion Proficiency.

The Material in this guide has been sourced from various SLSA sites (Club, State and Country level.) and should be used as a training aid in conjunction with the Surf Lifesaving Training Manual. The content in this manual can be freely distributed within SLSA for training purposes. The rights for this material will remain the property of SLSA.

Disclaimer

The author does not give warranty nor accept any liability in relation to the content of this work.

Acknowledgement

This work has been developed and produced by many volunteers that train SLSA members. Special mention goes to North Bondi SLSC for generously hosting much of this content on their website.

The guide can be delivered by a facilitator, however it can be used as an ongoing reference.

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Note on Release 1.1

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Contents

Bronze Medallion Proficiency Guide for Minnows Parents	1
Foreword	2
Disclaimer	2
Acknowledgement	2
Introduction	3
Bronze Proficiency (As per SLSA Circular 06/04-05)	3
Bronze Medallion Proficiencies for Season 2004/05	3
Run Swim Run	3
Distances	4
Resuscitation	4
Skills Upgrade for Bronze Medallion Members	4
Bronze Proficiency Assessment Structure	5
Session Plan One, Proficiency Theory	6
Training Outcomes:	6
Training Environment:	6
Resources:	6
Duration:	6
Session One Structure:	7
Proficiency Reference Data	8
Unit 1 - Safety and Well Being	8
Unit 8 - Communications	9
Unit 9 – Radio Communications	10
Unit 6 – Basic Resuscitation	11
Expired Air Resuscitation Concepts	11
When and why we need to resuscitate	11
Why EAR is effective?	12
EAR Table	12
Single Operator EAR/CPR Flow Chart	13
Two Person Patient Assessment EAR/CPR Flow Chart	14
2 Operator CPR Reference Chart	15
Patient Assessment EAR/CPR/DRABCD	16
Unit 7 – Advanced Resuscitation	17
CPR Details	17
Body Position	17
Finding the point of compression	17
Hand position and compression techniques	18
Which hand?	18
Hand and arm position	18
Compression techniques	19
Set-up of Oxygen Equipment	20
Checking Equipment Before Use	20
Safety Precautions	20
The Components Of Oxygen Resuscitation Equipment	21
Routine Check of Oxygen Equipment	22

Oxygen Therapy	23
Procedure For Administering Oxygen Therapy	24
Air Bag Resuscitation	24
Air Bag Oxygen Resuscitator	24
Setting Up The Oxygen Resuscitation Equipment	25
Application Of Oxygen Equipment	25
Procedure For Use Of Oxygen Equipment	26
Operational Time	27
Equipment Maintenance	27
The Stifneck Spinal Brace	28
Measuring for the Brace	29
Applying The Stifneck Spinal Brace	29
Session Plan Two, Proficiency Practical	30
Training Outcomes:	30
Training Environment:	30
Resources:	30
Duration:	30
Session Two Structure:	31
Proficiency Reference Data	32
Surf Awareness	32
First Aid	33

Introduction

Bronze Proficiency (As per SLSA Circular 06/04-05)

All active lifesavers are required to complete a proficiency test to prove competency in the lifesaving award/s they hold and wish to remain current in. Proficiency tests are necessary to:

- Ensure ongoing competency of members in their area of training and activities
- Maintain the standards of knowledge and expertise of surf life savers
- Satisfy legal and statutory requirements
- Reinforce and maintain our service commitment to the bathing and beach going community

A member's proficiency is valid until the 31st December each year and where stated in the Surf Life Saving Training Manual (or SLSA Bulletins) must be assessed annually.

When a proficiency check is successfully completed (or a member gains a relevant award after 30 June, in a particular year) the proficiency or qualification is current until 31st December, in the following season.

Bronze Medallion Proficiencies for Season 2004/05

The proficiency test for the Bronze Medallion for the 2004/05 seasons will be:

- Run Swim Run
- Resuscitation (CPR – for BM).
- Signals

Run Swim Run

Run distances and Swim distances for the Bronze Medallion and Surf Rescue Certificate:

- Be taken from waist deep water, e.g. the run is from a flag, around a marker and to waist deep water, the swim is from waist deep water around two swimming buoys and back to waist deep water
- Course must be around two swimming buoys

Distances

Surf Rescue Certificate 100m Run / 100m Swim / 100m Run

Bronze Medallion 200m Run / 200m Swim / 200m Run

Resuscitation

A patient assessment on a live patient and demonstration of lateral position. EAR/CPR*, 1 and 2 person (adult or child or infant) on a manikin. To include resuscitation using a mask

*CPR for BM and SRC holders 15 years and over, and those SRC members with CPR

Skills Upgrade for Bronze Medallion Members

Following a review of proficiency testing by the National Board of Lifesaving the below requirements have been removed from the proficiency test system and deem to be a club in-service responsibility.

Clubs are to ensure that each Bronze Medallion active patrolling member has completed:

- A Rescue (choose 1 of two - board or tube)
- Application of oxygen therapy to a patient
- Team carry of spinal board and application to a standing patient (as per 32 nd Edition SLS training manual)

All active patrolling members will need to have completed the club in-service requirements by the end of the 2004/05 patrolling season. Each club/service should keep a register of such in-services for certification processes. Active patrolling members who have not completed the in-service will not be permitted to patrol in season 2005/06 until the above requirements have been completed.

States will provide further details on club in-service activities. It has been encouraged that a flexible approach be adopted in the delivery of this update component. Options for delivery may include:

- Conducting the in-service as a separate workshop with your proficiency day
- Conducting in-service on your first round of patrols
- Hosting in-service workshops on set dates for patrolling members
- Etc

Coogee Surf Life Saving Club ensures that the Club Training Officers running the proficiency are either current Bronze Assessors or Bronze

Training Officers who have produced a successful squad in the past 12 months.

- As a guide, a Bronze proficiency should take 2-3 hours to complete.
- Participating Training Officers must ensure any changes to the awards are properly communicated from SLSA.

Bronze Proficiency Assessment Structure

The Proficiency Exam consists of the following

1. 200m run, 200m swim, 200m run in under 8 minutes
2. 1 rescue (either board or tube)
3. Demonstration of 10 signals (must include assistance required)
4. Demonstration of patient assessment on a live patient
5. Demonstration of 1 person CPR on a manikin
6. Demonstration of 2 person CPR on a manikin
7. Written paper – an open book exam (using the 32nd edition of the manual) with a pass mark of 100%. Must be completed, prior to the proficiency day or in the presence of, and signed off by an external assessor.
 - a. Topics covered are Safety and Wellbeing, Teamwork, Communication and Oxygen Therapy.

Session Plan One, Proficiency Theory

Training Outcomes:

By the end of this training session learners will be able to:

- Successfully demonstrate the signals used in Surf Lifesaving Communications
- Successfully demonstrate patient assessment on a live patient
- Successfully demonstrate 1 person CPR on a manikin
- Successfully demonstrate CPR on a manikin
- Understand the Safety and Wellbeing aspects of Surf Lifesaving through their OH&S policies and procedures.
- Understand the functions and use of Oxygen Therapy equipment.

Training Environment:

- Classroom

Resources:

- Surf Life Saving Training Manual 32nd Edition
- Bronze Medallion Proficiency Guide for Minnows Parents
- CPR Manikin/s
- Oxyviva Kit/s

Duration:

- 2.5 hours

Session One Structure:

Session Plan	Duration	Resources
<p>OH&S (Unit 1 - Safety and Wellbeing)</p> <p>Cover Key points of:</p> <ul style="list-style-type: none"> • Personal Care • The Cost Of Workplace Illness And Injury • Occupational Health And Safety • Duty Of Care • Causes Of Accidents • Risk Management 	(30min)	<p>Surf Life Saving Training Manual 32nd Edition</p> <p>Bronze Medallion Proficiency Guide for Minnows Parents</p>
<p>Signals (Unit 8 -Communications)</p> <ul style="list-style-type: none"> • Cover Key points of 'Signals' together as a class and demonstrate Signals • Simulate exam performing Signals in a line. 	(15min)	<p>Surf Life Saving Training Manual 32nd Edition</p> <p>Bronze Medallion Proficiency Guide for Minnows Parents</p>
<p>Radio (Unit 9 –Radio Communications)</p> <ul style="list-style-type: none"> • Cover Key points of 'Radio' together as a class • As a class demonstrate Radio Communications and Care 	(15min)	<p>Surf Life Saving Training Manual 32nd Edition</p> <p>Bronze Medallion Proficiency Guide for Minnows Parents</p>
<p>Resuscitation 1 (Unit 6 – Basic Resuscitation)</p> <p>Perform basic resuscitation techniques</p> <ul style="list-style-type: none"> • List stages in the chain of survival • Assess Patients • Perform DRABCD in a simulated environment 	(45min)	<p>Surf Life Saving Training Manual 32nd Edition</p> <p>Surf Life Saving Bronze Medallion Workbook</p>
<p>Resuscitation 2 (Unit 7 – Resuscitation - CPR)</p> <p>Perform advanced resuscitation techniques</p> <ul style="list-style-type: none"> • Perform one and two person CPR techniques • Perform oxygen aided resuscitation technique • Demonstrate and describe procedures for managing patients after CPR • Demonstrate the use and knowledge of oxygen therapy 	(45min)	<p>Surf Life Saving Training Manual 32nd Edition</p> <p>Surf Life Saving Bronze Medallion Workbook</p>

Proficiency Reference Data

The following sections contains key points from the SLS Training manual

Unit 1 - Safety and Well Being

Section	Notes
Personal Care	<p>Personal Hygiene</p> <ul style="list-style-type: none"> • Take Daily Showers • Wear a Clean Uniform • Limit the Jewellery that you wear • Have short clean fingernails • Keep hair clean and tidy • Clean Teeth • Keep open cuts or wounds with a waterproof cover over a dressing or bandage • Wash hands before and after treating patient, eating, handling garbage etc. <p>Environmental Hygiene</p> <ul style="list-style-type: none"> • Carry hygiene kits whilst on patrol • Keeping your workplace clean and following procedures
The Cost Of Workplace Illness And Injury	<p>Human Costs</p> <ul style="list-style-type: none"> • Pain, suffering, financial hardship extending to family • Burden on family and fellow workers <p>Social Costs</p> <ul style="list-style-type: none"> • Medical and rehabilitation costs <p>Economic Costs</p> <ul style="list-style-type: none"> • Organizational costs, retraining and lost productivity <p>Organizational Costs</p>
Occupational Health And Safety	<p>Legislation</p> <ul style="list-style-type: none"> • OH&S Act ensures employers provide a safe and healthy workplace for employees and ensures employees use safe work practices <p>Regulations</p> <ul style="list-style-type: none"> • Rules that deal with issues contained in the act. <p>Codes of Practice</p> <ul style="list-style-type: none"> • Standards set by the industry for the industry <p>SLSA employer/ management Responsibilities</p> <ul style="list-style-type: none"> • Management must provide safety training and clear rules in the workplace • Management must maintain an injury register • Management are responsible for maintaining a safe work environment <p>SLSA employee/ volunteer Responsibilities</p> <ul style="list-style-type: none"> • Any safety equipment must be provided • Work safely by following safety directions • Work in a manner that is safe for others • Follow safe work practices • Report any injury to an official • Give workers comp claims to senior official • Use safety equipment correctly • Report faulty equipment and remove from use.
Duty Of Care	<p>Definition of duty of care</p> <ul style="list-style-type: none"> • Health, safety and welfare of members • Health, safety and welfare of visitors to club • Safe access to the club and information, training and supervision
Causes Of Accidents	<p>Hazards</p> <ul style="list-style-type: none"> • Obstructions • Spills and slippery surfaces • Faulty maintenance • Environmental • Incorrect storage • Incorrect use of equipment • Lifting and carrying • Infections
Risk	<p>Lifting and Carrying</p> <ul style="list-style-type: none"> • IRB unladen min 2 people lift use trailer

	Tower	<ul style="list-style-type: none"> Shark Alarm (continuous) Mass Rescue (3 rings)
	Flags	<ul style="list-style-type: none"> Signal Flag - orange with a blue diagonal Shark Alarm - red and white quartered
	Helicopter	<ul style="list-style-type: none"> Request to enter

Unit 9 – Radio Communications

Section	Notes	
Radio	General	<ul style="list-style-type: none"> Sydney Branch uses UHF (ultra high frequency) radios Sydney Surf in the main base radio communication centre UHF works on a "line of sight"
Channels	Channel 3	<ul style="list-style-type: none"> Works via a repeater Is used for main patrol channel All radios in the patrol are left on the channel
	Channel 9	Simplex channel Is used for secondary patrol duties
	Channel 1&2	Used for emergencies Only used if directed by Sydney Surf
	Channel 25&30	CB channels Used for "chit chat" and unimportant inter patrol communication
	Channel 18	Lifeguards
Call Signs and services	IRB	Inflatable Rescue Boat May not answer radio while driving in surf
	Offshore	Offshore 3; based at Malabar; 10-15 mins to North Bondi Contact through Sydney Surf Can be used for mass rescues, searches; and most other incidents that require extra personnel and equipment
	Helicopter	Call sign Transport of serious patients to hospital; does not land usually at North Bondi. May winch Doctor onto beach Clear area near waters edge 40 metres on each side.
	Ambulance	Usual form of transport of patients to hospital Contact Sydney Surf on the radio UHF 3 Usually sent from Paddington 5-10 mins
	Rescues	Use the 4 P's Position; Problem; People; Progress Use Rescue Rescue Rescue for emergencies then call the

		station you are after.
Maintenance	Charging	Always put the radio on charge in the radio room at the end of patrol
	Dropped in surf	Check for water penetration Turn the radio off Remove the battery Submerge the unit in fresh water Pat it dry of excess water and air dry Do not use spray for cleaning Report to radio officer

Unit 6 – Basic Resuscitation

Expired Air Resuscitation Concepts

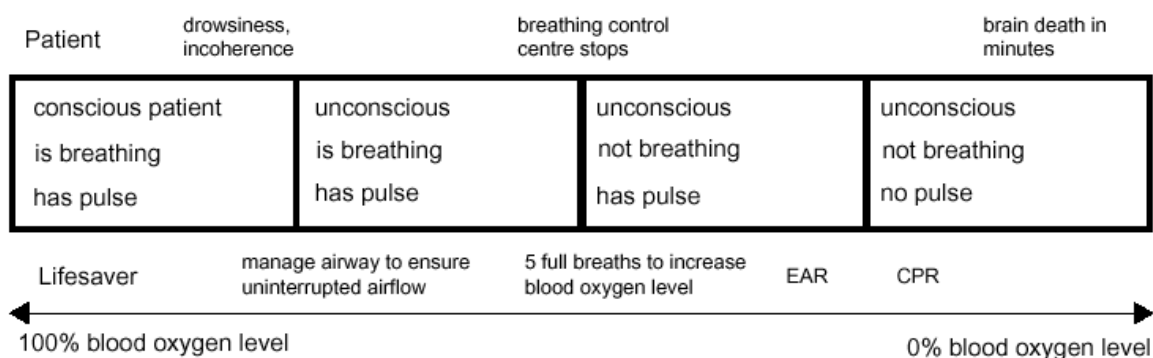
IMPORTANT: These notes do not replace, and should always be used in conjunction with the SLSA training manual

When and why we need to resuscitate

Consciousness, breathing and the beating of the heart are all associated with the amount of oxygen in the brain. When a patient suffers from immersion, and in some cases of traumatic injury, they will be unable to get sufficient oxygen to maintain the functioning of their vital systems. As the body uses up the oxygen stored in its blood

- First consciousness is reduced and then stops, the patient is no longer aware of events around them, and does not respond to them
- As the body continues to use the oxygen in the blood, the level of the oxygen in the body drops to the point where breathing can no longer be maintained. The patient no longer breathes, but for a little while, the heart will still beat.
- Finally, at a certain point, the body has used up available oxygen so that there is no longer enough for the heart to beat.

Within 3-4 minutes, irreparable brain damage will occur.



Why EAR is effective?

We breathe because part of the base of our brain, a breathing control centre, tells a large muscle under our lungs, our diaphragm, and the muscles in our chest wall to contract. The contraction of these muscles expands our chest cavity (basically, the area inside our ribcage), and so increases the lung capacity, creating a vacuum which draws air into the lungs. When our diaphragm relaxes, our lungs recoil, expelling the air. Breathing is vital because it allows oxygen in the air (about 21% of the air in the atmosphere is oxygen) to enter our bloodstream. Any oxygen we blow into the lungs of a patient will rapidly be absorbed by the lung's blood vessels.

If our heart is still beating, the blood in our body will still be circulating, and so any new oxygen we add to it will be carried to the parts of the body, which require it. The deoxygenated blood will be returned to the lungs to be reoxygenated.

What if the heart itself is no longer beating? EAR is useless if the oxygenated blood is not carried around the body by the blood flow. External Cardiac Compression (ECC) is performed to move the blood around the body. We simulate the effect of the heart by compressing the heart between our breast bone (the "sternum") and the spine.

CPR (Cardio Pulmonary Resuscitation, the combination of EAR and ECC) serves two purposes. Hopefully we can increase the level of blood oxygen to the point where the patient's heart recommences beating, and their breathing returns.

However, it also plays a vital life support function. Properly performed CPR and EAR provide sufficient oxygenated blood to maintain the brain and other vital organs for long periods of time, until other methods of treatment can be performed in hospital, or the breathing and circulation are restored.

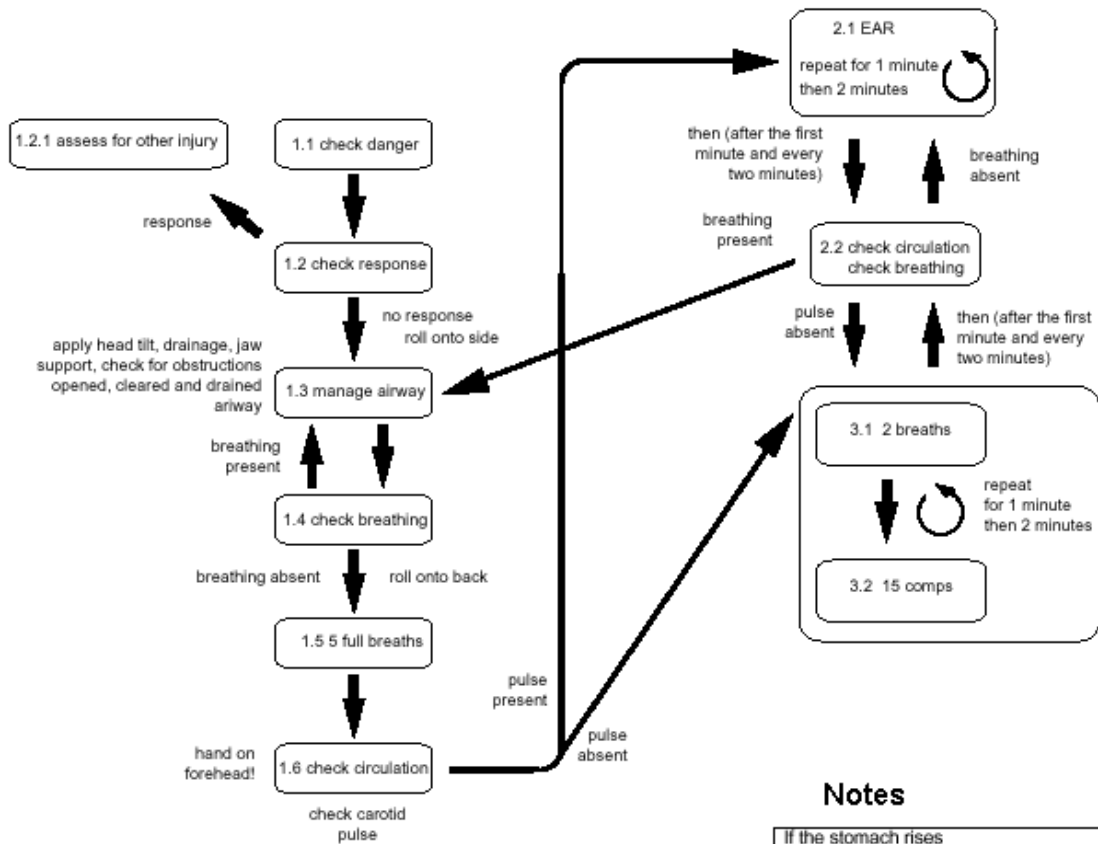
So don't stop until a qualified medical person (ambulance officer or medical practitioner) tells you to!

EAR Table

EAR	seconds per cycle	breaths per cycle
adult	4	1
child	3	1
infant	3	1

Single Operator EAR/CPR Flow Chart

Single Operator Patient Assessment EAR/CPR flow chart



Notes

If the stomach rises

- 1) check head tilt

If, after checking head tilt, stomach still rises

- 1) go to 1.3
- 2) if no obstruction is apparent use percussion blows and check for an obstruction until the obstruction is clear then continue from 1.3, checking for breathing, and so on.

If the patient vomits

- 1) quickly go to 1.3 once obstructions are cleared, continue from 1.3, checking for breathing, and so on.

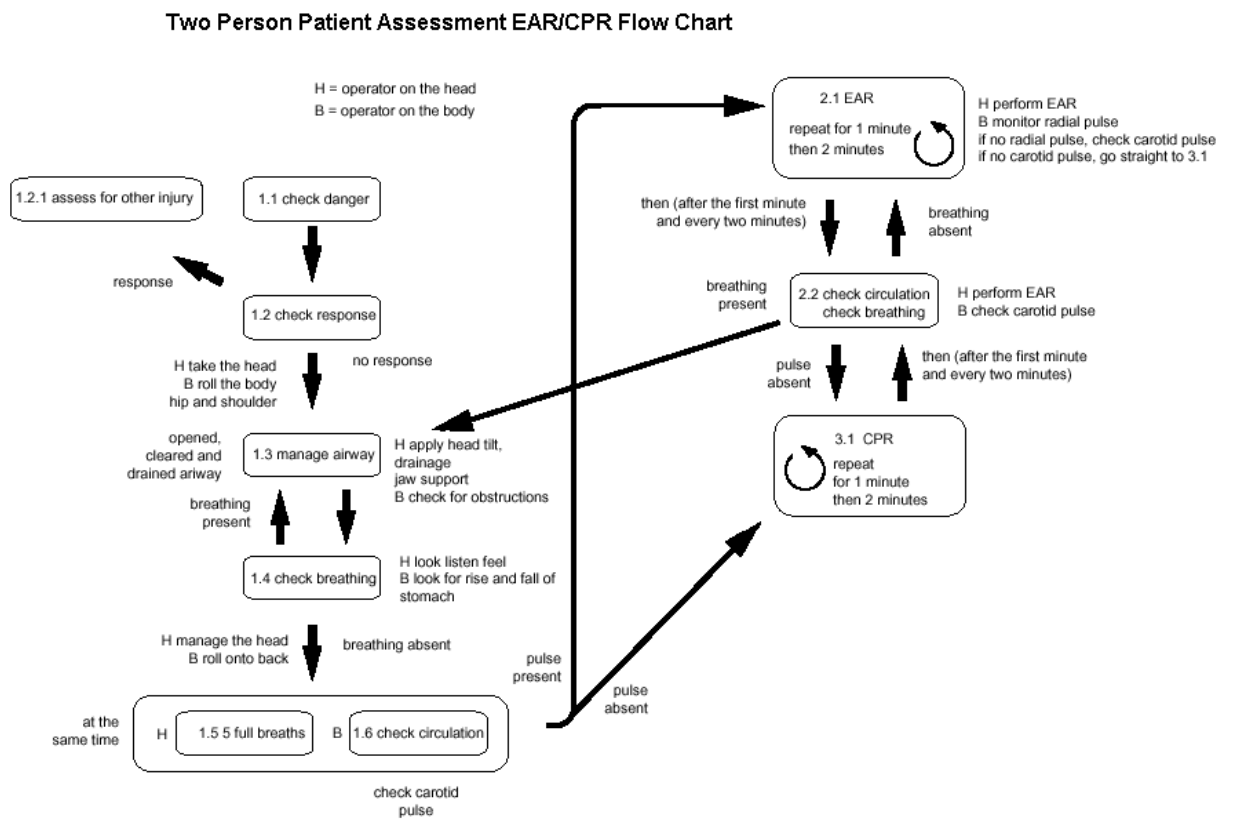
CPR Table

	Compressions	Breaths	Seconds	Cycles/minute
Adult	15	2	15	4
Child	15	2	10	6
Infant	15	2	10	6

1 Operator CPR Reference Chart

1 operator CPR	seconds per cycle	compressions per cycle	breaths per cycle	depth of compression	amount of breath	head tilt
adult	15	15	2	4-5 cm	1 breath	yes
child	10	15	2	2-3cm	1/2 breath	yes
infant	10	15	2	2 cm	1 puff	neutral

Two Person Patient Assessment EAR/CPR Flow Chart



CPR Table

	Compressions	Breaths	Seconds	Cycles/minute
Adult	5	1	5	12
Child	5	1	10	6
Infant	5	1	10	6

2 Operator CPR Reference Chart

2 operator CPR	seconds per cycle	compressions per cycle	breaths per cycle
adult	5	5	1
child	3	5	1
infant	3	5	1

Patient Assessment EAR/CPR/DRABCD

Section	Notes	
Process	Danger	<ul style="list-style-type: none"> Check for danger and send for help
	Response	<ul style="list-style-type: none"> Shout; shake gently; don't move neck in this process
	Airway	<ul style="list-style-type: none"> In lateral position look inside mouth and clear; support head in and allow for drainage
	Breathing	<ul style="list-style-type: none"> Look for chest movement, Listen and Feel for air coming out of the mouth
	Five breaths	<ul style="list-style-type: none"> If no breathing roll onto back and give five full breaths in about 10 seconds; watch for rise and fall of chest.
	Check Pulse	<ul style="list-style-type: none"> Check the carotid pulse, until you are sure (about 5 -10 seconds) Use three fingers.
	EAR	<ul style="list-style-type: none"> Expired Air Resuscitation of 1 breath every 4 seconds for someone who has a pulse (adult), 3 seconds- (child)
	CPR	<ul style="list-style-type: none"> Cardiopulmonary Resuscitation if no pulse.
	Defibrillation	<ul style="list-style-type: none"> Trained Operator with unit available Should be administered ASAP Continue CPR until unit is ready Trained Operator will be in charge
	Key tips to remember	Timing
Possible Problems		<ul style="list-style-type: none"> Letting hand holding jaw to drop into patient's neck - Poor jaw support Not looking into mouth when clearing
Troubleshooting	Stomach rises	<ul style="list-style-type: none"> Check head tilt; check jaw up lift; don't blow as hard; check blocked airway
	Vomiting	<ul style="list-style-type: none"> Quickly turn the patient (lateral position) Clear vomit and foreign material Recommence with ABC
	Noisy breathing	<ul style="list-style-type: none"> Check head tilt; check regurgitation; check blocked airway
	Blocked airway	<ul style="list-style-type: none"> Put in lateral position; look to clear; if unable to clear apply sharp blows to upper back
	Recovery	Once breathing

		• Transport to hospital.
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Unit 7 – Advanced Resuscitation

CPR Details

One of the most important, and commonly poorly exercised aspects of CPR is finding the point of compression. If we compress too low in the chest we risk pressing down on the xiphoid cartilage, causing internal abdominal injuries, and compressing the stomach, causing regurgitation, as well as reducing the effectiveness of compression. If we compress too high in the chest, we risk not adequately compressing the heart. Compressions too far to the left or right risk breaking ribs, reducing the effectiveness of compression, and damaging the lungs.

When learning CPR, people often have difficulty with correctly positioning their hands. A little practice of the correct technique makes the process very straight forward.

Body Position

Begin by correctly positioning yourself. If you start in the incorrect position it is difficult to get anything else right.

Imagine a cross through the opposite shoulder and hip of the patient, with a diagonal from the left shoulder to the right hip and the right shoulder to the left hip.

If you are performing 1 person CPR, place your knees at the shoulder of the patient, and look toward the opposite hip.

If you are performing ECC as part of two person CPR, place your knees at the hip of the patient and look toward the opposite shoulder.

Finding the point of compression

SLSA recommends the following technique for finding the point of compression, often called "walking the ribs".

Note that this technique is not magic. We are feeling the bone structure of the patient underneath their skin. This may require some pressure, and will require some practice. Pretending will not save a patient.

Note too that in this process we are looking for the point of compression. WE ARE NOT LOOKING FOR THE PATIENT'S XIPHOID, BUT TO AVOID THE PATIENT'S XIPHOID.

- 1) Find the inside edge of the ribs (not the underneath) with your fingers. Use the hand closer to the patient's head for the ribs further away from you, and the other hand for the ribs closer to you. Point your fingers toward the

patient's feet. This is a little awkward when you are at the hip of the patient, but practice will make it feel much more comfortable.

- 2) Walk your fingers along the top of the patient's ribs toward the sternum, pushing the pads of your fingers into the edge of the ribs as you go. You are really feeling the skeleton of the patient, not just waving your hand along their chest! Don't let one hand get higher on the ribs than the other.
- 3) The ribs only come together at the sternum of the patient. If you keep your fingers firmly pushing into the edge of the ribs of your patient, your fingers will only come together at the sternum, clear of the xiphoid. Now measure two fingers width up from where your fingers met.
- 4) Place the bottom hand clear of and above the fingers of the hand remaining on the chest. Don't rush this step.

Hand position and compression techniques

Which hand?

Once we have located the point of compression, we must now correctly place our hands for cardiac compression.

Our bottom hand guides, and this arm does not apply pressure to the chest. The arm of the top hand applies the pressure.

The trickiest aspect for many people is deciding which hand goes on the bottom. Once your body position is correct, it is very easy to do.

The bent arm of the bottom hand should be perpendicular to the patient's backbone (that is, form a cross with the patient's body). If you have started with the body position described in sheet 1 of these CPR notes, you'll find that clearly only one hand is the right one. Try each hand, keeping the fingers of the other hand in place, so that if it is not the correct hand, you won't have to start again.

Place the hand with its heel fitted into the line of the sternum. Bend the elbow of that hand's arm. Do you need to twist your body to make that arm perpendicular to the patient's body? If so, try the other hand.

With a little practice you'll find that choosing the right hand becomes second nature, but you **MUST PRACTICE**.

Hand and arm position

Once we've found the correct hand we need to place it and our other hand as well as our arms in the correct position.

- a) The heel of the bottom hand fits snugly into the sternum
- b) The fingers of our bottom hand are lifted off the ribs of the patient - this ensures that our compression is concentrated, not spread over the ribs

- c) The elbow of our bottom arm is bent - if our bottom arm straightens, we risk pushing across the chest, rather than down directly, lessening the effectiveness of compressions
- d) The hand of the top arm wraps around the wrist of the bottom. This locks the arms to prevent slipping
- e) The elbow of the top arm is straight, and the shoulder of that arm should be directly above the point of compression - we'll see why next

Compression techniques

Its natural to think that CPR works by pressing the chest with our arms. This is not what happens. Imagine the strength needed to compress the sternum 4-5 cm using our arms. Its probably akin to bench pressing 20 or 30 kilos. Can you keep that up, 60 times a minute for 5 minutes? How about 45?

CPR in fact works best when we use our body weight and gravity to compress the chest. Roll your body weight onto the shoulder of your top arm, so that all your weight rests on the compression point, then roll your weight off again. Be careful to bring all your weight off the patient in between compressions.

Section	Notes	
Basic Steps	ABC	<ul style="list-style-type: none"> • ABC as per Unit 5
Timing CPR	One person	<ul style="list-style-type: none"> • 2 breaths (5 seconds) to 15 compressions (10 seconds) in a total of 15 seconds • 4 cycles per minute • 2 breaths to 15 compressions in 10 seconds for child/infant
	Two person	<ul style="list-style-type: none"> • 1 breath to 5 compression in 5 seconds • 12 cycles per minute • 1 breath to 5 compression in 3 seconds for child/infant
Key tips to remember	CPR	<ul style="list-style-type: none"> • Know your role in each position in two person CPR • Stop CPR after first minute and then every two minutes to check pulse. EAR operator may continue with EAR • If pulse returns and there is no breathing second operator maintains constant monitoring of radial pulse • If radial pulse lost always double-check carotid pulse
	Infants	<ul style="list-style-type: none"> • Infants pulse is located above elbow on inside section of the arm. It is called the brachial pulse • EAR and CPR is faster than in an adult • Infants only require natural head tilt, not backward.

	Possible problems	<ul style="list-style-type: none"> • Not keeping bottom arm bent and top arm vertical • Not keeping 45 degrees to patient • Not maintaining backward head tilt • Not finding the right compression point on the sternum , most operators are too low. • Make sure you find the bottom of the sternum, not the bottom of the xiphoid <p>Remember the key to successful resuscitation is a clear airway; clear it; maintain a good jaw support; maintain backward head tilt.</p>
	Methods used during resus	<p>Make sure you know how to perform the blow:</p> <ul style="list-style-type: none"> • Mouth to nose • Jaw thrust • Mouth to mask • Mouth to mask with oxygen therapy tube • Deep water resuscitation

Set-up of Oxygen Equipment

Oxygen is often used in the treatment of serious illness and injury and has been used with great success by Australian lifesavers since 1973.

Checking Equipment Before Use

Before patrol and before using oxygen equipment, it must be checked thoroughly.

When oxygen is in use, the equipment must be placed so that the operator responsible for it can reach it easily and can see the contents gauge.

Safety Precautions

- Oxygen must at all times be used with care and respect.
- Never use oxygen near an open flame.
- Never use oxygen near cigarettes.
- Never use grease or oil with oxygen equipment.
- Remember that oxygen promotes all types of combustion (burning).
- Do not allow anyone to tamper with oxygen equipment.
- Store the oxygen unit in a cool place.
- Store oxygen bottles lying flat, or securely fastened if upright.

- Only use medical oxygen. It is supplied in black cylinders with a white shoulder.

The Components Of Oxygen Resuscitation Equipment

It is very important for those trained in the use of oxygen resuscitation units to make sure that they are aware of the components and operation of the unit or units in use at their location.

- The basic components are:
- **Protective case.** This houses all the relevant equipment. In some models it will include the oxygen cylinder.
- **Oxygen cylinder.** The body of the cylinder may be black or silver but the shoulders of oxygen cylinders are white. Note that medical oxygen is the only gas to be used in the oxygen equipment. The cylinder is constructed with two pin index holes next to the main outlet. These index holes mate with pins on the mounting yoke of the oxygen equipment. A fresh, full cylinder will usually have a protective wrapping of blue or white plastic around the oxygen outlet to prevent dust and dirt from entering during transport. Before attaching the cylinder to the oxygen equipment, all of this wrapper must be removed.
- **Cylinder cradle.** This provides support for the oxygen cylinder.
- **Cylinder yoke.** This is the connection for the oxygen cylinder. In some instances, it is part of the case; otherwise it may be attached as part of the regulator.
- **Sealing washer.** This fits in the yoke to prevent leakage from the cylinder joint. Spare seals are kept in the oxygen equipment case.
- **Locating pins.** These are positioned in the yoke so that the operator can locate the oxygen cylinder correctly.
- **Thumb screw.** This helps to secure and maintain the cylinder in position.
- **Cylinder key wheel.** This is used to open or close the cylinder valve.
- **External cylinder connection.** This allows larger oxygen cylinders to be attached for training purposes. It is important to remember that when an external cylinder is in use, a small cylinder or the yoke plug should be firmly in place to prevent oxygen leaking. (**NOTE:** this connection is not found on all units.)
- **Contents gauge.** This indicates the amount of oxygen in the cylinder. When the cylinder is full, it will be marked FULL.
- **Regulator.** This regulates the oxygen pressure and flow of oxygen to the therapy and oxygen control valve.
- **Guedel airways.** These work to maintain a clear airway and can only be used by trained personnel.

- **Air bag.** This is used for inflating a patient's lungs by squeezing, which supplies oxygen from an oxygen reservoir.
- **Oxygen reservoir.** Attached to an air bag, this supplies up to 95% oxygen when connected to an oxygen supply.
- **Tubing.** Dependent on the unit, there will be either one or two tubes, usually clear and/or green in colour. This tubing supplies oxygen to the airbag and oxygen therapy.
- **Control valves.** These are turned on when using the air bag resuscitator or oxygen therapy. It gives a fixed flow rate of oxygen. On some models the control valve and flow rate are built into the regulator.
- **Anaesthetic masks.** Each unit should contain one adult and one child-size mask.
- **Therapy masks.** A clear, colourless disposable type of therapy mask, such as the Hudson No. 1041 or 1043 is recommended.
- **Chalk.** This is used to mark the volume of oxygen in the cylinder.

Routine Check of Oxygen Equipment

1. Before a cylinder is fitted to the oxygen equipment, the protective plastic wrapping must be removed.
2. The cylinder is "cracked" by turning it on and off very briefly, keeping the cylinder as upright as possible and taking care that the outlet is not pointed at any person or at the sand. Cracking the cylinder removes any foreign matter from its valve opening. The cylinder must be inserted into the yoke, lining up the inlet and outlet holes together with the locating pins and spigot. Check that the sealing washer is present and is not damaged or dirty, otherwise the machine cannot be used. The thumb screw is then firmly screwed home.
3. Check the contents of the cylinder by using the key to open the cylinder valve slowly until the gauge reaches a steady point. This slow build-up of pressure saves damage to the regulator and gauge by avoiding a sudden rush of oxygen. Open the cylinder valve fully, then turn the key wheel back half a turn to prevent locking. The gauge should register FULL. Reject the cylinder if it is half or less than half full, and fit a new cylinder.

(NOTE: Laerdal units have a lever switch to turn on and off.)

4. Check the oxygen tubing for cracks or other damage. Ensure that the open end will fit easily to both therapy masks.
5. Check both therapy masks for cleanliness and serviceability.
6. Check the condition of the anaesthetic mask cuffs for fit, perishing or cracks.

7. Ensure the Guedel airways are present and clean. These are for use by appropriately qualified personnel.
8. Check for chalk, gloves and spare sealing washers in the case: chalk for marking the quantity of oxygen in the cylinder; gloves for personal protection during emergency care; and spare seals to replace defective or missing seals as required.
9. Check the flow of oxygen from the cylinder through the tubing.
10. Check the clear colourless oxygen tubing for cracks or other damage, and ensure that the open end of the tube is fitted to the oxygen intake of the air bag.
11. Check the operation of the oxygen nipple by turning the oxygen valve to the ON position. When you do this, the oxygen reservoir should fill.
12. Close the cylinder valve, then drain oxygen from the system by operating either of the two delivery systems.
13. Check that the needle on the oxygen cylinder's contents gauge falls to zero.

NOTE: As each item is checked, it should be returned to the case in a neat and tidy fashion. Keep the whole unit clean and free from sand, sea water, oil, grease, etc.

Oxygen Therapy

Oxygen therapy is only used for patients who are breathing. It may be safely given by qualified lifesavers to any patient about whom they are worried. This may include patients suffering from:

- Unconsciousness
- Shock
- Blood loss
- Chest pain
- Shortness of breath, including asthma
- The aftermath of resuscitation
- Severe pain
- Injuries

NOTE: The unconscious breathing patient will be in the lateral position. The conscious person will be nursed according to his or her needs. For instance, heart patients and asthmatics will usually be most comfortable sitting up, while patients who have lost blood will need to be flat, perhaps with their legs raised.

Procedure For Administering Oxygen Therapy

Having checked the oxygen equipment and placed it correctly connect the therapy mask to the tubing and turn the oxygen on. Then put the mask on the patient's face. If a conscious patient does not want to use the mask, remove the tubing from it and direct the oxygen flow around the mouth and nose.

Air Bag Resuscitation

1. Check the air bag for leaks and direction of air flow by blocking the patient valve with the thumb and compressing the bag under reasonable pressure. The air will not leak out of the rear valve, the bag or the patient valve. Then release the thumb, whereupon the bag should compress and refill rapidly.
2. Check the function of the yellow disc membrane on the patient valve. Place the oxygen reservoir bag over the patient valve and inflate it fully by squeezing the ventilation bag. Then squeeze the reservoir bag gently and the yellow disc membrane will lift. In actual resuscitation the patient exhales through this disc membrane.
3. Check the overflow membrane of the reservoir valve (Laerdal bag only). Inflate the reservoir bag as before and connect it to the reservoir valve. Compress the reservoir bag rapidly and watch the yellow-seated disc lift. This membrane ensures that the reservoir bag cannot be over-filled with oxygen.
4. The air intake membrane is located in the rear valve of the CIG bag and the reservoir valve of the Laerdal. Check its function by inflating the reservoir bag as before and connecting it to the air bag. With continued compressions of the ventilation bag, the reservoir bag will empty and the ventilation bag will draw in air through the air intake membrane.

Air Bag Oxygen Resuscitator

The air bag resuscitator with oxygen reservoir is a manually operated, soft recoil silicone bag with a secondary plastic bag attached. This secondary plastic bag acts as a reservoir for oxygen when connected to an external oxygen supply.

The resuscitator with oxygen reservoir will supply the patient with up to 95% oxygen when connected to an oxygen supply, with a flow rate of 14 or 15 litres per minute.

Patients who are not breathing should be treated in the first place by expired air resuscitation but will almost always benefit from the use of added oxygen by trained lifesavers. The Bronze Medallion teaches the use of the mouth to mask method and the Advanced Resuscitation Certificate teaches the use of the airbag with oxygen reservoir. This method will provide the patient with an oxygen concentration of more than 90% if the seal between

the mask and face is perfect and the oxygen supply is 14 or 15 litres per minute.

When the oxygen unit arrives and is being set up, the first operator continues with the mouth to mask method or changes to it if a mask was not previously available and prepares to change over to the bag. This will take some time, however, and resuscitation must continue during the changeover period. It is possible to give mouth to mask resuscitation with oxygen briefly using the therapy tubing before the bag is ready, as these are given by two separate tubes.

Setting Up The Oxygen Resuscitation Equipment

1. The oxygen equipment operator sets up the machine clear of the patient and both operators, but in a position where the pressure gauge is clearly visible.
2. Immediately after the case is opened, the suitable sized anaesthetic mask is passed to the first operator so that he or she can change to the mouth to mask method of EAR. If mouth to mask resuscitation is in progress, however, the air bag oxygen resuscitator can be fitted directly to the mask (after an operational check).
3. The oxygen equipment operator should quickly check:
 - a. The correct operation of the patient valve.
 - b. The valve to the oxygen reservoir bag.
 - c. The connection to the oxygen supply.
4. The oxygen is then turned on to 14 or 15 litres per minute to allow inflation of the air bag reservoir. The airbag is compressed to expel its air, allowing the whole system to be filled with pure oxygen.

Application Of Oxygen Equipment

1. When the oxygen reservoir is inflated, the oxygen equipment operator informs the first operator that the air bag is ready for use.
2. After a signal, usually the first operator tapping the other operator on the shoulder and explaining to the other what he or she is going to do; the first operator positions the patient valve in the anaesthetic mask (or onto the Laerdal pocket mask) and compresses the air bag so that there is no change at all in the timing of respiratory resuscitation. (This is important if cardiopulmonary resuscitation — CPR — is being performed.)
3. The air bag oxygen resuscitator should be compressed with two hands using a squeezing motion, then allowed to refill.

The amount of oxygen to be squeezed into the patient's chest is the amount required to make the chest rise. The bag should then be released and allowed to refill.

NOTE: The rise and fall of the patient's chest should be watched at all times during this operation.

Procedure For Use Of Oxygen Equipment

From this stage on the procedure for the use of oxygen equipment is identical to that for EAR.

1. The first operator starts manual methods of resuscitation, while the second operator sets up and checks the oxygen equipment.
2. On the changeover to the oxygen equipment the first operator controls the backward head tilt and ensures a proper seal between the mask and patient's face. Meanwhile, the second operator manages the air bag and oxygen system.
3. Both operators are responsible for seeing that the patient's chest rises with each inflation and falls as air leaves the lungs again.
4. If, at any time, either operator is not happy with the functioning of the oxygen equipment, the equipment must be removed immediately and the operator must continue with EAR by the mouth to mouth, mouth to mask or mouth to nose method.
5. If the air bag oxygen resuscitator is being used during cardiopulmonary resuscitation, there must be three lifesavers present. One controls the patient's airway and ensures the seal of the anaesthetic mask; the second activates the oxygen equipment; and the third performs the external cardiac compression.
6. If oxygen equipment is being used on a child, the air bag should be compressed with one hand. When the child's chest is seen to rise, compression of the bag should be stopped. Airbag resuscitators should not be used on infants.

Operational Time

A full “C” cylinder (440–490 litres) will have the following approximate operational time:

- Approximately 50 minutes, with continuous use of oxygen therapy.
- Approximately 30 minutes, with continuous use of airbag (and oxygen).

Equipment Maintenance

a) General care

- 1) The machine should be kept clean and free from sand and foreign materials.
- 2) To ensure its correct operation, it must be checked: After every teaching session and Before each patrol.
- 3) Whenever the oxygen equipment shows defects that may cause it to operate incorrectly, the machine must be taken out of service immediately and repaired by the manufacturer.

b) Care after use

After every use, the resuscitator should be disassembled, cleaned, disinfected, reassembled and tested, in an orderly fashion.

NOTE: When using the Laerdal bag, do not remove the plastic adaptor from the patient end of the air bag or thereusable reservoir.

- 1) Oxygen therapy masks should be thrown away after use. The tube and the anaesthetic masks should be washed thoroughly in warm soapy water so that all foreign material is removed, then rinsed with fresh running water.
- 2) The patient valve should be disassembled, washed in soapy water to remove all solids, then rinsed in fresh running water and reassembled.
- 3) The air bag should be washed in warm, soapy water and rinsed in fresh running water.
- 4) The rear valve should be disassembled, washed in warm, soapy water, rinsed in fresh running water and reassembled.
- 5) The reservoir valve (on the Laerdal bag) and oxygen reservoir should be washed in soapy water and rinsed in fresh running water.
- 6) All parts should be soaked in a solution of 70% alcoholic chlorhexidine for at least two minutes.
- 7) They should then be rinsed and dried.
- 8) Operate all parts of the equipment after drying and before storage.

c) Servicing

The oxygen equipment should be serviced before each season commences and at other intervals determined by each State Centre and the manufacturer of the unit.

d) Storage

Store oxygen equipment in a cool but accessible place, as heat causes rubber and plastic components to deteriorate. Spare oxygen cylinders should be stored in a cool but accessible place, near the oxygen equipment.

Store oxygen equipment away from busy traffic areas and possible sand and dust contamination.

Don't store oxygen equipment near oil or grease — in contact with high pressure oxygen they can cause fire.

Don't store the equipment in an enclosed space — any leakage from the unit could cause oxygen build-up, which is dangerous in the event of fire.

Don't cover the unit — any leakage could cause oxygen build-up.

Don't allow smoking or naked flames near the oxygen equipment at any time, whether it is stored or in use. Any leaking oxygen could escalate a fire.

Don't leave the unit with any pressure in the system.

Turn off the cylinder, then drain the oxygen either from the delivery tubes by operating either of the two delivery systems.

Empty oxygen cylinders should be returned for filling without delay. Cylinders which are half full or less can be used for training.

The Stifneck Spinal Brace

The Stifneck spinal brace is **not a substitute for correct management of spinal immobilisation** by first aiders of packing around the head and neck with sand, towels or other material. Stifneck collars are recommended if the patient has to be moved.

Lifesavers should NOT move a suspected spinal injury unless they are in a situation where they are threatened by the incoming tide or other danger.

The use of the Stifneck brace is taught to experienced members of Surf Life Saving Australia who practise this skill regularly. It should not be attempted by lifesavers who have not been taught and regularly updated in its use.

The Stifneck brace is a plastic and foam device that fits around and supports the neck. It is used by most ambulance services. Their experience has shown that it should not be used in cases requiring either EAR or cardiopulmonary resuscitation.

The Stifneck collar is made in a variety of sizes.

Measuring for the Brace

With The Patient In Neutral Alignment, Place Your Finger On The Trapezius At The Base Of The Neck To Determine The “Key Dimension”.

Select The Collar Where The “Key Dimension” Matches The Patient’s Key Dimension.

Applying The Stifneck Spinal Brace

The Stifneck brace should be applied as soon as necessary during the rescue, provided a suitably qualified person is present to apply it.

1. The timing of application will be determined by the operator.
2. The operator applying the brace will need to check:
 - a. which size brace is appropriate, by assessing the patient.
 - b. b) that the brace is intact and the velcro attached correctly.
3. The operator then needs to fit the brace under the patient’s chin, being careful not to put any pressure on the neck or trachea (windpipe). It is necessary for the operator to be mobile so as to be able to check that the brace fits correctly all round the neck.
4. The operator then passes the brace round the patient’s neck while positioned on the patient’s left side to allow correct positioning of the velcro. (All Stifneck braces are made with the velcro on the left side.)
5. The operator then checks that the brace fits snugly, and is neither too loose nor too tight.
6. After fitting the brace, continue with normal spinal injury procedures, remembering that the brace is an aid, not a substitute for the correct management of immobilisation, airway management and transport.

Session Plan Two, Proficiency Practical

Training Outcomes:

By the end of this training session learners will be able to:

- Successfully complete the Run –Swim-Run
- Successfully complete a rescue using either a;
 - Rescue Board
 - Rescue Tube
- Successfully demonstrate patient assessment on a live patient
- Successfully complete a Team Carry using spinal board.

Training Environment:

- Beach

Resources:

- Surf Life Saving Training Manual 32nd Edition
- Bronze Medallion Proficiency Guide for Minnows Parents
- Rescue Tube
- Rescue Board
- Swim Course with Water Safety
- Spinal Board
- Spinal Collar

Duration:

- 2.5 hours

Session Two Structure:

Key Points/Strategies	Duration	Resources
Run – Swim - Run <ul style="list-style-type: none"> • Warm up and stretches • Explain Course • Start group together 	15min	SLSA 32 nd Ed Training Manual Bronze Medallion Proficiency Guide for Minnows Parents
Patient Rescue <ul style="list-style-type: none"> • Discuss conditions and objectives of exercise • Allocate rescue equipment to participants • Participants to get into pairs to practice • Keep swapping roles until everyone has had a turn using all equipment 	45min	SLSA 32 nd Ed Training Manual Bronze Medallion Proficiency Guide for Minnows Parents
Spinal Injury Carry <ul style="list-style-type: none"> • Together as a class look at the text and pictures in the manual • Instructor to demonstrate using participants • Participants to get into groups to practice • Keep swapping roles until everyone has had a turn playing each role 	30min	SLSA 32 nd Ed Training Manual Bronze Medallion Proficiency Guide for Minnows Parents
Spinal Stretcher Carry <ul style="list-style-type: none"> • Together as a class look at the text and pictures in the manual • Instructor to demonstrate using participants • Participants to get into groups to practice • Keep swapping roles until everyone has had a turn playing each role 	30min	SLSA 32 nd Ed Training Manual Bronze Medallion Proficiency Guide for Minnows Parents Spinal Board Stabilisation Collar
Patient Assessment <ul style="list-style-type: none"> • Together as a class read the information • Instructor to demonstrate using participants • Participants to get into groups to practice • Keep swapping roles until everyone has had a turn playing each role 	30min	SLSA 32 nd Ed Training Manual Bronze Medallion Proficiency Guide for Minnows Parents

Proficiency Reference Data

The following sections contains key points from the SLS Training manual

Surf Awareness

Section	Notes	
Beach Types	Reflective	<ul style="list-style-type: none"> Low danger, surging, shore break, deep water, low hazard watch children & elderly
	Low tide terrace	<ul style="list-style-type: none"> Low- Moderate danger, Low flat sand bars, Rips can develop safe at low tide high tide increased risk of currents/rips
	Bar and Rip	<ul style="list-style-type: none"> Moderate – High Danger, large waves on bar with deep rip channels, strong rips
	Longshore Trough	<ul style="list-style-type: none"> Moderate – High Danger, heavy shore break, deep rip channels run parallel to beach, strong rips hard to return to shore
	Dissipative	<ul style="list-style-type: none"> High Danger, large powerful waves which reform on inner bar, rips occur inner surf zone
Wave Types	Formed by	Wind... intensity, length of time, (n)duration... determine wave size
	Tides	Usually two high tides and two low tides each day.
	Dumpers	Bad for neck, shoulder, back and arm injuries
	Spilling	Crest which tumbles down... good for surfing
	Surging	Does not break; does not lose speed or gain height; can knock swimmer off their feed; dangerous around rocks
Rips	Definition	Body of water moving out to sea. caused by water seeking its own level.
	Identification	<ul style="list-style-type: none"> discoloured water (brown) due to sand stirred from bottom foam on surface extending beyond beach waves breaking on either side of rip; hence, waves not breaking in a rip debris floating out to sea ripples on surface, when the water is calm
	Types	<ul style="list-style-type: none"> Permanent - remains for months, years around rocks and piers Fixed - hole or gully formed by sand.. lasts months or days Flash - temporary; caused by large surf build up in a short time Traveling - strong littoral current along the beach

	Escaping	<ul style="list-style-type: none"> • Don't panic! Don't swim against a rip! • Ride the rip out to the back, then swim parallel to the shore, then in to shore • Strong swimmers should swim at 45 degrees across rip
Surf Skills	Negotiate Surf	<ul style="list-style-type: none"> • Observe conditions, wade through shallows dive under waves, hold bottom until wave passes, and check progress occasionally.
	Body Surfing	<ul style="list-style-type: none"> • Timing essential, surf with arms extended in front of you, keeping body straight.
	Board Paddling	<ul style="list-style-type: none"> • Position on board, getting on the board, paddling, rolling under waves, catching waves.

First Aid

Section	Notes	
Body Check	Procedure	<ul style="list-style-type: none"> • Examine the casualty: head and neck; chest; abdomen; upper limbs; lower limbs; back.
Major Bleeding	Procedure	<ul style="list-style-type: none"> • DRABC • Pressure and compression bandaging • Apply tourniquet as last resort - 7.5cm wide soft rubber • Seek help
Sprains and Strains	Treatment	<ul style="list-style-type: none"> • Apply RICE which is a basic treatment for acute muscle, ligament and bone injuries
Dislocations	Treatment	<ul style="list-style-type: none"> • Prevent movement • Immobilise the injured limb • Apply ice
Fractures	Symptoms and Treatment	<ul style="list-style-type: none"> • Pain and loss of function. Support and immobilize the broken limb, treat for shock.
Spinal/Neck injuries	Cause and Treatment	<ul style="list-style-type: none"> • Caused by vertical compression, forward bending (flexion) • DRABC • Keep patient's neck in natural position during transport
Chest Pain	Cause and Treatment	<ul style="list-style-type: none"> • Caused by prolonged chest pain • Stop all physical activity • Relax patient • Gather Patients Medical history • Give Oxygen therapy if available by qualified person • Loosen patients clothing • Arrange for medical assistance
Hypothermia	Cause and Treatment	<ul style="list-style-type: none"> • Prolonged exposure to elements influenced by age, activity, physique and exposure to drugs or alcohol,

		<ul style="list-style-type: none"> Place patient in sheltered area with warmth and prevent further heat loss. Give warm sweet drinks (no alcohol or caffeine) Do not rub or massage patient
Heat Exhaustion/Stroke	Symptoms and Treatment	<ul style="list-style-type: none"> Exhaustion: Warm, pink skin; sweating; cramps; vomiting; headache; confusion. Cease activity; remove to shade and cool; loosen clothing; douse with water, give cool drink Stroke: Hot, dry, pale skin; not sweating; aggressive; restless; may have a fit; sudden collapse. Heat stroke may be life-threatening Rapid cooling, with ice packs to groin, armpits, DRABC, seek medical help
Burns	Treatment	<ul style="list-style-type: none"> Run Tap water over Burns for 15-20 Mins Call for medical assistance
Marine Envenomation	Treatment	<ul style="list-style-type: none"> Blue Bottles - Wash off remaining tentacles with water (and fingers) Apply ice for 15 minutes: this may be uncomfortable at first - warn patient; monitor breathing Blue ringed octopus: wash wounded area; apply pressure bandage, immobilise limb; seek medical help
Other		<ul style="list-style-type: none"> Eye injury: prevent rubbing; wash with cold water; pull upper lid down over lower lid; don't poke! Amputated digits: put in a clean plastic dry bag; seal this bag; put inside another bag with ice All serious accidents and resuscitation must be reported to the Club Vice Captain or Captain ASAP.