



Resource Manual for Instructors of Life Saving

**Royal Life Saving Society
New Zealand**



The Royal Life Saving Society New Zealand asserts its intellectual rights to ownership of the format and content in this manual. It asks that copies of individual pages only be made for personal use and that no copies are made of multiple pages/sections without referencing the Society. Any person found using the format and content of this manual for financial gain without the express written permission of the Society may be liable for any costs incurred by the Society in asserting its intellectual rights.

The Royal Life Saving Society New Zealand would like to acknowledge material obtained from the Hawkes Bay Branch, Royal Life Saving Society New Zealand in compiling this book. In particular the many years of voluntary work by the late Cynthia Redwood whose legacy continues in this document.

The RLSSNZ acknowledges the use of images obtained from the World Wide Web. Where possible images from similar organisations to RLSSNZ have been used.

The RLSSNZ expects those individuals using this Resource Manual to have a proficient working knowledge of water safety, swimming strokes, rescue strokes and basic first aid.

In refreshing this knowledge, basic instructions and various modifications are included to assist individual instructor's knowledge as well as for the use of each instructor when teaching others. Templates and other resource material are included as appendices.

RLSSNZ Award Schemes

RLSSNZ candidates are advised to obtain, read and work with the appropriate Award Scheme criteria. The latest copy is available from:

Award Secretary. Paper copy. Cost - \$20.

Administrative Secretary. Electronic copy. Cost - \$10.



Table of Contents

AQUATIC SKILLS	5
FLOATING	5
<i>What is Floating</i>	5
<i>How to Float – Supine</i>	5
<i>How to Float – Prone (also known as deadman's float)</i>	6
<i>How to Transition from Supine to Prone OR Prone to Supine</i>	7
<i>How to recover from a float position</i>	7
SURFACE GLIDING	8
<i>What is Surface Gliding</i>	8
<i>How to Supine Glide – from a solid vertical surface e.g. Pool Wall</i>	8
<i>How to Prone Glide – from a solid vertical surface e.g. Pool Wall</i>	9
STREAMLINING	10
TREADING WATER	10
SCULLING	11
<i>What is Sculling</i>	11
<i>How to Stationary Scull</i>	11
<i>How to Head First Scull</i>	11
<i>How to Feet First Scull</i>	12
SWIMMING STROKES	13
<i>Common Swimming Errors</i>	13
<i>How to swim Front Crawl/Freestyle</i>	14
<i>How to swim Backstroke</i>	15
<i>How to swim Breaststroke</i>	16
<i>How to swim Sidestroke</i>	17
SURVIVAL STROKES	18
<i>What is a Survival Stroke</i>	18
<i>How to swim Survival Sidestroke</i>	18
<i>How to swim Survival Breaststroke</i>	18
<i>How to swim Survival Backstroke</i>	19
HELP (HEAT ESCAPE LESSENING POSITION)	20
HUDDLE POSITION	20
AQUATIC RESCUE TECHNIQUES	21
DROWNING PREVENTION	21
WATER EMERGENCIES	22
RECOGNISING A CASUALTY	23



INITIATIVE IN AN EMERGENCY	23
WATER ENTRIES	24
WATER EXITS	26
HEAD FIRST SURFACE DIVE	27
FEET FIRST SURFACE DIVE	27
UNDERWATER SEARCHES	28
APPROACH STROKES	29
DEFENSIVE TECHNIQUES	30
BLOCKS	31
ESCAPES	31
RESCUES	32
TOWING TECHNIQUES	36
BASIC FIRST AID	38
BASIC LIFE SUPPORT	38
EXPIRED AIR RESUSCITATION (EAR)	40
SPINAL BASIC LIFE SUPPORT (BLS)	41
PLANNING CONSIDERATIONS	44
INSTRUCTOR RESPONSIBILITIES	44
TEMPLATES	45
EXAMPLE OF LESSON PLAN – STATIONARY SCULLING	45
LESSON PLAN TEMPLATE - GUIDE	46
FACTORS AFFECTING LEARNING	46
FEEDBACK SANDWICH	46
SETTING LEARNING OUTCOMES USING THE SMART ACRONYM	47
SCENARIOS	51
SCENARIO 1	51
SCENARIO 2	51
SCENARIO 3	52
SCENARIO 4	52
SCENARIO 5	53
SCENARIO 6	53

AQUATIC SKILLS

Floating

What is Floating

Floating is a stationary, motionless body position maintained on the surface of the water. It is often the first experience in learning to swim. If achieved early and successfully it facilitates confidence in the water. Floating can be either supine (on the back) or prone (on the stomach) and is an essential skill in water safety and swimming.








Benefits

- ▶ Supine floating - easy breathing and talking as face is clear of the water
- ▶ Confidence builder
- ▶ Water survival skill
- ▶ Used to 'rest' while swimming long distances or changing swimming strokes
- ▶ Basic component in the process of learning to swim

Limitations

- ▶ No forward or backward movement with either supine/prone position
- ▶ Limited ability to hear
- ▶ Prone floating – requires facial immersion in the water
- ▶ Prone floating – breathing and talking requires head movement

How to Float – Supine

-  Commence from a vertical position in shoulder-deep water
-  Simultaneously:
 - ⊗ spread arms horizontally out from the body
 - ⊗ lean back in the water as far as possible slightly arching spine
 - ⊗ lift legs towards the surface of the water
-  Continue to lean backwards and lift legs until lying flat on the surface
-  Arms should be out to the sides, legs can be together or slightly apart
-  Keep head, shoulders and hips aligned on the water surface
-  Ears are under water with head looking straight up
-  Breathe calmly and stay relaxed



Transition from upright position to supine floating position

How to recover from a Supine Float



Simultaneously:

- ✿ draw knees towards chest
- ✿ arms 'pull' water forwards and up towards the surface
- ✿ lift head clear of the water



When upright:

- ✿ extend legs
- ✿ place feet on the bottom of the pool or change to a sculling action if in deep water



Recovery from supine floating position to upright position

How to Float – Prone (also known as deadman's float)



Commence from a vertical position in shoulder-deep water



Simultaneously:

- ✿ spread arms horizontally out from the body
- ✿ lean forward into the water until face is submerged
- ✿ lift legs towards the surface of the water



Continue to lean forward and lift legs until lying flat on the surface



Arms should be out to the sides, legs can be together or slightly apart



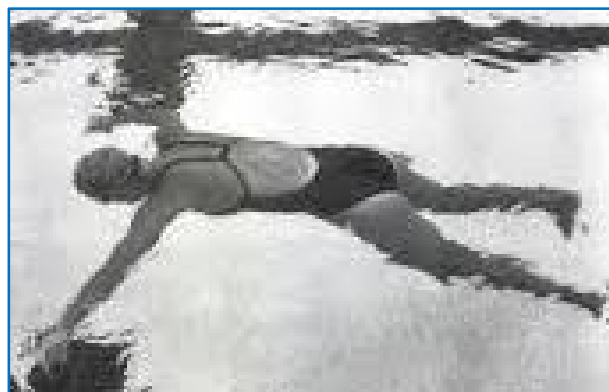
Keep head, shoulders and hips aligned on the water surface



Ears are under water with head looking straight down



Lift head or turn head sideways to breathe and stay relaxed



Deadman's floating position

How to recover from a Prone Float



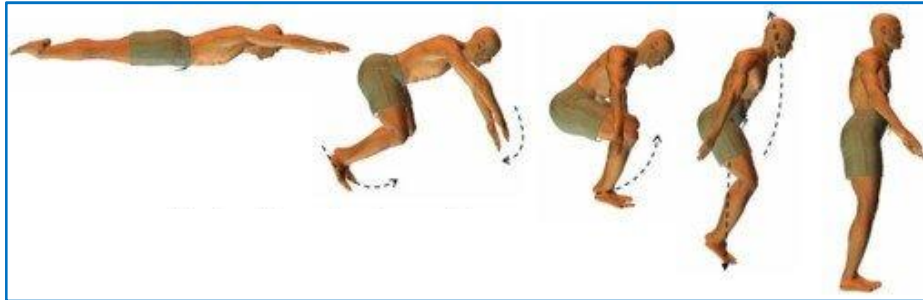
Simultaneously:

- ✿ draw knees towards chest
- ✿ arms 'push' water down and back
- ✿ lift head clear of the water



When upright:

- ✿ extend legs
- ✿ place feet on the bottom of the pool or change to a sculling action if in deep water



Recovery from prone floating position to an upright position

How to Transition from Supine to Prone OR Prone to Supine



Simultaneously place:

- ✿ arm/hand down alongside body on side you will turn to
- ✿ opposite hand across body, palm facing out and onto opposite shoulder
- ✿ opposite leg over other leg ending with knees and ankles crossed



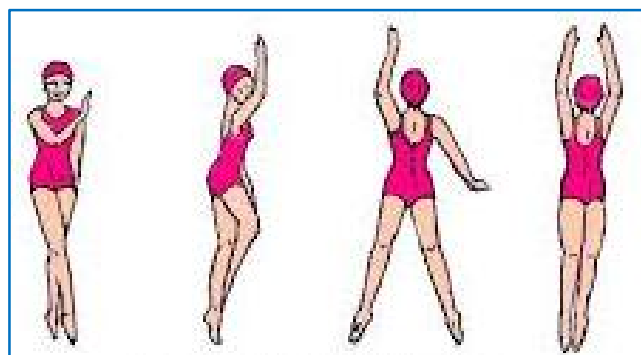
Turn opposite hips and shoulders



Move lower arm slightly behind hip (supine to prone) OR slightly in front of hip (prone to supine)



Continue turn adjusting arms/legs to maintain buoyancy/position in the water



Transition from supine to prone floating position

How to recover from a float position

Use the techniques explained in supine floating or prone floating to move to a vertical position in the water. Alternatively, transition to one of the swimming strokes.

Surface Gliding

What is Surface Gliding

Surface Gliding means travelling (usually forward) on the surface of the water without any movement of arms, legs, torso or head. It is generally used when pushing off from a solid object (pool wall, pool bottom), as part of a swimming stroke, resting when swimming long distances or when changing to another stroke.







Benefits

- ▶ Provides flotation and forward movement when commencing swimming
- ▶ Maintains buoyancy when changing swimming strokes







Limitations

- ▶ Limited time available before next movement
- ▶ Glide length is restricted by inefficient propulsion or inefficient swimming stroke

How to Supine Glide – from a solid vertical surface e.g. Pool Wall

-  Stand, scull or hold pool wall facing the vertical surface
-  Bend knees as far as possible while keeping head above the water
-  Simultaneously:
 - ✿ stretch both arms straight up either side of the head and over the ears
 - ✿ hands side by side
 - ✿ breathe in and lean backwards as far as possible
 - ✿ lift feet and push off firmly from a vertical surface
-  Straighten legs and point toes
-  Assume streamline position (page 10)
-  Hold this position as long as possible before commencing swimming stroke







How to Supine Glide – from a solid horizontal surface e.g. Pool Bottom

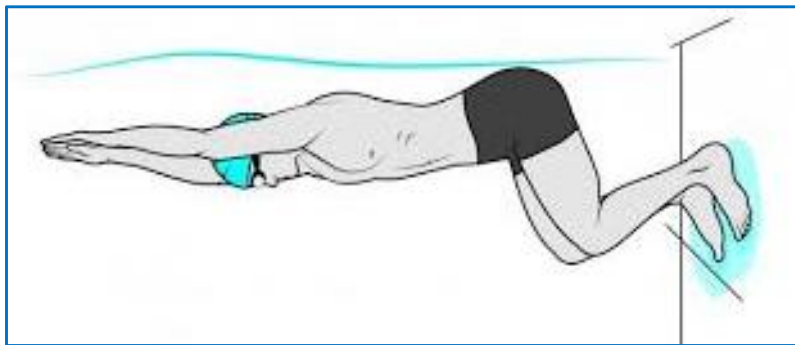
-  Stand on the bottom with your back facing where you want to go
-  Bend knees as far as possible while keeping head above the water
-  Simultaneously:
 - ✿ stretch both arms straight up either side of the head and over the ears
 - ✿ hands side by side
 - ✿ breathe in and lean backwards as far as possible
 - ✿ push off firmly with feet
-  Straighten legs and point toes
-  Assume streamline position (page 10)
-  Hold this position as long as possible before commencing swimming stroke

How to recover from a Supine Glide

See recover from Supine Float (page 6)







How to Prone Glide – from a solid vertical surface e.g. Pool Wall

-  Stand, scull or hold the pool wall with back against a vertical surface
-  Bend knees up as far as possible while keeping head above the water
-  Simultaneously:
 - ✿ stretch both arms straight out along surface of the water
 - ✿ hands side by side
 - ✿ breathe in and place face in the water between arms level with the ears
 - ✿ lift feet and push off firmly from a vertical surface
-  Straighten legs and point toes
-  Assume streamline position (page 10)
-  Hold this position as long as possible before commencing swimming stroke



Prone Glide from vertical surface

How to Prone Glide – from a solid horizontal surface e.g. Pool Bottom

-  Stand on the bottom
-  Bend knees as far as possible while keeping head above the water
-  Simultaneously:
 - ✿ stretch both arms straight out along the surface of the water
 - ✿ hands side by side
 - ✿ breathe in and place face in the water between arms level with the ears
 - ✿ push off firmly with feet
-  Straighten legs and point toes
-  Assume streamline position (page 10)
-  Hold this position as long as possible before commencing swimming stroke

How to recover from a Prone Glide

When forward movement reaches a minimum, transition to another stroke, float or see *How to recover from a prone float* (page 7)

Streamlining

What is Streamlining

Maintaining a streamlined position to assist in reducing drag, ensuring buoyancy, flotation and increasing speed through the water. (Also known as a torpedo glide).

Benefits

- ▶ Decreases water resistance (drag), improves length of glide
- ▶ Improves propulsion and stroke effectiveness

Limitations

- ▶ Increased water resistance if incorrect position

How to Streamline

- 🏊 See how to glide (pages 8 and 9)



Torpedo Glide

Treading Water

What is Treading Water

Movement that allows the swimmer to stay afloat. Children instinctively use 'dog paddle'. Treading water is a survival and rescue technique which keeps the head above water.

Benefits

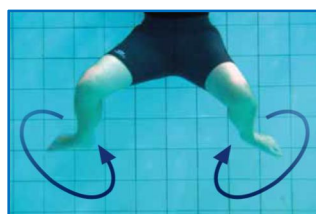
- ▶ Provides buoyancy allowing the swimmer to stop and recover from:
 - * loss of direction or tiredness
 - * swallowing water accidentally
 - * fogged goggles

Limitations

- ▶ Risk of water intake and/or sinking if not performed correctly

How to Tread Water

- 🏊 Keep body upright in the water and head above water
- 🏊 Scull with both hands (see stationary sculling page 11), use any kick/leg action



Eggbeater kick

Sculling

What is Sculling

Sculling is a basic swimming technique where movement of the forearms, hands, legs and feet maintain the head above water. It is a basic survival skill, efficient, energy-conserving, providing support when no flotation devices are available and body weight is causing the person to sink. Modifications allow forward or backward movement.

Stationary Sculling Benefits

- ▶ Easy breathing and talking as face is clear of the water

Stationary Sculling Limitations

- ▶ Stationary sculling does not allow for forward or backward movement

How to Stationary Scull

- 🏊 Commence in a supine float position
- 🏊 Elbows comfortably out from the body, hands near hips
- 🏊 Fingers and thumb together, hands slightly cupped
- 🏊 Upper arms remain still, forearms/hands move in an inward and outward action
 - ✳ thumbs DOWN as hands sweep out
 - ✳ thumbs UP as hands sweep in
 - ✳ a continuous figure of 8 action
- 🏊 Legs remain relaxed and move with the water

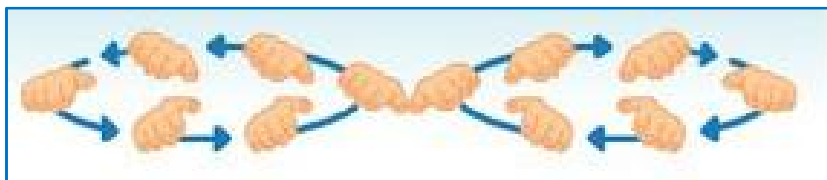


Figure of 8 hand sculling motion

Head First Sculling Benefits

- ▶ Supine allows easy breathing and talking as face is clear of the water
- ▶ Allows head first movement in the water

Head First Sculling Limitations

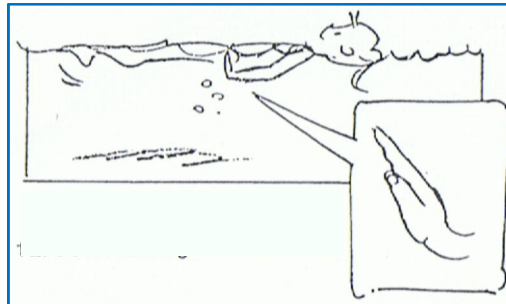
- ▶ Movement is slow

How to Head First Scull

- 🏊 Commence from a supine float position
- 🏊 Elbows comfortably out from the body, hands near hips
- 🏊 Fingers and thumb together, hands slightly cupped
- 🏊 Bend hands backwards at the wrist so fingers point towards the sky
- 🏊 Upper arms remain still, forearms/hands move in an inward and outward action

- ✿ thumbs DOWN as hands sweep out
- ✿ thumbs UP as hands sweep in
- ✿ a continuous figure of 8 action

Legs move in a flutter kick (see front crawl Page 14 or backstroke Page 15)



Head First Sculling

Feet First Sculling Benefits

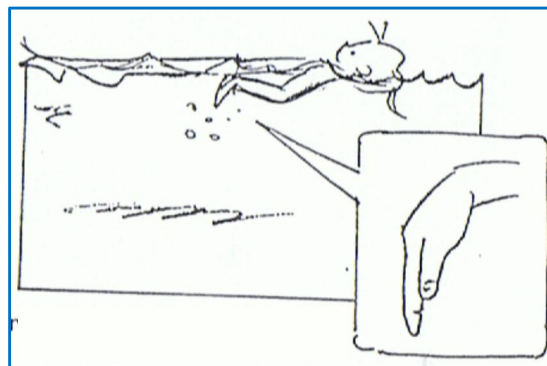
- ▶ Supine allows easy breathing and talking as face is clear of the water
- ▶ Allows feet first movement in the water

Feet First Sculling Limitations

- ▶ Movement is slow

How to Feet First Scull

- 🏊 Commence with a supine floating position
- 🏊 Elbows comfortably out from the body, hands near hips
- 🏊 Fingers and thumb together, hands slightly cupped
- 🏊 Bend hands forward at the wrist so fingers point towards bottom
- 🏊 Upper arms remain still, forearms/hands move in an inward and outward action
 - ✿ thumbs DOWN as hands sweep out
 - ✿ thumbs UP as hands sweep in
 - ✿ a continuous figure of 8 action
- 🏊 Legs move in a flutter kick (see front crawl page 14 or backstroke page 15)



Feet First Sculling

Recover/Transition for all Sculling Strokes

See Recover from Floating or Gliding (pages 6, 7, 8, or 9)

Swimming Strokes

It is useful to review swimming strokes, their benefits and limitations plus the actions involved in performing them. This will help to consolidate the previous section and make the link to following sections. Swimming is the action of actively moving through the water. There are a number of strokes that can accomplish this. The most common recreation swimming strokes are:

- Front Crawl (freestyle)
- Backstroke
- Breaststroke
- Sidestroke

Common Swimming Errors

Incorrect leg action

- Excessive force/speed/knee bending causes early tiredness
- Stiff hips/knees/ankles hinders smooth action
- In backstroke incorrect leg action causes legs to sink which compromises overall body position

Incorrect arm action

- Incorrect arm/hand entry, incorrect 'pull' action, incorrect arm/hand exit all reduce stroke effectiveness and propulsion

Mis-timed breathing

- Breathing at the wrong time in the stroke cycle means greater risk of swallowing water, greater respiratory effort, increased shortness of breath

Incorrect head position

- For breaststroke, backstroke and front crawl incorrect head position (e.g. lifting head) causes hips to drop, increasing resistance and slowing the stroke

Lack of trunk rotation

- Not rotating (rolling) the body during the swimming stroke leads to reduced stroke effectiveness, early tiredness, reduces length of sustained swimming

Stroke cycle too fast/too short

- A swim cycle that is too fast or too short reduces propulsion, wastes energy, increases early tiredness

Mis-timed stroke cycle

- If all aspects of a swim stroke cycle are even slightly mis-timed the swimmer will waste energy and not sustain the effort

What is Front Crawl/Freestyle

Front Crawl is the fastest forward motion stroke; swum prone, face immersed, using arms and legs, turning head to breathe at specific intervals. Power and propulsion come from the arm and leg actions, giving smooth continuous movement through the water. Efficiency comes from a streamlined position but trunk rotation is essential.







Benefits

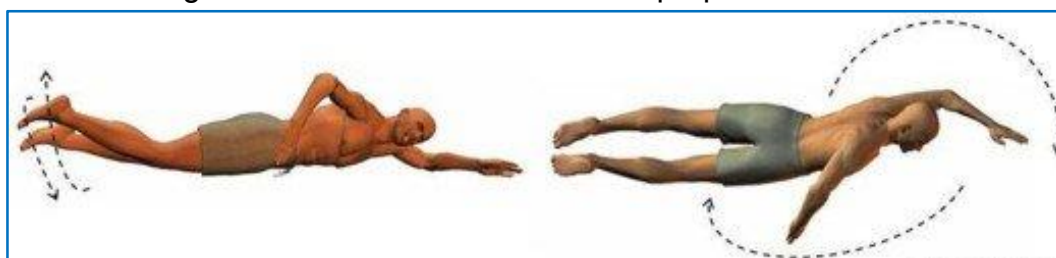
- ▶ Fast, efficient with forward vision as required (head movement when breathing)

Limitations

- ▶ Inefficient if performed incorrectly (see Common Swimming Errors, page 13)

How to swim Front Crawl/Freestyle

-  Commence from a streamlined prone glide
-  Use a continuous flutter kick
 - ✿ legs should be straight and toes pointed
 - ✿ allow slight supple movement in the hips/knees/ankles
-  Add first arm
 - ✿ with fingers together flex wrist/elbow (until almost vertical in the water)
 - ✿ keep upper arm high in the water (mostly horizontal)
 - ✿ firmly pull forearm back to chest
 - ✿ firmly pull entire arm back and straighten until hand is by hip/thigh
 - ✿ shoulder/elbow lift arm out of the water (forearm almost vertical)
 - ✿ move arm forward until in front of the head
 - ✿ hand and forearm enter water, keep extending arm until fully extended
 - ✿ start again.....
-  Add second arm
 - ✿ follow all steps above
 - ✿ start second arm movement when first arm is at hip level
-  Add head movement and breathing cycle
 - ✿ only the face is underwater, back of head should be just above surface
 - ✿ breathe in on every third arm lift (alternate sides)
 - ✿ as arm is raised – turn head slightly to that side, only enough to breathe
 - ✿ turn face back underwater, breathe out for the following two arm actions
-  Add body movement
 - ✿ roll so the side where arm is moving forward is higher than the other
 - ✿ rolling aids muscle use and increases propulsion



Trunk rotation in front crawl

What is Backstroke

The only swimming stroke swum supine so the swimmer cannot see where they are going. The face is out of the water allowing easy breathing/talking. Efficiency comes from a full arm stroke, which needs shoulder flexibility, and a continuous leg kick.

Benefits

- ▶ Easy breathing
- ▶ Arms provide as much propulsion as legs

Limitations

- ▶ Slower than front crawl but faster than breaststroke
- ▶ Swimmer cannot see where they are going
- ▶ Inefficient if performed incorrectly (see Common Swimming Errors, page 13)

How to swim Backstroke

 Commence from a streamlined supine glide

 Use a continuous flutter kick

- ✿ legs should be straight and toes pointed
- ✿ allow slight supple movement in the hips/knees/ankles

 Add first arm

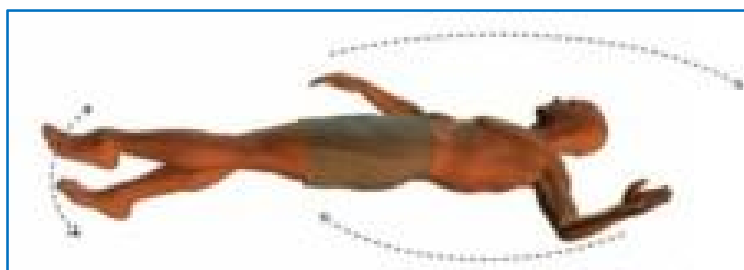
- ✿ with fingers together, turn palm of hand away from body
- ✿ firmly pull straight arm vertically down into the water, palm to face bottom
- ✿ continue firmly pulling arm down ending with hand near hip/thigh and palm against body
- ✿ keeping arm straight, lift it from the water and return to start position keeping arm over torso and head (not out to the side)
- ✿ hand enters water in line with centre of the body and palm facing out
- ✿ start again.....

 Add second arm

- ✿ follow all steps above
- ✿ add second arm when first arm is at hip level

 Add head movement and breathing cycle

- ✿ head remains in line with the body, face pointing up at ceiling/sky
- ✿ breathe as required without moving head
- ✿ keep neck relaxed and keeps body line straight



Backstroke action

What is Breaststroke

The oldest of swimming strokes with examples back to the stone age. Thought to have been developed after watching frogs swim, it is the most popular recreational style due to the swimmer's head being out of the water a large portion of the time, and that it can be swum comfortably at slow speeds.

Benefits

- ▶ Large percentage of the stroke is glide time

Limitations

- ▶ The most inefficient of the four swimming strokes due to high frontal resistance
- ▶ Slow stroke
- ▶ Inefficient if performed incorrectly (see [Common Swimming Errors](#), page 13)

How to swim Breaststroke



Commence with a streamlined prone glide

- ✿ arms and legs move simultaneously to ensure smooth effective stroke
- ✿ turn palms out, bring each arm out about 45 degrees from the midline
- ✿ flex arms at the elbow and pull to chest level
- ✿ lift head until chin at water level, breathe while being propelled forward
- ✿ bring arms back to the midline and return to the starting position
- ✿ breathe out under water (glide position, only pause in the entire stroke)
- ✿ bend knees and bring heels up towards the body, turning feet outwards
- ✿ sweep legs out, around and slightly downwards in a flowing movement
- ✿ increase the speed of leg return in the last quarter of the movement
- ✿ legs end up together and straight



Breaststroke leg action

What is Sidestroke

Basic Sidestroke is a swimming stroke that requires the swimmer to lie on their side whilst propelling themselves forward using all four limbs in a sequence of actions.

Benefits







- ▶ Clear forward and backward vision as face is clear of the water
- ▶ Easy breathing, hearing and talking as face and one ear is clear of the water
- ▶ Energy efficient if glide phase is as long as possible
- ▶ Good for long distances

- ▶ Can be swum on either side and easily changed from side to side
- ▶ Can face away from choppy water
- ▶ Can easily be adapted for assisting a person in distress in the water

Limitations

- ▶ Difficult to learn as all four limbs perform different movements in sequence
- ▶ Not a common stroke
- ▶ Slow
- ▶ Inefficient if performed incorrectly (see Common Swimming Errors, Page 13)

How to swim Sidestroke

-  Start with a prone glide
-  Transition to a sidestroke position (choose which side to turn)
 - ✿ Underwater arm stretched out straight in front of the head – palm down
 - ✿ Surface arm resting along the body/hip – palm down
 - ✿ Head resting on the underwater arm – ear under water
 - ✿ Legs straight
 - ✿ Body horizontal in the water
-  Underwater hand flexes at the wrist, arm pulls in a curving motion down and around ending in front of body at shoulder level
-  Then simultaneously:
 - ✿ Underwater arm returns to start position by pushing up past the head
 - ✿ Surface arm flexes at wrist and elbow, comes to where lower arm finishes and 'pushes' water down the body ending back along the body/hip
 - ✿ Legs perform orthodox 'scissor kick'
 - Bend legs slightly at the knee
 - Surface knee moves towards stomach with ankle bent (like taking a big step forward) while underwater leg moves backwards with toes pointed (like taking a big step backward)
 - Bring both legs together quite firmly and rapidly
 - Straighten legs and point toes on upper leg
-  Glide until momentum slows – using this time to lift head and breath
-  Repeat all above steps

Timing:

PULL (underwater arm)...PUSH (surface arm)... KICK.... GLI.....IDE....BREATH

Use: '*Pick the apple, look at it, throw it away*' to support stroke rhythm

NB: Orthodox Scissor Kick uses surface leg moving forward of the body

Inverted Scissor Kick uses underwater leg moving forward of the body

Either is acceptable as long as consistency is achieved

Survival Strokes

What is a Survival Stroke

There are three survival strokes:

- Sidestroke
- Breaststroke
- Backstroke

This is because they can be adapted to allow the swimmer to stay safe, retain body heat and preserve energy if immersed in the water for some time.

What is Survival Sidestroke

Sidestroke is a survival stroke. It allows a swimmer to keep submerged during the entire stroke, reducing the risk of hypothermia, sunstroke, wind burn, wind buffeting and sunburn.

Benefits

See Sidestroke benefits (page 16)

Limitations

See Sidestroke limitations (page 17)

How to swim Survival Sidestroke



See How to swim Sidestroke (page 17)



Ensure the glide part of the stroke is maintained as long as possible

What is Survival Breaststroke

Breaststroke is a survival stroke. It allows a swimmer to keep submerged during the entire stroke, reducing the risk of hypothermia, sunstroke, wind burn, wind buffeting and sunburn.

Benefits

See Breaststroke benefits (page 16)

Limitations

See Breaststroke limitations (page 16)

How to swim Survival Breaststroke



See How to swim Breaststroke (page 16)



Ensure the glide part of the stroke is maintained as long as possible

What is Survival Backstroke

Quite different to backstroke as all limbs have a different action. When adapted for survival it allows a swimmer to keep limbs submerged during the entire stroke, reducing the risk of hypothermia, sunstroke, wind burn, wind buffeting and sunburn.








Benefits

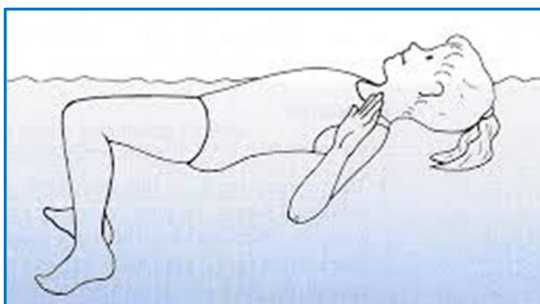
- ▶ An easy survival stroke which conserves energy and reduces heat loss
- ▶ Good if fully/partially clothed
- ▶ Easy breathing
- ▶ Hands/arms close to body preserves body heat and assists in streamlining
- ▶ Arm and leg action together provides propulsion

Limitations

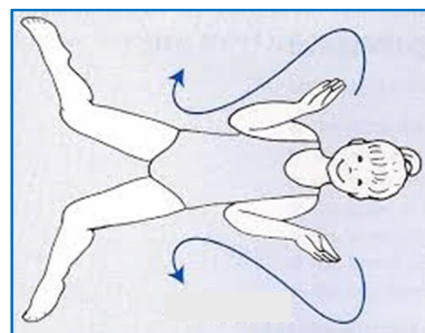
- ▶ Slow and steady
- ▶ Short stroke
- ▶ No forward vision

How to swim Survival Backstroke

-  Commence with a streamlined supine glide, legs straight and arms by sides
-  Legs drop slightly from the surface, bend knees, flex ankles and turn feet out
-  Flex arms at shoulder and elbow – move hands to shoulder height along body
-  Simultaneously:
 - ✿ pull legs up to the body preparing to whip kick
 - ✿ turn palms away from the body, extend only lower arms out sideways
-  Simultaneously:
 - ✿ bring legs down and around in whip kick
 - ✿ sweep lower arms around, down and against body
 - ✿ exhale
 - ✿ do not splash or break water surface
-  Return to streamlined supine glide and inhale
-  Glide for as long as possible with legs together and arms in starting position as this conserves heat and energy



Survival backstroke body position



Survival backstroke 'angel wings'

HELP (Heat Escape Lessening Position)

This is a floating position that utilises a buoyant aid and reduces heat loss when a casualty cannot exit the water. It protects the body's three major areas of heat loss (groin, head/neck, and rib cage/armpits).

- ▶ Hold or wear a buoyant aid
- ▶ Arms tight against the body and legs together
- ▶ Bend/raise knees to the chest if possible OR let the legs hang down
- ▶ If the knees are bent, hold your knees
- ▶ Periodically call/signal for help



HELP – knees bent



HELP – legs straight



Huddle Position

This is used by small groups of casualties to maintain the HELP together. Used when there is a risk of casualties being separated.

- ▶ Form a circle
- ▶ Keep the sides of the bodies in contact with each other
- ▶ Keep legs together or intertwined in the middle of the circle
- ▶ Each person puts their left arm over the shoulder of the person to their left
- ▶ Each person puts their right arm around the waist of the person to their right
- ▶ If not wearing a PDF – place a buoyant aid in the middle of the circle
- ▶ Place any children in the middle of the huddle
- ▶ Keep unnecessary movements to a minimum in order to conserve energy
- ▶ Periodically call/signal for help



Huddle Position

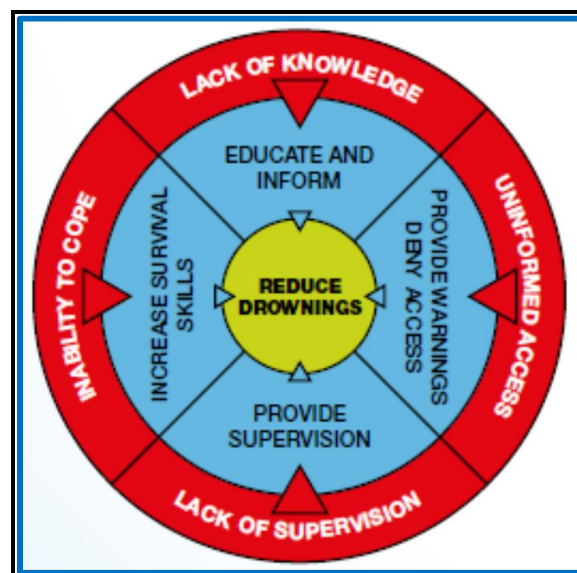
AQUATIC RESCUE TECHNIQUES

Drowning Prevention



RLSSUK; 2018

*The International Life Saving Federation defines Drowning as:
“The process of experiencing respiratory impairment from
submersion or immersion in liquid”*



Drowning Prevention Model adapted by the ILS from the drowning chain of survival

Drowning prevention was first mentioned in a book published in 1538 by Nicolas Wynman, a German professor of languages and poetry.

Water Emergencies

Beach/lake

- A person not making headway when trying to return to safety
- Swimmers panicking in breaking waves
- A face looking towards shore when others are watching waves

River

- Canoeist tangled in overhead branches
- A person has slipped down the bank and into the water
- A person being swept along by a fast/strong current

Pool

- A swimmer fails to surface after diving in
- A 'gutter crawler' edging towards the deep end
- A stressed child in deep water

Signs from bystanders

- A woman sprinting towards children in the water
- People gathering in one place near the water
- A change in noise, level of noise: shouting OR silence

Signs from a distressed swimmer

- Hair over face and mouth as submerging
- Head back, panic look on face, arms '*climbing a ladder*'
- An arm held vertically out of the water (recognised signal for assistance)

Non-swimmer

- Vertical in the water, '*climbing a ladder*'
- Hair over mouth, gasping for air
- Frozen motionless, terror on face

Injured swimmer

- Under diving boards, near obstacles or other swimmers
- Sudden medical events e.g. heart attack etc.
- Often concerned with injury – may not respond to instructions

Weak swimmer

- Exhausted expression
- Often out of depth, as they are unaware of how weak a swimmer they are
- Often able to follow simple instructions

Unconscious casualty

- Medical condition
- Collision with another swimmer or obstacle
- Diver landed on them

Spinal casualty

- Awkward position
- Possibly unconscious
- May be able to call for help but not move

Recognising a Casualty

Panicking casualty

- Anything from no arm/leg movement to frantic swimming actions
- Anything from no calling to desperate shouting/waving
- May not be able/willing to respond to instructions
- May not grasp aids but likely to grasp at rescuer (high risk to rescuer)
- May calm down when head/shoulders supported above the water

Non-Panicking casualty

- Will use their legs/arms to maintain buoyancy and airway
- Will communicate by shouting and/or signalling for assistance
- May assume a floating/swimming position on their back or side
- Likely to respond to instructions and likely to co-operate (e.g. grasp aids)
- May be able to self-rescue if given an aid, support and guidance

Unconscious casualty

- Completely limp, no movement, no communication, no response
- May be floating on or under the water
- Contact rescue (if safe), casualty not able to assist with rescue

Initiative in an Emergency

The 4 'A's

- Awareness, Assessment, Action, Aftercare

Awareness

Recognition of an aquatic emergency. The rescuer must ensure their own safety. Action may be: a rescue attempt, alerting emergency services OR stopping others from becoming potential casualties.

Assessment

- Call for assistance from others nearby and call to the casualty/casualties
- Assess the situation/water conditions/possible dangers against your skills
- Is a dry, wade or tow rescue possible/needed, look for flotation devices
- Should the emergency services be called

Action

- Perform a safe and efficient rescue using the results of the assessment.

Aftercare

- Provide appropriate aid until assistance arrives.

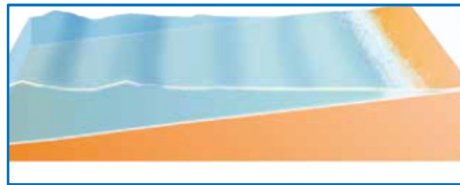
Water Entries

When choosing an entry, consider:

- personal Safety
- height from edge to water
- water depth, water flow, water temperature, water clarity
- distance to casualty

Wading Entry

If there is a beach/sloping access, wading into shallow water is the best method for unknown conditions. Carefully feel the way with your feet. Move forward until you are in chest deep water and can begin to swim.



Slide-in Entry (Facing the water - Front facing)

Front entry into unknown water with an edge. Sit on the edge facing the water. Use arms to lower yourself and slide in slowly. Feel for the bottom and obstacles with your feet then wade into chest deep water and begin to swim OR slide in until you can scull then use a slow careful stroke until clear of any obstacles.

Slide-in Entry (Back towards the water - Back facing)

Back entry into unknown water with an edge. Kneel on the edge facing AWAY from the water and use arms to lower yourself in slowly. Feel for the bottom and obstacles with your feet then turn, wade into chest deep water and begin to swim OR slide in until you can turn, scull then use a slow careful stroke until clear of any obstacles.

Stride Entry

Into deep water, where the drop is less than 1.5 metres, the water is clear and no obstacles can be seen. Watching the casualty, step off the edge into the water with your body leaning forward, head up, looking forward, legs spread in a stride position (one forward, the other back), and arms extended out to slap the water and reduce the descent depth. Keep your head above water. Once in, kick your legs or use breaststroke-like movements to keep afloat. Once stable and orientated, proceed as needed.



Stride Entry



Compact Jump

Into deep water, where the drop is greater than 1 metre, the water is clear and no obstacles can be seen. Tuck chin on to chest, place one hand over mouth and nose, second hand over first elbow. Pull elbows tight against body. Step off the edge and pull legs together before entering the water. Keep knees slightly bent. Once in the water, tuck legs up or pike to stop downward movement. Once stable and orientated, proceed as needed.

Standing Dive

Into deep water, where the drop is greater than the height of the person diving, the water is clear and no obstacles can be seen. Stand on the edge, feet together. Bend forward at the hips, swing arms backwards then forwards. Push off as far as possible.

Shallow Dive Entry

Into shallow water, as you just glide across the surface. However, sharp objects below the surface may still hit you. Use this entry wisely. Perform as per standing dive.

Running Dive

Into known water. This dive aims to utilise momentum to gain distance. Using a run-up to the edge allows for further distance, especially if push off from the leading foot is maximised.

Water entry with rescue aid

Small aid – hold against body with one hand when entering the water.

Bigger, buoyant, attached line – let go when entering the water then retrieve.

Water entry wearing a life jacket

Use a stride entry firmly holding the collar or neckline with both hands and pulling it down towards the feet to avoid it slipping up and off or obstructing the face. Place the other hand over nose and mouth, head forward. Keep both elbows tight in against the body as much as possible.

Water entry using ladders/stairs/steps

Using ladders properly is an important part of learning about our aquatic environment. Ladders can be at the pool, on the boat, next to a platform or on the jetty. Slow, feet first and controlled is the way to go.

Water Exits

Safe Water Exit

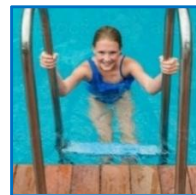
Make sure you have a firm footing on a ladder or pool edge. Exits from lakes or steep beaches require more care. Consider slippery banks and underwater obstacles which could cause injuries. Remember that waterlogged clothes can weigh as much as 5 kilograms.



Exit from a pool or water with a steep bank



Assisted wade out



Climb out

Stirrup Lift

If casualty is able to support their own weight, support them close to the edge of the water. The rescuer cups hands near the casualty's knee, allowing the casualty to step into the cup. When the casualty transfers weight to that foot and straightens leg, the rescuer boosts their hands up, propelling casualty high enough for them to climb out.



Stirrup Lift

Straight Arm Lift

After ensuring the casualty is safely holding onto something or a second person has a dry rescue hold of the casualty, the rescuer climbs out of the water, grasps the casualty's arms (either alone or with the second person), lifts the casualty until they can lie on the pool edge or bank.



Straight Arm Lift

Head First Surface Dive

- ▶ When a swimmer needs to submerge quickly
- ▶ The water is clear, the bottom is known to be free of weed and other dangers



From a facedown glide simultaneously:

- ✿ reach down in the water as far as possible
- ✿ pull strongly with the arms
- ✿ (keep repeating the last two actions)
- ✿ tuck head down
- ✿ bend at hips to bring buttocks up
- ✿ then straighten legs nearly to the vertical



Open eyes to search for object



Head First Surface Dive



Feet First Surface Dive

- ▶ When a swimmer needs to submerge carefully
- ▶ There may be unknown conditions underwater

Swim to an appropriate place to submerge and scull. Simultaneously:

- ✿ swing both arms upwards until they are together over the head
- ✿ bring legs together and keep them straight
- ✿ the swimmer will be driven vertically down
- ✿ when below the surface use a hand scull to maintain depth

Use this to escape from an upturned boat. Push upwards against the boat to get downwards momentum. Descend feet first as far as needed. Turn onto your back. Swim away from the boat in this position until it is safe to surface. Can also be used to exit a patch of debris/floating oil etc.



Feet First Surface Dive

Underwater Searches

NB: Searches should always follow an organised format to ensure the entire search area is covered.

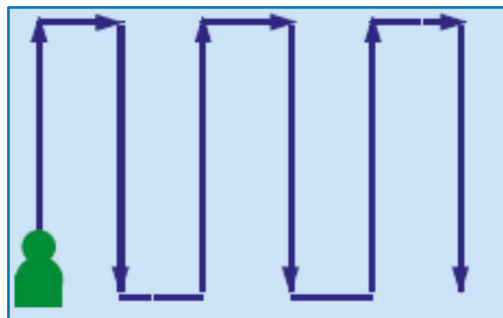
For searching in clear shallow water, wading is best. This can be one person or a line of searchers. Murky water requires a touch search. Assess conditions before proceeding as the risk to searchers is high. Use either a head first or feet first surface dive. Once underwater, if conditions appear safe to search head first – commence the underwater swimming technique for the remainder of the search.



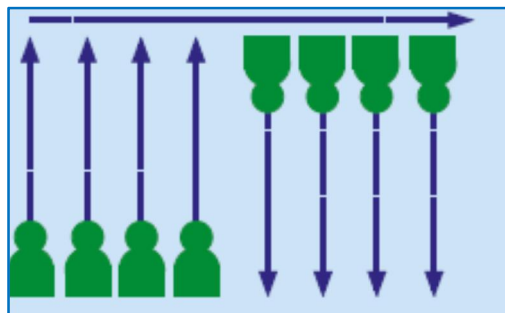
Shallow wading search



Line search – 4 or more people



Individual search pattern



Line search pattern – multiple people

Approach Strokes

Approaching a situation

- A stroke that gives a rescuer fast and safe access to within 2-3 metres of a rescue situation. Front crawl/freestyle, breaststroke or sidestroke are strongly recommended.
- Adapt the stroke to the situation, water conditions, type of aid, and distance to the casualty.
- The approach will generally be a straight line from entry to the situation. In pools, distances are so short that a head up breaststroke is most versatile. Over a longer distance in open water use front crawl and pace the approach to save energy for the potential rescue.

Benefits

- ▶ Front Crawl – fast, efficient, easily modified for approach
- ▶ Breaststroke – slower than front crawl, efficient, easily modified for approach
- ▶ Sidestroke – slower than front crawl or breaststroke, efficient, can be modified for approach

Limitations

- ▶ Few if swum properly

How to swim an Approach Stroke



Front Crawl/Freestyle

- ⊗ swim with the head up
- ⊗ allows forward vision
- ⊗ keeps situation in sight
- ⊗ allows assessment of distance to swim
- ⊗ allows assessment of surroundings/hazard



Breaststroke

- ⊗ modify breaststroke by looking ahead on each stroke
- ⊗ allows forward vision
- ⊗ keeps situation in sight
- ⊗ allows assessment of distance to swim
- ⊗ allows assessment of surroundings/hazard



Sidestroke

- ⊗ modify sidestroke by looking ahead on each stroke
- ⊗ allows forward vision
- ⊗ keeps situation in sight
- ⊗ allows assessment of distance to swim
- ⊗ allows assessment of surroundings/hazard

Defensive Techniques

A person in distress may display additional strength and aggression and may even attempt to climb onto a rescuer. Any such person must therefore be approached with extreme caution. **NB:** the 'contact zone' is the area around a casualty that presents the highest risk to the rescuer.

Defensive Stand-off Position

- ▶ When approaching a conscious swimmer who is struggling
- 🏊 Stop approximately 3 metres from the person, maintain position by sculling
 - ⊗ bend legs up a little
 - ⊗ lean back slightly
 - ⊗ communicate with the casualty
 - ⊗ assess their needs
 - ⊗ reassure, ask and give instructions clearly
 - ⊗ only proceed if the rescuer is confident the casualty will not grab



Defensive Stand-off Position

The Defensive Reverse Technique

- ▶ When the casualty attempts to grab the rescuer
- 🏊 Thrust legs towards the person:
 - ⊗ kick away with lots of leg splashing to deter grabbing
 - ⊗ use arms to increase speed
 - ⊗ adopt the defensive position as described earlier
 - ⊗ communicate with casualty
 - ⊗ reassess situation and determine safe action
 - ⊗ only proceed if confident casualty will not grab at you again



Defensive Reverse Technique

Blocks

A trained rescuer always tries to avoid being grabbed. However there are situations when the rescuer needs to escape an attempted grab.

Defensive Block

- ▶ When within reach of a casualty and the casualty attempts to grab the rescuer
- 🏊 Raise arm, leg or rescue aid
 - ⊗ push casualty away firmly – use casualty's chest to push off from
 - ⊗ assume defensive stand-off position and reassess situation
 - ⊗ communicate with the casualty and proceed as required



Defensive Block – with aid

Escapes

A trained rescuer always tries to avoid being grabbed. However there are situations when the rescuer needs to escape from an actual grab.

- ▶ When a rescuer needs to escape from a hold
- 🏊 Take a deep breath, tuck chin in to protect airway and throat
 - ⊗ allow submersion with casualty
 - ⊗ grab casualty near waist/elbows/armpits/hips
 - ⊗ strongly push casualty upwards
 - ⊗ swim under water until out of reach
 - ⊗ assume defensive stand-off position and reassess the situation
 - ⊗ communicate with the casualty and proceed as required



Escape Techniques

Rescues

Reach Rescue

▶ A dry rescue as the rescuer does not enter the water



Call for assistance

- ⊗ attract the casualty's attention and encourage them to tread water
- ⊗ select a rescue aid
- ⊗ lie flat on the edge of the water and anchor self with feet/one hand/both
- ⊗ reach out with aid
- ⊗ have casualty hold other end of aid
- ⊗ pull casualty to safety



Reach rescue, alone - using a rescue aid



Reach rescue, assisted – using a rescue aid

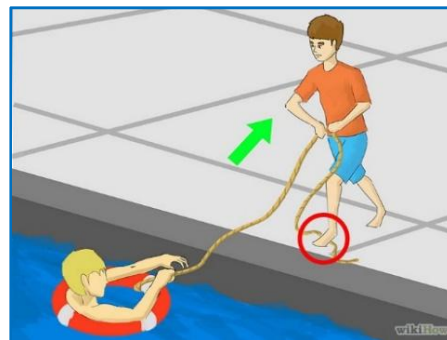
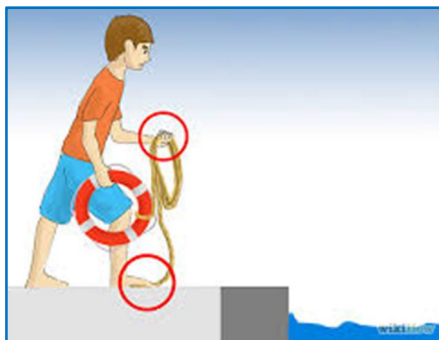
Throwing Rescue

▶ A dry rescue as the rescuer does not enter the water



Call for assistance

- ⊗ get the casualty's attention, instruct them to stay calm and tread water
- ⊗ select a rescue aid with rope attached
- ⊗ tell the casualty that you will throw the rescue aid
- ⊗ choose a safe position to throw from
- ⊗ coil rope, securing the loose end (under your foot if necessary)
- ⊗ aim just in front of the casualty and throw
- ⊗ when casualty grabs rescue aid, instruct on how to hold it
- ⊗ tell casualty to hold it against their chest with both arms
- ⊗ get casualty to keep looking at you and ask them to kick their legs
- ⊗ take up the slack on the rope and guide casualty with gentle pulling
- ⊗ monitor personal safety and the safety of the casualty
- ⊗ if in danger release the rope and reassess



Rope throw – note loose end of rope is secured underfoot

Wade Rescue

- ▶ A wet rescue as rescuer wades to the casualty.
- 🏊 Take a buoyant aid and wade in as far as necessary
 - ✿ instruct the casualty in what to do
 - ✿ accompany casualty out of the water

Swimming Rescues

There are three broad categories of rescues. They are listed in order of safety for the rescuer – high to low. Where possible, a rescuer should deliver a flotation device to the casualty. This is the first requirement for a person in difficulty and usually has a calming effect.

- ▶ Accompanied rescue
 - * in which the casualty is given a flotation device and is then able to return to safety while the rescuer accompanies them
- ▶ Non-contact rescue
 - * in which a flotation/towing device is held between the rescuer and the casualty to avoid physical contact and then towed to safety
- ▶ Contact rescue
 - * in which the rescuer is in physical contact with the casualty and towed to safety

Accompanied Rescue

- 🏊 Call for assistance
 - ✿ get the casualty's attention, instruct them to stay calm and tread water
 - ✿ wear a PFD if possible
 - ✿ select an appropriate buoyant rescue aid for the casualty
 - ✿ enter the water appropriately for the conditions
 - ✿ approach and reassure the casualty, assume a defensive stand-off
 - ✿ tell the casualty that you will throw the rescue aid
 - ✿ aim just in front of the casualty and throw
 - ✿ when casualty grabs rescue aid, instruct on how to hold it
 - ✿ tell casualty to hold it against their chest with both arms
 - ✿ assure the casualty the device will provide sufficient physical support
 - ✿ tell the casualty how to kick
 - ✿ swim in front of the casualty or to the side – leading them to safety
 - ✿ provide frequent reassurance but remain out of reach at all times



Accompanied Rescue

Non-contact Rescue



Call for assistance

- ✿ get the casualty's attention, instruct them to stay calm and tread water
- ✿ wear a PFD if possible
- ✿ select an appropriate buoyant rescue aid for the casualty
- ✿ enter the water appropriately for the conditions
- ✿ approach and reassure the casualty, assume a defensive stand-off
- ✿ tell the casualty that you will throw the rescue aid
- ✿ aim just in front of the casualty and throw
- ✿ when casualty grabs rescue aid, instruct on how to hold it
- ✿ tell casualty to hold it against their chest with both arms
- ✿ assure the casualty the device will provide sufficient physical support
- ✿ tell the casualty how to kick
- ✿ take the other side/attachment of the towing device, swim sidestroke or survival backstroke towing them to safety
- ✿ provide frequent reassurance but remain out of reach at all times

Should the casualty attempt to grab the rescuer, the rescuer must let go of the device immediately and scull backwards away from the casualty. Reassess the situation and reassure the casualty, explaining why the rescue has stopped and when/how it will start again. When safe to do so, resume the tow.



Non-Contact Rescue Technique

Contact Rescue

A contact rescue may be unavoidable in some circumstances. Particular care must be taken by a lifesaver when rescuing a casualty who is larger/stronger. A panicking casualty may not respond to instruction and it may be safer to wait out of reach until the casualty becomes semi-conscious before risking any physical contact



Ensure the safety of the rescuer – this is a high risk procedure



Wear a PFD if possible



Take a buoyant aid



Approach and reassure the casualty, assume a defensive position



Assess the situation:

[If the casualty is unconscious](#)

- ✿ move in quickly and position casualty into a supine float position

- ✿ support casualty with the buoyant aid (under shoulders)
- ✿ support head if necessary with one hand
- ✿ securely grip the casualty/aid in preparation for towing
- ✿ keep the casualty's face above water and airway open at all times
- ✿ keep casualty as horizontal as possible (to reduce drag)
- ✿ rescuer must attempt to remain as horizontal as possible
- ✿ swim survival backstroke or survival sidestroke
- ✿ continue to reassess safety and exit route until rescue complete

If the casualty is conscious

- ✿ wait in the defensive position until the casualty responds positively to instructions
- ✿ follow the sequence for '*unconscious casualty*' (earlier in this box)
- ✿ choose a tow which allows the rescuer's best swimming technique
- ✿ encourage the casualty to kick or hand scull

Separating Casualties

Some casualties panic and in the situation of a multiple rescue will grasp each other in an attempt to support each other or save themselves. These casualties cannot be safely rescued unless they can be separated. To do this is not easy as casualties feel they need the physical support of the other person. The rescuer therefore must be very clear and very firm in the instructions given to such casualties so that they pay attention and comply. The most effective way to separate casualties is to offer a buoyant aid to each person at the same time.

Multiple Rescues

Where there is more than one person in the water who needs assistance, the rescuer must assess what is needed. It is preferable to support one casualty at a time, aiming to reach a point of safety. However, the difficulty is in who to rescue first as assessment of everyone's needs takes time and a quick decision is essential. The rescuer can make the decision to rescue multiple casualties at the same time but must be very aware of the increased safety risk to themselves and the casualties. If this decision is made several techniques could be combined e.g. give one casualty a buoyant aid, whilst towing another.

Towing Techniques

Clothing Tow

- ▶ When the casualty is conscious, co-operative and conditions are calm
- 🏊 Call for assistance
 - ⊗ enter the water safely
 - ⊗ approach the casualty and assume defensive stand-off position
 - ⊗ assess situation and approach casualty as able
 - ⊗ position casualty into a supine float position, support head with one hand
 - ⊗ use other hand to grasp clothing at back of neck
 - ⊗ swims survival side stroke for one hand tow
 - ⊗ swims survival back stroke for two hand tow
 - ⊗ ask casualty to kick or scull as able



Clothing tow

Hair Tow

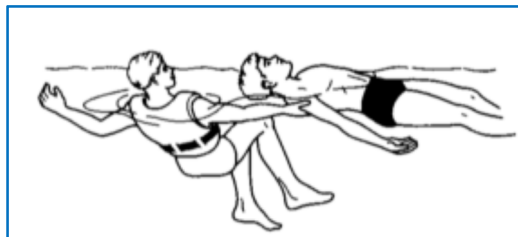
- ▶ Same as clothing tow but with a firm grasp on the hair at the crown of the head.

Wrist Tow

- ▶ When casualty is conscious and co-operative
- 🏊 Grasp casualty's wrist
 - ⊗ use side stroke with one arm and scissor kick
 - ⊗ encourage casualty to kick or scull as able

Single Armpit Tow

- ▶ When casualty is semi-conscious, not able to help, in any conditions
- 🏊 Approach casualty from behind and lie them on their back
 - ⊗ place fingers under armpit and thumb on top of arm
 - ⊗ use sidestroke with one arm and a scissor kick
 - ⊗ encourage casualty to kick or scull as able



Single Armpit Tow

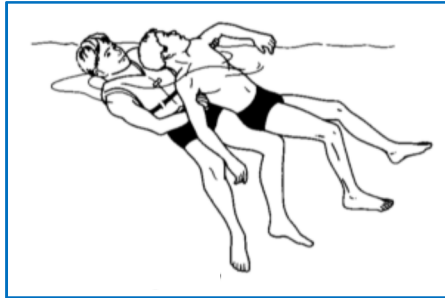
Double Armpit Tow

- ▶ When the casualty is semi-conscious, not able to help, in any conditions



Approach casualty from behind and lie them on their back

- ✿ place a hand under each armpit
- ✿ swim on your back with eggbeater kick
- ✿ ask casualty to kick if possible

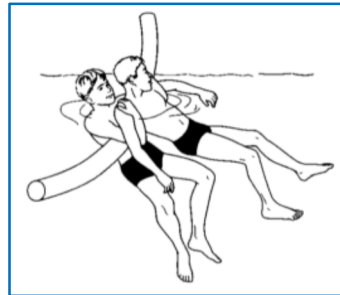


Double Armpit Tow – no aid

Double Shoulder Tow



As per Double Armpit Tow, but the rescuer places each arm under the armpits of the casualty and curls hands up to rest on the front of the casualty's shoulders. This tow gives greater control, casualty elevation and is good for an unconscious casualty.



Double Shoulder Tow – with aid

Cross Chest Tow



When there is rough water, casualty is stropky, or a non-swimmer



Approach from behind

- ✿ place right arm over casualty's right shoulder and across chest (or left arm over left shoulder)
- ✿ place right hand on left side of casualty's chest (or the reverse)
- ✿ clamp elbow on to chest
- ✿ lock casualty's lower back against rescuer's hip
- ✿ use sidestroke with one arm and a scissor kick

Two-handed Head Tow



When casualty is non-breathing, unconscious or rescuer needs firmer hold



Approach from behind

- ✿ hold casualty each side of their head (over ears)
- ✿ swims survival backstroke – legs only
- ✿ casualty rests on rescuer's chest/abdomen

Basic First Aid

RLSSNZ reminds all candidates that the responsibility for maintaining a recognised current first aid certificate lies with the candidate.

Key Points

- Never place yourself at greater risk than the casualty.
- Treat the most life threatening problem first – not the most obvious.
- Unconscious, breathing casualties should be put in the stable side position.
- Use gloves if available/possible.
- Severe bleeding is life threatening, apply direct pressure promptly.
- If the casualty is unconscious and not breathing commence CPR.
 - * Remember head position – infants, children, adults
 - * Effective breaths – seal around mouth/nose; amount of breath
 - * Compressions position – centre of chest
 - * Compression depth – 1/3 of depth of the chest
 - * Early defibrillation – as soon as AED equipment available

NB: There is a mobile phone app that provides the location of the nearest AED.

Basic Life Support

A candidate's First Aid Certificate will cover Basic Life Support (BLS).

The RLSSNZ expects that candidates are proficient in BLS on land, BLS in the water, Expired Air Resuscitation (EAR) in the water and rescuing a spinal injured casualty from the water. Here are some reminders.

What is basic life support (BLS)?

The preservation of life by the establishment and/or maintenance of the airway, breathing and circulation and related emergency care without the use of equipment.

Is it okay to move an injured casualty?

YES

- to ensure the safety of both the rescuer and the casualty
- where weather conditions or terrain indicate movement is essential
- to make possible the care of airway, breathing, and circulation
- to control bleeding

NB: The airway takes precedence over any fracture, including a broken neck.

Why is it necessary to place an unconscious casualty on their side?

- to obtain and maintain a clear airway
- to provide ready access to the airway
- to facilitate drainage and lessen the risk of inhaling foreign material
- to avoid unnecessary bending and twisting of the neck
- to permit continuing observation of the casualty



What if the unconscious person has suspected spinal injuries?

- care of the airway takes precedence over any other injury
- the casualty must be handled without movement of the head/spine

Is resuscitation possible in the water?

YES

The principles of resuscitation in the water are similar to resuscitation on land:

- establish a clear airway
- check for presence or absence of breathing
- consider the distance to safety
- move the casualty to dry land as quickly as possible, to reduce the possibility of loss of body temperature

Signs/symptoms of Hypothermia

- shivering, slurred speech, blurred vision
- bluish lips and fingernails
- loss of feeling in extremities
- cold, bluish skin
- confusion
- dizziness
- rigidity in extremities
- unconsciousness
- coma
- death

When calling/phoning for assistance from the emergency services remember

- which service you need (Fire/Ambulance/Police)
- where are they needed (location)
- who needs assistance (type and number of casualty)
- what has happened (incident leading to injury/injury observed)
- when did the incident occur (how long ago/what time)

Expired Air Resuscitation (EAR)

Commonly referred to as 'mouth-to-mouth resuscitation', EAR is part of CPR, or used separately as an effective method for sustaining life, as a rescuer breathes out sufficient oxygen to keep the casualty's body from suffering physiological damage due to lack of oxygen. EAR should only be performed when a person is:

not breathing, or only making occasional gasps or weak attempts at breathing

EAR is only effective if the chest rises and falls with each breath. Do not over- or under- inflate. Expel an appropriate amount of air for the size of the casualty.

Mouth-to-Mouth Is not used for in-water rescues due to the potential risk of water entering the casualty's mouth. The rescuer seals the casualty's mouth with their own mouth, pinches the soft part of the nose closed, gently but firmly, and then blows air into the casualty's mouth. Suggested for adult sized casualties.

Mouth-to-Nose Used for in-water rescue breathing or when the casualty has sustained facial injuries that prevent using the mouth. The rescuer closes the casualty's mouth, covers the nose with their mouth, breathes gently then releases the casualty's jaw to allow exhalation.

Mouth-to-Nose-&-Mouth Preferred method when resuscitating an infant as the rescuer's mouth can cover and seal both the infant nose and mouth.

EAR in deep water is very difficult. A rescuer needs to be adaptable and use any available support, either fixed or floating.

- ▶ If the casualty is not breathing and no flotation devices are immediately available, use any towing technique to take the casualty to a flotation device/safe location/depth in which to commence EAR
- ▶ When the unconscious casualty is not breathing and flotation devices are available:
 - 🏊 Lie across it to OR hold it with one hand
 - ⊗ choose to:
 - hook other arm under nearest arm of casualty and place fingers under chin
 - let casualty's head lie over wrist of arm holding on to the support
 - ⊗ maintain airway (chin lift, head tilt)
 - ⊗ turn casualty's head towards you
 - ⊗ rescuer kicks legs to rise above casualty
 - ⊗ look, listen, feel for breathing
 - ⊗ using mouth to nose artificial respiration, give two slow breaths
 - ⊗ complete the rescue as soon as possible
 - ⊗ give two further breaths if needed
 - ⊗ land casualty
 - ⊗ continue resuscitation in a warm sheltered position (if possible)

🏊 Summon additional professional assistance as soon as possible

Spinal Basic Life Support (BLS)

Most water based spinal injuries affect the lower part of the neck and are caused by:

- vertical compression
- forward bending with rotation

It is not just the bony spine that is affected, neck injuries also affect:

- ligaments
- muscles
- nerves
- blood vessels

*Care for a suspected spinal injury may appear complex but it is not.
If the casualty is breathing – you have time to think and plan a safe rescue.*

Recognition of a possible spinal injury

- casualty's shape, position or location in the water
- verbal indication from the casualty
- pins/needles/abnormal sensation/numbness/paralysis anywhere
- unusual pain in head, neck, shoulders
- floating face down
- witness accounts

Principles of Spinal BLS

- head/neck in neutral position
- move casualty's arms slowly and within normal range of movement
- do not remove from water unless at risk by staying in the water
- provide constant reassurance

Land a spinal casualty without specialist help if

- not breathing normally
- has other life threatening conditions
- is not safe in the water

If necessary – use a horizontal lift with head/spine alignment

Immobilisation

- out of the water do not move them unless:
 - airway is blocked or impaired and they need resuscitation
 - they are in immediate danger
- in the water
 - face down – roll them (vice grip/extended arm roll)
 - check airway and breathing
 - immobilisation

Signs of life

- check for ABC as able
- focus on airway

Vice Grip – Face Down casualty

- ▶ A spinal injury is suspected, casualty is face down, rescuer has been trained



Approach casualty from the side

- ✿ place one forearm along casualty's sternum (elbow at bottom of ribcage), use hand to support jaw (thumb on one side, fingers on the other) without putting pressure on the throat
- ✿ place other forearm on casualty's spine (elbow at the middle) with hand clamped on back of head
- ✿ keep arms, elbows, wrists, hands and fingers rigid to immobilise casualty's upper body. Gently press both arms/hands against casualty
- ✿ rotate casualty horizontally by rolling under them and surfacing on the opposite side with casualty now face up

Vice Grip – Face Up casualty

- ▶ A spinal injury is suspected, casualty is face up, rescuer has been trained



Approach casualty from the side

- ✿ place one forearm along casualty's sternum (elbow at bottom of ribcage), use hand to support jaw (thumb on one side, fingers on the other) without putting pressure on the throat
- ✿ place other forearm on casualty's spine (elbow at the middle) with hand clamped on back of head
- ✿ keep arms, elbows, wrists, hands and fingers rigid to immobilise casualty's upper body. Gently press both arms/hands against casualty

Check BLS



Check for consciousness – call “can you hear me”

- ✿ if no response – check if casualty is breathing (look and listen)
- ✿ do not lift casualty's head, keep ears at or under surface of the water
- ✿ keep casualty immobile and firmly held in vice grip
- ✿ hold this position and wade to the edge of the water if possible
- ✿ reassure conscious casualty
- ✿ await assistance

Extended Arm roll over – Face Down



Gently move casualty's arms under/along surface of the water (horizontally) so they extend above the head

- ✿ stand at the casualty's shoulder level, facing their head
- ✿ place a hand on each upper arm, pressing the casualty's arms against their ears and immobilising their neck
- ✿ turn casualty over by bringing your furthest arm to you rolling casualty on to their back
- ✿ put arm closest to the casualty's head crossways under casualty's head and arms
- ✿ use other arm to check for signs of life

See photos on next page.....



Face down extended arm rollover – face down to face up

Towing a casualty with a suspected spinal injury

- ▶ When the casualty is in water deeper than the rescuer's chest
- 🏊 Use vice grip or extended arm rollover hold on the casualty
 - ⚙ swim to shallow water/safe point of exit maintaining vice grip and using eggbeater kick
 - ⚙ when in shallow water – wade to the edge maintaining vice grip

Stabilisation of the Casualty

- ▶ When the casualty's head and neck are stabilised, airway is being managed and more assistance is available
- ▶ Support casualty at hips and ankles. Maintain horizontal position. Keep casualty mainly submerged. Most knowledgeable person to take control of the head and be in charge

NB: A casualty with a spinal injury will lose heat more rapidly than other casualties. Wait in the water for specialised assistance, especially if conditions are cold. Cover rescuer and casualty with blankets etc. to conserve heat.

PLANNING CONSIDERATIONS

Instructor Responsibilities

As instructor/session supervisor, you are responsible for what occurs in your session. Points that should be covered during session planning: before, during and after the session and covered in the debrief following an emergency situation include:

- Do you hold a qualification in swimming or lifesaving or water safety?
- Do you hold a first aid or CPR qualification?
- Are you a proficient swimmer?
- Are lessons planned and is appropriate equipment used?
- Do you formulate an Emergency Procedure for the session/venue?
- Do you check venue facilities/emergency equipment before starting?
- Can you locate a first aid kit, first aid personnel, phone?
- Do you know the local emergency phone number?
- Do you have a support person available to assist in an emergency?
- Do you check if anyone in the group has a disability affecting movement?
- Do you check if anyone in the group has a medical condition that may require urgent treatment e.g. Diabetes, Asthma? If so, do they have their medication, treatment, reversal nearby?
- Do you check if anyone in the group has taken alcohol or recreational drugs in the last 24 hours? If so, what will you do?
- Do you take all reasonable precautions and safety measures?
- Do you assess student's capabilities and change lesson plans accordingly?
- Do you use various teaching techniques?
- Do you use 'land' based practice as well as 'water' practice?
- Do you leave the session unsupervised at any time?
- Do you use appropriate techniques to maintain control of the session?
- Do you display a professional image?
- Do you physically demonstrate techniques? If so, who maintains overall session safety while you demonstrate?
- Do you use appropriate techniques to maximise student participation?
- Do you communicate effectively with everyone involved?
- Do you provide informative feedback to students?
- Do you always dress in clothing appropriate for a water rescue?
- Do you implement safety rules effectively?

TEMPLATES

Example of Lesson Plan – Stationary Sculling

<i>Learning Outcomes</i>
<ul style="list-style-type: none"> • Students will be able to transfer theory to practice • Students will be able to transfer skills from land to water • Students will be able to support themselves in water using sculling arm action • Students having difficulty in floating should demonstrate improvement • Students should be familiar with sculling so this should be revision
<i>Teacher Activity</i>
<p>Student Practice action:</p> <ul style="list-style-type: none"> • Standing on land • Standing in water with shoulders under • Hands beside hips and slightly to the front of the body <p>Get students to:</p> <ul style="list-style-type: none"> • Gently lie back • Ears under water • Feet and legs lifting to horizontal • Arms sculling to support body <p>For students having difficulty try:</p> <ul style="list-style-type: none"> • A linked pair of flotation devices under upper thigh • Hand paddles to ensure correct hand rotation • Leg movement to maintain horizontal body position
<i>Teaching Points</i>
<ul style="list-style-type: none"> • Hands create twin whirlpools • Feet want to lift from bottom of pool • Elbows out from body • Forearms/hands do the work and turn fully from push to pull action • Forearms/hands move together • Promote relaxation
<i>Check That</i>
<ul style="list-style-type: none"> • Forearms/hands rotate, thumbs UP on pull, DOWN on push • Body horizontal • Hands near hips, elbows out from body • Relaxation achieved • Equal effort push/pull • Good use of forearms (not finning/scooping) • No upper arm action • Eyes open • Normal breathing



Lesson Plan Template - Guide

<i>Learning Outcomes</i>
<ul style="list-style-type: none"> • List several bullet points of what you need/want the students to achieve • Keep them short • Be specific • Use SMART acronym (Specific, Measurable, Appropriate/Achievable, Relevant, Timely/Time bound)
<i>Teacher Activity</i>
<ul style="list-style-type: none"> • Define how to do the action • Describe/demonstrate activity • Describe individual and group activities to practice • Define how performance will be judged • Define how corrections will be made and when
<i>Teaching Points</i>
<ul style="list-style-type: none"> • Define main points of each action • Define which actions will be promoted most • Define criteria that is essential
<i>Check That</i>
<ul style="list-style-type: none"> • Criteria is met • If not quite achieved – has significant progress occurred

Factors affecting Learning

<ul style="list-style-type: none"> • Age • Learning rate • Readiness to learn • The need to practice • The need for effective feedback • Disabilities

Feedback Sandwich

<ul style="list-style-type: none"> • Give a positive comment • Then add an improvement comment • Finish with an overall comment <p>Example: "That was good backstroke. I think you could make even more headway if you change the angles of your hands. But I see a lot of improvement over the last few weeks".</p>



Setting Learning Outcomes Using the SMART Acronym

S – Be Specific	
Means	<ul style="list-style-type: none"> • Well defined • Clear to anyone that has a basic knowledge of the overall plan • Target a specific action for improvement • A section/chunk of the total task • Achieved before moving on <p>A specific goal has a much greater chance of being accomplished than a general goal. Provide enough detail so that there is no indecision as to what exactly the participant should be doing.</p>
M – Measurable	
Means	<ul style="list-style-type: none"> • An expected specific result • An indicator of progress • The target is achievable • A specific step towards completion <p>Measurable progress allows the participant to see the change as it occurs. This can be measured either on a sliding scale (1-10), or as a success or failure.</p>
A – Achievable	
Means	<ul style="list-style-type: none"> • Target can be reached • Achievable for the level of participant • Allows some progression from their baseline level <p>An achievable goal has an outcome that is realistic given the participant's current knowledge and resources.</p>
R – Realistic	
Means	<ul style="list-style-type: none"> • Results that can be realistically achieved, given available resources • The results will make a difference to the participant's knowledge <p>Start with what the participant can and will do. Let the participant experience the joys of meeting their goal.</p>
T – Timely	
Means	<ul style="list-style-type: none"> • Aim for regular progress • Specify dates/times for completion or progress • Ensure enough time for the progress required <p>Set a timeframe e.g.: next week, in three months, by six months. Setting an end point gives the participant a clear target to achieve.</p>

Lesson Plan for:
Date:
Group/Level:
Learning Outcomes
Teacher Activity
Teaching Points
Check That.....



Lesson Plan for:		
Date:		
Group/Level:		
Activity	Must See Criteria	Achieved/Improvement needed/Comments



Lesson Plan for:		
Date:		
Group/Level:		
Activity	What went well	What do I need to review

SCENARIOS

Instruct each participant so no-one else can hear. Participants must only answer the rescuer with the basics - do not provide more than asked. Yes/No answers are OK.

Scenario 1

Two swimmers in the local pool, one swimming backstroke, the other swimming front crawl. They have a collision.

Pool set-up	In the middle lane 10m from one end. Kickboards at the end of the pool, bucket and broom to one side, rope on the lane rope reels.
Casualty 1	You are swimming front crawl when you collide with a person swimming backstroke. You feel intense pain in one of your arms and react violently when it is touched.
Casualty 2	You are swimming backstroke when you collide with a person swimming front crawl. You become unconscious in a face up position.
Witness 1	You are swimming laps in the outside lane. You do not know about the incident and are not willing to help if asked. You want to finish your exercise and leave.
Rescuer	You have arrived at your local pool to do some laps practicing for your school carnival. It is not busy and you cannot see the lifeguard.

Scenario 2

At the beach a mother is watching her child who is suddenly dumped by a large wave. The child becomes disorientated and although the mother wades in she is a non-swimmer, starts to panic and becomes very emotional. There is a group of friends relaxing on the sand.

Pool set-up	Use sloping entry if available. A beach umbrella, towel and boogie board are on the side of the pool.
Casualty 1	You are a child in chest deep water when you get dumped by a large wave. You become disorientated and are being dragged out to deeper water.
Casualty 2	You are a mother whose child has been dumped by a large wave. You have waded in but cannot swim. Call out that your child needs help and you cannot swim. Fall over in waist deep water and start to panic. Escalate the panic as you cannot put your feet on the bottom.
Rescuer	You are at the beach with friends when you notice a mother and child in the water and you faintly hear the mother calling out but you cannot hear what she is saying.



Scenario 3

An overturned canoe is about 10 metres from shore with one person clinging to it and another person face down in the water near it. An elderly bystander is on the shore.

Pool set-up	Use deep end of the pool, lane rope as substitute for the canoe with casualty one holding on to it. Casualty two is face down nearby. A third person is standing poolside. A PFD is in the water some metres from the incident, a 5 metre rope is tied to the nearest bench (simulating a rope tied to a car), a tree branch is on the edge of the pool and an empty wine cask alongside the pool. Kickboards mark the entry/exit point some 10 metres towards the shallow end from the situation.
Casualty 1	You are a non-swimmer clinging to an upturned canoe. You will not take a rescue aid but attempt to grab the rescuer if they get close.
Casualty 2	You are unconscious and face down in the water but regain consciousness while being towed to shore.
Bystander 1	You are not physically strong and have no swimming or lifesaving ability. Although anxious you are willing to follow specific instructions.
Rescuer	It is a clear day, no wind, and you are running around the local lake. As you get to the carpark you hear someone calling for help. The only entry/exit point is the kickboards (markers only and cannot be used).

Scenario 4

The local waterfall has a beautiful swimming hole that is well used. A swimmer is 15 metres from the edge, holding on to their leg and calling out. Someone wades out to help but gets into trouble when they step into a sudden drop off.

Pool set-up	In deep water with one entry point marked by kickboards. There is an inflated lilo, various tree branches, a rope as well as PFDs belonging to a family.
Casualty 1	You have leg cramp and are holding your leg and calling out. You do not like the feeling of not being able to swim.
Casualty 2	You are a weak swimmer who has waded out to help but are now in trouble yourself when you stepped into a sudden drop off. You call out that you are in trouble and do not swim well.
Rescuer	You are with friends at the local waterfall/swimming hole enjoying being in the water when you hear people calling for help.



Scenario 5

A group of teenagers is having a pool party with lots of laughing and shouting. A struggle to dump someone in the pool ends with three people in the pool.

Pool set-up	Deep water with boundaries of lane markers, diving blocks etc. All casualties are 2 metres from the edge. There is a chilly bin at the end of the pool, a towel along the side, a hose near the edge and a scoop net on the edge.
Casualty 1	Struggle as you go in and surface head up and screaming in pain. Your head hits the bottom and you think it is bleeding.
Casualty 2	As a weak swimmer you start coughing, choking, panicking, thrashing about and grab at the rescuer if they get too close.
Casualty 3	You fall in with the others but surface, swim to the edge and get out. You are more concerned with blaming your mate than with helping.
Bystander	You are on land, have no first aid knowledge but will respond to clear instructions.
Rescuer	While hanging out the laundry you hear a lot of noise from the neighbour's back yard. This noise changes and you look over the fence to see what is going on.

Scenario 6

On a hot summer's day a group of friends are cooling off in the farm dam. There is a tree overhanging the water and someone decided to jump from the tree in to murky water.

Pool set-up	Use the shallow end of the pool with one entry point marked with kickboards OR use a sloping entry point. There are two pool noodles in the water.
Casualty 1	You are an unconscious person in the water – with a possible spinal injury.
Bystander 1	You have no lifesaving experience but are calm.
Bystander 2	You have no lifesaving experience, are upset and panicking.
Bystander 3	You have no lifesaving experience, are upset and panicking.
Rescuer	Your friend has jumped from the tree into murky, shallow water.

NOTES



Wakefields Digital

Smart thinking