Acknowledgements

Content

RLSS UK would like to thank all people and organisations who contributed to the production of this manual:

All volunteers who have contributed to this manual
RLSS UK National Development and Programmes Committee
RLSS UK National Sport Committee
RLSS UK National Communications Committee
Timothy M Smalley, Minnesota Department of Natural Resources
Barbara Byers, The Lifesaving Society (RLSS Canada)
The ASA
British Waterways
The Environment Agency
West Midlands Fire Service
Market Bosworth Water Trust
Leicester Lifeguards

Warwick University Students
Jon Burt
Rob Sheard
Paul Moore MBE
Mat Belcher
Lee Spindler
Warwick Lifesaving Club
Westbury Sandwells Lifesaving Club
Bill Benyon
Trinity Saint David University
Dr P Gates, Botanist Durham University
The Oregonian

Copyright

© 2014 The Royal Life Saving Society UK
Artwork, illustrations and photography © RLSS UK
Published by RLSS UK
Contents

Chapter 1 - Drowning Information and Safety Messages 1

- Definition of Drowning 2
- Drowning Statistics 2
- Causes of Drowning and the Drowning Prevention Model 4
- RLSS UK Water Safety Messages 5
  - SAFE Code 5
  - Beach Flags 5
  - Safety at Open Water Sites 6
  - Safety at Swimming Pools 8
  - Safety around the Home 9
  - Watercraft Safety 10
  - Coasteering (and Tombstoning) 11

- Personal Safety Equipment 12

Chapter 2 - Water Bodies and Sites: The Features, Hazards and Risks 15

- General Open Water Features and Hazards 16
  - Beach Composition 16
  - Water Beds: Composition 16
  - Water Beds: Depth 17
  - Silt, Mudflats and Quicksand 18
  - Banks and Freeboards 18
  - Water Quality (Open Water) 19
  - Deep and Cold Water 20
  - Ice 22
  - Water Speed and Water Force 22
  - Eddies 23
  - Cushion Waves 23
  - Undercut Rocks 23
  - Hydraulics 24
  - Strainers 24
  - Summary Table 25

- Water Site Specific Features and Hazards 26
  - Sea, Coast and Beaches 26
  - Swimming Pools 33

Chapter 3 - Emergency Management 35

- Understanding the Lifesaver’s Internal Response to an Emergency Situation 36

- The Emergency Action Model 36
  - A Framework for Decision Making 36
  - Using the Emergency Action Model 37
  - The Emergency Action Model – An Example of Use 39

- Writing an Emergency Report 40
- Rescue Priorities 40
- Taking Control 41
- Making Emergency Calls 41
Contents

Chapter 4 -
Self-Rescue and Survival Skills  43

Self-Rescue Techniques  44
- Mud, Sand and Quicksand Entrapment  44
- Banks and Freeboards  44
- Ice  45
- Longshore Currents (Lateral Drift Currents)  46
- Rip Currents  46

Survival Skills  47
- Survival Priorities  47
- Fall-in Entry  47
- Floating  48
  - Horizontal Float (Back Float)  48
  - Angled Float  48
  - Vertical Float (Standing Float)  49
- Sculling  49
- HELP Position  50
- Huddle Position  50
- Treading Water  51
  - Eggbeater Leg Kick  51
- Removal of Clothing  52
- Signalling for Help  53

Chapter 5 -
Lifesaving Rescue Skills  55

Casualty Recognition (and Simulation)  57
- Panicking Casualty  57
- Non-Panicking Casualty  58
- Unconscious Casualty  59
- The Contact Zone  59

Entering the Water  60
- Slide-in Entry  60
- Straddle Entry  61
- Step-In Entry  61
- Compact Jump  62

Lifesaving Rescue Techniques  62
- Rescuer Safety  62
- Shout and Signal Rescue  63
- Throwing Rescue  63
- Reaching Rescue  64
  - Rope Rescue  65
- Wading Rescue  66
- Watercraft Rescue  67
- Accompanied Rescue  68
- Tow with an Aid Rescue  69
- Support Tow  70
- Extended Arm Tow  71
- Clothing Tow  72
- Chin Tow  73
- Cross Chest Tow  74
- Ice Rescue  75
  - Shout and Signal Rescue (ice)  75
  - Throwing Rescue (ice)  75
  - Reaching Rescue (ice)  75

Defences and Escapes  76
- Defensive Stand-Off Position  76
- Defensive Reverse  76
- Defensive Block  77
- Defensive Releases  78

Supporting the Casualty in the Water  79
- Turning an Unconscious Casualty  79
- Without a Firm Support  80
- Against a Firm Support  80

In Water Rescue Breathing  81
- Straight Approach  81
- Turn Approach  81

Surface Dives and Recovering the Casualty  82
- Extended Feet First Surface Dive  82
  - Controlled Feet First Surface Dive (adaptation)  82
- Head First Surface Dive  82
- Recovering a Casualty from the Water Bed  83
- Searching for Submerged Casualties  83

Multiple Rescues  85

Separating Casualties that are Locked Together  85

Aquatic Spinal Injuries  86
- Basic Principles of Aquatic Spinal Injury Management  86
- Head Spilt  87
- Turning a Suspected Spinal Injury Casualty  87

Landing the Casualty  88
- Basic Principles of Casualty Lifting  88
The RLSS UK Survive & Save Programme is a series of awards that challenge and develop your skills and knowledge in aquatic survival, rescue, sport, and fitness.

This manual contains all of the skills and information that you will need to complete the Beach Lifesaving Awards.

The beach environment is one of the toughest environments to perform lifesaving skills, due to changeable conditions on the beach and a number of dangers that are unique to the coast, such as rip currents and waves. These awards develop your skills in coping with these challenges by equipping you to identify the dangers and perform lifesaving skills in difficult conditions.

If you want to take the challenge further, you can test your skills in lakes with the Stillwater Lifesaving Awards, or you can challenge your skills against the clock, and learn a range of lifesaving sport skills by taking the Sport Lifesaving Awards.

There are bronze, silver and gold levels to all of the awards, and if you complete three gold level awards within 24 months you will be awarded the Distinction Award, which is the highest lifesaving award available.
Chapter 1

Drowning Information and Safety Messages

Introduction

This chapter identifies some of the factors that cause drowning incidents and outlines the Society’s water safety messages.

Fully understanding the factors involved in drowning incidents and the steps that can be taken to prevent drownings are the foundation to becoming a qualified lifesaver.

Contents

- Definition of Drowning 2
- Drowning Statistics 2
- Causes of Drowning and the Drowning Prevention Model 4
- RLSS UK Water Safety Messages 5
  - SAFE Code 5
  - Beach Flags 5
  - Safety at Open Water Sites 6
  - Safety at Swimming Pools 8
  - Safety around the Home 9
  - Watercraft Safety 10
  - Coasteering (and Tombstoning) 11
- Personal Safety Equipment 12
Definition of Drowning

The International Life Saving Federation (ILS) defines drowning as:

‘The process of experiencing respiratory impairment from submersion/immersion in liquid’

There are also three defined outcomes of drowning, these are:

- Death
- Morbidity (injury)
- No morbidity (no injury)

Once the drowning process has begun, with the submersion/immersion of the casualty’s airway, an intervention must be made to prevent the drowning resulting in death.

Personal survival, self-rescue and rescue are interventions that can interrupt the drowning process. However, it is important to note that even after the drowning process is successfully interrupted, the drowning may still result in short or long term injuries to the casualty.

Water safety education and drowning prevention strategies can stop many drowning events occurring by enabling water users to take positive actions to safeguard themselves. It is only through preventing drowning events occurring that we can guarantee that no level of injury will be sustained by people in, on or near the water.

Drowning Statistics

UK Drownings by Location

On average there are around 400 accidental drowning fatalities in the UK every year. Understanding where and how drownings occur can help to identify what the hazards and risks are, and what actions can be taken to reduce the number of people drowning each year. The figures below are generated from a three year average analysis.

Open Water (86%)

Open water sites are often easily accessible and popular places to visit for recreational activity. The high number of drownings can be largely attributed to the cold water temperatures, ease of access and lack of supervision or rescue services at most open water sites.
Drowning Statistics

UK Drownings by Location (continued)

**Inland (63%)**
The majority of open water drownings occur at inland water sites. Due to open access and proximity to urban areas, rivers and streams account for two thirds of these drownings.

**Coastal (23%)**
Significantly fewer people drown in the sea than at inland water sites. This is due to restricted access to the coast for much of the UK population and Lifeguard supervision at many UK beaches.

**Domestic (10%)**
A significant number of drownings in the UK occur around the home. Most vulnerable around the home are young children and vulnerable adults (the elderly and people with medical conditions).

**Swimming Pools (3%)**
Despite more people swimming in pools than at any other type of water site, swimming pools have the fewest number of drowning of all water sites. This shows that swimming pools are the safest place to swim due to the well-managed water quality, water temperature and Lifeguard supervision.

**Other (1%)**
These small numbers of drownings occur in ditches, marshland, drains, puddles, etc.

UK Drownings by Age and Gender

- Significantly more males drown than females (78% males, 22% females)
- Males are at a higher risk of drowning from the age of 15 years onwards

UK Drownings by Time of Year

- More drownings occur in August than in any other month – this is due to increased numbers of people swimming during hot weather and summer holidays
- Drownings occur throughout the whole year – this demonstrates the importance of ongoing water safety education

---

TO BE CONTINUED
Drowning Information and Safety Messages

Drowning Statistics

UK Drownings by Activity

- Falling in represents the highest proportion of drownings – this demonstrates the importance of self rescue skills.
- Where the activity is not known, it is likely that the casualty was alone before entering the water – this demonstrates the importance of self rescue skills.

Alcohol and Drugs

- Alcohol is a factor in 18% of all drownings.

Due to differences in data collection techniques, comparable drowning statistics for Ireland cannot be produced. For the most up to date Irish drowning statistics visit www.iws.ie

The Causes of Drowning and the Drowning Prevention Model

The Drowning Prevention Model identifies four factors that lead to drownings. The presence of any of these factors can lead to a drowning, however where two or more of these factors are in place the likelihood of a drowning event increases further.

1. **Lack of supervision**
   Unsuitable or absent supervision.

2. **Uninformed, unprotected or unrestricted access**
   Access to water without safety advice.

3. **Inability to cope**
   Insufficient survival knowledge.

4. **Lack of knowledge**
   Disregard or misjudgement of the hazards.

The prompt ‘SACK’ can help you to learn and remember the Drowning Prevention Model – Supervision, Access, Cope, Knowledge.

For each of the four causal factors of a drowning event there is a prevention strategy. RLSS UK delivers these prevention strategies through the following awards, qualifications and activities:

1. **Provision of supervision**
   RLSS UK – Lifeguard and Supervision Programmes.

2. **Restriction of access, improvement of infrastructure, provision of warnings**
   RLSS UK – Working with land and facility owners and management.

3. **Teaching of survival skills**
   RLSS UK – Lifesaving Programmes.

4. **Educate and inform**
   RLSS UK – Lifesaving Programmes, Water Safety Programmes and Water Safety Events.
RLSS UK Water Safety Messages

The Safe Code

The SAFE Code (also called the water safety code) is a simple way of remembering the most fundamental water safety tips. Once you have got to grips with the basic SAFE Code, the rest of this chapter will give you more details on each of the sections.

**SPOT**  
Spot the Dangers  
- Learn about the hazards at swimming pools and open water sites

**ADVICE**  
Take safety advice  
- Read the signs  
- Listen to the Lifeguards

**FRIEND**  
Always go with a friend  
- If one person gets into difficulty the other can get help  
- Never swim alone

**EMERGENCY**  
Learn how to help in an emergency  
- Learn personal survival  
- Learn how to help others

Beach Flags

The beach flags are displayed by the Beach Lifeguards in patrolled areas to provide guidance on the water and wind conditions. The flags also inform beach users where the swimming and water sports zones are.

**Red and Yellow Flag – Swimming zone**  
- Lifeguards patrol between these flags  
- It is the safest area for swimming

**Black and White Chequered Flag – Sports Zone**  
- Lifeguards patrol between these flags  
- It is the safest area for water sports  
- All other beach users should stay out of this area

**Red Flag – No Swimming**  
- The area between these flags is unsafe for people to enter the water

**Wind Sock – Offshore Winds**  
- Shows the direction and force of the wind.  
- Offshore winds can be hazardous for swimmers and people using inflatables
More than 85% of fatal drownings occur at open water sites. Many of these drownings can be attributed to a lack of knowledge and understanding of the hazards at the open water sites, particularly cold water hazards.

Whenever you go to an open water site like a beach or lake, use the information below to plan your activities, identify hazards and control risks.

**Hazards**
Understand and learn to assess the hazards and risks at open water sites (also see Chapter 2).

### Sea and Coast
- Beach Composition
- Water Bed Composition
- Silt, Mudflats and Quicksand
- Water Quality and Pollution
- Deep/Cold Water
- Water Speed and Force
- Cliffs
- Offshore Winds Manmade Structures
- Tides
- Waves
- Longshore currents
- Rip Currents
- Sea Life
- Sandbars, Sandbanks and Holes

### Inland Water Sites
- Beach Composition
- Water Bed Composition
- Silt, Mudflats and Quicksand
- Banks and Freeboards
- Water Quality
- Deep/Cold Water
- Water Speed and Force
- Eddies
- Cushion Waves
- Undercut Rocks
- Hydraulics
- Strainers
- Weirs
- Dams
- Locks
- Industrial Scrap and Pollutants
Signs and Guidance
The conditions at open water sites change constantly:
- Always look for warning and guidance signs
- Check the tidal activity when at the coast
- Take guidance from the Lifeguards about the safest areas to enter the water

Swimming, Paddling and Playing
- Only enter the water in areas with adequate supervision and rescue cover (indicated by the red and yellow flags)
- Swim parallel with the shore (not away from it) in standing depth water
- Avoid drifting in the currents
- Get out of the water as soon as you start to feel cold
- Never enter the water after consuming alcohol

Children
- Always keep children under close supervision, including when they are wearing buoyancy aids
- Ensure that children’s buoyancy aids fit and are worn correctly

Go Together
- Always take someone with you when you go into or near water, if something goes wrong they will be able to get help

Tell Someone
- Always notify someone about where you are going (into or near water) and what time you will return

Vehicles
- Avoid driving or parking near the water’s edge.
- Understand how to escape from a vehicle in the water (Chapter 4)

Be Prepared
- Take your mobile phone
- Have a plan of what you will do if something goes wrong
- Use the correct safety equipment for your activity
- Learn swimming and lifesaving skills

Take a Shower
- Even if the water appears to be clean
- Always wash with soap and water after being in open water (to wash any micro-organisms off your skin)
- Always check with a doctor if you feel unwell after swimming in open water
Drowning Information and Safety Messages

RLSS UK Water Safety Messages

Safety at Swimming Pools

Public swimming pools are the safest places to swim. This is because Lifeguards provide supervision and rescue cover for swimmers and the pool environment is well managed. Most incidents at public swimming pools are minor and often involve pool users failing to follow the pool rules and having a relaxed attitude towards their own safety.

Home and private pools pose a more significant risk. There is often no supervision or rescue cover, and with fewer pool users to sound the alarm, there can be significant delays between an incident taking place and emergency actions being taken.

Whenever you go to a swimming pool, use the information opposite to plan your activities, identify hazards and control the risks.

Hazards

Understand and learn to assess the hazards and risks at swimming pools (also see Chapter 2).

- Slippery walkways
- Diving areas
- Variable depths
- Inlet and outlet pumps
- Steps
- Weather (if outdoor)
- Physical hazards on the poolside
- High freeboards

Pool Signs and Pool Rules

Observe the signs around the pool, they give information about the pool environment, such as ‘Deep End’, and explain the pool rules:

- No running
- No ducking
- No pushing
- No diving
- No acrobatics
- No shouting

Swimming, Paddling and Playing

- Always swim at a supervised swimming pool
- Follow the advice of the lifeguards
- Notify the lifeguards of any medical conditions that may affect you whilst in the water
- Don’t swim after a heavy meal
- Never enter the water after consuming alcohol

Children

- Always keep children under close supervision, including when they are wearing buoyancy aids
- Ensure that their buoyancy aids fit and are worn correctly
- Follow the pool’s child admission and supervision policies
Safety around the Home

Whilst the numbers of fatal drownings around the home are relatively low when compared to drownings at other locations, these drownings are often the most easily preventable.

Children and vulnerable adults (the elderly, and people with medical conditions) are most at risk around the home and the majority of these drownings occur in the bath and in garden ponds.

Ponds, Water Features and Home Swimming Pools
- Use self closing gates, fences and locks to prevent children from gaining access to pools of water

Water Butts, Storage Tanks and Drains
- Securely cover all water storage tanks and drains

Paddling Pools and Buckets
- Empty paddling pools and buckets as soon as possible after they have been used

Bath Time
- Always supervise children’s bath time (never leave them unattended)
- Empty baths as soon as possible after use
- Vulnerable adults and people who suffer from sudden seizures should consider showers rather than baths

Around the Kitchen
- Empty washing bowls as soon as possible after use
- Keep children away from washing appliances
- Keep washing appliance doors firmly closed
RLSS UK Water Safety Messages

Watercraft Safety

There are many different types of watercraft and the safety precautions for each type can vary greatly. The information opposite is common to most activities, but you should always receive training from a qualified instructor before using watercraft for the first time.

Learn the Skills
- Get trained to use your watercraft (attend a club or take a course)
- Learn swimming and lifesaving skills

Condition of the watercraft
- Make sure that the watercraft is in full working condition before entering onto the water

Safety and Emergency Equipment
- Always take the correct safety and emergency equipment for your type of watercraft and activity

Life Jackets and Personal Floatation Devices (PFDs)
- Always use the correct PFD for your watercraft and activity
- Make sure your PFD fits and is worn correctly

Tell Someone
- Always notify someone about where you are going and what time you will return

Overloading
- Never overload the watercraft with people or equipment

The Weather
- Always check the weather forecast before going onto the water
- Keep a lookout for changes in the weather throughout the day
- Only use watercraft in suitable weather and water conditions

Stay Clear of Swimmers
- Designated swimming areas should be avoided at all times
- For more information about watercraft safety, contact the relevant Governing Body for your specific activity and watercraft
Coasteering (and Tombstoning)

Jumping into the water from cliffs and ledges is a popular activity during the summer months, although every year this leads to a number of fatalities and serious injuries.

The majority of these incidents are the result of unregulated activities such as tombstoning. During unregulated activities hazards are often misunderstood or ignored which increases the risks and therefore the likelihood of the activities causing harm.

Problems can also be compounded when peer pressure pushes people to attempt activities that are outside of their capabilities.

In contrast, many of the hazards and risks are well controlled by reputable outdoor pursuit centres delivering activities such as coasteering. Coasteering is a mixture of scrambling, climbing and cliff jumping around the coastline (canyoning/canyoneering when inland).

Recognise the hazards of coasteering and tombstoning activities:
- The height of the fall/jump
- The relative depth of the water (changing with the wave effect)
- Obstacles or other people in the water
- Wave effect in the swash zone (pushing people against rocks)
- Lack of safety equipment
- Difficulty of rescue

Understand how to control the risks:
- Use a reputable outdoor pursuits centre, never tombstone
- Make sure that your safety equipment fits and is worn correctly
- Follow the instructions of the activity leader
- Don’t feel pressurised into taking part if you do not feel comfortable

Reputable outdoor centres
- Coasteering – Ensure the company that you go with follows the National Water Safety Forums Coasteering Safety Guidance
- Outdoor Pursuits – Ensure the company that you go with follows the Adventure Activities Licensing Authority (AALA) guidance

IMPORTANT NOTE – All aquatic activities contain risks. Reputable outdoor pursuits centres are able to reduce the risks of aquatic activities, but they cannot prevent all accidents from occurring.
Personal Safety Equipment

Personal Floatation Devices (PFDs)

There are two types of PFDs that are designed to be suitable for different aquatic activities. These are life jackets and buoyancy aids.

Life Jackets
Life jackets are designed for survival. They support the wearer at the surface of the water and help them to maintain a clear airway even if they are unconscious. To achieve this, life jackets have a high buoyancy rating (150+ Newtons) and the buoyancy is distributed to the front of the jacket to turn casualties onto their back. However, the buoyancy of life jackets makes moving into a swimming position difficult and swimming more exhausting.

Life jackets are advised for activities that have an increased possibility of the casualty becoming unconscious or immersed in deep water for a prolonged period of time.

Buoyancy Aids
Buoyancy aids are designed to keep the wearer afloat and mobile in the water. They have less buoyancy than life jackets (50-100 Newtons), and the buoyancy is more evenly distributed to enable a greater range of movement in the water including swimming. Buoyancy aids are not designed to turn the wearer onto their back when they enter the water and therefore may not help to maintain the airway of an unconscious casualty.

Choosing a PFD
Ensure that PFDs are suitable for the activity taking place. The main elements to consider are:

- **Type of PFD**
  The PFD must be suitable for the activity (life jacket or buoyancy aid).

- **Buoyancy rating**
  The buoyancy rating must be suitable for the activity and participant.

Size and fit
The PFD must fit and be worn correctly. Effectiveness is significantly reduced if PFDs are worn incorrectly or are the wrong size for the wearer. PFDs should always be fully fastened and adjusted to the wearer, including underleg straps if they are present (particularly on child PFDs).

Life Jackets (foam and inflatable filled)
Buoyancy Aids

**Life Jacket Summary**
- Designed for survival
- Maintain a clear airway
- High buoyancy rating
- Restricted mobility in the water

**Buoyancy Aid Summary**
- Designed for inshore water sports
- Moderate buoyancy rating
- Moderate mobility in the water
- Do not maintain a clear airway
Wetsuits

There are two styles of wet suit that are commonly used for open water activities:

**Full-length wetsuits:** cover the whole body

**Shortie wetsuits:** cover the torso, upper arms and legs

Wetsuits are available in different thicknesses and with different finishes applied to their surface.

**Thermal Insulation**

Wetsuits reduce the rate of body heat loss to the water. This reduces the fatiguing effects of cold water on the muscles, offsets swim failure and increases performance. Thick wetsuits (up to 8mm) provide more thermal insulation than thin wetsuits (2mm or less).

**Buoyancy**

Small air bubbles in the neoprene material of wetsuits results in increased buoyancy of the wearer. The increased buoyancy assists with floating if the wearer becomes fatigued.

**Protection**

Wetsuits protect the skin from abrasions and minor impacts.
Chapter 2

Water Bodies and Sites: The Features, Hazards and Risks

Introduction

By understanding the causes of hazards in the aquatic environment you will become able to predict many of the hazards that you will encounter at water sites. This knowledge will help you to control the level of risk that you take by either avoiding the hazards all together, or by putting procedures in place to minimise the risk.

This chapter introduces the most common water based hazards that you are likely to encounter at inland and coastal water sites, as well as at the swimming pool.

Contents

<table>
<thead>
<tr>
<th>General Open Water Features and Hazards</th>
<th>16</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beach Composition</td>
<td>16</td>
</tr>
<tr>
<td>Water Beds: Composition</td>
<td>16</td>
</tr>
<tr>
<td>Water Beds: Depth</td>
<td>17</td>
</tr>
<tr>
<td>Silt, Mudflats and Quicksand</td>
<td>18</td>
</tr>
<tr>
<td>Banks and Freeboards</td>
<td>18</td>
</tr>
<tr>
<td>Water Quality (Open Water)</td>
<td>19</td>
</tr>
<tr>
<td>Deep and Cold Water</td>
<td>20</td>
</tr>
<tr>
<td>Ice</td>
<td>22</td>
</tr>
<tr>
<td>Water Speed and Water Force</td>
<td>22</td>
</tr>
<tr>
<td>Eddies</td>
<td>23</td>
</tr>
<tr>
<td>Cushion Waves</td>
<td>23</td>
</tr>
<tr>
<td>Undercut Rocks</td>
<td>23</td>
</tr>
<tr>
<td>Hydraulics</td>
<td>24</td>
</tr>
<tr>
<td>Strainers</td>
<td>24</td>
</tr>
<tr>
<td>Summary Table</td>
<td>25</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Site Specific Features and Hazards</th>
<th>26</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sea, Coast and Beaches</td>
<td>26</td>
</tr>
<tr>
<td>Swimming Pools</td>
<td>33</td>
</tr>
</tbody>
</table>
General Open Water Features and Hazards

Beach: Composition

Definition
Beaches are the shoreline areas at the edge of the sea, a lake, a river or a river estuary. They are often rapidly changing and unstable environments, influenced by currents, tides, waves and the weather.

Hazards and Risks
- **Sand beaches – Low hazard**
  These beaches tend to have gentle shelving and are generally the safest type of beaches for recreation
- **Shingle and pebble beaches – Medium hazard**
  These beaches can have steep, unstable shelving caused by the wave action which can be hazardous to beach users
- **Rock/boulder beaches – Moderate hazard**
  These beaches present significant slip, trip and fall hazards, restricted access points to the water and poor access for emergency services
- **Silt and mud beaches – High hazard**
  These beaches, which often have shallow gradients, present significant entrapment and drowning hazards (also see Silt, Mudflats and Quicksand, Chapter 2)

Water Beds: Composition

Definition
Water beds are the floor or bottom of a body of water that is usually covered by water. Similar to beaches, water beds can also be composed of many different materials and often a mixture of these materials feature in a single area of a water bed:

- Sand
- Shingle
- Pebble
- Clay
- Rock
- Silt, mud, sediment

A number of factors affect the type of materials that are found in a water bed; these include:

- Composition of the surrounding ground
- Activities taking place in the area (agricultural, industrial, urban)
- Rate of water flow
- Water site (sea, river, canal, etc)
- If the waterway is used for transportation
- Plant life

Hazards and Risks
The different materials and compositions of water beds present a range of hazards. Whilst these hazards may directly only cause slight harm, when the incidents take place in water the risk of serious harm increases.

- Slip, trip and fall hazard – especially when plant life is present on the water bed (in shallow water)
- Entrapment hazard – in sediment, rocks, plant life and debris
Water Beds: Depth

Definition
Water beds are the floor or bottom of a body of water that is usually covered by water.

Hazards and Risks

- **Gently shelving – Low hazard**
  The water bed has a fairly uniform, predictable, and shallow gradient (slope).
  Water users can anticipate the water depth comfortably.

- **Steeply shelving - Moderate hazard**
  The water bed has fairly uniform, predictable, but steep gradient.
  Water users can find themselves out of a safe depth very quickly and may find it difficult to walk back to the shoreline.

- **Sudden drop offs – High hazard**
  Commonly seen in quarry pools, the water bed has sudden increases in depth.
  Water users can step off under water ledges into very deep water and can find themselves suddenly out of standing depth (also see Deep and Cold Water, Chapter 2).

- **Irregular surface – High hazard**
  The water bed features many types of compositions and depths.
  Water users cannot predict the shelving or composition of the water bed presenting all of the above hazards.
Banks and Freeboards

Definition
Banks are the land running alongside a body of water, which are often covered in grass and plant life. The pathways on banks are not always well maintained, and rarely have safety rails or signage.

The freeboard is the area between the water surface and the top of the bank. The size of freeboards can vary considerably in height and composition (mud, stone, roots etc). Erosion under the water surface can ‘hollow out’ the freeboard causing the bank to be undercut and unsupported.

Hazards And Risks
- **Slip, trip and fall hazard** – During poor weather or at times of increased water flow they can become increasingly dangerous presenting many slip, trip and fall hazards
- **Self-rescue difficulty** – High and crumbling freeboards can make self-rescue difficult or impossible at that location
- **Bank collapse hazard** – Caused by people walking over undercut banks, and resulting in them falling into the water

(For self-rescue information see Chapter 4).
Good Water Quality

The Blue Flag

Beaches awarded the Blue Flag are carefully managed and monitored to ensure that they have the highest quality in water, facilities, safety, environmental education and management.

Water Quality: Open Water

Naturally Occurring Hazards

Definition

- Open water contains a number of organisms that can cause infection and illness in people who have been in contact with the water. These organisms include:
  - Amoebae (Algae Blooms)
  - Parasites
  - Pathogenic micro-organisms (including pathogenic bacteria)

Hazards and Risks

Contact with contaminated water may result in:

- Weil’s disease
- Eye, ear and skin infections
- Chemical poisoning
- Respiratory infections
- Septicaemia
- Physical injury and entrapment
- Diarrhoea, fever and vomiting

Pollution And Debris

Definition

Pollution is caused by pollutants entering the water without pre-treatment to remove their harmful effects. Pollution can significantly decrease the cleanliness of water, making it poisonous to fish, animals and humans. Sources of pollution include:

- Sewage and storm water discharge
- Chemicals and toxic waste
- Industrial waste
- Discarded rubbish (floating and submerged)
- Agricultural waste and animal run-off
- Oil spills and sea flotsam/jetsam

Discarded rubbish, trolleys, cars and domestic appliances also present physical hazards in the water that can harm water users.
General Open Water Features and Hazards

Deep and Cold Water

Definition

The waters around the UK remain relatively cold, even through the summer months, and particularly where the water is deep. Throughout the year the sea temperatures around the UK range from around 4°C to 21°C.

During the summer months, the waters around the UK can rise to comfortable temperatures, particularly at inland sites and in areas of shallow water. However, below the surface and away from the shore, the water remains cold. People swimming in water that feels warm in the shallows can suddenly find themselves in an area of very cold water and rapidly lose the ability to swim back to safety.

Tributaries flowing into inland water sites can also lower the water temperature around the inlet areas, especially where tributaries flow from hills or mountains.

Hazards and Risks

Cold water immersion may result in:

- Cold shock response
- Loss of performance, swim fatigue and swim failure
- Hypothermia

Average sea temperatures across the UK

![Average sea temperatures across the UK](chart.png)
Deep and Cold Water (continued)

Cold Water Immersion
The physical effects of entering cold water can be observed in water temperatures of 25ºC and below. The severity of the body’s responses significantly increase as water temperature decreases.

As water temperatures around the UK rarely reach 25ºC, some level of cold water immersion response will be experienced by all participants in open water activities.

The effect of entering cold water can be categorised into three stages.

STAGE 1: Initial immersion responses – Cold shock response (0-3mins)
Immediately after immersion in cold water, the human body undergoes a number of instinctive reactions:

- **Immediate gasp response** - Rapid cooling of the skin causes an immediate gasp response, the casualty’s ability to hold their breath becomes severely limited and they begin to hyperventilate.
- **Panic** - Hyperventilation, combined with the surprise of falling into cold water commonly causes the casualty to panic.
- **Vasoconstriction** - Skin cooling causes the circulation to the skin to become severely restricted (vasoconstriction). This causes the heart rate and blood pressure to rise. If the casualty has a pre-existing heart condition, the rapid increase in blood pressure could cause a heart attack.

The cold shock response is likely to be a major factor in the majority of deaths in water below 15ºC, due to the difficulty in maintaining a clear airway during the hyperventilation (drowning) and the effect on the heart (cardiac arrest).

This response lasts for up to 3 minutes depending on the temperature of the water and the health and condition of the casualty.

STAGE 2: Short term responses – Loss of performance (3-30 mins)
Following the cold shock response, the extremities (hands, feet, arms, and legs) start to cool, and blood circulation to the skin continues to be restricted (vasoconstriction). This significantly reduces physical performance:

- **Loss of strength** - Muscle strength decreases by around 3% for every 1ºC drop in muscle temperature.
- **Loss of endurance** - Endurance of the arm and leg muscles rapidly decreases, making swimming and survival skills increasingly difficult to perform.
- **Swim fatigue and swim failure** – Reduced strength and endurance rapidly leads to swim fatigue, swim failure and/or the inability to perform self-rescue or survival skills.

If the casualty is unable to get out of the water or secure a buoyancy aid, the loss of ability to perform survival skills will ultimately result in drowning. Swimming and survival skills failure will occur before hypothermia plays a significant role unless a buoyancy aid is worn.

Loss of performance lasts between 3 and 30 minutes. However, during open water swim training in moderate water temperatures, the use of wetsuits significantly offsets swim fatigue and swim failure which enables longer periods of activity.

STAGE 3: Long term responses – Hypothermia (30 mins+)
Over time, the amount of heat lost to the water exceeds the heat production of the body. This causes the core body temperature to begin to drop. The rate of core body temperature cooling varies considerably, and is affected by the following casualty characteristics:

- **Age**
- **Gender**
- **Intoxication (drugs/alcohol)**
- **Illness or injury**
- **Water temperature**
- **Pre-existing medical conditions**
- **Clothing**
- **Previous experience of cold water (adaptation to the cold)**
- **Fitness level**

As the core body temperature drops, the casualty becomes confused and disoriented until they eventually fall unconscious. A casualty with a core body temperature of 35ºC or below is medically hypothermic (also see Hypothermia, Chapter 6).
Water Bodies and Sites: The Features, Hazards and Risks

General Open Water Features and Hazards

Ice

Definition
Fresh water turns into ice at approximately 0°C and salt water at approximately -2°C.

There are many factors that affect the strength of ice, these include:

- **Water depth and volume**
  Large bodies of water are slower to freeze than small bodies of water. Shallows around the shoreline freeze and melt more quickly than the deeper water, and ice near the shoreline is always weak.

- **Water flow**
  Currents and tidal movements can cause air bubbles and weak areas in the ice, and thin the ice from the underside. Moving water is also slower to freeze.

- **Obstructions**
  Trees, rocks, locks and other obstacles entering the water absorb heat from the sun causing the water around them to freeze more slowly and melt more quickly.

Hazards and Risks
In the UK, the ice is never strong enough to guarantee that it will support a person’s body weight and combined with the severe cold water immersion response that is experienced at temperatures of 0°C and below, frozen water sites are very high hazard environments.

The main ice hazards at water sites are:

- Risk of falling through the ice
- Severe cold water immersion response
- Difficulty of self-rescue and rescue
- Hypothermia (following prolonged exposure)

Water Speed and Water Force

**Definition**
The speed of water flow is simply how quickly the water flows past a fixed point.

**Water Speed**
In a channel of water, the speed of the flow increases where:

- The channel narrows or becomes smaller (width/depth)
- The gradient increases (how steep the water bed is)
- Water volume increases

**Water Force**
Water force is the amount of ‘push’ that water exerts on an object or person. The volume of force that water exerts on an object or person is frequently underestimated. This is because water force does not increase at the same rate as its speed.

Water force increases by the square of the increase in its speed. This means that if the speed of the water doubles, the force of the water quadruples. Therefore a small increase in the water speed produces a much larger increase in the water force.

The table below demonstrates how the water force acting on a person’s legs can increase with a relatively small increase in water speed.

<table>
<thead>
<tr>
<th>WATER SPEED</th>
<th>EQUIVALENT SPEED (APPROX)</th>
<th>WATER FORCE LEGS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1m/s (2.2mph)</td>
<td>Slow walk</td>
<td>40N (4kg)</td>
</tr>
<tr>
<td>2m/s (4.5mph)</td>
<td>Fast walk</td>
<td>160N (16.3kg)</td>
</tr>
<tr>
<td>3m/s (6.7mph)</td>
<td>Jog</td>
<td>360N (36.7kg)</td>
</tr>
</tbody>
</table>

(Speed - metres per second [m/s], miles per hour [mph]. Mass - kilograms [kg]. Force - Newtons [N]. 10 newtons applies the same amount of force to the legs as 1kg resting against them.)
Eddies

Definition
Eddies are caused when water flows around an obstacle (such as a rock), swirls, and flows against the current back towards the downstream side of the obstacle.

Hazards and Risks
- Commonly, the calm water behind the obstacle is a safe place to shelter from the current
- Rarely, in very powerful currents, eddies may develop a slight holding effect (similar to a hydraulic) that can be difficult to escape from
- Rarely, in very powerful currents, boats can flip as they enter an eddy

Cushion Waves

Definition
Cushion waves (also known as pillows) form where high volumes of water flow meet a large obstruction (such as a rock or riverbank), causing the water to ‘pile up’ in front of it.

Hazards and Risks
- Cushion waves will often push small watercraft away from the obstruction, but may also flip them
- The impact and compression of the water against the rocks can create undercutts (also see Undercut Rocks, Chapter 2)

Undercut Rocks

Definition
Undercuts form through the process of water erosion underneath the surface of the water, although at low tide and periods of low flow rate they may become more visible.

Hazards and Risks
- Entrapment hazard - Undercuts can entrap water users and hold them against the rock, causing a build up of water onto the casualty
General Open Water Features and Hazards

Hydraulics

Definition
Hydraulics are caused when water flows over an obstacle (such as a rock or weir), and then forms a rapid and aggressive re-circulating current which flows towards the obstacle on the surface and away from it below the surface.

Hazards and Risks
- Holding and re-circulating hazard – Even during low flow rates, the re-circulating current can hold casualties inside the hydraulic making survival and rescue extremely difficult
- Some of the most powerful and dangerous hydraulics form on the downstream side of weirs (also see Weirs, Chapter 2)

Strainers

Definition
Strainers are partial blockages that allow water to flow through but block larger objects. They can be formed by fallen trees, bars at the entrance of storms drains and even by normal road drains during flooding.

Hazards and Risks
- Holding effect - Even during low flow rates, the force of the water will hold the casualty against the strainer. Due to the force of the water, once a casualty is stuck against a strainer the likelihood of rescue and survival is very low unless the water subsides
### General Open Water Features and Hazards Summary Table

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>HAZARDS AND INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beach Composition</strong></td>
<td>• Sand – Low hazard&lt;br&gt;• Shingle/pebble – Low hazard&lt;br&gt;• Rock/boulder – Moderate hazard&lt;br&gt;• Silt and mud – High hazard</td>
</tr>
<tr>
<td><strong>Water Beds: Composition</strong></td>
<td>• Sand, pebble rock, shingle, clay, mud, sediment&lt;br&gt;• Slip, trip and fall hazard&lt;br&gt;• Entrapment hazard&lt;br&gt;• Entanglement hazard</td>
</tr>
<tr>
<td><strong>Water Beds: Depth</strong></td>
<td>• Gently shelving – Low hazard&lt;br&gt;• Steeply shelving – Moderate hazard&lt;br&gt;• Sudden drop offs – High hazard&lt;br&gt;• Irregular surface – High hazard</td>
</tr>
<tr>
<td><strong>Silt, Mudflats and Quicksand</strong></td>
<td>• Soft sediment layer&lt;br&gt;• Entrapment hazard&lt;br&gt;• Drowning hazard (from incoming water)</td>
</tr>
<tr>
<td><strong>Banks and Freeboards</strong></td>
<td>• Slip, trip and fall hazard&lt;br&gt;• Self rescue difficulty&lt;br&gt;• Bank collapse hazard</td>
</tr>
<tr>
<td><strong>Water Quality (Open Water)</strong></td>
<td>• Naturally occurring hazards (micro-organisms, parasites)&lt;br&gt;• Pollution and debris&lt;br&gt;• Weil’s disease, poisoning, infections, injury&lt;br&gt;• Blue Flag - denotes good water quality</td>
</tr>
<tr>
<td><strong>Deep and Cold Water</strong></td>
<td>• Sea temperatures 4°C to 21°C (inland waters drop below 0°C)&lt;br&gt;• Cold Water Immersion (Stages 1-3)</td>
</tr>
<tr>
<td><strong>Water Speed and Force</strong></td>
<td>• Speed – Channel size, gradient, water volume&lt;br&gt;• Force – Increases by the square of the increase in speed&lt;br&gt;• Casualties knocked off their feet&lt;br&gt;• Casualties swept downstream</td>
</tr>
<tr>
<td><strong>Eddies</strong></td>
<td>• Water flow against the current behind an obstacle&lt;br&gt;• Commonly, a safe place to shelter from the current&lt;br&gt;• Rarely, a slight holding effect&lt;br&gt;• Rarely, can flip boats</td>
</tr>
<tr>
<td><strong>Pillows</strong></td>
<td>• Water ‘piles up’ in front of an obstruction&lt;br&gt;• Push watercraft away but may flip them&lt;br&gt;• Can create undercut rocks</td>
</tr>
<tr>
<td><strong>Undercut Rocks</strong></td>
<td>• Form through water erosion&lt;br&gt;• Entrapment hazard</td>
</tr>
<tr>
<td><strong>Hydraulics</strong></td>
<td>• Aggressive re-circulating current after passing over an obstacle&lt;br&gt;• Holding and re-circulating hazard</td>
</tr>
<tr>
<td><strong>Strainers</strong></td>
<td>• Partial blockage to water flow&lt;br&gt;• Holding effect</td>
</tr>
</tbody>
</table>
Sea, Coast and Beaches

The coast is where the land meets the sea and includes all beach and cliff areas.

Coastal areas, particularly beaches, present the widest range of variables and hazards of all of the water sites. This is because they are rapidly changing environments.

Under the influence of the specific hazards outlined in this section, they can change from being relatively safe to extremely hazardous environments in a very short period of time (just a few minutes). In addition to this, interaction between the hazards at beaches can multiply their effects and significantly increase the level of risk that they cause.

Tides

Definition

Tides are the rise and fall of the surface of the ocean, seen as the movement of water up and down the beach.

They are caused by the gravitational pull of the moon and to a lesser extent the gravitational pull of the sun and the effect of the earth’s rotation.

The height of the tide (tidal height) is measured vertically and the height of the each tide changes every day.

The difference between the lowest and the highest tide is called the tidal range. The size of the tidal range varies at different locations around the UK and around the world.

During the course of every month two Spring Tides and two Neap Tides occur. The tidal height gradually increases from a Neap Tide towards a Spring Tide over an approximate two-week period and returns by gradually decreasing in height back to a Neap Tide.

Spring Tides have the greatest difference in tidal height, creating the lowest low tides and the highest high tides. This is caused by the combined gravitational pull of the moon and the sun as they move into alignment with the earth. In contrast Neap Tides occur when the moon and sun are furthest from alignment, resulting in the smallest difference between the low and high tide height of the whole cycle.
Sea, Coast and Beaches (continued)

Tides (continued)

The height of the tide can also be influenced by other factors, such as strong winds, which can elevate the tide by over one metre in height. Each tide takes around six hours to flood (rise) and six hours to ebb (fall), meaning that each full cycle takes a little over twelve hours.

Over the six hours that it takes for the tide to change from low to high, the speed of its movement varies. Described simply, the tide begins to rise slowly, then gains pace during the middle of the tide and eventually slows down before stopping rising when reaching high tide. A more accurate description of the speed of tidal height change is provided by the Rule of Twelfths.

During the first hour of rising, the tidal height only increases by 1/12 of the tidal range. In the second hour the tide rises more quickly, increasing by 2/12 of the tidal range.

The tide rises at its fastest during the third and fourth hours, as the tide height rises by 3/12 during both the third and fourth hours.

The tide then begins to rise more slowly, and in the fifth hour only increases by 2/12. Finally during the 6th hour the depth increases by 1/12.

At this point, the tide stays still for a short time (slack water) before ebbing to low tide following the Rule of Twelfths in the same way.

The distance between the low and high tide line on the beach is called the intertidal zone. The size of the intertidal zone (how far the tide travels up the beach) depends on the tidal range and the shelving of the beach.

The tide will flood a shallow shelving beach much more quickly and further inland than a steep shelving beach.

The high tide line can often be identified by stranded debris, seaweed and driftwood, and this can be used as a rough guide to predict how far up the beach the next high tide will rise.

Hazards and Risks

- Flooding tide – cut off hazard, as beach users can be cut off from the beach exits (also see Cliffs, Chapter 2), and hazards in the intertidal zone can become concealed.
- Ebbing tide – low tide exposes sandbars leading to cut-off hazards (also see Sandbars, Sandbanks and Holes, Chapter 2)
Cliffs

Definition
Cliffs border approximately 4,000 kilometres (2,485 miles) of the UK coastline and are commonly formed from vertical (or near vertical) rock faces. Cliffs are always eroding, depending upon environmental conditions and rock material. Evidence of the ongoing process of erosion can often be seen where fences and paths that were previously in safe areas are now near to falling over the cliff edge.

Hazards and Risks
- Slip, trip and fall hazard – from crumbling cliffs and pathways
- Falling rock hazard – from crumbling cliffs and pathways
- Cut-off hazard – by the flooding tide (also see Tides, Chapter 2)

Offshore Winds

Definition
Offshore winds blow away from the shore and out to sea. On lifeguarded beaches, the wind direction is often indicated by an orange windsock (also see Beach Flags, Chapter 1).

Hazards and Risks
- Bathers and people using inflatables can be blown out to sea
- The wind and surface chop can make it difficult for people to swim back to the shore

Man Made Structures

Definition
Manmade structures on the beach and coastline include:
- Piers
- Sea walls
- Supports
- Food defences
- Groynes
- Erosion defences

Hazards and Risks
- Slip, trip and fall hazard – often from significant heights
- Rip currents and irregular water flow hazard – where structures extend into the water (also see Rip Currents, Chapter 2)
- Irregular seabed composition hazard – caused by erosion from the irregular water flow (also see Sandbars, Sandbanks and Holes, Chapter 2)
Waves

Definition
Waves are caused by the transfer of energy from the wind into the water as it blows across the water surface. The size and type of waves produced are determined by:

- Wind strength
- Wind duration
- Wind direction
- Water depth
- Seabed characteristics
- Wind fetch (the distance over which it acts upon the water)

Breaking (spilling) waves
Occur on gently shelving beaches and can be identified by the crest tumbling down the face of the wave.
These are normally the safest type of wave for swimmers, surfers and bodyboarders.

Dumping (plunging) waves
Occur near to the shore on steep shelving beaches as the water motion is slowed down by the seabed.
These waves break with tremendous force. They can knock paddlers from their feet, and can push swimmers onto the seabed causing head and spinal injuries.

Surging waves
Occur when the waves have travelled through deep water close to the shore, and may never actually break.
These waves may cause an unexpected build of water on the beach and can catch beach users unaware, knocking them off their feet and dragging them into the deep water.

Longshore Currents – Lateral Drift Currents

Definition
Longshore currents are caused by the incoming waves being deflected at an angle by the shore. The currents usually run parallel to the shoreline and can carry people towards rip currents.

Groynes on the beach indicate the presence of longshore currents. Groynes are used by beach managers to reduce the movement of sand or other beach materials along the beach in the direction of the current, this is called Longshore Drift (also see Sandbars, Sandbanks and Holes, Chapter 2).

Hazards and Risks
- Swimmers can be carried along the shore and away from safety
- Swimmers can be carried into rip currents
- Sandbars, sandbanks, gullies and holes can be formed in the intertidal zone
Sandbars, Sandbanks and Holes

Definition
Currents, such as Longshore Currents, can move sand and other sediment along the beach in the intertidal zone (called Longshore Drift), and can cause erosion and deposits on the seabed.

Sandbars
Sandbars are mounds of sand offshore, beneath the water surface.

Hazards and Risks
- Rip currents hazard – holes in sandbars are often the cause or result of rip currents (also see Rip Currents, Chapter 2)
- Misleading water conditions hazard – sandbars can have a calming effect on the incoming waves causing beach users to underestimate the hazards
- Misleading water depth hazard – sandbars can cause beach users to underestimate the depth of the water

Sandbanks
Sandbanks are mounds of sand offshore that are higher than the water surface at low tide.

Hazards and Risks
- Cut off hazard – sandbanks can submerge during high tide which can cause beach users to become cut off from safety, possibly out of their depth

Holes
Holes, also called gullies and troughs, form where the current erodes the seabed material and in the intertidal zone.

Hazards and Risks
- Rip current hazard - holes in sandbars are often the cause or result of rip currents (also see Rip Currents, Chapter 2)
- Irregular seabed hazard - holes in the intertidal zone cause sudden drop offs in the seabed, which are particularly dangerous for non-swimmers using the surf and wash zones

Rip Currents

Definition
Rip currents are currents of water typically flowing from the shoreline back out to sea. They are commonly formed by a build up of water on the beach caused by wave and tidal motion, but can also form where an estuary runs into the sea.

There are three sections to a rip current:
- Feeder current – the build up of water flows along the beach forming feeder channels (longshore currents) until the path of least resistance is found
- Neck – at the path of least resistance the water flows away from the beach. This is where the rip current produces the greatest force. Factors that may lead to the formation of the neck of the rip current include deeper areas of the seabed, holes in sandbars, groynes and other structural influences
- Head – after passing through the surf and breaker zones the offshore current begins to disperse in the shoaling zone

Hazards and Risks
- Carries casualties offshore – people caught in a rip current can be swept out to sea and away from safety

Identifying a rip current:
- Debris on the surface floating away from the shoreline
- Sand, seaweed and other seabed materials churning in the water (discoloured water)
- Lower wave energy in the rip current, sometimes leading to no visible waves in the rip current at all
- Waves breaking either sides of the rip current
Types of Rip Currents

Permanent Rip
- Can remain from weeks to years
- Caused by permanent structures such as jetties, groynes or headlands providing a constant channel for the flow out to sea
- The force of the current increases with the force of the wave energy

Fixed Rip
- May last from several hours to many months.
- Caused by soft sediment formations such as holes on the seabed, often through sandbars
- Remain fixed until the features of the seabed change (normally due to high wave energy)

Travelling Rip
- Move along the beach, pushed by the wave action and longshore currents
- Can move towards groups of swimmers, sweeping them offshore

Flash Rip
- Caused by a sudden build up of water on the beach through the wave action
- Appear and subside rapidly (as the build up of water reduces)
- Can catch swimmer off guard by their quick formation

Sea Life

Definition
There are many species of sea life that live in the waters around the UK. A small number of these species may sting bathers if they come into contact with them.

Hazards and Risks
The following species pose a sting injury hazard:

- **Weevers and Rays**
  Weever and ray fish have spines on their back that can also contain venom. If bathers step onto the fish, the spines can pierce their foot causing considerable pain lasting for approximately two hours, and causing ongoing discomfort

- **Sea Urchins**
  Sea urchins are small, very slow moving animals that are covered in spines. If bathers step onto the urchin, the spines can pierce the skin and break off inside the foot

- **Jellyfish**
  Jellyfish have stinging cells on their jelly-like skin which sting upon contact. Stings caused by contact with jellyfish can range in severity from a slight tingle to very painful

**SAFETY NOTICE:**
In most cases these stings can be treated with basic first aid (also see Aftercare and First Aid, Chapter 6). However, if any of the following symptoms develop immediately after a sting, professional medical advice should be taken:

- Swelling
- Itching anywhere else on the body
- Wheezing
- Feeling faint
- A fast heart rate
- Difficulty in swallowing
- A swollen face or mouth
## Water Site Specific Features and Hazards

### Sea, Coast and Beaches Summary Table

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>HAZARDS AND INFORMATION</th>
</tr>
</thead>
</table>
| **Tides**                 | • Two tides per day  
  • Varying tidal height and tidal range  
  • Spring and neap tides  
  • Rule of Twelfths  
  • Beach Sheling  
  • Cut-off hazard                                                                                                                                                                                                                                                                                                                                     |
| **Cliffs**                | • Slip, trip and fall hazard  
  • Falling rock hazard  
  • Cut-off hazard                                                                                                                                                                                                                                                                                                                                       |
| **Offshore Winds**        | • Blow out to sea  
  • Carries inflatables’ away from the shore  
  • Makes it difficult to return to shore                                                                                                                                                                                                                                                                                                              |
| **Man Made Structures**   | • Piers, support, groins, sea walls, flood and erosion defenses  
  • Slip, trip and fall hazard  
  • Rip currents and irregular water flow hazard  
  • Irregular seabed composition hazard                                                                                                                                                                                                                                                                                                               |
| **Waves**                 | • Breaking (spilling) waves – Low hazard  
  • Dumping (plunging) waves – Knock paddlers over, head and spinal injuries  
  • Surging waves – sudden build up of water on the beach, knock beach users over                                                                                                                                                                                                                                                                       |
| **Longshore Currents**    | • Flow parallel with the shore  
  • Carries swimmers away from safety  
  • Carries swimmers into rip currents  
  • Forms sandbars, sandbanks and gullies                                                                                                                                                                                                                                                                                                                 |
| **Sandbars, Sandbanks and Holes** | • Occur in the intertidal zone  
  • Rip Current hazard  
  • Misleading conditions and depth hazard  
  • Cut-off hazard  
  • Irregular seabed hazard                                                                                                                                                                                                                                                                                                             |
| **Rip Currents**          | • Feeder, neck and head areas of the rip current  
  • Carries casualties offshore  
  • Permanent, fixed, travelling and flash rip currents  
  • Identifying a rip current                                                                                                                                                                                                                                                                                                              |
| **Sea Life**              | • Sting injury hazard  
  • Weevers, rays, jellyfish, sea urchins                                                                                                                                                                                                                                                                                                                   |

### General water features and hazards at sea, coast and beaches

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>HAZARDS AND INFORMATION</th>
</tr>
</thead>
</table>
| **Beach Composition**     | • Sand – Low hazard  
  • Shingle/pebble – Low hazard  
  • Rock/boulder – Moderate hazard  
  • Silt and mud – High hazard                                                                                                                                                                                                                                                                                                                               |
| **Water Beds: Composition** | • Sand, pebble rock, shingle, clay, mud, sediment  
  • Slip, trip and fall hazard  
  • Entrapment hazard  
  • Entanglement hazard                                                                                                                                                                                                                                                                                                                                     |
| **Water Beds: Depth**     | • Gently shelving – Low hazard  
  • Steeply shelving – Moderate hazard  
  • Sudden drop offs – High hazard  
  • Irregular surface – High hazard                                                                                                                                                                                                                                                                                                                                 |
| **Silt, Mudflats and Quicksand** | • Soft sediment layer  
  • Entrapment hazard  
  • Drowning hazard (from incoming water)                                                                                                                                                                                                                                                                                                               |
| **Water Quality (Open Water)** | • Naturally occurring hazards (micro-organisms, parasites)  
  • Pollution and debris  
  • Weil’s disease, poisoning, infections, injury  
  • Blue Flag – denotes good water quality                                                                                                                                                                                                                                                                                                               |
| **Deep and Cold Water**   | • Sea temperatures 4ºC to 21ºC (inland waters drop below 0ºC)  
  • Cold Water Immersion (Stages 1-3)                                                                                                                                                                                                                                                                                                                        |
| **Water Speed and Force** | • Speed – Channel size, gradient, water volume  
  • Force – Increases by the square of the increase in speed  
  • Casualties knocked off their feet  
  • Casualties swept downstream                                                                                                                                                                                                                                                                                                                                |

Industry guidance on Open Water Safety is available in the RLSS UK and RoSPA publications ‘Safety on Beaches’ and ‘Safety at Inland Water Sites’.
Swimming Pools

Well-maintained swimming pools provide warm, clean, and safe water that can be used for a wide range of aquatic activities.

Conventional tank swimming pools are rectangular, often approximately 25x10 metres, and have a deep and a shallow end. Due to the regular dimensions of these pools, they are usually accessible and convenient for the pool users, and the common hazards, such as the deep end, are relatively easily identifiable.

Leisure pools are designed to provide a more playful environment. These pools can be in any shape and feature both uniform and variable depths. Features at leisure pools may include flumes, wave machines, lazy rivers or rapids, aquatic toys and other features, all of which add additional hazards and risks which must be managed by the lifeguard team.

Holiday resort swimming pools are often conventional tank pools, although they can take any shape and size. In many holiday resorts, the pools are outdoor and often don’t provide a qualified lifeguard service. In these pools it is especially important that the safety guidelines are followed and swimmers are supervised by friends and family, even if lifeguards are on duty.

Lifeguarded swimming pools are the safest places for swimming as the hazards and risks are generally well managed with higher levels of supervision. However, swimming pool users always need to be aware of the hazards, particularly at pools that are not lifeguarded.

Hazards and Risks

Physical hazards
- Slippery floor surfaces
- Troughs, gutters handrails
- Water inlets and outlets
- Diving boards
- Pool steps
- Pool equipment

People hazards
- Weak swimmers
- Swimmers in armbands
- Gutter crawlers
- Boisterous behaviour
- Unaccompanied youngsters
- Vulnerable adults
- People under the influence of alcohol/drugs

Activity hazards
- Diving
- Bombing and jumping
- Swimming under water
- Pushing and fighting
- Running
- Ducking

Open-air pools also have the addition hazard of poor weather conditions. The most hazardous weather condition is lightning.
Industry guidance on Swimming Pool Safety is available in the Health and Safety Executive (HSE) publication ‘Managing Health and Safety in Swimming Pools’.

<table>
<thead>
<tr>
<th>FEATURES</th>
<th>HAZARDS AND INFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Physical Hazards</strong></td>
<td>• Slippery floor surfaces, water inlets and outlets, pool steps, troughs (gutters, handrails), diving boards, pool equipment</td>
</tr>
<tr>
<td><strong>People Hazards</strong></td>
<td>• Weak swimmers, gutter crawlers, swimmers in armbands, unaccompanied youngsters, boisterous behaviour, vulnerable adults, as well as alcohol and drugs</td>
</tr>
<tr>
<td><strong>Activity Hazards</strong></td>
<td>• Diving, pushing (fighting), running, swimming under water, bombing (jumping), ducking</td>
</tr>
<tr>
<td><strong>Poor Weather Conditions</strong></td>
<td>• Lightning (open air pools)</td>
</tr>
<tr>
<td><strong>Water Beds: Depth</strong></td>
<td>• Gently shelving – Low hazard</td>
</tr>
<tr>
<td></td>
<td>• Steeply shelving – Moderate hazard</td>
</tr>
<tr>
<td></td>
<td>• Sudden drop offs – High hazard</td>
</tr>
<tr>
<td><strong>Banks and Freeboards</strong></td>
<td>• Slip, trip and fall hazard</td>
</tr>
<tr>
<td></td>
<td>• Self rescue difficulty</td>
</tr>
<tr>
<td><strong>Water Speed and Force</strong></td>
<td>• Speed – Channel size, gradient, water volume</td>
</tr>
<tr>
<td>(Waterparks and Leisure Pools)</td>
<td>• Force – Increases by the square of the increase in speed</td>
</tr>
<tr>
<td></td>
<td>• Casualties knocked off their feet</td>
</tr>
<tr>
<td></td>
<td>• Casualties swept downstream</td>
</tr>
</tbody>
</table>
Introduction

Stepping forward, offering help, or taking control in an emergency situation is an incredibly daunting thing for most people to do, even when they know that they have the skills to help.

Through practising your skills in different situations and learning a model to help you to make the right decisions, you can be confident that when a real emergency happens you will know what to do.

This chapter will explain why you can become anxious when an emergency develops and how the Emergency Action Model will help you to make the correct decisions from the beginning to the end of the emergency.

Contents

- Understanding the Lifesaver’s Internal Response to an Emergency Situation 36
- The Emergency Action Model 36
  - A Framework for Decision Making 36
  - Using the Emergency Action Model 37
  - The Emergency Action Model – An Example of Use 39
- Writing an Emergency Report 40
- Rescue Priorities 40
- Taking Control 41
- Making Emergency Calls 41
Understanding the Lifesaver’s Internal Response to an Emergency Situation

Being suddenly confronted with an emergency situation, whether survival or rescue, can be a daunting and scary experience. This may be emphasised if you are young, lack confidence, or if there is a crowd around the incident.

Upon recognising an emergency situation, you will normally experience the effect of adrenalin being released into your body. This is called the ‘fight or flight’ or ‘acute stress’ response, and it’s this natural response that causes the feeling of ‘butterflies in your stomach’ which can lead to feelings of nervousness, anxiety and fear.

The feeling of nervousness that the adrenalin creates is natural and should be expected. Adrenalin actually helps to prepare your body for physical action by increasing your heart and breathing rate.

Through understanding this stress response, and using the Emergency Action Model, you will be able to make controlled, clear and correct decisions during an emergency.

The Emergency Action Model
A Framework for Decision Making

The Emergency Action Model is an easy to use tool to help you to make informed decisions throughout an emergency situation.

The Emergency Action Model helps you to deal with emergencies by:

- Encouraging thought before action
- Assisting decision making
- Directing actions/responses to be within your own skills and abilities
- Emphasising continuous review of the situation
Using the Emergency Action Model

The model begins with the Emergency Situation, then progresses in the direction of the arrows, and is completed by the incident reporting process.

Emergency Situation

As soon as you are aware of an emergency situation, you should begin to consider what exactly is happening. This process begins with Assessing the Situation.

Assess the Situation

Gather as much information as possible about the incident, this will include:

- **What**
  - Exactly what is happening?
  - What could happen if no action is taken?

- **Where**
  - Precisely where is the incident/casualty?

- **Who**
  - Who is the casualty?
  - How many casualties are there?
  - What is wrong with them?
  - What are the casualty priorities?

- **Dangers**
  - What are the dangers to the casualty?
  - What are the dangers to you?

- **Aids**
  - What aids are available in the area?
  - Who can help?

At this stage in the model you must stop and think before continuing. You will be experiencing the acute stress response and reacting too quickly could lead to you making poor decisions that could endanger yourself, the casualty or other people.
Skills Toolbox
Your Skills Toolbox contains all of the skills that you have learnt in water safety, survival and rescue, and includes knowledge that you may have learnt from other sources. The skills and knowledge are your tools to help in an emergency.

Plan
Once you have gathered all of the relevant information together, you can start to develop a plan to resolve the situation.

The priority in the plan must always be your own safety, and this means that the plan should always begin with calling for help, either from people around the emergency or by phone. The plan should also focus on choosing the least dangerous methods of helping the casualty.

You should also consider the limits of the skills in your toolbox, particularly swimming and fitness related skills. Consider how the environment or situation may affect your ability to perform the skills, such as the affect of cold water.

Action
Having considered all of the information and developed a plan, you can now take action.

When taking the Action, you should continue to work through the cycle of the Emergency Action Model by continually reassessing the situation and adapting your Plan and Actions to resolve the situation safely and effectively.

For example, if upon entering the water you discovered that deep silt made it impossible to reach the casualty, this new information would change the situation, require different Toolbox skills, and your Plan and Action would have to be adapted or changed.

Report
After taking emergency actions of any kind (including self-rescue), you should always evaluate the events and consider what could be done to either prevent a recurrence of the incident, or how you could improve your response in a similar situation. During this process it is important that you send a report to RLSS UK as this may help to develop new safety strategies in the future.
### Emergency Action Model - An Example of Use

#### Emergency Situation

**Imagine**
- A teenage boy drowning under a bridge
- Group of mates on the bridge watching
- Water is calm
- Riverbank is crumbly and sloping
- Throw bag (PRE) is available

#### Report

**Input**

**Output**

#### Assess the Situation

**What**
- It looks like the boys have been jumping off the bridge and now one of them needs help

**Where**
- The boy is directly under the bridge, in the middle of the river (deepest area)
- The location is close to the shopping centre (other people are aware of the emergency)

**Who**
- The boy needs help
- He appears unable to swim and he is panicking
- He is on his own in the water
- There is a possibility that his friends will jump in too

**Dangers**
- Although there are other people around, you don’t have anyone with you
- The casualty is panicking
- The water is deep, cold and flowing
- The river bank is steep and unstable
- If the boys jump in they could complicate the situation

**Aids**
- There are loose branches
- There is a throw bag
- You have clothing
- There are old drink bottles floating by the river bank

#### Skills Toolbox

You know:
- How to call for help
- How to perform Life Support and basic first aid
- How to operate a Personal Watercraft
- How to perform shout and signal, throw, reach, wade and swim with an aid rescues
- How to perform the water based rescues in a swimming pool
- How to perform the sports style (lasso) rope throw
- How to perform aftercare
- You start to get tired after swimming about 300 metres
- You haven’t swum in open water for a few years

#### Plan

The safest way to get help is:
- Call to the onlookers and tell them to call 999 (112) for help
- Take the throw bag and quickly prepare it for throwing

**Action**

- Put plan into action and continually reassess the situation

**Plan**

- Move further up the riverbank to be closer to where the casualty is
- Keeping back from the edge throw the throw bag to the casualty, keeping hold of the end of the rope
- Instruct the casualty to hold the bag tightly
- Pull the casualty to the side
- Provide aftercare whilst waiting for the emergency services

---

**SURVIVE & SAVE PROGRAMME**

**ROYAL LIFE SAVING SOCIETY UK**
Rescue Priorities

When there is more than one casualty, deciding whom to save first can be a difficult decision. When reaching this decision, there are two questions that you should ask yourself: who are the most likely to survive the emergency situation if they are rescued promptly (conscious casualties), and who from this group of casualties requires the most immediate assistance (casualties who are struggling to stay at the surface).

The Rescue Priorities are:
1. Conscious casualties who are at high risk of submerging.
2. Conscious casualties who are at low risk of submerging.
3. Unconscious casualties.

The RLSS UK uses emergency reports to inform and develop lifesaving training and incident prevention strategies, as well as to contribute to the production of the official UK Drowning and Rescue Statistics.

Even minor events, such as a person falling into the water and having to climb back out, can provide important information about where these incidents take place, frequency of occurrence, frequency of injuries and other factors that may affect the guidance issued by the Society.

The Society welcomes phone calls to report all incidents and emergency events, and will gather as much information as possible over the phone before producing a written report. Lifesavers may also find it useful to produce a written report as soon as possible after the emergency has finished (before details are forgotten). When producing a report, you should include as much of the following information as possible, including:

- Name, age, gender and contact details of all rescuers and casualties (or just the casualty if self-rescue)
- Names and contact details of any witnesses
- Location, date and time of the emergency
- Which emergency services were on scene
- A diagram of the incident/location

Writing an Emergency Report

The RLSS UK uses emergency reports to inform and develop lifesaving training and incident prevention strategies, as well as to contribute to the production of the official UK Drowning and Rescue Statistics.

Even minor events, such as a person falling into the water and having to climb back out, can provide important information about where these incidents take place, frequency of occurrence, frequency of injuries and other factors that may affect the guidance issued by the Society.

The Society welcomes phone calls to report all incidents and emergency events, and will gather as much information as possible over the phone before producing a written report. Lifesavers may also find it useful to produce a written report as soon as possible after the emergency has finished (before details are forgotten). When producing a report, you should include as much of the following information as possible, including:

- Name, age, gender and contact details of all rescuers and casualties (or just the casualty if self-rescue)
- Names and contact details of any witnesses
- Location, date and time of the emergency
- Which emergency services were on scene
- A diagram of the incident/location

Writing an Emergency Report

The RLSS UK uses emergency reports to inform and develop lifesaving training and incident prevention strategies, as well as to contribute to the production of the official UK Drowning and Rescue Statistics.

Even minor events, such as a person falling into the water and having to climb back out, can provide important information about where these incidents take place, frequency of occurrence, frequency of injuries and other factors that may affect the guidance issued by the Society.

The Society welcomes phone calls to report all incidents and emergency events, and will gather as much information as possible over the phone before producing a written report. Lifesavers may also find it useful to produce a written report as soon as possible after the emergency has finished (before details are forgotten). When producing a report, you should include as much of the following information as possible, including:

- Name, age, gender and contact details of all rescuers and casualties (or just the casualty if self-rescue)
- Names and contact details of any witnesses
- Location, date and time of the emergency
- Which emergency services were on scene
- A diagram of the incident/location
Taking Control

During an emergency, being the first person to step forward and volunteer to help can be the most difficult issue to overcome. During your lifesaving training, practice how you will introduce yourself and take that first step.

“Hello, I’m (name), do you need my help?”

Once you have accepted responsibility, you can take control of the situation quickly and confidently by following the Emergency Action Model, communicating with and tasking any bystanders to help, and by using your lifesaving skills.

It is also important that you do not allow yourself to be pressurised – either by the situation or by bystanders, into taking actions that you are not trained to perform or that you are uncomfortable with.

Making Emergency Calls

By being aware of what will happen when you call the emergency services (999 or 112), you can communicate the relevant information quickly and efficiently. This will speed up the emergency response and may also affect the type of specialist equipment the emergency services bring to the scene.

When making an emergency call, the operator will ask for as much information as possible about the emergency, so you should be prepared to provide the following information:

- **Which** emergency service is required
  (the operator will help with this if the caller is unsure)
- Fire and Rescue
- Police
- Ambulance
- Coastguard
- Other local rescue units
  (Mountain Rescue, Cave Rescue, etc)
- **Where** the emergency is
- **Who** needs assistance
- **What** has happened to them
- **When** did the emergency take place or start
Chapter 4
Self-Rescue and Survival Skills

Introduction
The statistics show that most drownings occur when the casualty is alone and within a few metres of safety. Therefore the self-rescue and survival skills are crucial to reducing the number of people who drown each year. This chapter introduces self-rescue and survival skills for a wide range of situations, from rip currents to escaping from a sinking vehicle.

Contents

Self-Rescue Techniques
- Mud, Sand and Quicksand Entrapment 44
- Banks and Freeboards 44
- Ice 45
- Longshore Currents (Lateral Drift Currents) 46
- Rip Currents 46

Survival Skills
- Survival Priorities 47
- Fall-in Entry 47
- Floating
  - Horizontal Float (Back Float) 48
  - Angled Float 48
  - Vertical Float (Standing Float) 49
- Sculling 49
- HELP Position 50
- Huddle Position 50
- Treading Water
  - Eggbeater Leg Kick 51
- Removal of Clothing 52
- Signalling for Help 53
Self-Rescue

Silt, Mudflats and Quicksand Entrapment

Definition of the Skill
A method of self-rescue from silt, mudflats and quicksand entrapment (also see Silt, Mudflats and Quicksand, Chapter 2).

Technique
- Call for help
- Relax (moving vigorously increases the fluidity of the sediment which will make you sink further)
- Remove any heavy bags and spread your body weight
- Lie back, preferably with a branch, stick or other item under your hips to spread your body weight
- Gently and slowly release your legs
- Paddle, crawl, or swim across the surface safely

Banks and Freeboards

Low Freeboards

Definition of the Skill
A method of self-rescue at a bank with a small freeboard (also see Banks and Freeboards, Chapter 2).

Technique
- Call for help
- Place both hands on the bank, shoulder width apart
- Push down with your arms and kick your legs for lift
- Lift yourself up and lean forward
- If you can put a knee or foot on the edge and use it to climb out, or put your stomach and chest onto the bank and wriggle/crawl forward onto the land
- Stay low and crawl away from the edge to avoid falling back in

High Freeboards

Definition of the Skill
A method of self-rescue at a bank with a high freeboard (also see Banks and Freeboards, Chapter 2).

Technique
- Call for help
- Grasp anything on the freeboard that will support your body weight (grass, tree roots, rocks, etc)
- Try to get your feet onto something solid to push off (a foot-hold)
- Climb, claw, and crawl your way up the bank
**Ice**

**Definition of the Skill**
A method of self-rescue after falling through ice (also see Ice, Chapter 2).

**Technique**
- Call for help
- Stay calm, keep your airway clear, and gain control of your breathing (also see Cold Water Immersion, Chapter 2)
- Move back towards your point of entry (where the ice/land was strong enough to support your body weight)
- If the ice is thin, break the ice in front of you as you move towards safety
- If the ice is thick, spread your arms over the surface (pushing with just your hands will break more ice)
- Kick your legs to get your body leaning as horizontally as possible
- Kick, claw and crawl your way onto the ice
- Remain lying down
- Slide or roll to safety
  - If you can’t escape, raise as much of your body out of the water as possible to preserve body heat
  - If the water is beyond standing depth, lay your arms across the ice and keep them still, this will help your clothes to freeze to the ice and keep your head out of the water if you become unconscious (Ice Survival Position)
Self-Rescue and Survival Skills

Self-Rescue

Longshore Currents – Lateral Drift Currents

Definition of the Skill

Notes
Longshore currents are typically currents that flow parallel with the shoreline (also see Longshore Currents, Chapter 2).

Technique
• Call for help
• Don’t swim against the current (trying to return to your point on entry)
• Swim directly towards the shore allowing your actual path to be diagonal with the current
• Once at the shore walk back to your point of entry (do not try to swim back)

Rip Currents

Definition of the Skill
A method of self-rescue from a rip current.

Notes
Rip currents are currents of water typically flowing from the shoreline back out to sea (also see Rip Currents, Chapter 2).

Technique
• Call for help
• If you have a buoyant aid (like a surfboard or inflatable), keep hold of it
• Don’t swim against the current
• Swim parallel with the shore (across the current)
• Monitor your progress by looking at a fixed object on the shore (to make sure that you are swimming out of and not back into the rip current)
• Once out of the rip current, swim towards the shore being careful to avoid being drawn back in by feeder currents
Survival Skills

Survival Priorities

When self-rescue from the water isn’t possible, you need to be able to survive in the water for as long as possible whilst awaiting rescue. To maximise the chances of survival, there are three survival priorities that casualties should aim to achieve:

- Maintain a clear airway and control breathing
- Preserve heat and energy
- Call and signal for help

Fall-In Entry

Definition of the Skill

A method of quickly protecting the body from impact when falling into the water unexpectedly. The entry protects the head and body by drawing in the arms and legs.

Technique

During the fall

- Tuck your body into a ball
- Tuck your chin and knees into your chest
- Protect your head with your hands and forearms
- Hold your elbows against your knees
- Keep your ankles flexed (toes pulled up towards the body)

In the water

- Once the downward movement stops, use your arms and legs to self-right, stabilize, and swim to the surface
- Stay calm, keep your airway clear, and gain control of your breathing before attempting self-rescue (also see Cold Water Immersion Chapter 2)
Survival Skills

Floating

Definition of the Skill
The use of the natural buoyancy of the body to hold a stationary position in the water, whilst maintaining a clear airway and minimising energy loss.

Principles of Floating
Most people are able to float using at least one of the methods outlined in this section, but due to varying body composition not all people are able to float without using a small amount of self propulsion (sculling) or additional buoyancy.

Horizontal Float (Back Float)

Definition of the Skill
A method of floating in a supine (face up) position, with the whole of the body at the waters surface.

Notes
This is the most visible float for a rescuer to see from the land or air. If you are buoyant, you can hold your legs together to increase heat retention, but it is common for people to adopt a star shape for the float to be effective.

Technique
- Lie supine (on your back)
- Push your stomach towards the surface
- Position your arms out to the side of your body or above your head (adjust for stability)
- If possible keep your legs together; if not, form a V shape with your legs
- Control your breathing
- Periodically check, call and signal for help

Angled Float

Definition of the Skill
A method of floating in an angled supine (face up) to preserve energy.

Notes
If you are not very buoyant you will find this float easier to maintain than the horizontal float.

Technique
- Lie supine (on your back)
- Hold your legs in a relaxed V shape with bent knees
- Position your arms out to the side (adjust for stability)
- Control your breathing
- Periodically check, call and signal for help

Air trapped in the lungs helps the body to float, and the lungs can act as a pivot point for the floating body as the arms and legs are moved into different positions to control stability. Controlled breathing (retaining more air than normal in the lungs when exhaling) can help to maintain a person’s buoyancy, but this should not be allowed to inhibit a natural breathing pattern.

When floating and awaiting rescue, you have a reduced ability to see and hear potential rescue options, so you should check for signs of rescue when periodically signalling for help.
Floating (continued)

Vertical Float (Standing Float)

**Definition of the Skill**
A method of floating in a vertical position, to preserve energy.

**Notes**
Only suitable in very calm water conditions. This float may also help to reduce heat loss by protecting the (thermo-vulnerable) areas of the armpits and groin.

**Technique**
- Position your body vertically in the water (as if standing up)
- Arch your back to increase stability
- Keep your legs together
- Keep your arms against your body
- Control your breathing
- Periodically check, call and signal for help

---

Sculling

**Definition of the Skill**
The movement of the hands in a relatively small sideways motion to generate propulsion.

**Technique**
- Lie supine (face up) in a streamlined position on your back
- Hold your arms slightly flexed (bent), by the side of your body
  - Head first sculling - Point your fingers towards the ceiling (wrist extension) with your palms pointing towards your feet
  - Feet first sculling - Point your fingers down towards the floor (wrist flexion) with your palms facing towards your head
- Slightly cup your hands
- Sweep your hands away from and then back towards your body in a figure of eight motion

---

Head First

Feet First
Survival Skills

Heat Escape Lessening Position (HELP Position)

Definition of the Skill
A floating position supported by a buoyant aid, which reduces heat loss from the body when the casualty is unable to get out of the water.

Notes
The HELP Position makes use of a buoyant aid or personal floatation device (PFD) to help to preserve your body heat and energy by adopting the most efficient and protective position. The legs are held together and the arms are kept tight against the body to protect the thermo-vulnerable areas of the groins and armpits (where more heat is lost from the body to the water). The HELP Position also enables you to keep your head dry, which preserves body heat, maintains a clear airway, and may help you to stay calm. You may not be able to maintain the HELP Position in rough water.

Technique
- Hold the buoyant aid against your chest (put on a wearable aid)
- Keep your arms tight against the side of your body
- Keep your legs together
  - Knees bent and raised towards your chest with your hands holding your knees, or your personal floatation device (PDF) or
  - Legs hanging vertically down if the raised knee position cannot be sustained
- Periodically check, call and signal for help

Huddle Position

Definition of the Skill
A floating position used to keep small groups of casualties together and reduce heat loss, with the support of buoyant aids.

Notes
The huddle position is used by small groups of casualties to adopt the HELP position together, either wearing Personal Floatation Devices (PFD’s) or around a buoyant aid. This position is less efficient at reducing heat loss than the HELP position, so it should only be used when there is a risk of casualties becoming separated by the water conditions or if controlling fear and boosting morale is required in managing the situation.

Technique
- Form a circle so that you are all facing each other
- Keep the sides of your bodies in contact with each other
- Keep your legs together
- Link onto each other (or the aid) trying to keep your upper arms against your body:
  - If wearing PFD’s - put your arms around each other at waist level
  - If using a buoyant aid - hold on with both arms
- Periodically check, call and signal for help
Treading Water

**Definition of the Skill**
A method of maintaining a clear airway whilst positioned vertically at the waters surface, using propulsion from the arms and legs.

**Notes**
Treading water is used in both survival and rescue situations for maintaining a clear airway, staying at the surface (particularly when the conditions do not support floating), and raising the head clear of the water to aid communication.

The most energy efficient leg kick used to tread water is the eggbeater leg kick, but a number of other leg kicks can be used.

**Treading water leg kicks:**
- Eggbeater kick
- Breast stroke kick
- Scissor (side stroke kick)
- Cycling action

Eggbeater Leg Kick

**Definition of the Skill**
A highly efficient leg kick that produces a uniform rate of propulsion through the use of an alternating circular leg motion.

**Technique**
- Sit in the water with your back straight, knees apart and thighs parallel with the surface
- In an alternating pattern, circle your left foot clockwise and your right foot anticlockwise
- Push the water down with the inside of your lower leg and foot
- Your thighs should stay relatively stable in their position, only moving to help the movement of your lower legs
- Lean your body towards the desired direction of travel
- Keep your body in an upright position
- Scull your hands at the side of your body at around chest height
- Keep your head clear of the water
- Use a suitable leg kick (preferably eggbeater)
Self-Rescue and Survival Skills

Survival Skills

Removal of Clothing

Definition of the Skill
The removal of clothing in the water, when appropriate, in a defined order, using methods to prevent submersion and entanglement.

Notes
Wearing clothing can reduce the flow of water past your skin helping to preserve body heat (like a wetsuit), and air trapped in your clothing can help you to float. In survival situations, to reduce heat loss and the risk of submersion and entanglement, you should keep your clothing on unless it impedes your ability to stay at the surface or causes other problems.

If you have to remove some clothing, only the items that are causing a problem should be removed (such as heavy footwear). When more than one item of clothing needs to be removed, they should be removed from the feet upwards and you should keep your head above the water to maintain a clear airway at all times.

Technique

Shoes
- If the shoes are tied loosely, kick them off, if not tied loosely:
  - Raise one knee to your chest
  - Unlace (with one hand if possible)
  - Kick the shoe off
  - Do the other side

Coat/Shirt
- Stay upright in the water
- Unbutton/unzip the coat (with one hand if possible)
- Remove one arm at a time

Trousers/Shorts/Skirts
- Undo at the waist
- Slide the clothing down your legs or
- Tuck your legs up towards your chest and pull the clothing down over your feet

Jumper/T-Shirt
- Pull one arm inside the jumper/t-shirt and stick it out through the lower hem
- Roll clothing up from your waist
- Lift the clothing over your head
Signalling for Help

Definition of the Skill
A method of communicating for help using verbal and visual communications.

Technique
- Adopt an efficient floating, sculling, treading water or supported position
- Raise one arm, keeping the other in the water for stability
- Call for help
- Stay calm

Using Signalling Equipment
- Whistle - Six whistle blasts per minute (international distress signal)
- Torch - Wave the torch to attract attention
- Flares - Fire the flares to attract attention following the specific guidelines on the flare
Chapter 5

Lifesaving Rescue Skills

Introduction

The lifesaving rescue skills are the most challenging skills in the RLSS UK programmes. Due to the dangers posed by casualties in the water, rescuers must be skilled in casualty recognition, decision making and lifesaving rescue techniques.

This chapter introduces all of the skills involved in rescuing casualties from the water, as well as highlighting the dangers of each rescue skill and the importance of prioritising rescuer safety.

## Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Casualty Recognition (and Simulation)</td>
<td>57</td>
</tr>
<tr>
<td>Panicking Casualty</td>
<td>57</td>
</tr>
<tr>
<td>Non-Panicking Casualty</td>
<td>58</td>
</tr>
<tr>
<td>Unconscious Casualty</td>
<td>59</td>
</tr>
<tr>
<td>The Contact Zone</td>
<td>59</td>
</tr>
<tr>
<td>Entering the Water</td>
<td>60</td>
</tr>
<tr>
<td>Slide-in Entry</td>
<td>60</td>
</tr>
<tr>
<td>Straddle Entry</td>
<td>61</td>
</tr>
<tr>
<td>Step-In Entry</td>
<td>61</td>
</tr>
<tr>
<td>Compact Jump</td>
<td>62</td>
</tr>
<tr>
<td>Lifesaving Rescue Techniques</td>
<td>62</td>
</tr>
<tr>
<td>Rescuer Safety</td>
<td>62</td>
</tr>
<tr>
<td>Shout and Signal Rescue</td>
<td>63</td>
</tr>
<tr>
<td>Throwing Rescue</td>
<td>63</td>
</tr>
<tr>
<td>Reaching Rescue</td>
<td>64</td>
</tr>
<tr>
<td>- Rope Rescue</td>
<td>65</td>
</tr>
<tr>
<td>Wading Rescue</td>
<td>66</td>
</tr>
<tr>
<td>Watercraft Rescue</td>
<td>67</td>
</tr>
<tr>
<td>Accompanied Rescue</td>
<td>68</td>
</tr>
<tr>
<td>Tow with an Aid Rescue</td>
<td>69</td>
</tr>
<tr>
<td>Support Tow</td>
<td>70</td>
</tr>
<tr>
<td>Extended Arm Tow</td>
<td>71</td>
</tr>
<tr>
<td>Clothing Tow</td>
<td>72</td>
</tr>
<tr>
<td>Chin Tow</td>
<td>73</td>
</tr>
<tr>
<td>Cross Chest Tow</td>
<td>74</td>
</tr>
<tr>
<td>Ice Rescue</td>
<td>75</td>
</tr>
<tr>
<td>- Shout and Signal Rescue (ice)</td>
<td>75</td>
</tr>
<tr>
<td>- Throwing Rescue (ice)</td>
<td>75</td>
</tr>
<tr>
<td>- Reaching Rescue (ice)</td>
<td>75</td>
</tr>
</tbody>
</table>
## Contents (continued)

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Defences and Escapes</strong></td>
<td></td>
</tr>
<tr>
<td>• Defensive Stand-Off Position</td>
<td>76</td>
</tr>
<tr>
<td>• Defensive Reverse</td>
<td>76</td>
</tr>
<tr>
<td>• Defensive Block</td>
<td>77</td>
</tr>
<tr>
<td>• Defensive Releases</td>
<td>78</td>
</tr>
<tr>
<td><strong>Supporting the Casualty in the Water</strong></td>
<td></td>
</tr>
<tr>
<td>• Turning an Unconscious Casualty</td>
<td>79</td>
</tr>
<tr>
<td>• Without a Firm Support</td>
<td>80</td>
</tr>
<tr>
<td>• Against a Firm Support</td>
<td>80</td>
</tr>
<tr>
<td><strong>In Water Rescue Breathing</strong></td>
<td>81</td>
</tr>
<tr>
<td>• Straight Approach</td>
<td>81</td>
</tr>
<tr>
<td>• Turn Approach</td>
<td>81</td>
</tr>
<tr>
<td><strong>Surface Dives and Recovering the Casualty</strong></td>
<td>82</td>
</tr>
<tr>
<td>• Extended Feet First Surface Dive</td>
<td>82</td>
</tr>
<tr>
<td>- Controlled Feet First Surface Dive (adaptation)</td>
<td>82</td>
</tr>
<tr>
<td>• Head First Surface Dive</td>
<td>82</td>
</tr>
<tr>
<td>• Recovering a Casualty from the Water Bed</td>
<td>83</td>
</tr>
<tr>
<td>• Searching for Submerged Casualties</td>
<td>83</td>
</tr>
<tr>
<td><strong>Multiple Rescues</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Separating Casualties that are Locked Together</strong></td>
<td>85</td>
</tr>
<tr>
<td><strong>Aquatic Spinal Injuries</strong></td>
<td>86</td>
</tr>
<tr>
<td>• Basic Principles of Aquatic Spinal Injury Management</td>
<td>86</td>
</tr>
<tr>
<td>• Head Splint</td>
<td>87</td>
</tr>
<tr>
<td>• Turning a Suspected Spinal Injury Casualty</td>
<td>87</td>
</tr>
<tr>
<td><strong>Landing the Casualty</strong></td>
<td>88</td>
</tr>
<tr>
<td>• Basic Principles of Casualty Lifting</td>
<td>88</td>
</tr>
<tr>
<td>• Assisted Walk Out</td>
<td>88</td>
</tr>
<tr>
<td>• Pull Ashore</td>
<td>89</td>
</tr>
<tr>
<td>• Assisted Carry</td>
<td>89</td>
</tr>
<tr>
<td>• Assisted Lift</td>
<td>90</td>
</tr>
<tr>
<td>• Stirrup Lift</td>
<td>90</td>
</tr>
<tr>
<td>• Horizontal Lift</td>
<td>91</td>
</tr>
<tr>
<td><strong>Rescue Aids</strong></td>
<td>91</td>
</tr>
</tbody>
</table>
Casualty Recognition (and Simulation)

There are three recognisable categories of casualties, which if identified correctly, provide you with important information and help you to develop a safe emergency action plan.

The three casualty categories are:

- Panicking Casualty
- Non-Panicking Casualty
- Unconscious Casualty

Whilst the three categories seem clear and distinct, the behaviour and condition of a conscious casualty will continue to change throughout a drowning or rescue situation. This means that you must always be vigilant to the casualty’s actions and prioritise your safety at all times.

Casualty Recognition

Panicking Casualty

Casualty Characteristics

Before Rescue

- **Actions**
  - Ineffective - ranging from no significant arm and leg movement (shock response), to frantic swimming actions
- **Communication**
  - Ineffective - ranging from no calls for help (shock response), to desperate shouting and waving
- **Body position**
  - More vertical than horizontal in the water

During Rescue

- May not be able or willing to respond to instructions or assist in the rescue (may not grasp thrown aids)
- Likely to attempt to grasp at the rescuer
- Will remain vertical in the water
- May calm down once the head and shoulders are supported clear of the water

Rescuer Implications

- High risk of casualty grasping at and clamping onto the rescuer
- A good defensive stand-off position must be used if the rescuer enters the water (although entry is not advised)
- Rescue aids should be used (although this may be difficult) and physical contact avoided

Notes

It is easy to assume that a panicking casualty will be easily recognisable because they will display obvious panicking characteristics such as waving and shouting, but this is not always the case.

Some panicking casualties will not make any obvious signals for help as they focus on maintaining a clear airway and staying at the water surface (although they may submerge repeatedly as they get weaker). This is part of the shock response to the early stages of drowning, and it can make casualty recognition and categorisation much more difficult.

Communication may be the clearest way to identify whether or not a casualty is in a state of panic. Panicking casualties are not able to communicate effectively, either because they communicate very little (shock response), or because their attempts at communication are so vigorous (shouting and waving) that clear messages between the casualty and rescuer cannot be achieved.
Casualty Recognition

Non-Panicking Casualty

Notes
Non-panicking casualties may be more in need of assistance than rescue. They can be quickly identified as ‘non-panicking’ by their ability to communicate clearly. These casualties may be tired, weak, or injured swimmers, so the rescuer must communicate clearly with the casualty to help them to decide what actions to take.

Non-panicking casualties can become panicking or unconscious casualties very quickly. Non-panicking casualties still pose a significant risk to the rescuer if they enter the water.

Casualty Characteristics

Before Rescue
• **Actions**
  Effective - using their arms and legs to maintain buoyancy and a clear airway
• **Communication**
  Effective - shouting and/or signalling for help
• **Body position**
  May have legs raised into a swimming or floating position, may turn onto their side or back

During Rescue
• Likely to be able to respond to instructions
• Likely to co-operate when support is offered (able to grasp rescue aids)
• May be able to rescue themselves (self-rescue) when given some support (an aid) and guidance

Rescuer Implications
• Despite the apparent calmness, there is still a high risk of the casualty grasping at and clamping onto the rescuer
• A good defensive stand-off position must be used if the rescuer enters the water (although entry is not advised)
• Rescue aids should be used and physical contact avoided
Unconscious Casualty

Notes
Unconscious casualties can regain consciousness during a rescue and in doing so increase the risk that they pose to the rescuer.

Casualty Characteristics

Before Rescue
- **Actions**
  Completely limp, no movement
- **Communication**
  No communication, no signal for help
- **Body position**
  May be floating at any point between the surface and the water bed

During Rescue
- No response to instruction or rescue
- Direct-contact rescue required (if it can be safely performed)
- May regain consciousness during the rescue

Rescuer Implications
- The casualty will not be able to assist with the rescue
- The casualty will require a direct-contact rescue (if it can be safely performed)
- Landing the casualty will be difficult, the rescuer should consider moving the casualty to the easiest point of exit and calling for assistance throughout the rescue
- Consider Life Support

The Contact Zone

The contact zone is the area around the casualty that presents the highest level of risk to the rescuer.

Within this zone the casualty is able to grasp at, and clamp onto the rescuer which can prevent them from being able to swim, and can potentially lead to both the casualty and the rescuer drowning.

The size of the contact zone varies depending on the casualty characteristics. Very small or weak casualties may be restricted in how far they can swim or reach towards a rescuer, whereas large or energetic casualties may be able to reach towards a rescuer even when they are a number of metres away from them.

During water-based rescues, rescuers must stop their approach before entering the contact zone and adopt the defensive stand-off position (also see Defensive Stand-Off Position, Chapter 5). Whilst using the defensive stand-off position, rescuers should perform a final assessment of the risks posed by the casualty and reconsider the suitability of their action plan before taking any further actions.
Lifesaving Rescue Skills

Entering the Water

When choosing which method of entry to use, rescuers must consider:

- Personal Safety
- Height Of The Freeboard
- Water Depth
- Water Flow
- Water Temperature
- Distance To The Casualty
- Water Clarity

Slide-In Entry

Definition of the Skill
A slow, controlled, feet first entry into the water using the feet to feel for the water bed and unseen obstacles.

Entering From

- A bank (including pool wall)
- A jetty or floating dock

Water Type

- Shallow or unknown water depth
- Murky or clear water
- Regular or unknown water bed composition
- Possible debris or obstacles

Technique

- If appropriate, use an aid to check the depth, water bed composition and for debris
- Sit on the bank with your feet in the water
- Place both hands on the bank to one side of your body, and slightly apart from each other
- Turn towards your hands so that your arms take your body weight
- Slowly lower yourself into the water
- Feel with your feet for the waterbed and any debris
Straddle Entry

Definition of the Skill
A fast entry that prevents the head from submerging to reduce heat loss (survival) or to maintain visual contact with a casualty (rescue).

Entering From
- A height of less than 1 metre
- A bank (including pool wall)
- A jetty or floating dock

Water Type
- Deep water
- Clear water
- No debris or obstacles

Technique
- Stand with one foot forward, with your toes just over the edge
- Raise your arms to shoulder height, elbows flexed (bent), palms facing forward
- Look straight ahead
- Lean forward and take a big step forward to move away from the edge
- As you enter the water, keep your legs wide, keep leaning forward and push down with your hands, slapping the water surface
- Keep your head up

Step-In Entry

Definition of the Skill
A fast, feet first entry into deep water.

Entering From
- A height of less than 1 metre
- A bank (including pool wall)
- A jetty or floating dock

Water Type
- Deep water
- Clear water
- No debris or obstacles

Technique
- Look straight ahead
- Keep your arms tight against the sides of your body
- Take a big step forward to move away from the edge (do not jump)
- Pull your legs back together before entering the water
- Keep your feet in the neutral position (not pointed up or down)
- Keep your knees slightly flexed (bent)
- Flex your knees if you reach the water bed
- After entering the water, use your arms to self right, stabilise, and stop the descent
Lifesaving Rescue Skills

Entering the Water

Compact Jump

Definition of the Skill
A fast, protective entry into deep water from a high freeboard.

Entering From
- A height of 1 metre or more
- A cliff
- A bridge
- A dock
- A boat

Water Type
- Deep water
- Clear water
- No debris or obstacles

Technique
- Tuck your chin into your chest
- Place your arms across your chest and pull your elbows tightly against your body
- Take a big step forward to move away from the edge (do not jump)
- Pull your legs back together before entering the water
- Keep your knees slightly flexed (bent)
- Flex your knees if you reach the water bed
- After entering the water, use your arms to self right, stabilize, and stop the descent

Lifesaving Rescue Techniques

Rescuer Safety

The lifesaving rescue skills are graded by the level of hazards and risks that they present to the rescuer. To help lifesavers to identify how dangerous the skills are, each skill has been graded using the traffic light system.

Red – These are the most hazardous skills to the rescuer because they involve deep water, entering into the contact zone, or direct-contact with the casualty

Amber – These skills are hazardous to the rescuer because they involve entering the water, reaching into the contact zone, or indirect-contact with the casualty

Green – These are the least hazardous skills for the rescuer to use because they do not involve entering the water and use non-contact methods of rescue. However, these skills still present a risk to the rescuer

The traffic light level of each skill is not set in stone. The risk of performing a rescue skill can change depending on the specific situation, and the skills of the individual rescuer.

For example, a reaching rescue is typically an amber level skill, but if the rescuer cannot make the rescue using indirect-contact methods (with an aid), the level of risk may rise to red due to the heightened risk of using direct-contact in the rescue.

Using the Emergency Action Model (Chapter 3) will help you to fully evaluate the risks and priorities to your safety throughout a rescue.
**Shout and Signal Rescue**

**Definition of the Skill**
A land based, non-contact rescue, using verbal and visual guidance to instruct the casualty to self-rescue.

**Notes**
This is a **Green Skill** because the rescuer can stay out of the water, outside of the contact zone, and avoid contact with the casualty.

**Suitable Casualty and Environmental Characteristics**
- Panicking or non-panicking casualty
- Close enough to hear or see communication
- Calm to turbulent water conditions
- Any water depth

**Personal Safety**
- Call for help before starting the rescue
- Make sure the bank/beach area is safe
- Keep back from the edge
- Consider when the rescue attempt is too dangerous (and consider other options)

**Technique**

**Pre-rescue**
- Call for help
- Attract the attention of the casualty

**Rescue**
- Keep eye contact with the casualty
- Clearly instruct the casualty by:
  - Explaining and demonstrating (with your arms) the leg kicking movement
  - Explaining and demonstrating a circular arm movement (doggy paddle arms)
  - Encouraging and reassuring casualty
- Continually reassess your personal safety, exit route, and the casualty until the rescue is completed

**Throwing Rescue**

**Definition of the Skill**
A land based, non-contact rescue, using thrown buoyant aids to assist the casualty.

**Notes**
This is a **Green Skill** because the rescuer can stay out of the water, outside of the contact zone, and avoid contact with the casualty. However, the risk to the rescuer increases if they need to approach the water’s edge to throw the aid.

When using empty plastic containers as a throwing/buoyant aid, a small amount of water in the container will increase both the distance and accuracy of the throw.

**Suitable Casualty and Environmental Characteristics**
- Calm to moderate water conditions
- Any water depth
- Personal Safety
- Call for help before starting the rescue
- Make sure the bank/beach area is safe
- Keep back from the edge
- Consider when the rescue attempt is too dangerous (and consider other options)

**Technique**

**Pre-rescue**
- Call for help
- Attract the attention of the casualty

**Rescue**
- Throw the buoyant aid under arm, and keep elbow extended (straight)
- Aim for the aid to land in front of the casualty
- Communicate, tell the casualty to:
  - Hold the aid against their chest with both arms
  - Look at you
  - Kick their legs to move towards the nearest point of safety
- Continually reassess your personal safety, exit route, and the casualty until the rescue is completed

- Locate a buoyant aid
Lifesaving Rescue Skills

Lifesaving Rescue Techniques

Definition of the Skill
A land based, indirect or direct-contact rescue, pulling the casualty to the shore, with or without the use of an aid.

Notes
This is an Amber Skill because it requires the rescuer to reach into the contact zone, and it requires either indirect or direct contact with the casualty. Whenever possible, an aid should be used to keep the contact indirect, this enables the rescuer to release the aid (and casualty) if they start to get pulled into the water.

Suitable Casualty and Environmental Characteristics
- Panicking, non-panicking or unconscious casualty
- Within reaching distance
- Unable to be rescued using a safer rescue method
- Firm bank/beach (not crumbling, slippery, too steep, or too narrow)
- Calm to turbulent water conditions (risk to rescuer increases with faster water flow)
- Any water depth

Personal Safety
- Call for help before starting the rescue
- Use a reaching aid
- Make sure the bank/beach area is safe
- Lie down when reaching out to the casualty
- Ask someone else to hold onto your lower legs for extra support
- Hold onto something solid on the bank/beach (tree, railing, etc)
- Consider when the rescue attempt is too dangerous (and consider other options)

Technique

Pre-rescue
- Call for help
- Attract the attention of the casualty.
- Communicate, tell the casualty to:
  - Stay calm
  - Keep their arms and legs in the water and use them to stay at the surface
- Locate a reaching aid (if possible)

Approach
- If the bank/beach is suitable, lie down by the edge
- If there is a second rescuer, instruct them to hold onto your legs for extra support
- If there is something solid on the bank/beach to hold onto, take hold of it

Rescue
- Reach out to the casualty
- Communicate, tell the casualty to hold the aid tightly
  - If no aid is available try to grasp the back of the casualties forearm/wrist so that they cannot grab you
- Pull the casualty to the edge
- Continually reassess your personal safety, exit route, and the casualty until the rescue is completed

Reaching Rescue
Reaching Rescue: Rope Rescue

Definition of the Skill
A land-based, indirect-contact rescue, using a rope as a reaching aid.

Notes
This is an Amber Skill because it requires the rescuer to reach into the contact zone and it requires indirect contact with the casualty.

Suitable Casualty and Environmental Characteristics
- Panicking, non-panicking or unconscious casualty.
- Within reaching distance
- Unable to be rescued using a safer rescue method
- Firm bank/beach (not crumbling, slippery, too steep, or too narrow)
- Calm to turbulent water conditions (risk to rescuer increases with faster water flow)
- Any water depth

Personal Safety
- Call for help before starting the rescue
- Make sure the bank/beach area is safe
- Kneel or lie down when pulling the casualty to safety
- Consider when the rescue attempt is too dangerous (and consider other options)

Technique
Pre-rescue
- Call for help
- Attract the attention of the casualty
- Communicate, tell the casualty to:
  - Stay calm
  - Keep their arms and legs in the water and use them to stay at the surface
- Locate a rope

Rescue
- Hold the end of the rope in the coiling/throwing hand between your index finger and thumb, with your palm facing up
- Run the other hand along the rope until it is outstretched in front of your body
- Returning the outstretched hand to the coiling/throwing hand, loop the rope between the index finger and thumb
- Repeat the action until enough rope is coiled for the rescue
- Try to keep your coiling/throwing hand still during the coiling (to prevent the coils from tangling)
- Throw the rope using an underarm throw keeping hold of one end, and aiming over/past the casualty and upstream/upwind
- Keep back from the edge and pull the casualty in:
  - In calm water, get down onto one knee (or lie flat) and pull the casualty to the edge
  - In flowing water, get down onto one knee (or lie flat) hold the rope firmly and allow the current to swing the casualty to the edge
- Continually reassess your personal safety, exit route, and the casualty until the rescue is completed
Lifesaving Rescue Techniques

Wading Rescue

Definition of the Skill
A water-based, non-contact, indirect-contact or direct-contact rescue, performed in standing depth water, with or without an aid.

Notes
This is an Amber Skill because it requires the rescuer to enter the water, and either reach into or enter the contact zone.

To minimise the risks as much as possible, the rescuer should use non-contact and indirect-contact rescue techniques in preference to direct-contact techniques whenever possible.

Wading may also be used by the rescuer to increase the accuracy and distance of throwing rescues.

Suitable Casualty and Environmental Characteristics
- Panicking, non-panicking or unconscious casualty
- Calm to moderate water conditions
- Within standing depth water (not deeper than the rescuer's chest)
- Unable to be rescued using a safer rescue method

Personal Safety
- Call for help before starting the rescue
- Use a rigid aid to test the waterbed
- Stand side-on to any water flow with your legs spread to at least shoulder width
- Slide your feet in a semi-circular motion whilst testing and keeping a firm footing on the waterbed
- Stay in contact with the land by holding onto a secure object connected to or supported by another rescuer on the land, such as a branch (if available)
- If there are multiple rescuers, form a human chain
- Take a buoyant aid for personal use (if available)
- Avoid direct contact with the casualty (if possible)
- If the rescue attempt is too dangerous consider other options

Technique

Pre-rescue
- Call for help
- Attract the attention of the casualty
- Communicate, tell the casualty to:
  - Stay calm
  - Keep their arms and legs in the water and use them to stay at the surface
- Locate a reaching aid if possible

Approach
- If available, use a rigid aid to test the water bed before entering safely
- If available, take hold of a secure object on the land for support (such as a branch), or link with another rescuer who is on the bank
- Walk steadily toward the casualty:
  - Testing the waterbed with the rigid aid
  - Moving your feet in a semi-circular motion, checking the ground before transferring your body weight

Rescue
- Secure the casualty (with as little contact as is safe, preferably using an aid)
- Return to the land by the same path used to reach the casualty, or by the safest route to a point of exit
- Continually reassess your personal safety, exit route, and the casualty until the rescue is completed
**Watercraft Rescue**

**Definition of the Skill**
A watercraft based, non-contact, indirect-contact or direct-contact rescue.

**Notes**
This is an **Amber Skill** because it requires the rescuer to enter, or go onto the water with a watercraft, and either reach into or enter the contact zone.

The guidance contained in this section is generic to most watercraft. In many cases specialist training is available and required to perform these rescues safely and rescuers who regularly use watercraft, such as surf boards and body boards, are often used in rescues.

**Suitable Casualty and Environmental Characteristics**
- Panicking, non-panicking or unconscious casualty
- Unable to be rescued using a safer rescue method
- Deep and calm enough water for the water craft to operate

**Personal Safety**
- Call for help before starting the rescue
- Wear a PFD or take a buoyant aid for personal use (if possible)
- Stay in or on their watercraft
- Consider when the rescue attempt is too dangerous (and consider other options)

**Technique**

**Pre-rescue**
- Call for help
- Attract the attention of the casualty
- Communicate, tell the casualty to:
  - Stay calm
  - Keep their arms and legs in the water and use them to stay at the surface

**Approach**
- Position the watercraft downwind or down current and to the side of the casualty (consider switching off the engine of motorised watercrafts at this stage)

**Rescue**
- The casualty can either be recovered into/onto the watercraft or be instructed to hold on to the craft in a safe position
- Take the casualty to the nearest point of safety
- Communicate with any other helpers as you approach the waters edge
- Continually reassess your personal safety, exit route, and the casualty until the rescue is completed
Lifesaving Rescue Techniques

Accompanied Rescue

Definition of the Skill
A water based, non-contact rescue, providing the casualty with a buoyant aid to help them to swim (or wade) to safety.

Notes
This is a Red Skill because it requires the rescuer to enter the water, and get very close to, or possibly enter the contact zone to start the rescue.

However, once the aid has been passed to the casualty the rescuer can stay outside of the contact zone for the rest of the rescue.

Suitable Casualty and Environmental Characteristics
- Panicking or non-panicking casualty
- Calm to turbulent conditions
- Any water depth
- Unable to be rescued using a safer rescue method

Personal Safety
- Call for help before starting the rescue
- Wear a PFD or take a buoyant aid for personal use (if possible)
- Use the defensive stand-off position (3-4 metres from the casualty, see page 90 of Chapter 5)
- Throw the buoyant aid to the casualty from outside of the contact zone
- Consider when the rescue attempt is too dangerous (and consider other options)

Points
Pre-rescue
- Call for help
- Attract the attention of the casualty
- Communicate, tell the casualty to:
  - Stay calm
  - Keep their arms and legs in the water and use them to stay at the surface
- Locate a buoyant aid

Approach
- Perform a safe entry into the water, taking a buoyant aid with you
- Wade or swim to the casualty
- Use the defensive stand-off position and communicate with the casualty

Rescue
- Keeping as far away from the casualty as possible, pass the buoyant aid to the casualty
- Instruct the casualty to:
  - Hold the aid against their chest with both arms
  - Keep looking at you
  - Kick their legs and follow you to the side
- Swim in front of the casualty to a position of safety
- Communicate with any other helpers as you approach the waters edge
- Continually reassess your personal safety, exit route, and the casualty until the rescue is completed
Tow with an Aid Rescue

Definition of the Skill
A water based, indirect-contact tow, using an aid to avoid direct contact with the casualty.

Notes
This is a Red Skill because it requires the rescuer to enter the water, and reach into or enter into the contact zone and use an indirect-contact rescue technique.

However, this rescue technique does enable the rescuer to maintain a greater distance from the casualty than a direct-contact tow.

Suitable Casualty and Environmental Characteristics
- Panicking or non-panicking casualty
- Calm to turbulent water conditions
- Any water depth

Personal Safety
- Call for help before starting the rescue
- Wear a PFD or take a buoyant aid for personal use (if possible)
- Use the defensive stand-off position (3-4 metres from the casualty)
- Keep a safe distance from the casualty when extending the aid towards them
- Consider when the rescue attempt is too dangerous (and consider other options)

Technique
Pre-rescue
- Call for help
- Attract the attention of the casualty
- Communicate, tell the casualty to:
  - Stay calm

Approach
- Keep their arms and legs in the water and use them to stay at the surface
- Locate a towing aid (preferably a buoyant aid)

Rescue
- Keeping as far away from the casualty as possible, extend the aid to within the casualties reach
- Instruct the casualty to:
  - Turn onto their back (if they can)
  - Hold the aid against their chest with both arms
  - Kick their legs
- Use lifesaving sidestroke or lifesaving backstroke to tow the casualty to a position of safety
- If the casualty tries to climb up the aid towards you, let go and use the defensive reverse
- Communicate with any other helpers as you approach the waters edge
- Continually reassess your personal safety, exit route, and the casualty until the rescue is completed
Lifesaving Rescue Skills

Lifesaving Rescue Techniques

Support Tow

Definition of the Skill
A direct-contact tow, using a buoyant aid to support the casualty.

Notes
This is a Red Skill because it requires the rescuer to enter the water, enter into the contact zone, and use direct-contact rescue techniques.

Due to the extremely dangerous nature of this tow, it should only be used as a last resort and only with unconscious casualties.

When direct-contact rescues are believed to be the only option available, rescuers should consider if the rescue is too dangerous to attempt and what other actions could be taken (calling and waiting for the emergency services).

Suitable Casualty and Environmental Characteristics
- Unconscious casualty
- Calm to moderate water conditions
- All water depths

Reasons for Choosing the Support Tow
- A suitable buoyant aid is available

Personal Safety
- Call for help before starting the rescue
- Wear a PFD or take a buoyant aid for personal use (if possible)
- Use the defensive stand-off position (3-4 metres from the casualty)

- Only use direct-contact methods for unconscious casualties
- Consider when the rescue attempt is too dangerous (and consider other options)

Technique
Pre-rescue
- Call for help

Approach
- Enter the water safely
- Approach the casualty using front crawl or breaststroke
- If the casualty is at the surface maintain visual contact
- Use the defensive stand-off position to assess the casualty and confirm that they are unconscious

Rescue
- Position the casualty into a horizontal float position (this may include surface diving for the casualty or turning the casualty)
- Position the buoyant aid underneath their shoulders (as appropriate for the specific aid)
- If the head is unsupported by the buoyant aid, use one hand to support the back of the head or the chin
- Use lifesaving sidestroke or lifesaving backstroke to tow the casualty using a tow suitable for how the casualty is positioned with the buoyant aid
- Communicate with any other helpers as you approach the waters edge
- Continually reassess your personal safety, exit route, and the casualty until the rescue is completed
Extended Arm Tow

Definition of the Skill
A direct-contact tow, holding the chin of the casualty, with the towing arm fully extended.

Notes
This is a Red Skill because it requires the rescuer to enter the water, enter into the contact zone and use direct-contact rescue techniques.

Due to the extremely dangerous nature of this tow, it should only be used as a last resort and only with unconscious casualties.

When direct-contact rescues are believed to be the only option available, rescuers should consider if the rescue is too dangerous to attempt and what other actions could be taken (calling and waiting for the emergency services).

Suitable Casualty and Environmental Characteristics
- Unconscious casualty
- Calm to turbulent water conditions
- All water depths

Reasons for Choosing the Extended Arm Tow
- A fast tow can be achieved
- The casualty’s airway remains extended
- A small distance is maintained between the rescuer and the casualty

Personal Safety
- Call for help before starting the rescue
- Wear a PFD or take a buoyant aid for personal use (if possible)

- Use the defensive stand-off position (3-4 metres from the casualty)
- Only use direct-contact methods for unconscious casualties
- Consider when the rescue attempt is too dangerous (and consider other options)

Technique
Pre-rescue
- Call for help

Approach
- Enter the water safely
- Approach the casualty using front crawl or breaststroke
- If the casualty is at the surface maintain visual contact
- Use the defensive stand-off position to assess the casualty and confirm that they are unconscious

Rescue
- Position the casualty into a horizontal float position (this may include surface diving for the casualty or turning the casualty)
- Cup your hand around the casualty’s chin
  - Keeping your fingers together and thumb resting on top of your hand
  - Do not obstruct the casualty’s mouth
  - Do not apply pressure to the casualty’s throat
- Keep your elbow extended (straight)
- Tow the casualty using sidestroke (lifesaving backstroke can also be used)
- Communicate with any other helpers as you approach the waters edge
- Continually reassess your personal safety, exit route, and the casualty until the rescue is completed
Lifesaving Rescue Techniques

Clothing Tow

Definition of the Skill
A direct-contact tow, holding the casualty by their clothes, with the towing arm fully extended.

Notes
This is a Red Skill because it requires the rescuer to enter the water, enter into the contact zone and use direct-contact rescue techniques.

Due to the extremely dangerous nature of this tow, it should only be used as a last resort and only with unconscious casualties.

When direct-contact rescues are believed to be the only option available, rescuers should consider if the rescue is too dangerous to attempt and what other actions could be taken (calling and waiting for the emergency services).

Suitable Casualty and Environmental Characteristics
- Unconscious casualty
- Calm to turbulent water conditions
- All water depths

Reasons for Choosing the Clothing Tow
- A small distance is maintained between the rescuer and the casualty
- The casualty is wearing suitable clothing (not loose)
- The clothing may aid control of the casualty in turbulent water conditions

Personal Safety
- Call for help before starting the rescue
- Wear a PFD or take a buoyant aid for personal use (if possible)

- Use the defensive stand-off position (3-4 metres from the casualty)
- Only use direct-contact methods for unconscious casualties
- Consider when the rescue attempt is too dangerous (and consider other options)

Technique

Pre-rescue
- Call for help

Approach
- Enter the water safely
- Approach the casualty using front crawl or breaststroke
- If the casualty is at the surface maintain visual contact
- Use the defensive stand-off position to assess the casualty and confirm that they are unconscious

Rescue
- Position the casualty into a horizontal float position (this may include surface diving for the casualty or turning the casualty)
- Support the back of the casualty’s head to stop it submerging and maintain an extended airway
  - Do not grip the back of the casualties neck with the hand supporting their head
- With the other hand, grasp the casualties clothing by their shoulder (either left hand to left shoulder or right hand to right shoulder)
- Keep your elbows as extended (straight) as possible
- Tow the casualty using lifesaving backstroke
- Communicate with any other helpers as you approach the waters edge
- Continually reassess your personal safety, exit route, and the casualty until the rescue is completed
Chin Tow

Definition of the Skill
A direct-contact tow, holding the casualty by their chin, and positioning the casualty close to the rescuer’s body for security and control.

Notes
This is a Red Skill because it requires the rescuer to enter the water, enter into the contact zone, and use direct-contact rescue techniques.

Due to the extremely dangerous nature of this tow, it should only be used as a last resort and only with unconscious casualties.

When direct-contact rescues are believed to be the only option available, rescuers should consider if the rescue is too dangerous to attempt and what other actions could be taken (calling and waiting for the emergency services).

Suitable Casualty and Environmental Characteristics
- Unconscious casualty
- Calm to turbulent water conditions
- All water depths

Reasons for Choosing the Chin Tow
- Unconscious casualty
- Casualty airway remains extended
- Moderate to turbulent water conditions (the rescuer has control of the casualty through close contact)
- The rescuer is a strong swimmer

Personal Safety
- Call for help before starting the rescue

 Technique
Pre-rescue
- Call for help

Approach
- Enter the water safely
- Approach the casualty using front crawl or breaststroke
- If the casualty is at the surface maintain visual contact
- Use the defensive stand-off position to assess the casualty and confirm that they are unconscious

Rescue
- Position the casualty into a horizontal float position (this may include surface diving for the casualty or turning the casualty)
- Cup your hand around the casualty’s chin:
  - Keeping your fingers together and thumb resting on top of the hand
  - Do not obstruct the casualty’s mouth
  - Do not apply pressure to the casualty’s throat
- Bring the casualty close to your body by flexing your elbow
- Rest the casualty’s head on your shoulder (on the same side as your towing arm), holding the casualty’s cheek against your own
- Place the elbow of your towing arm against/on top of the casualty’s shoulder
- Tow the casualty using lifesaving backstroke
- Communicate with any other helpers as you approach the waters edge
- Continually reassess your personal safety, exit route, and the casualty until the rescue is completed

- Wear a PFD or take a buoyant aid for personal use (if possible)
- Use the defensive stand-off position (3-4 metres from the casualty)
- Only use direct-contact methods for unconscious casualties
- Consider when the rescue attempt is too dangerous (and consider other options)
Lifesaving Rescue Techniques

Cross Chest Tow

Definition of the Skill
A direct-contact tow, holding the casualty across their chest, with the side of the rescuers body supporting the casualty high in the water.

Notes
This is a Red Skill because it requires the rescuer to enter the water, enter into the contact zone, and use direct-contact rescue techniques.

Due to the extremely dangerous nature of this tow, it should only be used as a last resort and only with unconscious casualties.

When direct-contact rescues are believed to be the only option available, rescuers should consider if the rescue is too dangerous to attempt and what other actions could be taken (calling and waiting for the emergency services).

Suitable Casualty and Environmental Characteristics
- Unconscious casualty
- Calm to turbulent water conditions
- All water depths
- Reasons for choosing the Cross Chest Tow
- The rescuer has control of the casualty through close contact (especially in turbulent water conditions)
- The casualty is an appropriate size (rescuers may not be able to attain sufficient grip on large casualties)
- The rescuer is a strong swimmer

Personal Safety
- Call for help before starting the rescue
- Wear a PFD or take a buoyant aid for personal use (if possible)
- Use the defensive stand-off position (3-4 metres from the casualty)
- Only use direct-contact methods for unconscious casualties
- Consider when the rescue attempt is too dangerous (and consider other options)

Technique
Pre-rescue
- Call for help

Approach
- Enter the water safely
- Approach the casualty using front crawl or breaststroke
- If the casualty is at the surface maintain visual contact
- Use the defensive stand-off position to assess the casualty and confirm that they are unconscious

Rescue
- Position the casualty into a horizontal float position (this may include surface diving for the casualty or turning the casualty)
- Position your towing arm over the shoulder and across the chest of the casualty
  - Your arm should run diagonally across the chest
  - Your hand should rest to the side of the casualty’s abdomen (without applying pressure to the abdomen)
- Do not grip under the armpit
- Use your towing arm to hold the casualty firmly against the side of your body
- Lift the casualty with your hip
- Tow the casualty using lifesaving sidestroke
- Communicate with any other helpers as you approach the waters edge
- Continually reassess your personal safety, exit route, and the casualty until the rescue is completed
Definition of the Skill
The land based, non-contact or indirect contact rescue of a casualty from icy water.

Notes
Ice rescue is extremely dangerous for the rescuer, both because of the unpredictable stability of the ice and because of the extremely cold water temperatures. Therefore all ice rescue attempts should be performed from a secure position on the bank or beach.

All of the standard land based rescue skills apply to ice rescue, although most of the skills can be adapted to make them more suitable to the specific situation.

If a casualty cannot be rescued from the ice, the rescuers priorities must change. Rescuers should then provide survival advice and encouragement to the casualty, focusing on maintaining a clear airway and keeping as much of their body out of the water as possible until the emergency services take over.

Shout And Signal Rescue (Ice)
The technique for getting out of the water and back onto the ice surface is not an obvious one. Not knowing these skills could stop a person who is physically able to rescue themselves, from actually doing so. The shout and signal rescue technique can be used to instruct the casualty how to self rescue from ice.

The self-rescue guidance to communicate is:

- Stay calm, and gain control of your breathing (also see Cold Water Immersion Chapter 2)
- Move back towards your point of entry (where the ice/land was strong enough to support your body weight)

- If the ice is thin, break the ice in front of you as you move towards safety
- If the ice is thick, spread your arms over the surface (pushing with just your hands will break more ice)
- Kick your legs to get your body leaning as horizontally as possible
- Kick, claw, and crawl your way onto the ice
- Do not stand up
- Slide or roll to safety

Throwing Rescue (Ice)
The standard throwing rescue method should be used for ice rescue. These adaptations will improve the safety and likely success of the rescue:

- Rescuers should take extra care to make sure that they are in a secure position on the bank
- Use throwing aids that can be easily grasped by cold hands

Reaching Rescue (Ice)
The standard reaching rescue techniques can be used for ice rescue. These adaptations will improve the safety and likely success of the rescue:

- Rescuers should take extra care to make sure that they are in a secure position on the bank
- Use reaching aids that can be easily grasped by cold hands - such as a broom
- Tie objects to the end of ropes used for rescue - such as a bottle
Defences and Escapes

Defensive Stand-Off Position

Definition of the Skill
A precautionary position held outside of the contact zone, to allow assessment and communication with the casualty.

Notes
The defensive stand-off position is an important skill because it gives rescuers time to perform a final assessment of the risks posed by the casualty and reconsider the suitability of their action plan before they enter into the contact zone.

Technique
- Approach the casualty using front crawl or breaststroke (with a buoyant aid if available)
- Stop your approach as you reach the contact zone (3-4 metres from the casualty, further for strong/energetic casualties)
- Tread water with your legs slightly raised forward and your body slightly leaning back
- Assess and communicate with the casualty (if they are conscious)
- Only progress with the rescue if you are confident that the casualty will not grasp at you

Defensive Reverse

Definition of the Skill
The rapid movement of the rescuer away from the casualty and out of the contact zone, to prevent the casualty from grasping at the rescuer.

Notes
The defensive stand-off position is an important skill because it gives rescuers time to perform a final assessment of the risks posed by the casualty and reconsider the suitability of their action plan before they enter into the contact zone.

Technique
- Starting from a swimming approach towards the casualty, or from the defensive stand-off position (also see Defensive Stand-Off Position, Chapter 5)
- Push your legs towards the surface and in the direction of the casualty
- Kick away from the casualty vigorously
- Use your arms to increase your speed away from the casualty
- Allow your feet to splash to discourage the casualty from following you
- Once you are out of the contact zone, use the stand-off position
- Assess and communicate with the casualty
- Only progress with the rescue if you are confident that the casualty will not grasp at you again
Defensive Block

Definition of the Skill
Physically blocking the movement of a grasping casualty towards the rescuer when there is insufficient space to perform a defensive reverse.

Technique
- Starting from a position within the contact zone
- Raise your rescue aid, arm, or leg to block the casualty’s movement
- Push the casualty away firmly and vigorously (preferably pushing against their chest area)
- Once you are out of the contact zone, use the stand-off position (also see Defensive Stand-Off Position, Chapter 5)
- Assess and communicate with the casualty
- Only progress with the rescue if you are confident that the casualty will not grasp at you again
Defences and Escapes

Defensive Releases

Definition of the Skill
Methods of escaping from the grasp of a casualty by submerging and/or pushing away.

Notes
Escaping from the grasp of a casualty is very difficult, which is why such emphasis is placed on taking positive actions to remain outside of the contact zone throughout a rescue attempt.

When a casualty does grasp a rescuer, their actions are driven by their desperation to maintain their airway and they do not recognise that they are preventing their own rescue and risking the lives of both themselves and the rescuer.

Due to the number of different ways that casualties can grasp rescuers, and the possible size and strength differences between them, there are no escape methods that are guaranteed to work in every situation.

These general defensive release principles will help to prepare rescuers with the skills and knowledge to escape the grasp of a casualty.

The General Principles of Escape are:
- Submerge to weaken the grasp of the casualty (as they try to stay at the surface)
- Aim for and push against large areas of the casualty’s body (such as the chest)
- Act quickly
- Use vigorous force and movement

Technique
- Take a deep breath
- Tuck your chin into your chest (to protect your throat)
- Allow yourself to submerge (with the casualty)
- If the casualty does not let go, push against their body with your arms and/or legs
- Try to break the casualty’s grip
- Once you are out of the contact zone, use the defensive stand-off position (also see Defensive Stand-Off Position, Chapter 5)
- Assess and communicate with the casualty
- Only progress with the rescue if you are confident that the casualty will not grasp at you again
Supporting a Casualty in the Water

Turning an Unconscious Casualty

**Definition of the Skill**
A method of turning of an unconscious casualty from a face down to a face up position, at the surface of the water.

**Notes**
During this technique, the casualty should be rotated and not lifted. When the skill is performed correctly, the casualty’s head should remain in neutral alignment throughout the turn.

**Technique**

**Approaching from the side**
- Position yourself to the side of the casualty
- Rotate the casualty by gently but firmly pushing down on the shoulder closest to you whilst supporting the shoulder furthest away as it rotates towards you
- As the casualty turns, transfer your hands to support the head, and position the casualty into the horizontal float position

**Approaching from the head**
- Position yourself directly in front of the casualty’s head
- Rotate the casualty by gently but firmly pushing down on one shoulder whilst supporting the other shoulder as it rotates
- As the casualty turns, transfer your hands to support the head, and position the casualty into the horizontal float position
Supporting a Casualty in the Water

Without a Firm Support

Notes
Rescuers may need to support the casualty in the water whilst they are waiting for assistance to land the casualty or waiting for the emergency services.

The rescuers priorities whilst supporting the casualty in this way are to maintain a clear airway for the casualty, and to get them out of the water as soon as it is safe to do so.

Definition of the Skill
The support of a casualty in the water, without a firm support, maintaining a clear airway, whilst waiting for assistance.

Technique
With a buoyant aid
- Position the casualty into a horizontal float position
- Position the buoyant aid underneath the shoulders of the casualty (as appropriate for the specific aid)
- Support the casualty’s head with your hand

In deep water it may be more beneficial to position the float underneath the rescuers arms to reduce fatigue from treading water.

Without a buoyant aid
- From the head
  - Support the casualty in a horizontal float position
  - Place the casualty’s head on your shoulder
  - Support the casualty’s back with your hands
- From the side
  - Support the casualty in a horizontal float position
  - Support the casualty’s head and back with your hands

Against a Firm Support

Definition of the Skill
The support of a breathing casualty in the water against a firm support, maintaining a clear airway, whilst waiting for assistance.

Technique
- As you approach the support, towing the casualty, begin to rotate the casualty towards the support
- Whilst supporting the casualty’s head (facing the support), reach under one of their arms and grasp the point of support
- Support the weight of the casualty with your body, if in standing depth water you can also raise one leg to support the casualty’s lower body
- Reach under the casualty’s other arm and grasp the support with both hands
In Water Rescue Breathing

Definition of the Skill
Methods of positioning the casualty and providing rescue breathing in the water.

Notes
These methods should only be used if it is not possible for the rescuer to land the casualty. Non-breathing casualties urgently require Life Support and every effort should be made to minimise any delays in landing the casualty.

Straight Approach

Technique
- As you approach the support, towing the casualty, begin to rotate the casualty towards the support (skip this step if there is no support)
- Position the casualty in front of you, with their neck in the crook of your arm and your hand supporting their shoulder or grasping the support
- Extend the casualty’s airway and assess for signs of normal breathing following the standard Life Support guidelines

- If the casualty is breathing normally, continue to support the casualty and remove them from the water as soon as possible
- If the casualty is not breathing normally (as defined in Life Support), support the chin to keep the mouth closed and adjust the head position to create an open airway
- Seal your mouth around the casualty’s nose and perform rescue breathing following the standard Life Support guidelines
- Land and reassess the casualty as soon as possible

Turn Approach

Technique
- As you approach the support, towing the casualty, turn your back to the wall and rotate the casualty towards the support (skip this step if there is no support)
- Keeping your towing hand on the casualty’s chin, position the casualty in front of you, with their neck in the crook of your arm and your hand supporting their shoulder or grasping the support
- Extend the casualty’s airway and assess for signs of normal breathing following the standard Life Support guidelines

- If the casualty is breathing normally, continue to support the casualty and remove them from the water as soon as possible
- If the casualty is not breathing normally (as defined in Life Support), support the chin to keep the mouth closed and adjust the head position to create an open airway
- Seal your mouth around the casualty’s nose and perform rescue breathing following the standard Life Support guidelines
- Land and reassess the casualty as soon as possible
Surface Dives and Recovering the Casualty

Extended Feet First Surface Dive

Definition of the Skill
A fast and protective, feet first method of submerging from a starting position at the water surface.

Water Type
- Greater than standing depth
- Murky or clear water
- Calm to moderate water conditions
- Regular or unknown water bed composition
- Possible debris or obstacles

Technique
- Position over where you want to submerge (treading water)
- Take a deep breath
- Kick vigorously, and push your arms down in the water to lift your body high
- Bring your feet together
- Raise your arms above your head and submerge
- Once your downward movement slows, make a scooping action with your hands to continue the descent
- Feel for debris and obstacles with your feet

Controlled Feet First Surface Dive (adaptation)
This adaptation to the extended surface dive is used when a slower and more controlled descent is required. The dive is performed with the same method and teaching points, except the lifesaver does not ‘kick vigorously, push the arms down in the water to lift the body high’ before the descent.

Head First Surface Dive

Definition of the Skill
A fast, head-first method of submerging from a starting position at the water surface.

Water Type
- Water greater than standing depth
- Clear water
- Calm to moderate water conditions
- Regular water bed composition
- No debris or obstacles (or they could be recognised and avoided)

Technique
- Position your upper body over where you want to submerge (horizontal on the water surface) (Image 1)
- Take a deep breath
- Flex your waist/hips to 90 degrees, and reach your hands down towards the water bed, keeping your head between your arms (Image 2)
- As your upper body descends, extend your waist/hips, lifting your legs out of the water to increase the downwards force (Image 3)
- Once your downward movement slows, swim under water to continue your movement or change direction
Recovering a Casualty from the Water Bed

Definition of the Skill
A method of lifting a casualty from the water bed to the water surface.

Teaching Points
- Surface dive to the casualty
- Position yourself to the side of the casualty, near their head
- Squat by the side of the casualty
- Take hold of the casualty, preferably under the arms but clothing may also be used to grip the casualty
- Push off the water bed and kick towards the surface
- Tow or assist the casualty to safety (using the appropriate rescue techniques contained in this chapter)

Searching for Submerged Casualties
When a casualty submerges, it is important for the rescuer to have a visual reference for where the casualty is, to enable them to be quickly located.

Sightings – Rescuers acting alone can take sightings of the casualty’s position (before they submerged) by visually lining it up with distinctive stationary objects that are in the area (trees, jetties, pylons, buoys), and by estimating the distance from the shore. Other signs such as floating clothing and bubbles rising to the surface can also help to locate a submerged casualty.

Cross bearings – When bystanders are available to help from the land, multiple sightings can be taken from different places on the shore (cross bearings). Each bystander can communicate the information to the rescuer, which provides more detail and accuracy than a single sighting.
Surface Dives and Recovering the Casualty

Searching for Submerged Casualties (continued)

**Shallow water individual search** – A single rescuer may be able to conduct a search of shallow water (up to chest depth), depending on the environmental conditions and hazards. The rescuer should establish the search area, take sightings, and wade in straight lines parallel to the bank or beach. The rescuer should use a rigid aid to test the water bed (if available) and search by sliding their feet in a semi-circular motion whilst testing and keeping a firm footing on the water bed.

**Shallow water line search** – Multiple rescuers may be able to conduct a line search in shallow water (up to chest depth), depending on the environmental conditions and hazards. The rescuers should link arms (with the shortest in the most shallow area), and search the area by walking forward, parallel to the bank or shore, keeping the line straight. The rescuers should search by sliding their feet in a semi-circular motion whilst testing and keeping a firm footing on the water bed.
Multiple Rescues

In cases where there is more than one casualty in the water, a rescuer may decide to perform more than one rescue at a time (multiple rescue). These types of rescues are extremely dangerous, as hazards and risks that each casualty causes to the rescuer are added together.

A safer option in this situation is for the rescuer to rescue the casualties one at a time, and attempt as many land based rescues as possible.

If a rescuer does decide to perform multiple water-based rescues, different rescue techniques may be used on each casualty to reduce the risks (one may be towed whilst the other is given a buoyant aid).

Separating Casualties that are Locked Together

Casualties who are tightly grasping onto each other are likely to be in a high state of panic and therefore present a high level of risk to the rescuer.

It is not possible to use the rescue techniques on casualties who are locked together, so for them to be safely rescued they first have to be encouraged to separate.

To separate locked casualties, the rescuer should communicate clearly and encourage them to release each other to take hold of buoyant aids. The rescuer must stay outside of the contact zone whilst communicating with the casualties and passing the buoyant aids to them.

Once the casualties have taken the aids, the rescuer can perform non-contact or indirect contact rescues.
Aquatic Spinal Injuries

Basic Principles of Aquatic Spinal Injury Management

Management of aquatic spinal injuries requires specialist skills. These skills are trained through the vocational awards of RLSS UK. However, in cases where specialist rescuers (such as lifeguards) are not available and the casualty’s life is at risk, other rescuers may have to act to stabilise the casualty whilst awaiting the emergency services.

Rescuers should have a basic understanding of spinal injury, and be able to recognise and stabilise a spinal casualty in the water whilst awaiting specialist assistance.

Rescuers should treat a casualty as a suspected spinal casualty if:

- Abnormal or severe forces have been applied to the casualty's back or neck (often as a result of jumping or diving into the water)
- The casualty complains about unusual sensations or paralysis anywhere in their body
- The basic principles of spinal injury management are:
  - The head and body must be kept in neutral alignment (as if the casualty is looking straight forward)
  - The arms should be moved slowly and within the natural movement range of the shoulders
  - The casualty should not be removed from the water unless their life is at risk by staying in the water (see below)
  - The casualty will require constant reassurance

In extreme circumstances, a spinal casualty may need to be removed from the water before the emergency services arrive on the scene. Reasons for landing a spinal casualty without professional support include:

- If the casualty is not breathing normally (as defined in Life Support)
- If the casualty is suffering from other life threatening conditions
- If it is not safe to remain in the water

In situations where a spinal casualty does have to be removed from the water, the horizontal lift should be used. Additional care and attention must be given to the head and spinal alignment during the lift.
Turning a Suspected Spinal Injury Casualty

**Definition of the Skill**
A method of turning a suspected spinal injury casualty from a face down to a face up position, whilst immobilising and stabilising the head and spine using the head splint technique.

**Notes**
Rescuers should only turn a suspected spinal injury casualty when specialist support is unavailable.

**Technique**
- Approach the side of the casualty, creating as little water disturbance as possible
- Grasp the casualty’s arms between the elbow and shoulder
- Slowly move the casualty’s arms to the side of their head
- Apply firm pressure through the casualty’s upper arms, clamping their head in the neutral position (as if the casualty is looking straight forward)
- If you can reach, support the back of the casualty’s head with your thumbs
- Lower your body so that your chest is level with the casualty
- Move slowly forward with the casualty to encourage their legs to rise towards the surface
- As the casualty’s body becomes horizontal in the water, begin to rotate the casualty by pushing down on the side that’s closest to you, as you continue moving slowly forward
- When the casualty is face up, slowly stop the forward movement and continue to hold the casualty securely until specialist assistance arrives
- If another person is able to assist, they can gently support the lower body by placing their arms under the casualty’s hips with their palms facing down

Head Splint

**Definition of the Skill**
A water-based, temporary immobilisation and stabilisation of the head and spine, to preserve the condition, and reduce further injury to a spinal casualty.

**Technique**
- Approach the side of the casualty, creating as little water disturbance as possible
- Grasp the casualty’s arms between the elbow and shoulder
- Slowly move the casualty’s arms to the side of their head
- Apply firm pressure through the casualty’s upper arms, clamping their head in the neutral position (as if the casualty is looking straight forward)
Landing the Casualty

Basic Principles of Casualty Lifting

Landing a casualty can be the most difficult part of a rescue, especially if the rescuer is exhausted, if the casualty is heavy or unconscious, and if the bank is steep.

There are three key considerations that rescuers must make when landing a casualty.

Personal Safety
Rescuers must:
- Encourage the casualty to get themselves out of the water
- Minimise direct lifting
- Use helpers whenever possible
- Keep a straight back
- Use their leg muscles to lift

Selecting the Method of Landing
Rescuers must consider:
- Their own strength, height, and experience
- The condition, height, and weight of the casualty
- The environmental conditions

Casualty Care
Rescuers must:
- Maintain the casualty’s airway
- Take care of the casualty’s head and neck area
- Avoid causing further injury

Assisted Walk Out

Definition of the Skill
A method of assisting and supporting the casualty to walk onto the shore.

Suitable for
- Sloping exit (beach)
- Shallow water
- Conscious casualty
- One or more rescuer

Technique
- Call for help as you approach the shore
- Position yourself to the side of the casualty
- Position one of the casualty’s arms around your shoulders and hold on to the forearm
- Position your other arm around the casualty’s lower back
- Walk ashore supporting the casualty
- Assist the casualty to a safe position away from the water and provide aftercare
**Pull Ashore**

**Definition of the Skill**
A method of pulling a casualty onto the shore.

**Suitable for**
- Sloping exit (beach)
- Shallow water
- Weak conscious or unconscious casualty
- One or more rescuers

**Technique**
- Call for help as you approach the shore
- Position yourself behind the casualty
- Reach around the casualty and under the casualty’s arms
- Grasp your own forearms to brace your grip
- Carefully walk backwards towards the shore, pulling the casualty with you
- Assist the casualty to a safe position away from the water and provide aftercare

**Assisted Carry**

**Definition of the Skill**
A two-person lift to transport a casualty onto the shore.

**Suitable for**
- Sloping exit (beach)
- Shallow water
- Weak conscious or unconscious casualty
- Two or more rescuers

**Technique**
- Call for help as you approach the shore
- Position yourself behind the casualty
- Reach around the casualty and under the casualty’s arms
- Grasp your own forearms to brace your grip
- Instruct the second rescuer to take hold of the lower legs around the knee area
- Carefully walk sideways out of the water, carrying the casualty
- Assist the casualty to a safe position away from the water and provide aftercare
Assisted Lift

Definition of the Skill
A method of lifting the casualty vertically onto the shore.

Suitable for
- Steep exit (bank)
- Deep or shallow water
- Weak conscious or unconscious casualty
- Two or more rescuers

Technique
- Call for help as you approach the shore
- Support the casualty against the bank whilst communicating with the second rescuer
- Place the casualty’s hands onto the bank
- Instruct the second rescuer to hold the casualty’s hands and support their head
- Climb out of the water
- Standing directly in front of the casualty, take hold of the casualty’s forearm and upper arm
- Instruct the second rescuer to take the casualty’s other arm in the same way
- Using clear communication, lift the casualty vertically out of the water, to no higher than their thigh
- Gently lower the casualty, taking care of their head with one hand
  - If the casualty is unconscious, protect their head between their arms and gently rotate their legs and body to move them fully onto the land
- Assist the casualty to a safe position away from the water and provide aftercare

If there are two or more trained rescuers on the bank, the original rescuer may stay in the water to assist the lift.

Stirrup Lift

Definition of the Skill
A method of using the hand or knee to provide a step, to support a casualty to climb onto the shore.

Suitable for
- Steep exit (bank)
- Deep or shallow water
- Conscious casualty
- One or more rescuer

Technique
- Call for help as you approach the shore
- Support the casualty in the water until they have recovered enough to climb out
- Position yourself to the side or behind the casualty
- Keeping at least one hand holding onto the bank, either:
  - Cup your hand by the casualty’s knees
  - Bend your leg to create a step with your knee
- Instruct the casualty to use your hand or knee as a step and climb out of the water (you should not attempt to lift the casualty)
- Assist the casualty to a safe position away from the water and provide aftercare
Horizontal Lift

Definition of the Skill
A method of lifting the casualty horizontally onto the bank.

Suitable for:
- Steep exit
- Weak conscious, unconscious casualty (or a spinal injury)
- Standing depth water
- Four or more rescuers

Technique
- Call for help as you approach the shore
- Position the casualty in a horizontal float position parallel with the bank
- Support the casualty under their shoulders and instruct the other rescuers to position their arms underneath the casualty’s mid body, and lower legs with their palms facing down, and one rescuer to support the casualty’s head
- Using clear communication, instruct the rescuers to lift the casualty up, and then towards and onto the bank
  - If there is another rescuer on the bank, they can now take responsibility for the casualty’s head
- Instruct the rescuers to gently remove their arms from beneath the casualty, one at a time
- Assist the casualty to a safe position away from the water and provide aftercare

Rescue Aids

The use of both improvised and specialist rescue aids can help rescuers to increase their personal safety during a rescue, and increase the range of rescue techniques that the rescuer has to choose from.

Examples of buoyant aids:
- Perry buoy
- Football
- Lifejacket/PFD
- Empty petrol can

Examples of reaching, wading and towing aids:
- Rope
- Throw bag
- Oar
- Brush
Lifesaving rescue ski

Aftercare and First Aid
Chapter 6

Aftercare and First Aid

Introduction

Immediately after an emergency situation, such as a rescue, rescuers may need to provide ongoing care for the casualty until they have recovered or until further medical support has arrived.

This chapter provides information on the cause, recognition and treatment of a range of common medical conditions that may result in an emergency situation.

Further information on Life Support skills can be found in the Life Support section Chapter 8.

Contents

Aftercare Following a Rescue 94
Introduction to First Aid 95
Basic First Aid Techniques 96
- Wound Dressing 96
- Bandaging (Roller Bandages) 97
- Arm Sling 98
Medical Conditions and Injuries 99
- Pulse Check 99
- Asthma 100
- Diabetes 101
- Epilepsy 101
- Bleeding 102
- Cuts and Grazes 102
- Shock 103
- Hypothermia 104
- Hyperthermia: Heat Exhaustion and Heatstroke 105
- Bone Fractures 106
- Heart Attack (Myocardial Infarction) 107
- Marine Stings 108
Aftercare is the care and support of the casualty after their rescue, to minimise the worsening of their condition until they have recovered or until further medical support has arrived.

**Providing Aftercare**
Following a rescue from the water, rescuers should continue to assess and support the casualty.

**Rescuers should prioritise aftercare in this order:**

**Conscious Casualty**
1. Move the casualty away from the water (to a safe place)
2. Find out if there are more casualties in the water
3. Treat life-threatening conditions
4. Keep them warm
5. Treat non-life threatening conditions
6. Advise the casualty to have a hospital check-up

**Unconscious Casualty**
1. Move the casualty away from the water (to a safe place)
2. Provide unconscious casualty care (Life Support), and call 999 (or 112)
3. Treat life-threatening conditions
4. Keep them warm
5. Treat non-life threatening conditions
6. Ensure further medical care is received

All casualties who have been submerged in water should be advised to have a medical check-up at hospital. Even casualties who appear to be unharmed may have inhaled a small amount of water that could cause serious medical complications in the days following the incident.

**Post Traumatic Stress Awareness**
Being a casualty or a rescuer in an emergency situation can be very traumatic and it is normal to feel upset, anxious, depressed or stressed after an incident.

In many cases discussing these feelings with family, friends or people who were involved in the incident will help people to recover. For people who find the situation more difficult to deal with, professional support can be accessed through their local doctor.
Introduction to First Aid

First aid is the initial care or treatment given to a person who becomes ill or injured. It is the application of acceptable basic lifesaving skills and knowledge to care for the casualty until more qualified help arrives.

First aid has three key aims, known as the three Ps:
- Preserve life
- Prevent worsening of the injury
- Promote recovery

Personal Safety

Cross-infection is the transmission of germs during the provision of first aid. Both the first aider and the casualty are at risk of cross-infection during first aid, which is why the first aider must take steps to minimise the risk.

First aiders should:
- Wash their hands thoroughly before and after helping the casualty
- Wear disposable first aid gloves if available
- Cover their own cuts and grazes with waterproof plasters or dressings
- Avoid breathing, coughing or sneezing towards the casualty
- Seek medical advice if they think that they have been exposed to cross-infection

Calling 999 (or 112)

If the casualty’s injuries are life threatening, very serious or they appear to deteriorate, first aiders should make sure an ambulance is called as soon as possible (also see Making Emergency Calls, Chapter 3).

Providing First Aid

Providing first aid to a casualty can be difficult, particularly if they are in pain. In most cases, calming and reassuring the casualty will make them feel better and make it easier to treat them. However, if a casualty refuses treatment it is important that their wishes are respected.

Medication

First aiders should never prescribe or provide medication for casualties, although they may help casualties to access their own medication, such as helping them to take the top off a bottle or getting the medication from where it is stored.
Basic First Aid Techniques

Wound Dressing

Dressings are applied to wounds to control bleeding and minimise infection.

Before Dressing a Wound

- Consider personal safety (first aid gloves)
- Calm and reassure the casualty
- Expose the wound by removing or cutting the surrounding clothing

Applying the Dressing (3 wound types)

1. If the wound is bleeding:
   - Place the dressing over the wound and apply direct pressure to the wound (Image 1)
   - Lay the casualty down and elevate the wound (if the injury is on a limb) (Image 2)

2. If there is a foreign object in the wound:
   - Place the dressing over the wound and apply direct pressure on either side of the wound (Image 3)
   - Place padding on either side of the wound before bandaging to prevent the foreign object from being pushed further into the wound (Image 4)
   - Lay the casualty down and elevate the wound (if the injury is on a limb) (Image 2)

3. If the wound is not bleeding:
   - Place the dressing over the wound, and support the dressing on either side of the wound

After Applying the Dressing

- Secure the dressing using a bandage (which may be attached to the dressing) (Image 5)
- If the bleeding is severe, call 999 (or 112)
- Send the casualty to hospital (if required)
Bandaging – Roller Bandages

Roller bandages are used to secure a dressing onto a wound, or to support an injured limb or joint.

Before Bandaging
- Consider personal safety (first aid gloves)
- Calm and reassure the casualty
- Position the casualty so that they are comfortable and you have access to the injury

Applying the Bandaging
- Place the loose end of the bandage below the injury, keeping the roll of the bandage facing outwards
- Make two straight wraps with the bandage to hold it in place (Image 1)
- Spiral the bandage towards and over the injured area making sure that each wrap overlaps at least half of the previous wrap (Image 2)
- At the end of the bandage, use one straight wrap to anchor the end
- Secure the bandage using tape, bandage clips, safety pins, or by tucking the end of the bandage into one of the bandage wraps (Image 3)

After Bandaging
- Monitor the bandaged area for signs of restricted circulation, assess for:
  - Paling/blueing of the skin
  - Unusual swelling around the bandaging
  - Feelings of tingling or numbness
  - Severe pain
  - Feelings of the skin being stretched
  - Loss of movement in the fingers or toes
- Remove and reapply the bandage if circulation is restricted
- Send the casualty to hospital (if required)
Arm slings are used to immobilise and support a casualty's arm following an arm, shoulder, or rib injury, or to support a wound in an elevated position.

**Before Applying the Sling**
- Consider personal safety (first aid gloves)
- Calm and reassure the casualty
- Position the casualty so that they are comfortable, they can support their own arm, and you have access to the injury

**Applying the Sling**
- Use padding (such as a towel) to make the support more comfortable
- Slide one end of a triangular bandage through the hollow between the elbow and chest
- Making sure that the right angle point of the bandage extends past the elbow of the injured arm, place the end of the bandage over the shoulder of the uninjured side of their body, around the back of their neck, and allow it to rest on the shoulder of their injured arm (Image 1)
- Lift the other end of the bandage over the injured arm towards the shoulder on the injured side, leaving only the fingers exposed (Image 2)
- Tie the ends of the bandage with a reef knot, by the hollow above the collarbone
- Secure the point of the bandage with a safety pin, or twist the material and tuck it between the bandage and elbow (Image 3 and 4)

**After Applying the Sling**
- Monitor the casualty’s fingers for signs of circulation
- Send the casualty to hospital (if required)

**Improvised Arm Sling**
If a triangular bandage isn’t available, clothing can be used as an improvised sling to support the arm (Image 5).

1. If the wound is bleeding:
   - Place the dressing over the wound and apply direct pressure to the wound (Image 1)
   - Lay the casualty down and elevate the wound (if the injury is on a limb) (Image 2)
Medical Conditions and Injuries

Pulse Check

The pulse is a wave of pressure in the blood stream created by each heartbeat. The pulse gives three indications about how the heart is working:

- Rate (beats per minute)
- Strength (strong or weak)
- Rhythm (regular or irregular)

A normal heart rate for adults is 60 - 100 beats per minute (bpm) at rest, although this may be slower in very fit adults and more rapid in children.

**Measuring Pulse Rate in Children and Adults**

**Radial (Wrist) Pulse (Image 1)**
- Support the casualty’s arm extended (straight), with the palm facing up
- Place the pads of two or three fingers below the wrist creases at the base of the casualty’s thumb
- Locate the pulse, and count how many occur in one minute

**Carotid (Neck) Pulse (Image 2)**
- Place the pads of two fingers beneath the casualty’s jaw between the large neck muscle and the windpipe
- Locate the pulse, and count how many occur in one minute

**Measuring Pulse Rate in Infants (Image 3)**
- Position the infant in a comfortable position
- Place the pads of two fingers on the inside of the casualty’s upper arm
- Locate the pulse, and count how many occur in one minute

**IMPORTANT INFORMATION**

Unconscious casualties should be treated following the guidance in the RLSS UK Life Support publication.

Pulse checks should only be used on breathing casualties after any applicable guidance in Life Support has been completed, also see Chapter 8 (Life Support).
Asthma

Definition of the Condition
Spasm of the casualty’s airways, often as a result of an allergy, exertion or exercise which, results in difficulty in breathing (wheezing).

Cause
Asthma attacks are triggered by something to which the sufferer is allergic. There is a wide range of triggers that can cause asthma, these include:
- Animal fur and hair
- Moulds and fungi
- Air pollutants
- Pollen
- House-dust mites
- Colds and viral infections
- Exercise and exertion

During an asthma attack the muscles around the walls of the airways tighten, the lining of the airways swell, and mucus may build up in the airways. These combine to constrict the airways, which makes normal breathing difficult.

Signs and Symptoms
There may be:
- Difficulty breathing
- Coughing
- Difficulty speaking
- Wheezing
- Exhaustion
- Unconsciousness

Treatment
- Help the casualty to get their own reliever inhaler
- Encourage the casualty to use their inhaler as prescribed and to continue to use it until the symptoms improve
- Sit the casualty in a comfortable position (do not lie them down)
- If there is no improvement in the casualty’s condition after 5 minutes, call 999 (or 112)
- Encourage the casualty to continue to use their inhaler as prescribed whilst waiting for the ambulance
Diabetes: Hyperglycemia and Hypoglycemia

Definition of the Condition
Diabetes is a condition that interferes with the body’s ability to regulate the amount of glucose (sugar) in the blood.

Hyperglycemia – Is when the blood glucose level rises too high, normally as a result of failing to treat diabetes correctly. In most cases blood glucose rises over time, and requires treatment through diabetes management, prescribed by a medical professional.

Hypoglycemia – Is when the blood glucose level drops too low. Unlike hyperglycemia, hypoglycemia causes immediate illness and requires urgent medical care.

Cause: Hypoglycemia
Low blood glucose level.

Signs and Symptoms: Hypoglycemia
There may be:
- Shakiness
- Hunger
- Sweating
- Confusion and irritability
- Tingling in the lips
- A medic alert bracelet
- Pale appearance
- Rapid pulse

Treatment: Hypoglycemia
- Help the casualty to sit down
- Provide the casualty with a sweet drink, or high sugar sweets
  - If the casualty does not improve, call 999 (or 112)
  - If the casualty does improve, help them to find their blood testing kit and provide them with any other food or drinks that they need (they will be able to tell you what they need)

Epilepsy

Definition of the Condition
Epilepsy is a condition that causes people to suffer from recurrent seizures (also known as convulsions or fits).

Cause
Seizures are caused by a sudden burst of excess electrical activity in the brain, causing a temporary disruption in the normal communications between brain cells.

Signs and Symptoms
There are around 40 different types of seizures that casualties can suffer from, and this can make diagnosis difficult.

There may be:
- Sudden loss of consciousness.
- Rigid, arcing back
- Convulsive movements
- Loss of bowel/bladder control
- Irregular breathing

Treatment
- Make the area around the casualty safe and clear from obstructions
  - If the casualty is in the water, keep their head above the water
- Protect the casualty’s head from impacts
  - Place towels under their head if possible
  - Do not restrain the casualty
- Loosen any clothing around the casualty’s neck that may restrict breathing
- When the convulsions have stopped, check the casualty’s breathing and follow the guidance for an unconscious casualty in the RLSS UK Life Support Manual or see Chapter 8 (Life Support)
- If the casualty is not known to suffer from seizures, if the seizure lasts for more than 5 minutes, or if the casualty remains unconscious for more than 10 minutes, call 999 (or 112)
Aftercare and First Aid

Medical Conditions and Injuries

Bleeding

Definition of the injury
Loss of blood from damaged blood vessels, which can be external (visible) or internal (invisible).

Internal Bleeding Cause
- Impact with a blunt object
- Pre-existing medical condition

Signs and Symptoms
There may be:
- Pain
- Signs and symptoms of shock
- Swelling
- Thirst
- Discolouration of the skin (bruising)
- Rapid, shallow breathing
- Rapid, weak pulse
- Bleeding from the body orifices (ears, mouth, nose, etc)

Treatment
- Treat the casualty for shock (also see Shock, Chapter 6)
- Call 999 (or 112)

External Bleeding

Cause
- Impact with a sharp object
- Damage to the skin and/or underlying tissues

Signs and Symptoms
There may be:
- Pain at the site of the injury
- External loss of blood
- Signs and symptoms of shock

Treatment
- Apply direct pressure over the wound using a sterile dressing (see Wound Dressing, Chapter 6)
- If the bleeding is severe call 999 (or 112)
- Send the casualty to hospital (if required)

Cuts and Grazes

Definition of the injury
Minor cut to the skin, or minor damage to the surface layers of the skin.

Cause
- Minor impact with a sharp object
- Scrapping or friction against a rough surface

Signs and Symptoms
There may be:
- Pain at the site of the injury
- External loss of blood

Treatment
- If the wound is dirty, clean it using running water or alcohol free wipes
- Use a clean dressing to dry the wound and then use another to cover the area
- Clean the area around the wound with soap and water, and then dry the area
- Replace the dressing from over the wound with either a fresh dressing (see Wound Dressing, Chapter 6), or with a suitable plaster
- Send the casualty to hospital (if required)
Shock

Definition of Shock
Failure of the circulatory system to maintain adequate blood flow to the vital organs.

Cause
The circulatory system can fail to maintain sufficient blood flow for a number of reasons, including:

- Low blood volume - normally due to bleeding
- Low cardiac output - not enough blood being pumped round the body by the heart
- Loss of bodily fluids - for example due to severe vomiting, diarrhoea, burns or severe dehydration

Signs and Symptoms
There may be:

- Pale, cold or clammy skin
- Thirst
- Blueing of the lips and extremities
- Nausea and/or vomiting

Treatment
Position for Shock - the aim of this position is to reduce blood flow to the legs, and increase blood flow to the vital organs:

- Lay the casualty down
  - Conscious casualties with their legs raised (Image 1)
  - Unconscious casualties in the recovery position
- If possible treat the cause of the shock
- Loosen any clothing around the casualty’s neck that may restrict breathing
- Keep the casualty warm to prevent heat loss (Image 2)
- Call 999 (or 112)
Hypothermia

**Definition of Hypothermia**
A core body temperature below 35°C.

**Cause**
Prolonged exposure to the cold. Hypothermia can progress far more rapidly if the casualty has been immersed in water, if they are elderly or infant, or if they are in poor health.

**Signs and Symptoms**
There may be:
- Shivering
- Blueing of the extremities (cyanosis)
- Disorientation and irrational behaviour
- Slow, shallow breathing
- Unconsciousness
- Core body temperature below 35°C
- Cold, pale, skin
- Slow, weak pulse

**Treatment**
- Lay the casualty down in a sheltered area
  - If the casualty has to be moved, handle them very gently and if possible keep them horizontal (to prevent a drop in blood pressure)
- Call 999 (or 112)
- Remove any wet clothing and replace it with dry clothing
- Passively re-warm the casualty by insulating them from the ground and wrapping them in blankets and/or a vapour barrier (such as blue tarpaulin, large plastic sheets, large bin liners)
- If the casualty is conscious and able to swallow easily they may be given high energy food and drink (warm not hot)
- Send the casualty to hospital

When treating the casualty, the rescuer should not put themselves at risk of hypothermia by donating all of their own protective layers to the casualty.

**Cold Casualties**
In addition to the treatment for hypothermia, casualties who feel cold but do not show signs of being hypothermic can also use external heat sources to re-warm, such as warm room temperatures or warm water bottles (approximately 40°C water, refreshed frequently). Keep an eye on the casualty to make sure that they do not become unresponsive or unconscious.
Hyperthermia: Heat Exhaustion and Heatstroke

Definition of Hyperthermia
A core body temperature above 37°C.

Causes
The body produces or absorbs more heat than it can dissipate due to:
- Prolonged exposure to heat (including the sun)
- Extreme exercise
- Dehydration

Heat Exhaustion

Signs and Symptoms
There may be:
- Hot flushed skin
- Headache
- Heavy sweating
- Nausea and/or vomiting
- Mental confusion
- Rapid pulse
- Fatigue
- Dizziness
- Infrequent urination
- Core body temperature of 37 - 40°C

Treatment
- Assist the casualty to a cool place
- Encourage the casualty to drink lots of fluids (no caffeine or alcohol)
- Cool the casualty’s skin with cool water
- Remove or loosen any unnecessary clothing
- If the casualty does not respond to the treatment within 30 minutes, call 999 (or 112)

Heatstroke

Signs and Symptoms
There may be:
- Sudden stopping of sweating
- Hyperventilation (rapid breathing)
- Muscle cramps
- Mental confusion
- Lack of coordination
- Rapid pulse
- Seizures
- Inability to understand or communicate
- Hallucinations
- Loss of consciousness
- Body temperature over 40°C

Treatment
- Call 999 (or 112)
- Whilst waiting for an ambulance, provide treatment for heat exhaustion (do not give fluids to casualties who are unable to swallow properly)
Aftercare and First Aid

Medical Conditions and Injuries

Bone Fractures

Definition of the Injury
A fracture is a break, chip or crack in a bone.
Open fracture – part of the fractured bone pierces the surface of the skin, often causing bleeding.
Closed fracture – the fractured bone does not pierce the skin although it may still cause internal bleeding from damage to nearby tissues.

Cause
Fractures are commonly the result of excessive force being applied to a part of the body. Diseased or old bones can break with little force being applied.

Signs and Symptoms
There may be:
- Cracking heard or felt at the time of the injury
- Grating of the bone ends heard or felt (crepitus)
- Pain, or difficulty moving the area
- Swelling and bruising at the fracture site
- Bleeding from the fracture site (if the fracture is open)
- Shortening, bending or twisting of the limb
- Signs and symptoms of shock

Treatment
- Dress any wounds around the fracture with a sterile dressing (see Wound Dressing, Chapter 6)
- Immobilise and support the injured area (see Bandaging and Arm Sling, Chapter 6)
- Send the casualty to hospital*
- If required, treat the casualty for shock

* Severe leg fractures may require specialist immobilisation equipment. In these cases avoid moving the casualty until medical assistance arrives.
Heart Attack – Myocardial Infarction

Definition of the Injury
A sudden blockage in the blood supply to the heart, which prevents the heart from working properly.

Cause
The leading cause of heart attacks is coronary heart disease (narrowing of the arteries). There are many factors that can contribute to coronary heart disease, these include:

- Smoking
- High saturated fat diet
- High blood pressure
- Diabetes
- Lack of exercise
- Overweight and obesity

Signs and Symptoms
There may be:

- Chest pain (squeezing, pressure sensation)
- Pain in other parts of the body (often travelling from the chest)
- Shortness of breath
- Nausea and/or vomiting
- Anxiety
- Coughing
- Faintness or dizziness
- Extreme sweating
- Sudden collapse
- Rapid, weak or irregular pulse

Treatment
If the casualty is conscious:

- Position the casualty in a half-sitting position with their head and shoulders supported and their knees supported in a flexed position
- Call 999 (or 112)
- Explain that slowly chewing one standard aspirin tablet is beneficial. If the casualty wants to take aspirin, get the tablets for them (ask the casualty if they are allergic to aspirin)
- If the casualty has angina medication, get it for them so that they can use it
- Whilst waiting for the ambulance, comfort and encourage the casualty making sure that they do not become unresponsive or unconscious
- Send the casualty to hospital

If the casualty loses consciousness:

- Treat as an unconscious casualty following the guidance in Chapter 8 (Life Support)
Aftercare and First Aid

Medical Conditions and Injuries

Marine Stings

Definition of the Injury
Damage to the tissues of the body caused by the spines or venom of sea creatures.

Cause
The types of sea life around the UK that may sting bathers include:
- Weevers (fish)
- Jellyfish
- Rays (fish)
- Sea urchins
- Sea anemones

Signs and Symptoms
There may be:
- Pain
- Spines or tentacles in/on the skin
- Redness of the skin
- Localised swelling
- Nausea and/or vomiting

Treatment: Weever and Ray stings
- Remove any spines from the skin (medical assistance may be required)
- Wash the area with soap and hot water (see safety notice)
- Wash and bathe the area with very hot water for about 30 minutes
- Send the casualty to hospital

Treatment: Jellyfish, Sea Urchins and Anemones
- Remove any tentacles from the skin using first aid gloves and sticky tape (medical assistance may be required)
- Bathe the wound in vinegar or sea water
- Cool the area with cold packs (5-15 minutes)
- Send the casualty to hospital

Medical attention should always follow first aid treatment. If any of the following symptoms develop, urgent medical treatment is required:
- Swelling (general)
- Itching anywhere else on the body
- Wheezing
- Feeling faint
- Difficulty in swallowing
- Swelling around the face or mouth

SAFETY NOTICE
Care should be taken to avoid causing scald injuries when treating with very hot water.
Chapter 7

Lifesaving Sport and Training Skills

Introduction

Lifesaving Sport takes place in and out of water, at swimming pools and at the beach. The sport provides variety, fun and challenging activities for all lifesavers of all ages. It can provide the opportunity to mix with lifesavers from around the UK, and the rest of the world, through competition.

This chapter contains all of the fundamental skills needed to take part in pool based lifesaving sport.

Open water and advanced Lifesaving sport skills information can be found in the RLSS UK Lifesaving Sport Manual available from Lifesavers Direct.

Contents

- Manikin Carry 110
- Speed Line Throw 113
- Clearing an Obstacle 117
Manikin Carry

Definition of the Skill
The recovery of a manikin from the surface or pool floor, followed by a carry (tow in lifesaving terms) over a set distance during which the manikin’s face does not submerge.

Notes
During the carry, the resistance of the manikin will reduce the glide phase of the swimming stroke being used. If this reduces the speed of the stroke sufficiently, the manikin will begin to sink. To counteract the drag effect of the manikin, the athlete must kick much harder and increase the cadence of their arm action (take more strokes).

The Start

Definition of the Skill
Methods of starting a manikin carry event.

Technique
- Hold on to the starting wall
- Hold the manikin using the hand position that you will use during the carry
- Support the weight of the manikin on the back of your body (front crawl, Image 1) or with your knee (backstroke, Image 2)
- Support the manikin’s face out of the water
- Push strongly off the starting wall
- Begin your swimming stroke as soon as possible
Backstroke Carry

Definition of the Skill
A method of carrying the manikin using lifesaving backstroke.

Technique
- Position the manikin in the supine (face up) position (Image 2)
- Cup your hand around the back of the manikin’s head in the backstroke carry position (Image 2)
- Keep your elbow extended (straight)
- Swim lifesaving backstroke (Images 1 and 3)

Sidestroke Carry

Definition of the Skill
A method of carrying the manikin using sidestroke.

Technique
- Position the manikin in the supine (face up) position (Image 2)
- Cup your hand around the back of the manikin’s head in the sidestroke carry position (Image 2)
- Keep your elbow extended (straight)
- Swim sidestroke (Images 1 and 3)
Manikin Carry

Front Crawl Carry

Definition of the Skill
A method of carrying the manikin using front crawl.

Technique
• Position the manikin in the supine (face up) position (Image 2)
• Cup your hand around the back of the manikin’s head in the front crawl carry position (Image 2)
• Keep your elbow extended (straight)
• Swim front crawl (Images 1 and 3)

Image 1

Image 2

Image 3
Speed Line Throw

**Definition of the Skill**
A simulated rope rescue using modified coiling and throwing techniques to increase the speed of the rescue.

**Notes**
Whilst the standard lifesaving rope rescue skills can be used in sport, the speed coil (also called the lasso and windmill coil) and the over arm throw are additional skills that are specific to lifesaving sport.

At the start of the event, the end of the line (rope) must be covered by the thrower's hand; excess line showing from the hand will result in disqualification. Depending on individual event rules, the catcher may be permitted to streamline and kick their legs, or may be required to keep their head out of the water with no leg kick permitted.

**The Set Positions**

**Definition of the Skill**
Arranging the set position prior to a line throw event.

**Athlete and Equipment Positions**
- Position a cross bar (rope is suitable for training) in the water the required distance from the thrower
- The catcher (casualty) holds onto the cross bar with one hand and treads water
- One end of the line is held within the thrower's hand and the rest of the line is extended past the catcher

**Technique**

**Set Position - Thrower** (Image 1)
- Stand on the pool edge
- Heels together
- Hands by your side (relaxed)
- Hold the end of the line within your hand

**Set Position - Catcher** (Image 2)
- Hold onto the crossbar with one hand and tread water
Speed Line Throw

Speed Coil

Definition of the Skill
A modified line coiling method to improve speed and performance.

Technique

- Keep a tight grip on the line with your throwing hand (Image 1)
- From the set position, move one foot back to widen your base (the foot that steps back should be on the same side as your throwing arm) (Image 2)
- Use your other hand as a guide for the line by making a loop with your fingers (Image 2)
- Rotate your throwing arm in a circular motion, keeping it straight (like a windmill) (Image 2)
- Each time your hands pass each other, collect the line in your throwing hand to create the coils
- Ensure the throwing arm does not move from side-to-side (this will result in knots) (Image 3)
- Continue until you have coiled enough line to reach your catcher
The Throw

Definition of the Skill
Methods of throwing the line quickly and accurately to the catcher.

Image 1  Image 2  Image 3

Technique: Underarm Throw
- Hold the loose end of the line tightly in your non-throwing hand (Image 1)
- Swing the coil towards the catcher (avoid any sideward movement) (Image 2)
- Keep your throwing arm extended (straight) and release the line towards the catcher (Image 3)
- Open the whole palm of your hand at once
- Follow the swing through after the release

Image 1  Image 2  Image 3

Technique: Overarm Throw
- Hold the loose end tightly in your non-throwing hand (Image 1)
- Swing the coils over your head, towards the catcher (avoid any sideward movement) (Image 2)
- Keep your throwing arm extended (straight) and release the line towards the catcher (Image 3)
- Open the whole palm of your hand at once
- Follow the swing through after the release
Lifesaving Sport and Training Skills

Speed Line Throw

The Pull In

Definition of the Skill
Pulling the catcher to the pool edge to complete the line throw event.

Technique

Pull In - Thrower (Image 1)
- Take a step back from the pool edge (no further than 1.5 metres)
- Pull in the catcher using one of these methods:
  - Take long powerful pulls using your legs and trunk to extend the length of the pulls
  - Take short fast pulls using your upper body strength.
- Keep low to improve stability

Pull In - Catcher
- Catch the rope and call clearly “YES” (or “NO” if the line is out of reach)
- Streamline your body and kick your legs* (Image 1)
- Touch the pool edge with both hands when you reach the wall

* The catcher may be required to keep their head up and not be permitted to kick their legs in some competitions (Image 2)
Clearing an Obstacle

Definition of the Skill
An efficient method of swimming under obstacle gates whilst maintaining as much speed as possible.

Approach One

Definition of the Skill
A method of clearing an obstacle gate using a ‘push off’ from the pool floor.

Notes
This technique is most suitable for shallow pools.

Technique
- Perform a deep, head first surface dive
- Swim down to the pool floor (Image 1)
- Squat on the floor just past the obstacle gate (Image 2)
- Push off strongly towards the surface angled to clear the obstacle gate (Images 3 & 4)

Approach Two

Definition of the Skill
A method of clearing an obstacle gate without using a ‘push off’ from the pool floor.

Notes
This technique is most suitable for deep pools.

Technique
- Perform a shallow, head first surface dive (Image 5)
- Swim down below the line of the obstacle (Image 6)
- Remain streamlined as you pass under the obstacle
- Use a dolphin or breaststroke kick swim to under the obstacle (Image 7)
- Kick to the surface and restart your arm action as you return to the surface (Image 8)
Chapter 8
Life Support

Contents

Casualty Assessment 120

CPR Skills 121
• Chest Compressions 121
• Combine Chest Compression with RescueBreaths (CPR) 121
• Children andInfants 122
• Turning a casualty onto the back 122
• Recovery Position 123
• Action for Vomiting 123

Choking 124
• Back slaps 124
• Abdominal thrusts 124
• Infants 125
• Loss of Consciousness 125

Unconscious Breathing Casualty 126

Lifesaving Adult, Child and Infant Life Support 127
Casualty Assessment

Awareness of Own Safety
- Bear in mind the need for your own safety and that of other rescuers.
- Where possible, remove dangers from the casualty. Otherwise remove the casualty from danger (e.g., if in water or a fire).

Assessing Responsiveness
- Gently shake their shoulders.
- Ask loudly, ‘Are you all right?’
- For an infant – gently stimulate by tickling its feet.

If the casualty responds by answering or moving:
- Leave the casualty in the position in which you find them provided there is no further danger.
- Try to find out what is wrong with the casualty.
- Reassess the casualty regularly.
- Shout for help.

Summoning Help
- If the casualty does not respond, shout ‘help’.
- If there are bystanders, direct someone to contact the emergency services.
- An ambulance can be called by dialling 999 or 112. You will need to supply the telephone number from which you are calling; brief details of the incident; the location; number of casualties; nature of the injuries; and your name.
- If the incident is of a minor nature refer the casualty to their own doctor or arrange for them to be taken to hospital.

Check for Normal Breathing

If the casualty does NOT respond:
- Turn the casualty onto their back and then open the airway using head tilt and chin lift:
  - Place your hand on their forehead and gently tilt their head back.
  - With your fingertips under the point of their chin, lift the chin to open the airway.

Keeping the airway open, look, listen, and feel for normal breathing:
- Look for chest movement.
- Listen for normal breathing.
- Feel for air on your cheek.
- Look, listen, and feel for no more than 10 seconds to determine if the casualty is breathing normally. If you have any doubt whether breathing is normal, act as if it is not normal.

If the casualty IS breathing normally:
- Turn them into the recovery position.
- Send or go for help, or call for an ambulance.
- Check for continued breathing.
CPR Skills

Chest Compressions

If the casualty is NOT breathing normally:

- Get someone to call for an ambulance or, if you are on your own, do this yourself; you may need to leave the casualty. If an AED is available, ask a bystander to bring it to the casualty, turn it on, and follow the instructions.
- Start chest compression.
- Kneel by the side of the casualty.
- Place the heel of one hand in the centre of the casualty’s chest.
- Place the heel of your other hand on top of the first hand.
- Interlock the fingers of your hands and ensure that pressure is not applied over the casualty’s ribs. Do not apply any pressure over the upper abdomen or the bottom end of the bony sternum (breastbone).
- Position yourself vertically above the casualty’s chest and, with your arms straight, press down on the sternum 5-6 cm.
- After each compression, release all the pressure on the chest without losing contact between your hands and the sternum. Repeat at a rate of 100-120 times a minute (approximately 2 compressions a second).
- Compression and release should take an equal amount of time.

Combine Chest Compression with Rescue Breaths (CPR):

- After 30 compressions open the airway again using head tilt and chin lift.
- Pinch the soft part of the nose closed, using the index finger and thumb of your hand on the casualty’s forehead.
- Allow their mouth to open, but maintain chin lift.
- Take a normal breath and place your lips around their mouth, making sure that you have a good seal.
- Blow steadily into the mouth whilst watching for their chest to rise. Take about one second to make their chest rise as in normal breathing; this is an effective rescue breath.
- Maintaining head tilt and chin lift, take your mouth away from the casualty and watch for the chest to fall as air comes out.
- Take another normal breath and blow into the casualty’s mouth once more to give a total of two effective rescue breaths. Then return your hands without delay to the correct position on the sternum and give a further 30 chest compressions.
- Continue with chest compressions and rescue breaths in a ratio of 30:2.

Continue resuscitation until:

- More qualified help arrives and takes over.
- The casualty starts to show signs of regaining consciousness such as coughing, opening eyes, speaking or moving.

CPR Skills

Life support

Life support

CPR Skills

Combine Chest Compression with Rescue Breaths (CPR):

After 30 compressions open the airway again using head tilt and chin lift.
Pinch the soft part of the nose closed, using the index finger and thumb of your hand on the casualty’s forehead.
Allow their mouth to open, but maintain chin lift.
Take a normal breath and place your lips around their mouth, making sure that you have a good seal.
Blow steadily into the mouth whilst watching for their chest to rise. Take about one second to make their chest rise as in normal breathing; this is an effective rescue breath.
Maintaining head tilt and chin lift, take your mouth away from the casualty and watch for the chest to fall as air comes out.
Take another normal breath and blow into the casualty’s mouth once more to give a total of two effective rescue breaths. Then return your hands without delay to the correct position on the sternum and give a further 30 chest compressions.
Continue with chest compressions and rescue breaths in a ratio of 30:2.

Continue resuscitation until:

More qualified help arrives and takes over.
The casualty starts to show signs of regaining consciousness such as coughing, opening eyes, speaking or moving.
Children and Infants

An infant is defined, for the purposes of resuscitation, as in the first year of life. A child is considered to be from one year up to the age of puberty.

The following modifications to the sequence of life support, however, make it more suitable for use in children and you need to learn them as an emergency may mean that you are likely to be faced with a child or infant that requires life support:

- Compress the chest at least one-third of its depth
- Use two fingers for an infant under 1 year
- Use one or two hands for a child over 1 year as needed to achieve an adequate depth of compression
- For an infant use mouth to mouth and nose technique

Turning a casualty onto the back

- Kneel by the casualty’s side and turn their head to face away from you
- Place the arm nearest to you above their head
- With one hand grasp the casualty’s far shoulder and with your other hand clamp their wrist to their hip
- With a steady pull roll the casualty over against your thighs
- Lower the casualty gently to the ground on their back, supporting their head and shoulders as you do so
- Place the casualty’s extended arm by their side
- It is important to turn the casualty over as quickly as possible, taking great care not to injure their head
Recovery Position
An unconscious casualty whose airway is clear, and who is breathing spontaneously, should be turned into the recovery position. This prevents the tongue falling back to block the airway, and reduces the risk of stomach contents coming up into the throat and going down into the lungs.

- Remove the casualty’s spectacles (if worn)
- Kneel beside the casualty and make sure that both legs are straight
- Place the arm nearest to you out at right angles to his body, elbow bent, with the hand palm uppermost
- Bring the far arm across the chest, and hold the back of the hand against the casualty’s nearest cheek
- With your other hand, grasp the far leg just above the knee and pull it up, keeping the foot on the ground
- Keeping the hand pressed against their cheek, pull on the leg to roll the casualty towards you onto their side
- Adjust the upper leg so that both the hip and the knee are bent at right angles
- Tilt the head back to make sure the airway remains open
- Adjust the hand under the cheek, if necessary, to keep the head tilted
- Check breathing regularly
- Ensure there is circulation in the lower arm
- If the casualty is in the Recovery Position for more than 30 minutes turn to the other side

Action for Vomiting

- Turn the casualty away from you. Keep them on their side and use your elbow and forearm to prevent them toppling on to their front
- Ensure that their head is turned towards the floor and their mouth is open and at the lowest point, thus allowing vomit to drain away
- Clear any residual debris from the mouth with your fingers
- Immediately turn them on to their back, re-establish an airway and continue CPR if necessary
Life Support

Choking

Diagnosis

- The casualty may have been seen to be eating
- A child may have been seen putting an object into his mouth
- A casualty who is choking often grips his throat with one or both hands
- With partial airway obstruction the casualty will be distressed and coughing; breathing may be noisy (wheezy)
- If the airway is completely obstructed, the casualty will be unable to speak, breathe, or cough. His face may become blue and congested with the veins standing out in the neck

Treatment

- If the casualty is breathing, encourage coughing but do nothing else

Back slaps

If the casualty is conscious, shows signs of becoming weak or stops breathing or coughing, remove any obvious debris or loose false teeth from their mouth and give up to 5 back slaps, as described. Remember to check if the obstruction has been dislodged after each slap.

- Stand to the side and slightly behind the casualty
- Support his chest with one hand and lean him well forwards so that when the obstruction is dislodged it comes out of the mouth rather than goes further down the airway
- Give up to 5 sharp slaps between his shoulder blades with the heel of your hand
- The aim is to relieve the obstruction with each slap rather than necessarily to give all 5

Abdominal thrusts

If back slapping fails, try giving up to 5 abdominal thrusts. This forces air out of the windpipe by a sudden inward and upward movement of the diaphragm.

- Stand behind the casualty and put both arms round the upper part of his abdomen
- Make sure the casualty is bending well forwards so that when the obstruction is dislodged it comes out of the mouth rather than goes further down the airway
- Clench your fist and place it just below the point where the lower ribs meet; grasp it with your other hand
- Pull sharply inwards and upwards. The obstruction should be dislodged and fly out of the mouth
- If the obstruction is still not relieved, repeat the action, giving up to 5 abdominal thrusts

Abdominal thrusts can cause serious internal injuries and all casualties who have received abdominal thrusts should be sent to hospital for further medical checks.
**Loss of Consciousness**

Loss of consciousness may result in relaxation of the muscles around the throat and allow air to pass down into the lungs. If at any time the choking casualty loses consciousness or falls to the ground, follow the sequence of life support. In summary:

- Support the casualty to the ground to prevent any injury
- Ensure that an ambulance has been called
- Begin CPR with 30 compressions followed by 2 rescue breaths

**Infants**

The same principles of management of choking apply to infants and children. It may be easier to support an infant on your knee when giving back slaps. It is important that the head is lower than the chest to make sure that the dislodged object comes out of the mouth.

In an infant it is dangerous to give abdominal thrusts. Instead, if 5 back slaps fail to relieve the obstruction, give up to 5 chest thrusts.

These are similar to chest compressions and are given to the same place on the sternum (breastbone). The difference is that each thrust is sharper and more vigorous, and each aims to relieve the obstruction rather than all five having to be given. It is important that the infant is on his back on a firm surface, which could be your thigh, and that his head is lower than his chest.
Unconscious Breathing Casualty

Cause
Loss of consciousness may be due to:

- A reduced supply of blood to the brain: strangulation, heart attack, shock, fainting
- Temporary or permanent brain injury: head injury, stroke, poisoning, hypothermia
- Disturbance of the normal electrical activity of the brain: epilepsy
- A reduced amount of oxygen in the blood: suffocation, drowning
- An abnormal level of sugar in the blood: diabetes

Signs and Symptoms
Reduced consciousness may vary from slight drowsiness or confusion to deep coma in which the casualty is totally unresponsive.

For the purpose of deciding on first aid treatment, a simple distinction between conscious and unconscious can be made by gently shaking the casualty and calling: “Can you hear me? Open your eyes”.

When you do this, be careful not to move the casualty unnecessarily as you could aggravate any injuries, particularly to the neck.

Treatment
Treat any cause of unconsciousness that you can.

Ensure that the casualty’s airway is clear by using head tilt and chin lift.

- Place the casualty in the recovery position, taking particular care to move the head and neck as little as possible if you suspect there is a spinal injury
- Examine the casualty and treat any serious injuries
- Keep the casualty protected from cold and wet
- Call or go for further medical help or an ambulance, but do not leave the casualty unattended unless you are on your own and have to go for help yourself
- Maintain observation of the casualty’s breathing
- Do not give the casualty anything to eat or drink in case an anaesthetic is needed later, because food or drink in the stomach may cause vomiting. Also, an unconscious casualty is unable to swallow food or drink
Lifesaving Adult, Child and Infant Life Support

Check for danger

Check casualty for a response

Shout for help

Open airway

Check for breathing absent / not normal

Call 999

Give 30 chest compressions
Give 2 rescue breaths

Continue 30 chest compressions followed by 2 rescue breaths

Test Yourself

• How would you do chest compressions differently on a child?
• How would you do chest compressions differently on an infant?
• What are the signs and symptoms of shock?
• As well as calling 999, what is the treatment for shock?
• How should you use a sterile dressing to treat external bleeding?
• How should you treat a casualty who is choking but can still breathe?
• How should you treat a casualty who is choking and cannot breathe?
• What technique should you use instead of abdominal thrusts on an infant?
• What should you do if a choking casualty becomes unconscious?

We would like to thank the Resuscitation Council (UK) for permission to include extracts from its publication “Resuscitation Guidelines 2010”.
### Glossary

<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Beach Flags</strong></td>
<td>Flags used by Beach Lifeguards to provide guidance on the water/wind conditions and beach zones.</td>
</tr>
<tr>
<td><strong>Buoyancy aid</strong></td>
<td>A garment worn to keep the user afloat and mobile in water.</td>
</tr>
<tr>
<td><strong>Canyoning/Canyoneering</strong></td>
<td>A similar activity to coasteering though predominantly done at inland sites consisting of scrambling, climbing &amp; jumping.</td>
</tr>
<tr>
<td><strong>Casualty</strong></td>
<td>A person in need of help.</td>
</tr>
<tr>
<td><strong>Coast</strong></td>
<td>The land adjoining or near the sea.</td>
</tr>
<tr>
<td><strong>Coasteering</strong></td>
<td>An activity which consists of a mixture of scrambling, climbing and cliff jumping around the coastline.</td>
</tr>
<tr>
<td><strong>Contact Zone</strong></td>
<td>The area around the casualty that presents the highest level of risk to the rescuer generally a 3-4 metre area around the casualty.</td>
</tr>
<tr>
<td><strong>Cross Bearings</strong></td>
<td>Multiple sightings taken from different places on the shore (often given by bystanders) to help the rescuer to locate a submerged casualty.</td>
</tr>
<tr>
<td><strong>Dam</strong></td>
<td>A barrier that controls or contains the flow of water.</td>
</tr>
<tr>
<td><strong>Direct-contact Rescue</strong></td>
<td>A lifesaving rescue using direct physical contact between the rescuer and the casualty.</td>
</tr>
<tr>
<td><strong>Drowning</strong></td>
<td>The process of experiencing respiratory impairment from submersion/immersion in liquid.</td>
</tr>
<tr>
<td><strong>Drowning Prevention Model</strong></td>
<td>A guide used to identify the factors that lead to drowning and suitable prevention strategies.</td>
</tr>
<tr>
<td><strong>Ear damage</strong></td>
<td>Damage to the inner, middle or outer ear (such as barotraumas which are injuries from pressure) most common during rapid descent into the water.</td>
</tr>
<tr>
<td><strong>Eddy</strong></td>
<td>A flow against the current behind an obstacle in the water.</td>
</tr>
<tr>
<td><strong>Emergency Action Model</strong></td>
<td>A model used to help lifesavers to make the correct decisions when faced with an emergency situation.</td>
</tr>
<tr>
<td><strong>Emergency Report</strong></td>
<td>A report given following an incident to inform and develop lifesaving training and incident prevention strategies.</td>
</tr>
<tr>
<td><strong>Emergency Services</strong></td>
<td>These include Fire and Rescue, Police, Ambulance, Coastguard, Mountain Rescue and other localised units.</td>
</tr>
<tr>
<td><strong>Extended (limb)</strong></td>
<td>Straight.</td>
</tr>
<tr>
<td><strong>Fatal/Fatality</strong></td>
<td>Resulting in death.</td>
</tr>
<tr>
<td><strong>Flexed (limb)</strong></td>
<td>Bent.</td>
</tr>
<tr>
<td>Glossary Term</td>
<td>Definition</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Flood Plan</td>
<td>A pre-set action plan in the event of flooding.</td>
</tr>
<tr>
<td>Freeboard</td>
<td>The area between the water surface and the top of a bank.</td>
</tr>
<tr>
<td>Hazard</td>
<td>Is anything that may cause harm.</td>
</tr>
<tr>
<td>Horizontal (body position)</td>
<td>A lying position.</td>
</tr>
<tr>
<td>Hydraulic</td>
<td>A rapid and aggressive re-circulating flow against the current behind an obstacle in the water.</td>
</tr>
<tr>
<td>Hyperventilation</td>
<td>Excessively rapid and/or deep breathing.</td>
</tr>
<tr>
<td>Indirect-contact Rescue</td>
<td>A lifesaving rescue using an aid to tow (or guide) the casualty whilst avoiding direct physical contact between the rescuer and the casualty.</td>
</tr>
<tr>
<td>Inland</td>
<td>Towards the interior of the country, away from the coast.</td>
</tr>
<tr>
<td>Inland Water</td>
<td>Open water at an inland site, such as lakes, reservoirs, rivers, etc.</td>
</tr>
<tr>
<td>Lateral Drift Currents</td>
<td>See Longshore Currents.</td>
</tr>
<tr>
<td>Lifeguard</td>
<td>A qualified aquatic rescue professional who has a duty of care for people in their care.</td>
</tr>
<tr>
<td>Lifesaver</td>
<td>A trained person who has skills to help in an emergency.</td>
</tr>
<tr>
<td>Lock</td>
<td>Man-made structures used to control the flow of water between two levels in a canal, whilst also enabling boats to pass through.</td>
</tr>
<tr>
<td>Longshore currents</td>
<td>Currents that usually run parallel or at an angle to the shoreline.</td>
</tr>
<tr>
<td>Mudflats</td>
<td>Soft, muddy sediment deposited on the water bed, usually near tidal waters.</td>
</tr>
<tr>
<td>NBLQ</td>
<td>National Beach Lifeguard Qualification, a Royal Lifesaving Society UK qualification.</td>
</tr>
<tr>
<td>Non-contact Rescue</td>
<td>A lifesaving rescue performed without any physical contact between the rescuer and the casualty.</td>
</tr>
<tr>
<td>NPLQ</td>
<td>National Pool Lifeguard Qualification, a Royal Lifesaving Society UK qualification.</td>
</tr>
<tr>
<td>Offshore Wind</td>
<td>Wind blowing towards the sea from the land.</td>
</tr>
<tr>
<td>Open Water</td>
<td>Collective term used to describe all outside water such as lakes, rivers, sea, etc.</td>
</tr>
<tr>
<td>Perrybuoy</td>
<td>A circular buoyant drop aid, often used for Public Rescue Equipment.</td>
</tr>
<tr>
<td>Personal Floatation Device (PFD)</td>
<td>Collective term for garments worn to aid floating, specifically lifejackets and buoyancy aids.</td>
</tr>
<tr>
<td>Term</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>---------------------------------------------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Public Rescue Equipment (PRE)</td>
<td>Collective term for safety equipment placed at open water sites, specifically throw bags and Perrybuoys.</td>
</tr>
<tr>
<td>Rescue Priorities</td>
<td>The order/priorities in which casualties should be rescued.</td>
</tr>
<tr>
<td>Rip Currents</td>
<td>Currents that usually flow from the shoreline, back out to sea.</td>
</tr>
<tr>
<td>Risk</td>
<td>The level of exposure to a hazard, or possibility of harm.</td>
</tr>
<tr>
<td>SACK</td>
<td>Acronym - Supervision, Access, Cope and Knowledge.</td>
</tr>
<tr>
<td>SAFE code</td>
<td>Acronym - Spot the dangers, take Advice, go with a Friend, learn how to help in an Emergency.</td>
</tr>
<tr>
<td>Sandbank</td>
<td>Mound of sand offshore, higher than the water surface at low tide.</td>
</tr>
<tr>
<td>Sandbar</td>
<td>Mound of sand offshore, beneath the water surface.</td>
</tr>
<tr>
<td>Silt</td>
<td>Fine sand, clay and other materials that can be easily carried by water.</td>
</tr>
<tr>
<td>Skills Toolbox</td>
<td>A term to describe all the skills learnt by a lifesaver.</td>
</tr>
<tr>
<td>Strainer</td>
<td>Partial blockage that allows water to flow through but blocks larger objects.</td>
</tr>
<tr>
<td>Throw bag</td>
<td>A rescue rope packed into a bag that can be thrown, often used for Public Rescue Equipment.</td>
</tr>
<tr>
<td>Tombstoning</td>
<td>An unregulated activity involving jumping into water from cliffs and ledges, often from a significant height.</td>
</tr>
<tr>
<td>UV radiation</td>
<td>Ultraviolet radiation travelling from the sun.</td>
</tr>
<tr>
<td>Vertical (body position)</td>
<td>A standing position.</td>
</tr>
<tr>
<td>Watercraft</td>
<td>Collective name for all craft used on water, such as canoes, surfboards, paddleboards, powerboats, etc.</td>
</tr>
<tr>
<td>Weir</td>
<td>An over-flow style dam that controls water levels.</td>
</tr>
</tbody>
</table>
Introduction

The RLSS UK Survive & Save Programme is a series of awards that challenge and develop your skills and knowledge in aquatic survival, rescue, sport and fitness.

Throughout the awards, you will learn new techniques that will make you faster, more efficient and safer in the water.

You can challenge yourself by completing the awards in the pool, at the beach or at inland open water sites. And, as you improve, you can progress through the Bronze, Silver and Gold levels.

Each level (Bronze, Silver and Gold) has a Core Element that you must complete before you can go on to take an award (Medallion, Beach, Stillwater and Sport).

You will be awarded a certificate and medal for every award that you achieve as you progress through the programme.

The ultimate achievement in the RLSS UK Survive & Save Programme is the Distinction Award. To achieve the Distinction Award, you must hold the three Gold Level awards within a period of 24 months (all awards will need to be in date).

Each award lasts for two years, so achieving three current Gold Awards is a real challenge.
Achieving the Core Element

The Core Element contains all of the key information and skills for each level. Once you have achieved the Core Element, you can add on any of the awards at that level.

For example, once you have achieved your Bronze Core Element, you can then train for your Bronze Medallion, Bronze Beach, Bronze Stillwater or your Bronze Sport Lifesaving Award…or even all of them.

To achieve any of the Core Elements you have to:

- Hold or achieve the RLSS UK Life Support Award
- Complete the Core Element assessment
What’s in the Core Elements

BRONZE

Rescue
- Slide-in and step entry
- Sidestroke
- Shout and signal rescue: 8-10m
- Throwing rescue: 8-10m

Self-Rescue and Survival
- Fall-in entry
- Shallow and deep water exits
- Horizontal and angled float
- Sculling
- HELP position
- Signaling for help
- Treading water

Drowning
- Definition of drowning
- Drowning Prevention Model

Lifesaving Sport and Fitness
- Timed Swim: 50m in 1 minute
- Distance Swim: 200m
- Speed rope coil

Emergency Management
- Assessing the situation
- Skills Toolbox
- Re-assessment
- Emergency calls

First Aid
- Bleeding and shock

Hazards
- Open water sites
- Swimming pool
- Mudflats and quicksand
- SAFE code
- Water quality (Pollution and Blue Flag)

SILVER

Rescue
- Straddle entry and compact jump
- Lifesaving backstroke
- Feet first surface dive
- Casualty recognition
- Contact zone
- Rope rescue: 10-12m
- Supporting a casualty in the water
- Landing the casualty

Self-Rescue and Survival
- Vertical float
- Huddle position

First Aid
- Hypothermia
- Aftercare

Drowning
- Location, age, time of year, activity and gender

Lifesaving Sport and Fitness
- Timed Swim: 100m in 2 minutes
- Distance Swim: 400m

Emergency Management
- Assessing the situation
- Skills Toolbox
- Planning
- Action
- Re-assessment

Hazards
- Beach composition
- Water beds
- Water speed and force

GOLD

Rescue
- Contact zone
- Extend arm tow: 50m swim, 20-25m tow
- Head first surface dive
- Turning an unconscious casualty
- Spinal turn and support

Self-Rescue and Survival
- Treading water (eggbeater leg kick)
- Clothing removal in the water
- Ice escape

First Aid
- Fractures

Lifesaving Sport and Fitness
- Timed swim: 200m in 4 minutes
- Distance Swim: 800m
- Manikin carry: 50m

Emergency Management
- Emergency Action Model
- Rescue Priorities

Hazards
- Cold Water Immersion
- Eddies
- Cushion waves
- Hydraulics
- Undercut rocks
- Strainers
The Medallion Awards combine the beach and open water skills in a pool environment.

Taking these awards in the pool means that the Medallion Awards are a great entry point into the awards programme because the pool environment is the most convenient and safest place to refine your skills to the highest standards.
## What’s in the Medallion Lifesaving Awards

### BRONZE

**Rescue**
- Throwing rescue: 10-15m
- Reaching rescue: 2-4m
- Wading rescue: 8-10m
- Initiative rescue: 2 casualties

**Self-Rescue and Survival**
- Survival Swim: 5 minutes continuous swimming (clothed)
- Defensive ‘feet up’ position

**Hazards**
- Swimming Pool
- Inland Water Sites
- River and Estuaries
- Quarry Pools
- Sea, Coast and Beaches
- Cliffs
- Offshore Winds
- Waves

### SILVER

**Rescue**
- Accompanied rescue: 25m swim, 20-25m accompanied
- Tow with an aid: 25m swim, 20-25m tow
- Clothing tow: 25m, 20-25m tow
- Support tow: 25m swim, 20-25m tow
- Initiative rescue: 3 casualties

**Self-Rescue and Survival**
- Survival Swim: 10 minutes continuous swimming (clothed)

**Hazards**
- Inland Water Sites
  - Lakes and Reservoirs
  - Dams
  - Floods
- Sea, Coast and Beaches
  - Manmade structures
  - Tides (Rule of twelfths, Intertidal zone and Beach shelving)

### GOLD

**Rescue**
- Extended arm tow: 50m swim, 20-25m tow
- Chin tow: 50m swim, 20-25m tow
- Cross-cheat tow: 50m swim, 20-25m tow
- Support tow: 50m swim, 20-25m tow
- In water rescue breathing
- Initiative rescue: 4 casualties

**Self-Rescue and Survival**
- Survival Swim: 15 minutes continuous swimming (clothed)

**Hazards**
- Inland Water Sites
  - Weir hydraulics
  - Canals
  - Locks
- Sea, Coast and Beaches
  - Longshore currents
  - Sandbars, sandbanks and holes
  - Rip currents (types and identification)
The Beach Lifesaving Awards orientate your skills to the beach environment.

As well as practicing your skills in the challenging surf environment, you will learn about the tides, rip currents, longshore currents, waves, and much more.

You’ll not only hit the surf, but you will learn to appreciate and understand it whilst completing these awards.
What’s in the Beach Lifesaving Awards

**BRONZE**

**Rescue**
- Throwing rescue: 10-15m
- Reaching rescue: 2-4m
- Wading rescue: 8-10m
- Initiative rescue: 2 casualties

**Self-Rescue and Survival**
- Survival Swim: 5 minutes continuous swimming (clothed)
- Swimming through waves

**Hazards**
- Tides (cause, frequency, spring and neap)
- Cliffs
- Offshore winds
- Manmade structures
- Waves
- Sea life (and first aid)
- Beach flags

**SILVER**

**Rescue**
- Accompanied rescue: 25m swim, 20-25m accompanied
- Tow with an aid: 25m swim, 20-25m tow
- Clothing tow: 25m swim, 20-25m tow
- Support tow: 25m swim, 20-25m tow
- Initiative rescue: 3 casualties

**Self-Rescue and Survival**
- Survival Swim: 10 minutes continuous swimming (clothed)

**Hazards**
- Tides (Rule of twelfths, Intertidal zone and Beach shelving)
- Longshore currents
- Sandbars, sandbanks and holes
- Rip currents (types and identification)

**GOLD**

**Rescue**
- Extended arm tow: 50m swim, 20-25m tow
- Chin tow: 50m swim, 20-25m tow
- Cross-chest: 50m swim, 20-25m tow
- Support tow: 50m swim, 20-25m tow
- In water rescue breathing
- Initiative rescue: 4 casualties

**Self-Rescue and Survival**
- Survival Swim: 15 minutes continuous swimming (clothed)

**Hazards**
- Cliffs
- Offshore winds
- Manmade structures
- Tides (complete)
- Waves
- Longshore currents
- Sandbars, sandbanks and holes
- Rip currents (complete)
- Sea life (and first aid)
The Stillwater Lifesaving Awards orientate your skills to be used in lakes and other inland water environments.

The glass calm of a lake may look like the perfect place to go for a swim, but when completing the Stillwater Awards you will discover that the cool waters make putting your skills into action in a real challenge.

You will find out about hydraulics, strainers, cushion waves, eddies, locks and much more as you complete the Stillwater Lifesaving Awards.
What’s in the Stillwater Lifesaving Awards

**BRONZE**

**Rescue**
- Throwing rescue: 10-15m
- Reaching rescue: 2-4m
- Wading rescue: 8-10m
- Initiative rescue: 2 casualties

**Self-Rescue and Survival**
- Survival Swim: 5 minutes continuous swimming (clothed)
- Defensive ‘feet up’ position

**Hazards**
- Rivers and Estuaries
- Quarry Pools
- Canals and Locks
- Floods

**SILVER**

**Rescue**
- Accompanied rescue: 25m swim, 20-25m accompanied
- Tow with aid: 25m swim, 20-25m tow
- Clothing tow: 25m swim, 20-25m tow
- Support tow: 25m swim, 20-25m tow
- Initiative rescue: 3 casualties

**Self-Rescue and Survival**
- Survival Swim: 10 minutes continuous swimming (clothed)

**Hazards**
- Water force
- Weir hydraulics
- Lakes and reservoirs
- Dams

**GOLD**

**Rescue**
- Extended arm tow: 50m swim, 20-25m tow
- Chin tow: 50m swim, 20-25m tow
- Cross-chest: 50m swim, 20-25m tow
- Support tow: 50m swim, 20-25m tow
- In water rescue breathing
- Initiative rescue: 4 casualties

**Self-Rescue and Survival**
- Survival Swim: 15 minutes continuous swimming (clothed)

**Hazards**
- Rivers and Estuaries
- Quarry pools
- Canals and Locks
- Floods
- Water forces
- Weir hydraulics
- Lakes and Reservoirs
- Dams
The Sport Lifesaving Awards give you the opportunity to challenge your lifesaving skills against the clock, and against your friends.

When completing these awards you will also learn new sport specific lifesaving skills, including fin swimming, manikin carries and tows, and driving under obstacles.

Find out how fast and efficient you can be by completing the Sport Lifesaving Awards. The sport awards will improve your fitness and opens the door to lifesaving competitions.
What's in the Sport Lifesaving Awards

**BRONZE**

**Sport Skills**
- Headfirst surface dive
- Basic swimming turns
- Demonstrate the skill of clearing obstacles (both techniques)
- Rope throw rescue
- Speed line throw: 10m: 45 seconds
- Swimming underwater: 10m
- Backstroke manikin carry: 25m swim, 25m carry
- Sidestroke manikin carry: 25m swim, 25m carry
- Manikin tow: 25m tow: 1 minute*
- Free style swimming: 100m: 2 minutes
- Front crawl manikin carry: 25m swim, 25m carry

**SILVER**

**Sport Skills**
- Tumble turn
- Manikin recovery: depth 1.5m
- Speed line throw: 12m: 45 seconds
- Swimming underwater: 15m
- Manikin carry: 25m carry: 1 minute 30 seconds**
- Manikin tow with fins: 25m swim, 25m tow: 1 minute 40 seconds (half filled manikin)
- Free style swimming: 200m: 4 minutes
- Fin swimming (front, side, dolphin): 2x25m

**GOLD**

**Sport Skills**
- Tumble turn with fins
- Speed line throw: 12m: 30 seconds
- Manikin carry: 25m swim, 25m carry: 1 minute 20 seconds
- Rescue medley (event): 100m: 2 minutes 45 seconds
  - 50m freestyle
  - 17.5m underwater swim
  - Manikin recovery from pool floor
  - 32.5m manikin carry (approx.)*
- Manikin tow with fins (event): 100m: 2 minutes
  - 50m freestyle with fins and rescue tube
  - Clip manikin into the rescue tube
  - 50m manikin tow (half filled manikin)*
- Super lifesaver (event): 200m: 5 minutes
  - 75m freestyle
  - Manikin recovery from pool floor
  - 25m manikin carry (approx.)
  - 50m freestyle with fins and rescue tube (approx.)
  - Clip manikin into the rescue tube
  - 50m manikin tow (half filled manikin)*
- Manikin carry with fins (event): 100m: 2 minutes
  - 50m freestyle
  - Manikin recovery from pool floor
  - 50m carry (approx.)*

---

* Half filled manikin all skills and candidates.

** Filled manikin for all candidates aged 15 years and over on the day of assessment. Half filled manikin for all candidates aged under 15 years on the day of assessment.

*** In accordance with the 'short course' rules, when completing the award in a 25m pool, candidates will not be judged on manikin criteria within 5m of the turning wall. This means that candidates may turn the manikin using their hands or another appropriate method and the manikin's face may submerge.
Candidate Achievement Record Logbook

Use this table to tick off Survive and Save awards as you achieve them. Awards are valid for 24 months from the date of achievement.

### DISTINCTION AWARD
The highest award (automatically awarded to candidates who achieve three Gold awards within a 24 month period. All awards will need to be in date).

<table>
<thead>
<tr>
<th>Date Achieved</th>
<th>Date Achieved</th>
<th>Date Achieved</th>
<th>Date Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date Achieved</th>
<th>Date Achieved</th>
<th>Date Achieved</th>
<th>Date Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date Achieved</th>
<th>Date Achieved</th>
<th>Date Achieved</th>
<th>Date Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date Achieved</th>
<th>Date Achieved</th>
<th>Date Achieved</th>
<th>Date Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

To complete a Core Element, you have to hold or achieve your Life Support Award.

### LIFE SUPPORT

<table>
<thead>
<tr>
<th>Date Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>

### OTHER AWARDS TAKEN

<table>
<thead>
<tr>
<th>Date Achieved</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
The Drowning Prevention Charity

Facebook.com/RLSSUK @RLSSUK